From: Ken Eklund
To: Coffin Butte Landfill Appeals
Subject: Cover letter: the transferral of ENRAC evidence and Recommendation to Deny to Commissioners" Record
Date: Friday, August 29, 2025 11:01:44 PM
Attachments: Cover Letter - ENRAC Evidence files listed - 20250829 med.pdf

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Commissioners:

As you may remember, you charged Benton County's Environment and Natural Resources Advisory Committee (ENRAC) to evaluate LU-24-027, Republic's land use application, and to make an official Recommendation about it. ENRAC took this charge seriously and after substantial research and evidence-gathering and lengthy deliberation, they voted in April to RECOMMEND DENIAL to the Planning Commission, which did indeed unanimously decide to deny in July.

In order to make the same documentation and official Recommendation available to you as was available to the Planning Commission, I have undertaken a transferral process with County staff. That process has turned out to be lengthy and complicated. At the request of staff, I have prepared the attached document to list the articles transferred from the ENRAC evidence record, including those accompanying their Decision and the Decision and Rationale itself.

> Anne Thwaits:
>
> You are right that the upload system doesn't capture the context of the files, and I've received a request from the consultant for an email or cover letter from you that indicates how many attachments you uploaded and their titles - this is for tracking purposes in the record. Can you send this information to the landfillappeals@bentoncountyor.gov email address?

I hope the Commissioners find this useful as they review ENRAC's Recommendation to Deny.

All best,

Ken Eklund

Ken Eklund, writerguy

37340 Moss Rock Dr
Corvallis OR 97330
408.623.8372

Creator of
World Without Oil
Ed Zed Omega
FutureCoast
and other storymaking games

August 29, 2025

In the Planning Commission deliberations on LU-24-027, testimony was permitted to be hosted on appropriate third-party platforms. ENRAC supplied the evidence it used in its Recommendation to Deny to the Planning Commission via its Google Drive. The link to it is in the ENRAC Recommendation to Deny, which appears to have been omitted from the Commissioners' Public Record, but it is in the Planning Commission Public Record here:
https://library.municode.com/or/benton_county/munidocs/munidocs?nodeId=7ea953a15b3ad

Since it's not clear whether the Commissioners will be accessing these platforms, I have transferred the ENRAC evidence directly into the Commissioners' Public Record in a series of emails, and through an upload process. There are 63 files in that evidence pool. I have also added the **ENRAC Recommendation to Deny LU-24-027** itself as a PDF submitted into the Commissioners' Record via email today, plus two additional items of evidence that ENRAC cited in their Recommendation.

Fifty-one of those evidence files can be found attached to a series of emails entered into the Commissioners' Record on August 19, 2025. These are:

(email 1)
5.3 Delegation of BCC 77 Duties from SWAC to ENRAC - 240702 - Order D2024-048.pdf
Basic_Economics_of_Coffin_Butte_Landfill.pdf
BC_LUAppProcess-Quasi-judicial_final_06-25-24.pdf
Benton County Comp Plan 2007.pdf
Benton County News July 112024.pdf
Benton Cty Land Use Appl Process Map.pdf
Benton County Talks Trash - Community Development, Benton County, Oregon.url.download
24RSI054-Coffin-Butte-Fact-Sheet-2024-CUP-Expansion-FINAL-highlights.pdf.url.download

(email 2)
Carbon Mapper explainer 3.pdf
CB Basic Facts.pdf
CB CUP Process Flow Chart.pdf
CB Ex. Summary.pdf
CB Expansion Overview.pdf
CBL and EPA - timeline.pdf
Coffin Butte Landfill methane leaks exceed state, federal limits.pdf
Coffin Butte Online Resources.docx
Corvallis to stop accepting leachate from Republic Services.pdf
Corvallis-Benton County Economic Development Strategic Plan 2021-2023.pdf
Coffin Butte Landfill - Benton County, Oregon.url.download
Coffin Butte Landfill methane leaks exceed state, federal limits.url.download

(email 3)

DSC_0165.JPG

DSC_0168.JPG

DSC_0170.JPG

(email 4)

DSC_0184.JPG

DSC_0185.JPG

Email August 2024 Wyden Merkley Hoyle Urge EPA to Investigate Landfill Concerns in Benton County.pdf
Email June 2024 - URGENT Methane Leaks at Coffin Butte What You Need to Know.pdf
ENRAC - EPA Jun 2022 CBL Inspection Report - Heinz.pdf

(email 5)
ENRAC - EPA Jun 2024 CBL Inspection Report - Conley.pdf

(email 6)
ENRAC - EPA Subpoena CBL January 2025.pdf
ENRAC-Bylaws-FINAL-2020-1.pdf
ENRAC-CUPDeliberations-03-21-25.docx
ENRAC-CUPDeliberations-2025-04-02_JAS.docx
ENRAC-CUPDeliberations-Report-04-02-25.docx
EPA Inspection of Coffin Butte Landfill Accumulation of Flammable Methane.pdf
EPA landfill area demographics 1 mile radius exp.png
EPA landfill area demographics 3 mile radius exp.png
EPA landfill area demographics 5 mile radius exp.png
FAQs Benton Cty. June26.pdf
FAQs Coffin Butte.pdf
FINAL SGB Letter to Sen. Merkley - Coffin Butte Landfill.pdf
Gmail - Coffin Butte Resubmits 2023 Annual Landfill Report.pdf
J Geier to BoC groundwater arsenic Aug 2024.pdf
July 10 ENRAC Meeting Video Recording.pdf

How Monopolies Took Over Trash Collection and Undermined Recycling and Composting — Food & Power.url.download

(email 7)
Landfill Expansion App - First Addendum to Burden of Proof - March 14, 2025.pdf
Landfill Methane - Moms Clean Air Force.pdf

(email 8)
LandfillRelatedWaterQualityIssues.pdf
OPB Interview How much methane seeps out of Oregon landfills.pdf
SLPG_Waste.pdf
Solid Waste Situational Assessment Report_07-12-2022.pdf
SWACRecommendation.pdf
MuniDocs - Benton County, OR - Municode Library.url.download
oregon state bill landfill at DuckDuckGo.url.download
SLPG_Waste.pdf.url.download

(email 9)
Testimony in support of SB 726 133902.pdf
The Expansion Proposal- What you need to know - Coffin Butte Landfill.url.downloa

(email 10)
The Hidden Costs of Landfills.pdf

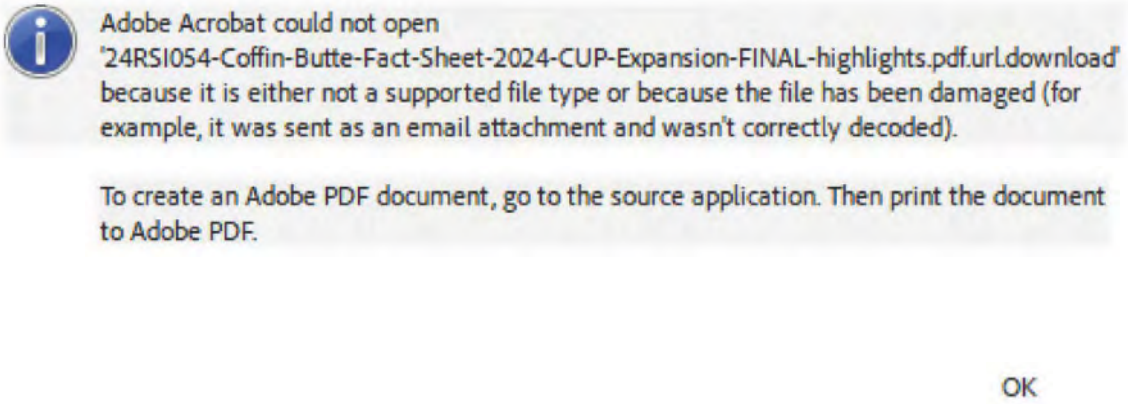
(email 11)
burden-of-proof-revised-jan2025.pdf

(email 12)
CB Aerial Map.pdf

(email 13)
none

[this email establishes that three ENRAC evidence files are too big to email: 2024-CUP-application.pdf (157.4 MB), A huge landfill in Oregon is spewing methane. Its... _ Canary Media.pdf (16.1 MB), bctt_final_report_4-11-2023.pdf (17.9 MB)]

Within these emails, there are nine URL-pointer files (marked in red) which are normally functional but which became non-functional in the upload; each of these created an error message similar to this one in the Commissioners' Record:



At County direction, I downloaded the nine files that these URL pointers linked to. Four of them were already in the ENRAC tranche of evidence – ENRAC had placed these pointers in their collection of evidence to establish the provenance of those documents. At county direction I converted the other five files to PDFs, and then uploaded them via a SFTP process created by county IT. These five files are:

1. Coffin Butte Landfill - Benton County, Oregon.pdf
2. How Monopolies Took Over Trash Collection and Undermined Recycling and Composting — Food & Power.pdf
3. Munidocs URL.pdf
4. oregon state bill landfill at DuckDuckGo.pdf
5. The Expansion Proposal_ What you need to know - Coffin Butte Landfill.pdf

At this time I also uploaded three files in the ENRAC material that were too big to email. Those three files are:

1. 2024-CUP-application.pdf
2. A huge landfill in Oregon is spewing methane. Its... _ Canary Media.pdf
3. bctt_final_report_4-11-2023.pdf

The County has acknowledged receiving these 8 files but they don't appear in the Commissioners' Record at the time of this writing, so I can't link you to them.

Since ENRAC's final official Recommendation to Deny seems not to be part of the Commissioners' Record, I have also added it to the record, in an email today:

- ENRAC Recommendation to Deny LU-24-027.pdf

...along with two additional articles cited as links in ENRAC's Recommendation to Deny itself:

- Turning Down the Heat.pdf

- EPA inspection uncovered methane leaks at Benton County landfill - OPB.pdf

These three additional files (ENRAC Recommendation to Deny, Industrious Labs greenhouse gas report and OPB article) bring the total to 66 articles of evidence from ENRAC. They're not yet posted in the Commissioners' Record, so I can't link you to them.

I hope these files and especially ENRAC's official Recommendation to Deny and its Rationale and key evidence will be helpful to you as you evaluate the Applicant's appeal. I suggest that it is clear from these documents that ENRAC took its responsibility to form a quality Recommendation seriously, and I hope you receive it with that understanding.

– Ken Eklund

Jeffrey G. Condit
Partner
Jeff.Condit@millernash.com
503.205.2305 (direct)

October 30, 2024

Petra Schuetz, Planning Director
Benton County Community Development
4500 SW Research Way
Corvallis, OR 97330-1139

Subject: File No. LU-24-027

Dear Ms. Schuetz:

As you know, we represent Valley Landfills, Inc. ("VLI"). Please accept the included paper and electronic copies of our revised application and exhibits in the above-noted matter. This revised application is submitted in response to your letter of August 16, 2024, deeming our original application incomplete. It is intended to replace our original application.

VLI believes the revised application addresses each issue the County asked us to address. We have expanded the scope of review of the adjacent properties and analysis area, and included additional information with regard to odor modeling, visual impacts, and noise. In addition, certain exhibits have been updated, and we have included a proposed set of conditions of approval related to the application.

VLI would be pleased to answer any questions that you may have with regard to the revised application. Thank you for your consideration.

Very truly yours,

Jeffrey G. Condit

Burden of Proof

2024 Conditional Use Application

Submitted by:

Valley Landfills, Inc.

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Burden of Proof Narrative

Conditional Use Permit – Landfill Development South of Coffin Butte Road

APPLICANT:	Valley Landfills, Inc. Ryan Lawler, Area President 28972 Coffin Butte Rd Corvallis, OR 97330
OWNER:	Valley Landfills, Inc. 28972 Coffin Butte Rd Corvallis, OR 97330
ATTORNEY:	Miller Nash LLP Jeffery Condit 1140 SW Washington St, Ste 700 Portland, OR 97205
CIVIL ENGINEER:	Civil & Environmental Consultants, Inc. Jeff Shepherd, P.E. 11811 N Tatum Blvd, Ste 3057 Phoenix, AZ 85028
GEOLOGIST / HYDROLOGIST:	Tuppan Consultants, LLC Eric Tuppan, R.G 460 Second St, Ste 103 Lake Oswego, OR 97034
TRAFFIC ENGINEER:	Transight Consulting, LLC Joe Bessman, P.E. 61271 Splendor Ln Bend, OR 97702
WILDLIFE BIOLOGIST:	Turnstone Environmental Consultants, Inc. PO Box 83362 Portland, OR 97283
ARCHEOLOGIST:	Archaeological Investigations Northwest, Inc. Eva Hulse, Ph. D., R.P.A 3510 NE 122nd Ave Portland, OR 97230
NOISE ENGINEER:	The Greenbusch Group, Inc. 1900 W Nickerson St, Ste 201 Seattle, WA 98119

PLANNING CONSULTANT:	Blackmore Planning and Development Services, LLC Greg Blackmore, Principal Planner 19454 Sunshine Way Bend, OR 97702
FIRE CONSULTANT:	SCS Engineers Jim Walsh, PE, BCEE 625 Eden Park Dr, Ste 425 Cincinnati, OH 45202
ODOR MODELING:	SCS Engineers 5963 La Place Ct, Ste 207 Carlsbad, CA 92008

I. INTRODUCTION

A. Applicant's Request. Applicant requests approval of a conditional use permit (CUP) review to expand the area on which landfill activities will be conducted to the south side of Coffin Butte Road (the "Development Site").[1] The landfill itself is proposed to be situated within the Landfill Site (LS) zone. In addition to using the Development Site for the landfill, the proposal includes an 1,800-square-foot employee building and parking on land to the west of the landfill that is zoned Forest Conservation (FC), access road modifications on lands to the north that are zoned LS and FC, and the relocation of leachate ponds, leachate loadout, leachate sump, an outbound scale, portions of the perimeter landfill road, the shop/maintenance area, cut activities for landfill, and leachate ponds to support the landfill onto the property to the east, which is zoned FC (collectively, the "Project").[2]

B. Background and Overview of the Project. Valley Landfills, Inc. (a wholly owned subsidiary of Republic Services, Inc.) ("VLI" or "Applicant"), is submitting this CUP application to expand Coffin Butte Landfill to an area south of Coffin Butte Road. This application takes into account the concerns and issues raised during the 2021 CUP application[3] and the subsequent Oregon Consensus process entitled "Benton Country Talks Trash" ("BCTT"), in which VLI and multiple other stakeholders participated. As a result, the 2024 application is substantially different from the 2021 application.

The chief difference is that the current proposal does not include the closure of Coffin Butte Road. Instead, Coffin Butte Road will be retained and widened in the area adjacent to the Development Site to allow for ease of use for both landfill users and through traffic. During proceedings on the 2021 application, various stakeholders expressed concern about the effect of closing Coffin Butte Road on emergency ingress and egress, notwithstanding the multiple improvements to alternative routes proposed as part of VLI's 2021 application.

VLI originally proposed the closure of Coffin Butte Road to be able to utilize the airspace over the roadway for landfilling.[4] The retention of Coffin Butte Road

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[1] *See* Application, attached as Exhibit 1.

[2] *See* Civil & Environmental Consultants, Inc. ("CEC") engineer plans and drawings, attached as Exhibit 2.

[3] The Benton County Planning Commission (the "Planning Commission") denied the 2021 CUP application in December of that year. VLI appealed that decision to the Benton County Board of Commissioners (the "County Commissioners") but withdrew that appeal in order to participate in BCTT.

[4] "Airspace" is essentially the measure of the volume of solid waste that can be disposed on a site.

means that the life span of the landfill where waste will be deposited will be approximately six years, as opposed to twelve,[5] and the volume of waste to be disposed of in the landfill will be reduced by approximately half. The long-term visual impact will also be reduced as a result.

When the Development Site is ready for waste disposal operations, the working face[6] of the landfill will move from north of Coffin Butte Road to the Development Site. Disposal of waste will not be occurring north of Coffin Butte Road during the operation of the Development Site. The size of the working face at the Development Site will be roughly the same as the existing operation, and there will be only one working face operating at a time.

The area where disposal will take place will be entirely located on the LS-zoned area south of Coffin Butte Road. Some of the supporting infrastructure (the access road, the relocated leachate ponds, the employee building, and the shop/maintenance area) will be located on FC-zoned adjacent tax lots. (See detailed discussion and maps below.) In contrast to the 2021 application, no portion of the working face or supporting infrastructure will be located on any properties zoned for other uses. All of the Development Site properties are owned by VLI.

A landfill is an outright permitted use in the LS zone, although any project south of Coffin Butte Road requires CUP approval from Benton County (the "County") under Benton County Code ("BCC" or the "Code") Chapter 53. A landfill is allowed as a conditional use in the FC zone, subject to CUP approval under BCC Chapter 53 and some additional criteria related to impacts on farm and forest use in BCC Chapter 60.

A conditional use is a use that is allowed in the zone, but one which may have adverse impacts on surrounding properties or on public infrastructure that may require mitigation. Applicant must demonstrate that the proposed expansion will not "seriously interfere" with uses on adjacent property, the character of the area, or the purpose of the zone. Applicant must also demonstrate that the proposed expansion will not impose an "undue burden" on public facilities and services in the area. The entire focus of the County's review is thus on the potential impacts of the expansion and mitigation of any significant impacts. This review must take into account the existing conditions, which include the fact that a landfill has been operating on this site for over 50 years, and that the current landfill operation is fully approved and permitted by both the County and the State of Oregon.

---

[5] As the BCTT Site Life Subcommittee discovered, it is difficult to predict site life because it is based on a large number of factors out of VLI's control. This is VLI's estimate based upon its current model.

[6] The "working face" of the landfill is the area of active disposal of solid waste. At Coffin Butte, it is approximately half an acre in size.

During the BCTT process, several participants argued that the landfill should be closed and that all expansions should be denied. A landfill is an allowed use in the LS and FC zones. These were either expressly created for landfill uses (LS zone) or allowed for landfill use in order to permit the Coffin Butte Landfill to continue and to expand (FC zone). Applicant is entitled to have the expansion approved as long as it demonstrates compliance with the criteria in those zones. The need to continue or expand the landfill is not relevant to the approval criteria.

The evidence will show that the proposed expansion will not have significant adverse impacts on the uses of adjacent properties, the character of the area, or the purpose of the zone as compared to existing conditions. It will also show that the proposed expansion will not place an undue burden on infrastructure or services as compared to existing conditions.

Approval of a CUP by the County is only the initial step in the process to expand the landfill. VLI must also obtain permits from the Oregon Department of Environmental Qualify (DEQ). DEQ regulates the environmental aspects of the landfill and has exclusive jurisdiction over those issues. (See further discussion below.) As a result of the state coordination requirement in ORS 197.180, DEQ will not accept a permit application from VLI until the expansion has received land use approval from the County. Many of the environmental concerns raised during the 2021 application and the BCTT process (groundwater protection, methane/air quality, seismic resiliency, leachate disposal, wildlife impacts, and archeological issues) are regulated by DEQ or other state agencies. VLI will continue to work with all regulators to comply with the applicable laws and will further comply with any future changes to the applicable regulations as they are implemented.

Although the environmental issues listed in the previous paragraph are not within the jurisdiction of the County under its land use regulations, Applicant responds to these issues as part of this application so the County and other interested parties can see how they will be addressed by DEQ or other applicable agencies.

C. Applicable Benton County Code Provisions.

1. Chapter 53 (General Review Criteria and Procedures)
2. Chapter 60; Forest Conservation (FC)
3. Chapter 77; Landfill Site (LS)
4. Chapter 87; Goal 5 Resources
5. Chapter 99; General Development Standards

D. Other Issues Addressed.

1. Wildlife Impacts
2. Archeological Resources
3. Leachate
4. Methane
5. Arsenic
6. Seismic Resilience
7. Wetlands

II. FACTUAL BACKGROUND

A. Location of Development Site.

The Development Site is located approximately 6.5 miles north of Corvallis on the west side of Highway 99W. The proposed improvements are situated on five tax lots of the Benton County Tax Assessor's Map 10-41-80 and the abutting Coffin Butte Road right-of-way.[7]

B. Description of the Project.

The Project relocates the working face to the Development Site on the south side of Coffin Butte Road. The working face and all of the waste disposal area will be situated entirely within the Landfill Site (LS) zone. In addition to the working face, the Project includes an 1,800-square-foot employee building and parking on land to the west that is zoned Forest Conservation (FC), access road modifications on lands to the north that are zoned LS and FC, and the relocation of leachate ponds, leachate loadout, leachate sump, an outbound scale, portions of the perimeter landfill road, a shop/maintenance area, cut activities for landfill, and a shop/maintenance area supporting the landfill to the area east of the working face on land that is zoned FC.

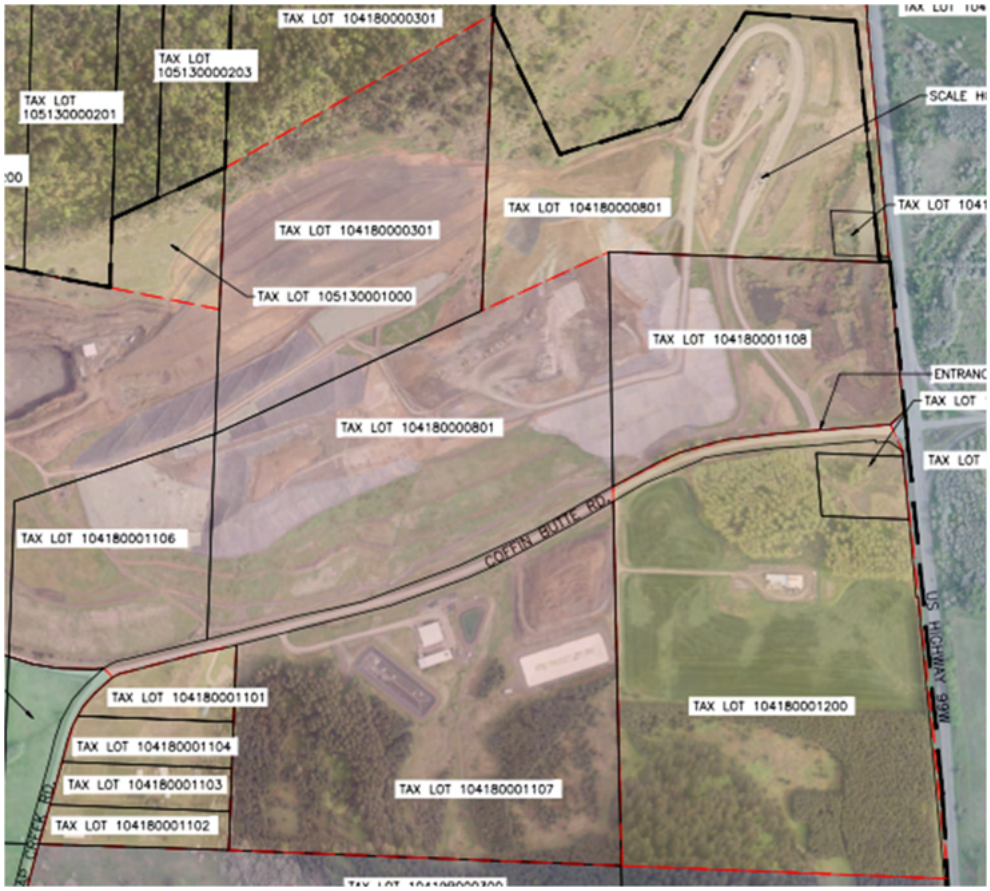
C. The Development Site/Zoning.

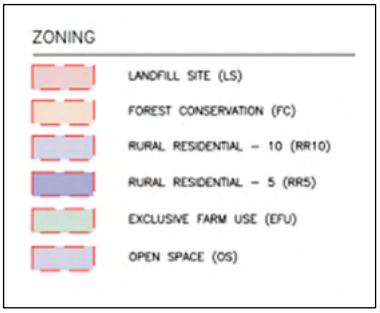
The Development Site on which the Project is located includes the following tax lots:

- Tax Lot 1107 (29000 Coffin Butte Road)—landfill area. This tax lot is zoned LS.
- Tax Lot 801 (29175 Coffin Butte Road)—access road modifications on part of the landfill area. This tax lot is zoned LS and FC; the access road improvements are on the portions zoned FC.
- Tax Lot 1101 (28972 Coffin Butte Road)—employee building and parking. This tax lot is zoned FC.
- Tax Lot 1108 (no address)—access road modifications are also located on this tax lot, which is part of the existing landfill. This tax lot is zoned LS.
- Tax Lot 1200 (29160 Coffin Butte Road)—relocated leachate ponds, leachate loadout, leachate sump, outbound scale, portions of the perimeter landfill road, cut activities for landfill, and the shop/maintenance area. This tax lot is zoned FC.

[7] The deeds to the properties are attached as Exhibit 3.

[Note: the tax lot numbers are the last four numbers shown on the Assessor's Map below.]





D. Development Site Description by Tax Lot.

1. Tax Lot 1107. The area of the proposed landfill development is located on the south side of Coffin Butte Road. It is 59 acres and currently developed with an access drive, leachate pretreatment and treatment buildings, parking and maneuvering areas, leachate ponds, and a permeate pond. Aside from the leachate ponds, the improvements on this tax lot are obsolete infrastructure that has not been used since the early 2000s.

The existing improvements on TL 1107 are situated on the northern portion of the Development Site, which is relatively level. From the currently developed area, the site slopes upward to the south, with an elevation change of 60-160 feet (to different points along Tampico Ridge). The undeveloped portions of the site are vegetated with grasses and trees.

This tax lot contains a likely abandoned[8] but mapped Great Blue Heron rookery (#2683) in the northwest quadrant, along with a small area of Palustrine Emergent Wetland in the northeast corner.

2. **Tax Lots 1108 and 801.** The area north of Coffin Butte Road, which will include minor access-road improvements, is already in use for the existing landfill area. The area of proposed improvement contains access roads, a scale house, and scales. These tax lots also contain Palustrine Emergent Wetland on the eastern portion.

3. **Tax Lot 1101.** The western tax lot, which is planned to accommodate the employee building and parking and the shop/repair area, is gently sloping (except for a steep eastern edge). The majority of this property is grass, while the eastern edge is treed. This tax lot is currently developed with VLI offices. This tax lot also contains Palustrine Emergent Wetland on the western and northwestern edge.

4. **Tax Lot 1200.** The eastern parcel, which will accommodate the relocated leachate ponds, leachate loadout, leachate sump, a shop/maintenance area, outbound scale, portions of the perimeter landfill road, and cut activities for landfill is relatively level in the northeast corner and slopes upward to the southwest. The northeast portion of the site contains native vegetation and trees. There is also a buffer of trees along the eastern property line, abutting Hwy 99W. The center portion of the site is currently developed with a gas-to-energy plant, gas blowers and flares, parking areas, and drive aisles. The center area that surrounds the gas-to-energy plant contains fields of various crops, which are typically grass seed, and south of the fields is steep, sloping topography that is vegetated with a Douglas Fir plantation surrounded by native trees. This tax lot also contains a mapped but likely abandoned Great Blue Heron rookery #2716 in the north central area quadrant,[9] along with Palustrine Emergent Wetland and Palustrine Forested Wetlands.

E. Geotechnical Suitability of the Development Site for Landfill Use.

[8] *See* Wildlife Habitat Assessment and Surveys, attached as Exhibit 4.

[9] *See* Exhibit 4.

The Wallace Group, Inc., of Bend, Oregon, completed geotechnical engineering explorations of the Development Site for the proposed expansion, attached as Exhibit 5. The subsurface exploration generally encountered 6 to 25 feet of fine-grained alluvium (Willamette Silt) underlain by weathered basalt and basalt in the lower elevations. Competent basalt was encountered in the lower elevations at depths ranging between 22 and 65 feet below ground surface (bgs). The higher elevations of the site are underlain by fine-grained to coarse-grained colluvium and volcanic saprolites, which are generally coarser with increasing elevation. These soils are underlain by brecciated and altered basalt bedrock, with the depth to rock generally decreasing with increased elevation. On the western hillside of Tampico Ridge, basalt was encountered at depths ranging between 10 and 25 feet bgs. On the eastern hillslope, surface soil was generally weaker than the western hillslope, and basalt was encountered at depths ranging between 19 and 45 feet bgs. In the valley formed between the two hillsides, the depth to basalt ranged from 21 to 23 feet bgs. Based on this exploration, the Wallace Group concludes that the Development Site is suitable for the expected development from a geotechnical perspective.

F. Description of the Area Surrounding the Development Site.

Coffin Butte Landfill is bordered by Highway 99W to the east. The area east of the highway is zoned Open Space (OS) and owned by the Oregon Department of Fish and Wildlife; it is part of the E.E. Wilson Wildlife Area, and it is managed for wildlife habitat.

Land to the south of Coffin Butte Landfill is zoned Forest Conservation (FC), Rural Residential (RR-10), and/or Exclusive Farm Use (EFU). The Rural Residential lands are separated from the landfill operations by Tampico Ridge, which is approximately 250 feet higher than the surrounding area. VLI owns the RR-10-zoned lands between the landfill and residential uses to the south, and with the exception of one property to the west[10], VLI owns all of the LS-zoned land in the area and all of the properties surrounding the LS-zoned land. The adjoining FC- and EFU-zoned lands are also owned by VLI and managed for farm and forest uses. These lands were acquired by VLI to provide resource/open space buffers between the landfill and nearby lands that are owned by others.

Lands to the west of Coffin Butte Landfill are zoned EFU and being used for commercial agriculture. The lands that are owned by VLI to the west of the landfill are farmed and managed to provide a buffer between the landfill and lands that are owned by others.[11]

[10] 38691 Soap Creek Road (104180001103).

[11] There was some question during the BCTT process about whether DEQ had mandated that VLI acquire lands to buffer the landfill. With the exception of one parcel to the west of the current

Properties to the north are zoned FC, and with the exception of four properties situated northwest of the landfill, the LS-zoned lands are buffered by FC-zoned lands that are owned by VLI. The land to the northeast is owned by the State of Oregon; this land is separated from LS-zoned land by over 100 feet of FC-zoned land that is owned by VLI. Properties to the north are buffered by the forested northern slope of Coffin Butte.

There was concern expressed during BCTT that the acquisition of buffer areas by VLI was taking the land out of farm and forest use. This is not the case; these lands are being actively managed for farm and forest use by others under leases from VLI.

G. Public Facilities and Services.

1. Sewer.

The landfill is not currently served by sewer service. Sewerage is not needed for the proposed landfill development. The existing VLI offices on Tax Lot 1101 are served by a septic system. The planned new employee building/locker room is proposed to be served by a holding tank and will not connect to the existing septic system.

2. Water.

The new landfill development area is not currently served by a domestic water service, and domestic water is not needed to accommodate the proposed landfill development. The existing building and planned employee building are, and will continue to be, served by a well. There are two wells that are currently used for water production at the landfill: the Berkland well, which is used for the office plumbing, irrigation, and drinking water, and the PW-2 well, which was located north of Coffin Butte Road and used for the scale house plumbing, but not for drinking. The well logs are attached as Exhibit 6.

3. Streets; Access; Transportation.

Coffin Butte Landfill is currently accessed from Coffin Butte Road, which connects to Hwy 99W to the east and Soap Creek Road to the west.

4. Fire Protection.

The Project is within the Adair Fire Protection District.

5. Police Protection.

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landfill, where DEQ required VLI to decommission a well as part of a remediation plan, VLI purchased surrounding lots of its own volition in order to provide a buffer.

The Project is within the Benton County Sheriff Service Area.

H. History of Coffin Butte Landfill.

The Coffin Butte landfill site was established as a disposal site in 1948 (as an open burning dump) that was formerly part of the Camp Adair U.S. Army post. In 1973-74, the site was designated as a regional solid-waste disposal site in the Chemeketa Region Solid Waste Management Plan, a coordinated, multi-agency planning effort for waste disposal in Linn, Benton, Polk, Marion, and Yamhill counties. In 1983, the County amended its comprehensive plan and zoning map to apply an LS zone to the area. The LS zone was a recognition by the County Commissioners that the site had been developed as a disposal site for nearly 40 years and the County was committed to the continued use of the site as a solid-waste disposal site. With the adoption of the LS zone, the County established that LS-zoned lands are required to operate under an approved Site Development Plan, which requires approval by the Planning Commission, after receiving a recommendation from the Benton County Solid Waste Advisory Committee (SWAC). Coffin Butte Landfill is currently operating under a Site Development Plan that was last updated in 2003, via Benton County Decision PC-03-11. The property owners were granted conditional use approvals in 1994,[12] 1997,[13] 2011,[14] 2013.[15] and 2015[16] for areas that were not approved for landfilling or uses other than a landfill site.

The landfill Is considered a “regional landfill” under ORS 459.005(23), and it is the primary solid-waste disposal facility for Benton County. The landfill was acquired by VLI in 1974. In 2000, Allied Waste Transportation, Inc., a wholly owned subsidiary of Allied Waste Industries, Inc., purchased the stock of Waste Control Systems, Inc., which included its wholly owned subsidiary VLI.[17]

Over time, the landfill site has undergone periodic modifications and upgrades; the facilities have been subject to continual improvement and modernization in order to maintain high standards of technical design, operational efficiency,

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[12] S-94-3, approval of a 2.2-megawatt power-generation facility on T10S, R4W, Section 18, Tax Lot 1100.

[13] S-97-58, approval to expand the generating capacity of the power-generation facility.

[14] LU-11-016, approval for the construction of a recycling and refuse transfer facility on T10S, R4W, Section 18, Tax Lot 801.

[15] LU-13-061, approval to use [T10S, R4W, Section 18] Tax lots 1101 and 1104 as a stockpile and staging area.

[16] LU-15-001, approval to enhance a stormwater-treatment facility on T10S, R6W, Section 13, Tax Lot 800.

[17] In 2008, Republic Services, Inc., merged with Allied Waste Industries, Inc.

environmental quality, regulatory compliance, and safety. Improvements that have occurred over time include disposal of refuse in engineered cells, installation of bottom liners to protect groundwater, leachate collection and treatment systems, landfill gas collection and treatment systems, monitoring wells, and stormwater conveyance and detention.

Coffin Butte operations include more than just a landfill. The site contains recycling operations, processing, a recovery center offering commercial and public recycling for wood waste, and a nearby composting facility for yard debris. A rock-quarrying operation produces aggregate for community needs. Adjacent to Coffin Butte Landfill operations is the Coffin Butte Resource Project, a landfill gas-to-energy plant that is owned by a consortium of 12 Northwest Cooperative electric utilities. Landfill gas is harvested from decaying organic matter in the landfill and used to power generators that produce enough energy to serve an estimated 4,000 households annually. As required by the disposal franchise between Applicant and the County, Applicant maintains an environmental trust fund currently valued at $16.1 million to safeguard long-term environmental health at the site and surrounding area. Under ORS 459.272, Applicant is also responsible for providing financial assurance for the cost of closure, post-closure, and any needed corrective action. Applicant posts a bond to cover this cost, which must be recertified annually with DEQ under OAR 340-094-0140(6) to ensure that the bond is sufficient to cover the estimated costs of closure.

I. The Role and Authority of DEQ.

Applicant needs approval of the County land use permit and approval of the necessary DEQ permits before it may begin construction on the Project. As a result of the state coordination requirement in ORS 197.180, DEQ will not accept a permit application from Applicant until the expansion has received land use approval from the County.

DEQ regulates the environmental impacts of landfills, including air quality requirements (methane, hydrogen sulfide, odor), leachate production and disposal, protection of both ground and surface water, as well as protection for floodplains, wetlands, geotechnical/seismic considerations, and critical habitat. DEQ also regulates closure and reclamation of landfills. Applicant will have to demonstrate compliance will all of these criteria to obtain modifications to the required permits. *See* February 26, 2024, letter from Jeffery Shepherd and Paul Burns of CEC, Applicant's engineering consultants, attached as Exhibit 7, for the specific permitting standards and requirements.

DEQ has exclusive jurisdiction over the areas that it regulates. ORS 459.095 provides that "[n]o ordinance, order, regulation or contract affecting solid waste management shall be adopted by a local government unit if such ordinance, order, regulation or contract conflicts with rules adopted by the Environmental Quality Commission under ORS 459.045 or 459A.025 * * *."

J. List of Exhibits.

This application relies on the following exhibits:

1. Application form and fees.
2. Engineer Plans, CEC, dated December 2023.
    - Cover Sheet (Sheet 1)
    - Benton County Tax Lots and Zoning (Sheets 2 and 2A).
    - Existing Conditions (Sheet 3)
    - Demolition Plan (Sheet 4)
    - Overall Development Plan (Sheet 5)
    - Development Area Layout (Sheet 6)
    - Left Turn Traffic Plan (Sheet 7)
    - North Road Plan (Sheet 8)
    - Parking Infrastructure Plan (Sheet 9)
    - Development Area Top of Waste Grades (Sheet 10)
    - Development Area Phase 1 (Sheet 11)
    - Development Area Phase 2 (Sheet 12)
    - Top of Waste Phase 1 (Sheet 13)
    - Top of Waste Phase 2 (Sheet 14)
    - Top of Waste Phase 3 (Sheet 15)
    - Top of Waste Phase 4 (Sheet 16)
    - Wetpond-Detention Pond Combination Plan (Sheet 17)
    - Landscape Plan (Sheet 18)
    - Stockpile Plan (Sheet 19)
    - Wetpond-Detention Pond Combination Profiles (Cross-Sections AA and BB) (Sheet 20)

- Wetpond-Detention Pond Combination Profiles (Cross-Sections CC and DD) (Sheet 11)
- Cross-Sections (Sheets 22 and 23)
- Traffic Details (Sheet 24)

3. Vesting deeds to the tax lots contained in the Development Site.
4. Wildlife Habitat Assessment and Surveys, Turnstone Environmental Consultants, Inc., dated February 27, 2024, and Addendum to the Final 2024 Report dated August 6, 2024.
5. Phase II Geotechnical Exploration Report, Coffin Butte Landfill South Expansion Area, The Wallace Group, dated July 2024.
6. Well logs for PW-2 and Berkland wells.
7. Letter from Jeffery Shepherd and Paul Burns of CEC regarding the applicable Oregon DEQ permits and regulations, dated February 26, 2024.
8. Map and List of Adjacent and Nearby Properties.
9. Map defining the Analysis Area, showing odor complaints.
10. Aerial Image of topography and roads surrounding the landfill area.
11. Noise Study, The Greenbusch Group, dated September 25, 2023.
12. Weaver Consulting Group Findings on Odor, dated March 8, 2024.
13. November 19, 2021, memorandum from Ian Macnab regarding odor, methane, and hydrogen sulfide control at Coffin Butte Landfill.
14. Coffin Butte Landfill Expansion Odor Dispersion Modeling Study, SCS Engineers, dated October 8, 2024.
15. Traffic Report, Transight Consulting, LLC, dated February 26, 2024.
16. Environmental and Operational Considerations, Tuppan Consultants, dated February 22, 2024.
17. CEC Preliminary Drainage Report dated January 2024.
18. Aerial Renderings of Coffin Butte Landfill showing proposed expansion area view corridors.
19. Site Lighting Summary, CEC, dated July 2024.

20. Fire Risk Assessment of Coffin Butte Landfill, SCS Engineers, dated November 29, 2023, and updated September 24, 2024.

21. Applicant Proposed Conditions of Approval.

22. Reclamation Plan for Expansion Area, CEC, dated April 2022.

23. Oregon DEQ Permit #306 Materials.

24. Oregon DEQ Permit Work Plan.

25. Oregon DEQ Approval of Work Plan.

26. Archaeological Report, Archaeological Investigations Northwest, Inc., dated December 19, 2023.

27. Leachate Management Summary, CEC, dated March 2024.

28. Republic Services letter to the Benton County Board of Commissioners regarding methane emissions at Coffin Butte Landfill, dated 2/23/2024.

29. Republic Services letter to the Benton County Board of Commissioners relating to arsenic, dated February 15, 2024.

30. Proposed Coffin Butte Landfill Seismic Design, CEC, dated July 9, 2024.

III. COMPLIANCE WITH BENTON COUNTY CODE 53.205 TO 53.235 (CONDITIONAL USES)

As noted above, any landfill project south of Coffin Butte Road on land zoned LS or FC requires approval of a conditional use permit under BCC 53.205 to 53.235 approved by the Planning Commission.

A. BCC 53.205 (Purpose). This section states:

Conditional uses are land uses which may have an adverse effect on surrounding permitted uses in a zone.

Applicant Response: This section provides a general statement; it does not contain any measurable development standards or approval criteria. Compliance with the applicable provisions of this section will ensure conformance with the purpose stated in this section.

B. 53.210 (Permit Required). This section states:

A person shall obtain a conditional use permit from the County in order to establish a conditional use. The decision to issue a conditional use permit is discretionary.

Applicant Response: The proposal includes the expansion of a landfill and associated site improvements. As detailed in sections 60.215 and 77.305, the proposed use (including the associated site improvements) requires a CUP, along with review by the Planning Commission. Applicant understands that the decision whether to issue the CUP is discretionary, depending on whether Applicant can demonstrate compliance with the applicable criteria.

C. 53.215 (1) (Criteria) (The proposed use "does not seriously interfere"). This criterion states:

The decision to approve a conditional use permit shall be based on findings that:

(1) The proposed use does not seriously interfere with uses on adjacent property, with the character of the area, or with the purpose of the zone[.]

Applicant Response: In order to address this criterion, it is necessary to interpret the components of this criterion and then apply them to the facts.

1. Meaning of "Seriously Interfere."

The Benton County Code does not define "seriously interfere." The use of the modifier "seriously" indicates that at least some level of interference is acceptable. During BCTT, staff indicated that "seriously interfere" has generally been applied to mean more than an inconvenience or irritation, but less than rendering the uses on adjacent property impossible. Staff reported that county decision-makers have considered factors such as whether the proposed use makes it difficult to continue uses on the adjacent property; whether the proposed use creates significant disruption to the character of the area; and whether the proposed use conflicts, in a substantive way, with the purpose of the zone.

There has been an approved landfill in this area for over 50 years. This analysis has to be conducted in the context of the existing approved landfill operation: whether the proposed expansion creates additional, different, or increased impacts as compared to the existing operation, and whether these impacts, if any, when viewed through the lens of the existing operation, "seriously interfere" with adjacent properties.

2. Definition of "Adjacent Properties."

The Benton County Code does not define the term "adjacent." Absent a special definition, the courts ordinarily resort to the dictionary definitions, assuming that the legislature (or, in this case, the County Commissioners) meant to use a word of common usage in its ordinary sense.

Webster's Third New International Dictionary defines "adjacent" as "not distant or far off * * *: nearby but not touching * * *relatively near and having nothing of the same kind intervening: having a common border: ABUTTING, TOUCHING; living nearby or sitting or standing close relatively near or close together: immediately proceeding or following with nothing of the same kind intervening." (Capitalized emphasis in the original.)[18]

Because the application is to expand the existing landfill operation, Applicant started with a base site that includes all tax lots on which existing landfill operations and accessory uses are located, plus all tax lots constituting the Development Site on which the Project will be located (the "Landfill Boundary"). Applicant then identified properties abutting the Landfill Boundary (the "Adjacent Properties") and the properties abutting the Adjacent Properties (the "Nearby Properties"). *See* Figure 1, below.

[18] Webster's Third New International Dictionary of the English Language Unabridged, Merriam-Webster Inc., Publishers, Springfield Massachusetts, USA, Copyright 2002.

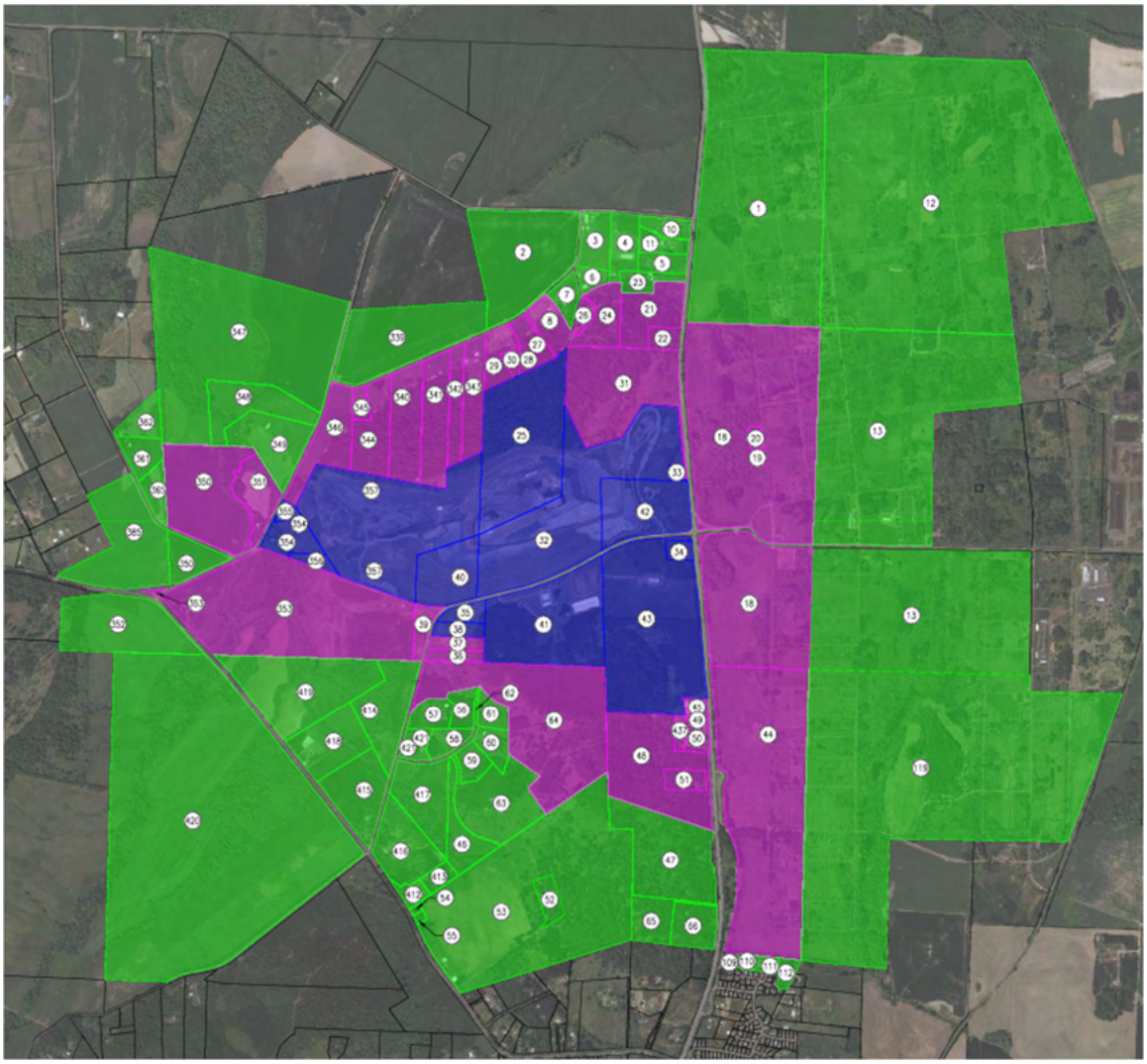


Figure 1 (Adjacent and Nearby Properties). Full-size version and tax lot list attached as Exhibit 8.

This analysis covers both the Adjacent Properties and the Nearby Properties. Although Applicant does not believe that the text of the criterion requires it to look beyond the Adjacent Properties, the Nearby Properties are included to demonstrate compliance with the criteria even in the context of a broader scope of review.

3. Uses on Adjacent and Nearby Properties.

The 16 tax lots that consist of the existing and proposed landfill areas and accessary uses are owned by VLI.[19] These properties are zoned LS and FC.

[19] Tax lots labeled 25, 32, 33, 34, 35, 38, 40, 41, 42, 43, 354, 355, 356, and 357 on Exhibit 8.

The Adjacent and Nearby Properties east of Highway 99W are predominately in public ownership, are zoned open space, and are managed as the E.E. Wilson Wildlife Area.[20] There are four small rural residential (RR-5) Nearby Properties owned by individual property owners at the very south end of the adjacent property.[21]

The Adjacent and Nearby Properties north of the landfill and east of Wiles Road are generally on the north side of Coffin Butte. The Adjacent Properties to the landfill are zoned FC, and are generally owned by individuals and trusts and appear to be in small woodlot management,[22]except for the large parcel northwest of the landfill, which is owned by the Oregon Department of Fish and Wildlife.[23] The Nearby Properties to the north of these Adjacent Properties are zoned RR-5 and owned by individuals[24] or are zoned EFU and owned by an LLC.[25]

The Adjacent and Nearby Properties east of the landfill and west of Wiles Road are zoned EFU and owned by individuals and trusts.[26]

The Adjacent and Nearby Properties to the southwest of the landfill between Wiles Road and Soap Creek Road are zoned EFU and owned by individuals[27] or are owned by VLI and leased to individuals for farm use.[28] The Nearby Properties southwest of Tampico Road are zoned EFU and are owned or controlled by Oregon State University.[29]

The Adjacent Properties to the south of the landfill are zoned FC or RR-10 and are owned by individuals[30]or VLI and leased to individuals.[31] The Nearby

[20] Tax lots labeled 1, 12, 13, 18, 19, 20, 44 and 119 on Exhibit 8.

[21] Tax lots labeled 109, 110, 111, and 112 on Exhibit 8.

[22] Tax lots labeled 8, 21, 22, 24, 27, 28, 29, 30, 340, 341, 342, 343, 344, 345, and 346 on Exhibit 8.

[23] Tax lot labeled 31 on Exhibit 8.

[24] Tax lots labeled 3, 4, 5, 6, 7, 10, 11, and 23 on Exhibit 8.

[25] Tax lots labeled 2 and 339 on Exhibit 8.

[26] Tax lots labeled 347, 348, 349, 350, 351, 361, 362, 365, and 385 on Exhibit 8.

[27] Tax lots labeled 39, 415, and 418 on Exhibit 8.

[28] Tax lots labeled 353, 414, and 419 on Exhibit 8.

[29] Tax lots labeled 352 and 420 on Exhibit 8.

[30] Tax lots labeled 37, 45, 48, 49, 50, and 51 on Exhibit 8.

[31] Tax lots labeled 38 and 64 on Exhibit 8.

Properties to the south of these Adjacent Properties are zoned EFU[32] or RR-10[33] and are owned by individuals or VLI.[34]

4. Establishing the "Area" for Impact Assessment.

The Benton County Code also does not define the term "area" for CUP purposes. During BCTT, staff reported that the County has considered the following factors in determining the extent and character of the "area":

a. The particular attributes of the geographic setting (including existing operations in the vicinity).

b. Whether there is a distinct change in the area's physical characteristics beyond a certain point.

c. The features or elements give the area its character, i.e., homogenous or heterogeneous characteristics and the degree of similarity.

d. The likely extent of the effects of the proposed land use. This may differ by particular effect—for example, the impact of noise might extend farther than visual impact (or vice versa).

Based upon the prior application and discussion, Applicant has identified five potential off-site impacts of the landfill: Noise, odor, water/groundwater, traffic, and visual impacts. Each of these off-site impacts has a differential effect on the surrounding area based upon proximity. As discussed in more detail below, the potential impact of odor extends farther from the landfill than the other potential impacts and thus has been used to identify the area of analysis under this criterion (the "Analysis Area").

In order to establish the Analysis Area for purposes of BCC 53.215(1), VLI compiled all the odor complaints from June 2021 to August 2024 for which it had an address or location, plotted those locations on a map, and then drew a box around them. *See* Figure 2.

[32] Tax lots labeled 46, 52, 53, 54, 55, 412, 413, 416, and 417 on Exhibit 8. (A portion of Tax Lot 52 is zoned RR-10.)

[33] Tax lots labeled 47, 56, 57, 58, 59, 60, 61, 62, 63, and 421 on Exhibit 8.

[34] Tax lot labeled 62 is owned by VLI.

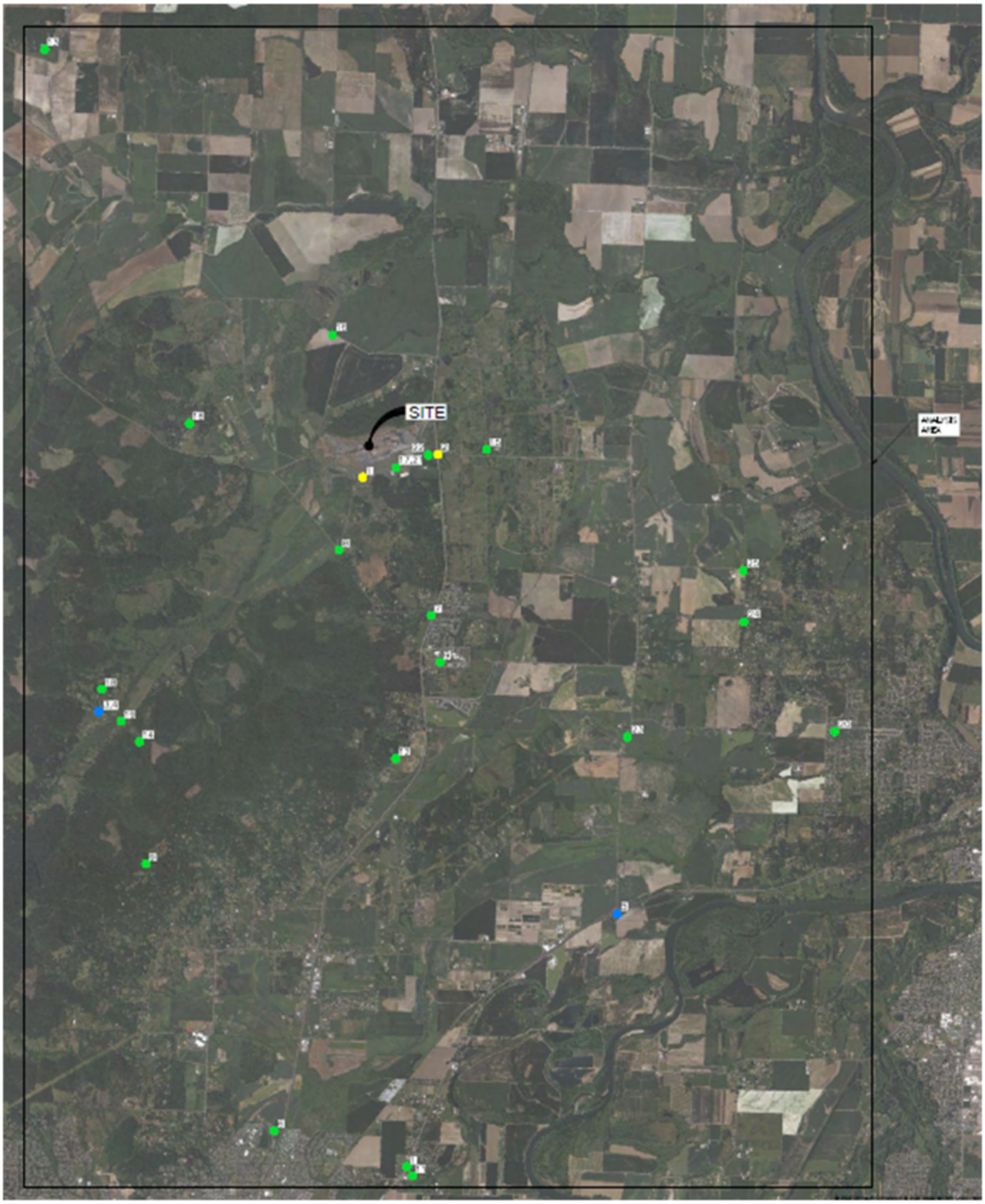


Figure 2 (The Analysis Area showing locations of odor complaints). (Full-size version and odor complaint list attached as Exhibit 9.)

VLI sometimes receives odor complaints that do not identify an address or location and notes that it did not consider these unlocated complaints to establish the Analysis Area. For these purposes, Applicant has also assumed that all the complaints were caused by odor from Coffin Butte Landfill without confirming the

actual source of the odor. Although these odor complaints are therefore over-inclusive in terms of establishing the outer limits of the potential odor impact and not required by the text of the criterion, for the purposes of the application VLI will consider this area for determining the outer limits of odor impact. Further, because odor is the impact with the farthest reach, the outer limits of odor impact provide an over-inclusive analysis area for the assessment of all other off-site impacts.

The land within the Analysis Area is not a distinct geographic setting, does not have unified physical characteristics, and is heterogenous and not homogenous. In this sense, it reflects a much larger "area" than would be determined using the other characteristics considered by the County in past applications, but Applicant is considering this "area" to demonstrate compliance with the criteria beyond what is arguably required under the code.

5. Establishing the Character of the Analysis Area.

As noted, the Analysis Area does not have a uniform character; it consists of almost 90 square miles and includes farm and forest lands, rural residential lands, the City of Adair Village, and small portions of Corvallis and North Albany.

The portion of the Analysis Area in the vicinity of the landfill is defined by two prominent topographic features: Coffin Butte and Tampico Ridge. These two topographic features are primarily surrounded and intersected by the roadways of Highway 99W on the east boundary, Robison Road to the north, Wiles and Tampico roads to the west, and Coffin Butte Road between the features. The interior flanks of Coffin Butte and Tampico Ridge are defined by Coffin Butte Landfill, while outer flanks are established with buffer areas and scattered rural residences, along with small-scale farming and forest operations. The higher elevations within the Analysis Area are well treed, while many of the lower/flatter elevations have been cleared. *See* Figure 3.

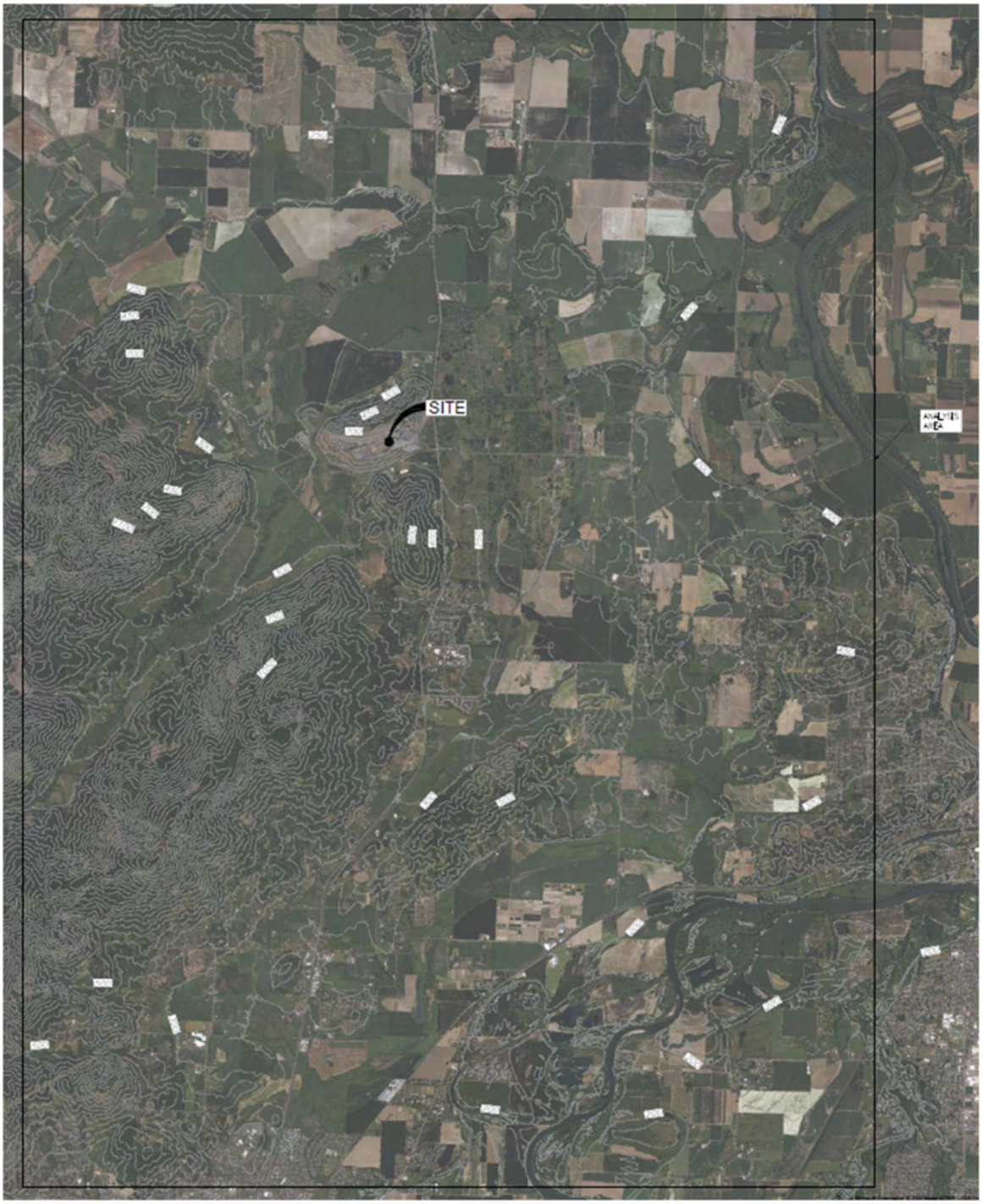


Figure 3 (Character, uses, and topography of the Analysis Area). (Full-size version attached as Exhibit 10.)

The portion of the Analysis Area beyond the immediate vicinity includes the City of Adair Village to the southeast. Adair Village is a small city in Benton County, with a population of approximately 1,005. To the east is the E.E. Wilson Wildlife Area, which is a 1,788-acre preserve that provides hunting, fishing, hiking,

wildlife viewing, shooting, and archery amenities; and to the west/southwest is Soap Creek Valley, which contains a number of rural residences.

The portion of the Analysis Area even farther afield includes larger-scale farm and forest operations, including the Starker Forest to the west, which is used for logging operations and recreation opportunities.

Current conditions in the Analysis Area include impacts from the current landfill operations, commercial farm and forest uses, urban development, and a major transportation corridor (Highway 99W).

6. Establishing the Purpose of the Applicable Zone(s).

The purpose of the LS zone is set forth in the Code as follows:

> *77.005 Purpose. The Landfill Site Zone shall establish a specific landfill area in Benton County.*

The purpose of the FC zone is established in the Code as follows:

> *PURPOSE*
>
> *60.005 Forest Conservation Zone.*
>
> 1. *The Forest Conservation Zone shall conserve forest lands, promote the management and growing of trees, support the harvesting of trees and primary processing of wood products, and protect the air, water, and wildlife resources in the zone. Resources important to Benton County and protected by this chapter include watersheds, wildlife and fisheries habitat,* maintenance *of clean air and water, support activities related to forest management, opportunities for outdoor recreational activities, and grazing land for livestock. Except for activities permitted or allowed as a conditional use[35], non-forest uses shall be prohibited in order to minimize conflicts with forest uses, reduce the potential for wildfire, and protect this area as the primary timber producing area of the County.*
>
> 2. *The provisions of this Chapter are not intended to regulate activities governed by the Forest Practices Act and Rules.*
>
> 3. *The provisions of this Chapter are based on the mandatory standards related to land use activities on forest land specified*

[35] Landfill uses are specifically allowed as a conditional use under BCC 60.205(11).

under Oregon state statutes, and Goal 4 of the Oregon Land Use Planning Program and the implementation requirements adopted by the Land Conservation and Development Commission pursuant to Chapter 660, Division 6 of the Oregon Administrative Rules.

The purpose of the LS zone is to host a landfill. The purpose of the FC zone is to conserve forest lands, promote forestry and timber uses, and protect natural resources. The specific provisions of the FC zone recognize that landfill uses are consistent with these purposes and expressly permit a landfill use as a conditional use. BCC 60.205(11).

7. Assessment of Impacts of the Proposed Project on the Adjacent Properties.

As noted above, the following off-site impacts from the Project may potentially affect the Adjacent Properties: (a) noise; (b) odor; (c) traffic; (d) water (well capacity/groundwater impacts); and (e) visual impacts. These impacts are primarily generated by the working face, which will move from north of Coffin Butte Road to the Project area south of Coffin Butte Road. Once moved, the landfill area to the north of Coffin Butte Road will not be used for disposal operations. There will be only one working face in operation at any time.

Current conditions on the Adjacent and Nearby Properties include the off-site impacts from the existing Coffin Butte Landfill. The question is thus whether the anticipated off-site impacts resulting from the Project differ from the current off-site impacts in a way that will "seriously interfere" with the uses of the Adjacent and Nearby Properties.

a. Noise. Greenbusch Group, Inc. ("Greenbusch") assessed the noise impacts from the proposed expansion (Exhibit 11). Greenbusch applied OAR 340-035-0035, which regulates sound emissions from commercial and industrial uses (the "DEQ Noise Rule").[36] As explained below and in Exhibit 11, Greenbusch determined that the predicted sound levels from the Project will "comply with the applicable regulatory criteria without the inclusion of noise mitigation."[37]

As noted by Greenbusch, the Project will not change the character of operations at the landfill. Accordingly, noise impacts from the Project will be similar in kind to current conditions, where noise is produced by equipment such as dozers, excavators, compactors, tipping machines, and truck traffic. When the Development Site is opened, active landfill

[36] DEQ has adopted noise standards but does not enforce them itself.

[37] In its 2021 study, Greenbusch concluded that the prior application would require mitigation measures in order to comply with the DEQ Noise Rule. The updated study, attached as Exhibit 11, concludes that no such measures are required by the 2024 proposal.

operations will move from north of Coffin Butte Road to the Development Site, so overall noise impacts will not appreciably change as compared to the current conditions (and could even diminish).

The DEQ Noise Rule establishes sound-level limits as measured from "noise sensitive property." Noise sensitive property, in turn, means property "normally used for sleeping, or normally used as schools, churches, hospitals or public libraries." OAR 340-035-0015(38). The closest noise-sensitive uses to the Project are shown on Exhibit 11, Figure 5.1.[38]

Applying the DEQ Noise Rule, noise impacts would be measured 25 feet toward the landfill from the point of noise-sensitive building closest to the landfill or the point on the noise-sensitive property line closest to the landfill (whichever is farthest from the landfill).

Greenbusch applied stricter standards than those required by the DEQ Noise Rule as follows:

> (i) The DEQ Noise Rule imposes different limits for commercial and industrial sound sources depending on whether the site has been previously used as a commercial or industrial site. Limits are stricter for sites that have not been previously used as a commercial or industrial site. The Project would be considered a new sound source located on a previously used site, and thus subject to the less-stringent limit. Nonetheless, Greenbusch evaluated the anticipated increase over existing sound levels using the limits that apply to previously unused sites.
>
> (ii) Motor vehicle sound emissions are measured within 1,000 feet of the noise-sensitive use. OAR 340-035-0030. As explained by Greenbusch, the type of motor vehicle use at the Project is exempt from the sound limits in OAR 340-035-0030. Nonetheless, Greenbusch evaluated the sound levels from anticipated motor vehicle use at the Project and determined that they would fall under the sound-level limits imposed by OAR 340-035-0030
>
> (iii) Operating hours at the landfill extend into both daytime and nighttime hours for purposes of the DEQ Noise Rule. Greenbusch assessed compliance using the more stringent nighttime sound-level limits.

Greenbusch took a number of measurements of existing sound levels and used those measurements to model two different scenarios to analyze

[38] The closest noise-sensitive use is the residential home on Tax Lot 1104.

anticipated noise impacts from the Project. Based on these models, Greenbusch concluded that "[p]redicted sound levels from trucks using the landfill and on-site equipment comply with OAR sound limits at all nearby noise sensitive properties under both modeling scenarios." Because Greenbusch analyzed the noise-sensitive properties closest to the Development Site and because sound dissipates over distance, these conclusions necessarily apply to all noise-sensitive properties that are Adjacent or Nearby Properties to the Landfill Boundary.

In addition, although not required by the DEQ regulations, Applicant has replaced back-up alarms on its on-site equipment with ambient sensing broadband back-up alarms as a voluntary noise-mitigation measure.[39]

Finally, the Greenbush analysis demonstrates that anticipated off-site noise impacts from the Project will not be materially different from existing conditions.

Given that the proposal does not materially change the off-site noise impacts from current conditions and complies with all regulatory criteria even without mitigation, and further given that Applicant has engaged in additional mitigation measures, the off-site noise impacts of the Project will not "seriously interfere" with the use of Adjacent and Nearby Properties.

b. Odor. Weaver Consultants Group ("Weaver") assessed the odor impacts from the proposed expansion (Exhibit 12) and the comprehensive set of infrastructure and practices already in place to control and manage odors is outlined in Exhibit 13. As explained below and in Exhibit 12, Weaver determined that "there has not been a significant impact to human health and environment related to [landfill gas] or odors."

The Adjacent and Nearby Properties have been in proximity to an active landfill for over 50 years. And, although the Project is a proposed "expansion," the nature of landfill operations means the Project will not result in a material expansion of odor-producing uses.

As explained in Exhibit 12, the two primary sources of odor from a landfill are the solid waste in the active landfill area (with odors similar to household waste) and the biogas produced as the solid waste begins to decompose ("landfill gas" or "LFG"). Also, as explained in Exhibit 12, the working face of a landfill is much smaller than its overall size. At Coffin Butte Landfill, the day-to-day active area is less than one-half acre under current conditions and will continue to be a similar size when the Development Site is opened and prior active landfill area north of Coffin

[39] Hauling trucks and other trucks coming to the site will still use standard back-up alarms.

Butte Road is no longer used for disposal. Consistent with best industry practice, VLI covers the active area at the end of each day with a six-inch layer of soil or alternative daily cover, which is a proven method for effective odor mitigation in all climatic regions (as noted in Exhibit 12).

As described in Exhibits 12 and 13, VLI currently employs aggressive methods for control of landfill gas, including an extensive system of landfill gas collection and control, surface emissions monitoring ("SEM"), and daily odor monitoring.

Weaver also noted that VLI employs several odor-mitigation measures in excess of what is required by applicable regulations, including: (i) the use of a plastic liner in addition to soil cover; (ii) the installation of "final cover" over nearly 40 percent of the landfill surface (when final cover is not required until the landfill is no longer accepting waste); and (iii) the installation of LFG extraction wells for waste that has been in place for only one year (when LFG extraction wells are not required until waste has been in place for five years).

A review of odor complaints over the past 20 years demonstrates that VLI's odor-control methods have been effective. Odor issues are regulated by DEQ, and the complaints to DEQ, the landfill, and local authorities have been minimal (*see* Findings on Odor, Exhibit 12).[40]

Because the perception of odor is subjective and has been the subject of questions during the prior application and the BCTT process, the County asked Applicant to provide further analysis related to landfill odor. Applicant retained Greg Hauser, CIEC, of SCS Engineers to conduct an odor analysis. (*See* Coffin Butte Landfill Expansion Odor Dispersion Model Study, attached as Exhibit 14). SCS employed the American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) methodology accepted by the EPA and DEQ. SCS examined wind patterns (direction and speed) over time, odor-causing landfill activities, and topography.

As noted in the report, per ASTM standards, odor concentration is defined as the dilution of an odor sample with odor-free air, at which point only 50 percent of an odor panel (or population) will detect or recognize the odor. This point is expressed in units of "dilutions-to-threshold" or "D/T". By definition, odor threshold is equal to 1 D/T. Typically, odors are considered a nuisance at or above 7 D/T.

[40] The uptick in 2021-22 occurred during the time of the contested CUP application and appears to be anomalous. Nonetheless, VLI investigates each of the complaints and takes action accordingly.

SCS examined odor dispersion at both the current landfill operation and the proposed Project. The report concludes:

- Peak, off-site, one-hour odor concentrations were below 7 D/T (the numeric threshold of significance for nuisance odors) for all scenarios modeled.

- For existing operations (Source #1), the modeled peak, off-site, one-hour odor concentration was north of the landfill (in two different locations depending upon the meteorological data used) and ranged from 0.42 to 1.21 D/T. Impacts above 1 D/T (the point at which only 50 percent of the population is expected to smell any odor) extended only a small distance off site. None of the complaint locations from Figure 10 were within the 1 D/T contour.

- For proposed operations (Source #2), the modeled peak, off-site, one-hour odor concentration was either along Coffin Butte Road or south of the landfill (in two different locations depending upon the meteorological data used) and ranged from 0.64 to 2.04 D/T. Impacts above 1 D/T (the point at which only 50 percent of the population is expected to smell any odor) were either along Coffin Butte Road or extended only a small distance off site. Only one complaint location from Figure 10 was within the 1 D/T contour.

- Moving operations to the proposed expansion area will move the predicted peak, off-site, one-hour impact location, but impacts would remain well below the 7 D/T threshold.

- While off-site odors can occur as a result of the current and future landfill operations, these potential impacts are less than significant and expected to be short lived (i.e., only occur under weather conditions with poor atmospheric dispersion).

The SCS Study thus corroborates the Weaver assessment. Based upon the above evidence, the Project will not materially increase off-site odor impacts over the current operation, and certainly not in a way that would "seriously interfere with uses on adjacent properties."

Because certain temporary landfill operations and weather conditions can temporarily increase odor, and given the complaints and concerns about odor expressed during the prior application and during BCTT, Applicant is proposing a condition of approval to provide a more structured and objective process for monitoring odor. Applicant proposes an ongoing odor-monitoring condition in the proposed conditions of approval. Exhibit 21, Condition OA-10.

c. Traffic. Transight Consulting, LLC ("Transight") prepared a Transportation Impact Analysis ("TIA") for the proposed expansion (Exhibit 15). Similar to the other off-site impacts, although the Project is a proposed "expansion," the nature of landfill operations means the Project will not result in a material increase in traffic impacts.

Coffin Butte Landfill and the proposed improvements are served from Coffin Butte Road. Coffin Butte Road is a Major Collector Street and is identified as a Freight Route on the County TSP.

As discussed in the TIA, the anticipated changes to traffic are limited and consist of the following:

> "Private passenger vehicles using the landfill will continue to use the scales and services on the north side of Coffin Butte Road, with these consolidated materials then hauled by commercial truck to the expansion site for disposal. Commercial account users will also be required to use the current scales to weigh in, then will be directed to the expansion area to dispose of materials. These private and commercial vehicles will use a new outbound scale near the expansion site exit, will pay the appropriate fees, and will then exit onto Coffin Butte Road.
>
> * * * *
>
> "As a result of retaining the scales on the north side of Coffin Butte Road for the expansion there will be internal trips between the north and south sides of Coffin Butte Road."

As further discussed in the TIA, trip generation for landfill uses is not determined by landfill size, but rather by the population of the areas served.

VLI is expanding Coffin Butte Road to include bicycle lanes and shoulders and a westbound left-turn lane to avoid impacts to through traffic on Coffin Butte Road.[41]

The TIA is based on four sets of traffic counts taken from 2021 to 2023. These counts all reflect very low traffic volumes in the vicinity of the landfill. In addition, future traffic increases attributable to the landfill are based on projected population growth, which is minimal (approximately 1 percent annually in the Linn-Benton area, 1 percent or lower in Linn County, and approximately 1.7 percent statewide in Oregon).

[41] The preliminary turn-lane design includes enough queue storage for four semitrucks.

The TIA concludes as follows:

> "This report shows that the proposed landfill expansion provides minimal impacts to Benton County and ODOT transportation facilities. The proposed expansion site will not alter public trip routing, emergency ingress or egress, and it will retain the current landfill access routes. This layout maintains current functional designations identified in the County's Transportation System Plan and the design optimizes travel safety for patrons and employees."

The TIA analyzes the expected traffic impacts from the Project as far as those impacts extend from the Landfill Boundary (which is not far), and found that transportation facilities in the area will continue to function well within applicable County standards. Thus, the additional trips generated from the expansion, if any, and the minor changes in traffic patterns will not "seriously interfere" with the use of Adjacent Properties or Nearby Properties.

d. Water—Well Capacity and/or Groundwater Impacts. Tuppan Consultants, LLC ("Tuppan") assessed environmental and operational considerations related to the Project (Exhibit 16), and Civil & Environmental Consultants, Inc. ("CEC") prepared a preliminary drainage report for the proposed expansion (Exhibit 17). These documents outline the natural dynamics of groundwater flow in the area, the groundwater use associated with the Coffin Butte Landfill, and the existing and proposed drainage systems serving the landfill. As explained below and in Exhibits 16 and 17, the proposed expansion will have no effect on the landfill's use of groundwater in the area and will not materially change off-site impacts on groundwater quality.

As described by Tuppan, current surface-water drainage from the operations areas of the landfill drain through a number of systems designed to remove site-related compounds from stormwater before it discharges to creeks that flow off site. These systems include a settlement pond and a bioswale that was recently upgraded to include a subsurface flow wetland (SSFW) that discharges at a sampling point.

As further described by Tuppan, groundwater supply in the area is limited and disconnected in nature.

> **(i) Impact on groundwater supply (well capacity).** As noted by Tuppan, landfill construction and the bulk of landfill operations use water supplied by Adair Village, not groundwater from wells. The only groundwater used from wells is for the existing office and the scale house, and the volume of groundwater consumed at these two locations will not change. The Project will

thus have no impact on groundwater supply in the area (as compared to current conditions).

(ii) Impact on groundwater quality. Tuppan and CEC describe a number of features and systems that protect groundwater resources, including the groundwater divide created by Tampico Ridge, the existing combined detention and wetpond facility, the requirement to install a "state-of-the-art" landfill liner system at the Development Site, stormwater diversion facilities, and a comprehensive water-quality monitoring program. Monitoring of stormwater is required by both the site's solid waste permit and its NPDES industrial stormwater discharge permit. The systems outlined above meet or exceed all regulatory requirements for groundwater protection, and to the extent they fail to function as designed, the monitoring programs will ensure that potential contamination is identified and mitigated before entering the off-site groundwater supply. The new landfill liner system planned for the Development Site is state of the art and will provide even more protection than the current system. Given that comprehensive mitigation and monitoring occurs on site, the potential impacts of the proposed expansion on the off-site groundwater supply will not "seriously interfere" with the use of Adjacent Properties or Nearby Properties.

e. Visual Impacts. Exhibit 18 is a collection of renderings showing the view corridors west along Highway 99W and east along Coffin Butte Road as they currently exist and would appear after development of the Project and the opening of the Development Site.

Figures 1, 2, and 3 show the northwest and southwest view from Highway 99W toward the landfill. As shown in Figure 1, the Project will retain the trees and vegetation at the southwest corner of the intersection of Coffin Butte Road and Highway 99W and will retain the buffer trees along the eastern property line. The Project will modify the topography of the area behind the trees shown in Figure 1; however, with the line of sight from this location, the visual impacts will be mostly unnoticeable (the top of Tampico Ridge is not visible).

Moving to a slightly higher elevation (north on Highway 99W) as shown in Figure 2, the top of Tampico Ridge is visible; thus, from this line of sight the Project may be visible.

Figure 4 shows the southwest view from the intersection of Coffin Butte and Soap Creek Road, demonstrating that the Development Site will be screened by vegetation along that corridor.

Applicant proposes installing additional screening vegetation consistent with the County's proposed condition in the 2021 Staff Report, plus additional screening. *See* Exhibit 2, Sheet 18. While the proposed landfill improvements on the Development Site may be visible at buildout along Coffin Butte Road within the landfill area owned by VLI and traffic traveling south on Highway 99W, the improvements will not be visible from the nearby streets, other rights-of-way, and properties that are not at higher elevations.

Overall, while the expansion may be visible from some locations around the area, it will not be highly visible, and a westerly visual corridor will be retained. In the future and in compliance with closure/post-closure plans, the current landfill area will be covered and reclaimed, reducing the off-site visual impacts that exist under current conditions. The overall effect of relocating disposal operations to the Development Site will be to reduce off-site visual impacts from those caused by the current operation.

One of the Planning Commission's reasons for denying the 2021 application was that the proposal would essentially create a new hill by filling up the gap between Tampico Ridge and Coffin Butte and therefore substantially interfere with the character of the area in a negative way. The 2024 application preserves Coffin Butte Road and the valley between Tampico Ridge and Coffin Butte. The Development Site, when completed, will change the topography on the north slope of Tampico Ridge, but will be substantially lower than the ridgeline and will be 175 feet lower in height and similar in character to the closed and to-be-closed areas north of Coffin Butte Road. *See* topographical cross-section attached as part of Exhibit 2, Sheets 22 and 23; Exhibit 18, Build-out of Coffin Butte Landfill, with approved expansion. As noted above, the LS zone contemplates landfill use, so some elevation changes are to be expected.

Applicant's lighting plan for the overall site will minimize additional light and glare. *See* Sight Lighting Summary, attached as Exhibit 19.

For these reasons, the off-site visual impacts of the Project will not "seriously interfere" with the use of Adjacent or Nearby Properties.

8. Assessment of Whether the Potential Impacts Constitute "Serious Interference" with the Character of the Area.

As established above, the character of the Analysis Area is heterogenous, but in the immediate vicinity of the landfill, it consists primarily of higher-intensity resource land that provides farm, forest, resource extraction, landfill operations, and open spaces surrounded by scattered rural residences and small-scale farm and forest operations. The Analysis Area is currently impacted by occasional odors, sounds, noises, and trips from the existing landfill operation and surrounding resource-extraction uses.

a. Noise. The Analysis Area includes the Adjacent and Nearby Properties addressed in Section III.C.7 above, as well as a large area beyond those properties. As established above, the projected off-site noise impacts will not seriously interfere with the use of the Adjacent and Nearby Properties. It follows that any noise impacts on the Analysis Area beyond those properties will only be more attenuated and will not "seriously interfere" with the character of the Analysis Area.

b. Odor. The Analysis Area includes the Adjacent and Nearby Properties addressed in Section III.C.7 above, as well as a large area beyond those properties. As established above, the projected off-site odor impacts will not seriously interfere with the use of the Adjacent and Nearby Properties. It follows that any odor impacts on the Analysis Area beyond those properties will only be more attenuated and will not "seriously interfere" with the character of the Analysis Area.

c. Traffic. The Analysis Area includes the Adjacent and Nearby Properties addressed in Section III.C.7 above, as well as a large area beyond those properties. As established above, the projected off-site traffic impacts will not seriously interfere with the use of the Adjacent and Nearby Properties. If follows that any traffic impacts on the Analysis Area beyond those properties will only be more attenuated and will not "seriously interfere" with the character of the Analysis Area.

d. Water—Well Capacity and/or Groundwater Impacts. The Analysis Area includes the Adjacent and Nearby Properties addressed in Section III.C.7 above, as well as a large area beyond those properties. As established above, the projected off-site water impacts will not seriously interfere with the use of the Adjacent and Nearby Properties. It follows that any water impacts on the Analysis area beyond those properties will only be more attenuated and will not "seriously interfere" with the character of the Analysis Area.

e. Visual Impacts. The Analysis Area includes the Adjacent and Nearby Properties addressed in Section III.C.7 above, as well as a large area beyond those properties. As established above, the projected off-site visual impacts will not seriously interfere with the use of the Adjacent and Nearby Properties. It follows that any visual impacts on the area beyond those properties will only be less noticeable and will not "seriously interfere" with the character of the Analysis Area.

9. Assessment of Impacts on the Purpose of the Zone(s).

The Development Site is located across two zones: the LS zone and the FC zone.

As established in Section III.C.6 above, the purpose of the LS zone is to host a landfill. Allowing for landfill expansion in the Landfill Site Zone will *fulfill* rather than "seriously interfere" with the stated purpose of the zone.

The purpose of the FC zone is to conserve forest lands, promote forestry and timber uses, and protect natural resources. The specific provisions of the FC zone recognize that landfill uses are consistent with these purposes and expressly permit a landfill use as a conditional use. BCC 60.205(11).

No solid-waste disposal is proposed for the FC-zoned land. Instead, the proposed improvements on the FC-zoned land include an 1,800-square-foot employee building, parking, access road modifications, and the relocation of leachate ponds, leachate loadout, leachate sump, an outbound scale, portions of the perimeter landfill road, cut activities for landfill, and a shop/maintenance area. All uses proposed as part of the Project (i.e., disposal site for solid waste approved by the County Commissioners and DEQ, together with equipment, facilities, or buildings necessary for its operation) are permitted in the FC zone, so long as Applicant demonstrates compliance with all applicable CUP approval criteria. The elements of the Project that are proposed on the FC-zoned land are associated with the existing, approved Coffin Butte Landfill. These uses are explicitly allowed and therefore consistent with the stated purpose of the zone, and CUP review will minimize conflicts with forest uses, reduce the potential for wildfire, and protect this area as the primary timber-producing area of the County. Thus, the elements of the Project that are proposed on the FC-zoned land will not "seriously interfere" with the purpose of the FC zone.

As detailed above, the proposal satisfies this approval criterion.

D. BCC 53.215 (2) (Criteria) (The proposed use "does not imposed an undue burden" on public facilities and services). This criterion states:

The decision to approve a conditional use permit shall be based on findings that:

(2) The proposed use does not impose an undue burden on any public improvements, facilities, utilities, or services available to the area; and

Applicant Response: Coffin Butte Landfill serves the public. The development is proposed so that the landfill can continue to accommodate public needs for an

additional six years beyond the life of the current approved landfill. As noted above, when the Development Site is opened, the working face will move from north of Coffin Butte Road to the Development Site. As detailed in the traffic report (Exhibit 15), trip growth (transportation impacts) will grow with overall population, but not because of the relocation of the working face to the Development Site. As noted in Exhibit 15, trips generated to and from the working face will remain substantially the same and well within the capacity of the existing road system. Because the 2024 CUP application does not include closure of Coffin Butte Road, none of the surrounding road systems will be impacted, and the new turn lanes and bike paths will improve safety and access along Coffin Butte Road. The Project does not necessitate any additional water or sewer services, so will not affect public water or sewer service. The property is served by the Adair Fire District and the Benton County Sheriff's Department. The Fire District expressed concern about the impact of closure of Coffin Butte Road on emergency ingress and egress during prior 2021 application; the 2024 CUP application does not change that access. Applicant's Fire Risk Assessment Report, attached as Exhibit 20, details how Applicant's fire mitigation plan prevents or addresses fires, and concludes that operations at Coffin Butte Landfill do not present a significant fire risk. There is no evidence or history that suggests that the landfill creates significant law enforcement issues. The proposed development is not projected to increase impacts to these providers.

For the above-noted reasons, the proposed expansion does impose an undue burden on any public facilities or services.

E. BCC 53.215 (3) (Criteria) (The proposed use "complies with any additional criteria"). This criterion states:

The decision to approve a conditional use permit shall be based on findings that:

(3) The proposed use complies with any additional criteria which may be required for the specific use by this code.

Applicant Response: Additional criteria are included in BCC chapters 60 and 77. This narrative addresses how the proposal complies with the additional criteria of those sections; the proposal therefore complies with this refenced provision.

F. BCC 53.220 (Conditions of Approval). This section states:

The County may impose conditions of approval to mitigate negative impacts to adjacent property, to meet the public service demand created by the development activity, or to otherwise ensure compliance with the purpose and provisions

of this code. On-site and off-site conditions may be imposed. An applicant may be required to post a bond or other guarantee pursuant to BCC 99.905 to 99.925 to ensure compliance with a condition of approval. Conditions may address, but are not limited to:

1. **Size and location of site.**
2. **Road capacities in the area.**
3. **Number and location of road access points.**
4. **Location and amount of off-street parking.**
5. **Internal traffic circulation.**
6. **Fencing, screening and landscape separations.**
7. **Height and square footage of a building.**
8. **Signs.**
9. **Exterior lighting.**
10. **Noise, vibration, air pollution, and other environmental influences.**
11. **Water supply and sewage disposal.**
12. **Law enforcement and fire protection.**

Applicant Response: Applicant understands that this section of the Code allows for the imposition of conditions of approval to address compliance with the applicable criteria, if warranted. This Code section does not add any additional substantive review criteria for approval.

Applicant expects the County to impose conditions of approval. Applicant has prepared draft conditions of approval for the County's consideration. *See* Draft Conditions, attached as Exhibit 21. The draft conditions of approval are based upon the evidence and recommendations contained in Applicant's exhibits and the analysis in this burden of proof, as well as the County's relevant recommended conditions in 2021.

One condition that was at issue in the 2021 application and was an area of disagreement during BCTT is a limitation on the hours of operation. Applicant requests a condition that would allow it to continue the current hours of operation. Prior to opening, Applicant currently must begin internal operations to prepare for opening. The landfill opens to commercial hauling traffic at 5 a.m. and opens to the general public at 8:00 a.m., except on Sundays, when it opens at 12:00 p.m. The site closes to both commercial and public traffic at 5:00 p.m. all days, with internal operations continuing thereafter to properly close the landfill for the day. The landfill has been observing these hours since 2002. This is in accordance with PC-02-07 2002, in which the County imposed the following condition regarding hours of operation:

> "The landfill operation hours shall occur between 8:00 a.m. and 5:00 p.m. Monday through Saturday, and 12:00 p.m. through

5:00 p.m. on Sunday, with 24-hour access for commercial customers."

The question during BCTT was whether Applicant was violating this section by having staff on site before 8:00 a.m. and after 5:00 p.m. Applicant had always interpreted "landfill operation hours" to mean hours that it is open to the public. Applicant noted that since the condition allows 24-hour access for commercial customers[42], the County must have contemplated that at least some staff would be on site outside the hours that it was open to the public.

From an off-site impact standpoint, having staff on site to prepare for opening and closing of the landfill has no impact on the Adjacent or Nearby Properties or the Analysis Area. In contrast, limiting the hours of operation would concentrate landfill traffic into the peak hours, resulting in increased congestion and the potential for more user conflicts. *See* Exhibit 15, pages 22-23.

For these reasons, Applicant respectfully requests that any condition of approval relating to hours of operation permit Applicant to continue its long-standing practice. Exhibit 21 contains a draft condition of approval (OA-1) addressing hours of operation. The impacts to Adjacent or Nearby Properties or to the Analysis Area will not increase as compared to the existing operation, and it will avoid the unintended consequences of limiting those hours.

G. BCC 53.225 (Modification of a Conditional Use Permit). This section states:

An original applicant or successor in interest may request that a conditional use permit be modified if a change in circumstance has occurred since approval which would justify a change in the permit. Such application shall be processed as a new request for a conditional use permit.

Applicant Response: The landfill site was previously granted approval, and the current proposal is a modification of the prior approval. However, whether a modification of a CUP or a new CUP, this section establishes that the application shall be processed as a new request for a CUP. Applicant anticipates that the application will be processed accordingly.

[42] Historically, the site did operate 24 hours a day for commercial customers. At its own discretion, Applicant limited hours in the early 2000s to 5:00 a.m. to 5:00 p.m. for commercial customers.

H. BCC 53.230 (Period of Validity). This section states:

Unless otherwise specified at the time of approval, a conditional use permit for a single-family dwelling shall be valid for ten (10) years from the date of decision and other conditional use permits shall be valid for a period of two (2) years from the date of decision.

Applicant Response: This section establishes a time limit within which a new CUP must be initiated unless otherwise specified at the time of approval. Applicant notes that the County's final decision may be appealed, and Applicant must also obtain DEQ permits prior to constructing the landfill, which cannot begin until the County has approved the CUP. For these reasons, Applicant has proposed a longer period in its draft conditions of approval attached as Exhibit 21 to account for these exigencies.

I. BCC 53.235 (Extension of Permit). This section states:

A conditional use permit may be extended for good cause at the discretion of the approving authority responsible for the original decision. The applicant shall submit the request for extension in writing to the Planning Official prior to expiration of the original permit.

Applicant Response: Applicant intends to initiate the development as provided in the draft conditions of approval. However, in the event of unexpected circumstances, Applicant recognizes that an extension may be granted under this section.

IV. COMPLIANCE WITH BENTON COUNTY CODE CHAPTER 77 (LANDFILL SITE)

A. BCC 77.005 Purpose. This section states:

The Landfill Site Zone shall establish a specific landfill area in Benton County.

Applicant Response: This section establishes a purpose but does not provide any development standards or approval criteria. Compliance with the standards of this section and the criteria of the Code will ensure that this purpose is implemented.

B. BCC 77.010 Application. This section states:

The Landfill Site Zone recognizes the existing site in the Coffin Butte area, and allows for its continued use pursuant to Oregon Department of Environmental Quality (DEQ) permits, Benton County Code Chapter 23, and an approved Site Development Plan.

Applicant Response: The current development area that is located within the LS zone is operating under Oregon DEQ Permit # 306. Upon approval, Applicant will seek to modify the existing DEQ permit to include the Development Site. The LS zone was expressly created to accommodate and permit the continued use of the landfill that had existed in this area since the 1940s.

C. BCC 77.105 Permitted Uses. This section states:

The following uses are allowed in the Landfill Site Zone:

(1) Municipal solid waste disposal, in accordance with a Solid Waste Disposal Franchise and an approved Site Development Plan.

(2) Recycling facilities.

(3) Forestry and agricultural use as a conversion factor leading to reclamation of the site in the future.

(4) Aggregate and mineral resource use in accordance with Oregon Department of Geology and Mineral Industry Permits.

(5) Structures normally associated with the operation of a landfill.

(6) Operation of equipment in conjunction with landfill operations.

(7) Installation and operation of monitoring devices as required by DEQ such as leachate sample equipment, leachate treatment facilities, and vector control systems.

(8) Landfill gas monitoring and recovery systems.

Applicant Response: This section establishes that solid waste disposal is a permitted use. The Project is a permitted use in the zone.

D. BCC 77.205 Prohibited Uses. This section states:

The following uses are prohibited in the Landfill Site Zone:

(1) Hazardous waste disposal.

(2) Disposal of materials prohibited by the Solid Waste Disposal Franchise.

Applicant Response: The Project does not include any of these prohibited uses.

E. BCC 77.305 Conditional Uses Approved by the Planning Commission. This section states:

Any proposal to expand the area approved for a landfill within the Landfill Site Zone is allowed by conditional use permit approved by the Planning Commission. The Benton County Environmental Health Division and the Solid Waste Advisory Council shall review and make recommendations through the Planning Official to the Planning Commission regarding the Site Development Plan Map and narrative. The Oregon Department of Environmental Quality shall be given an opportunity to review and comment on any proposal which may affect this site.

Applicant Response: The application includes a proposal to expand the area approved for a landfill within the LS zone to the Development Site located south of Coffin Butte Road; this section therefore requires review and approval by the Planning Commission. This section further establishes that the Planning Commission will review comments from the Benton County Environmental Health

Division, the Solid Waste Advisory Council, and DEQ. Applicant anticipates that the application will be processed accordingly.

F. BCC 77.310 Conditional Use Review. This section states:

(1) The applicant for a conditional use permit shall provide a narrative which describes:

(a) Adjacent land use and impacts upon adjacent uses[.]

Applicant Response: A comprehensive review of lands that are Adjacent or Nearby to the LS-zoned properties and impacts thereupon was included above. The findings from the above-noted sections are incorporated herein.

(b) Future use of site as reclaimed, and impacts of that reclamation on adjacent uses[.]

Applicant Response: The post-closure future use of the LS-zoned development area will be consistent with the rest of Coffin Butte Landfill. As documented in Exhibit 22 (Reclamation Plan) on page 5:

> The final closed surface of the completed landfill will appear to be a sloped grassy savanna that blends with, and appears to be part of, the adjacent butte. Planned land use for the property will be open space grassland. Any development over filled areas of the CBLF should not include permanent enclosed structures where differential settlement and/or methane gas may cause risk.

Like the rest of Coffin Butte Landfill, the future (post-closure) use of the Development Site is not anticipated to have any impacts on Adjacent or Nearby uses.

(c) Provisions for screening of the site from public roads and adjacent property[.]

Applicant Response: This section does not require screening or provide a specific standard for screening. This section requires only that an applicant describe "provisions for screening the site from public roads and adjacent properties." Applicant owns and manages the majority of the surrounding properties, and the eastern portion of Tax Lot 1200 is and will continue to be well treed and will provide a substantial buffer from the planned improvements. Furthermore, the 83.7-acre parcel south of the landfill development area is maintained as an open-space area, along with areas to the north and west. The areas owned by Applicant that are maintained as open spaces and/or engaged in

commercial farming operations will continue to provide sufficient buffers from public roads and the majority of the Adjacent Properties. The closest Adjacent Property to screen is Tax Lot 1103 at 38691 Soap Creek Road. This nearby residence is and will continue to be buffered from the disposal site development area by a sloped and treed grade. Additionally, Applicant is proposing installation of additional screening consistent with the County's proposed condition in 2021. *See* Exhibit 2, Sheet 18. Overall, the planned improvements will be screened by the existing grades and vegetation existing and to be installed on the property and surrounding area.

(d) Egress and ingress[.]

Applicant Response: The proposal modifies the access points on the south side of Coffin Butte Road; it closes the access point to the existing leachate pond and relocates the access point to the gas-to-energy plant, making it the main access point to the southern area. The new access design will be served by an improved Coffin Butte Road, which includes a new left-turn lane and bike lanes. The existing and new access points, along with the overall functionality of the proposed access design, has been studied by the traffic engineer. As detailed in Exhibit 15, the access design and proposed configuration are safe and efficient and can accommodate the proposed development.

(e) Other information as required by the Planning Official.

Applicant Response: To date, the Planning Official has not requested any additional information.

(2) A site plan map shall accompany a conditional use permit application. The map shall contain at least a scale, north arrow, assessor map numbers, location of existing landfill, access, proposed alteration, leachate treatment or monitoring areas surface water systems, and existing and proposed screening (location and types of materials). A statement shall be placed on the map that the site plan map and narrative together are considered as the Site Development Plan. A signature block shall be included for the date the approval is given and the signature of the Planning Official indicating approval.

Applicant Response: The application packet is supported by a site plan that contains all of the elements noted in this section. *See* Exhibit 2, Sheets 5-9.

(3) A conditional use permit application shall contain a reclamation plan describing present efforts and future reclamation plans related to the site.

Applicant Response: The application packet is supported by a reclamation plan that contains all of the elements noted in this section. *See* Exhibit 22.

(4) The following environmental and operational considerations shall be reviewed prior to changes in the documents referenced above:

(a) Geology;
(b) Groundwater and surface water;
(c) Soil depth and classification, and erosion control factors;
(d) Slope; and
(e) Cover material availability, transportation, and use.

Applicant Response: The application packet is supported by Exhibits 9, 10, and 22. These engineering documents contain, address, and review all of the elements noted in this section.

G. BCC 77.405 Review of DEQ Permits. This section states:

Copies of materials submitted to the Oregon Department of Environmental Quality as a part of any permit process shall be submitted to the Planning Official. If at any time the Planning Official determines that permit application materials or conditions of DEQ permit are judged to merit public review, a Public Hearing before the Planning Commission shall be scheduled.

Applicant Response: A copy of the existing DEQ Permit #306 is included with the submittal items, along with correspondence related to the expansion work plan). Upon approval by the County, Applicant will apply to DEQ for the currently proposed development (to ensure conformance with all DEQ requirements) and will provide the DEQ submittal materials to the Planning Official (to determine whether the materials merit additional public review). If the future DEQ permit changes are judged by the Planning Official to merit additional public review, Applicant understands that an additional Public Hearing before the Planning Commission may be scheduled at that time.

V. COMPLIANCE WITH BENTON COUNTY CODE CHAPTER 60—FOREST CONSERVATION

A. BCC 60.005 (Purpose). This section states:

> **(1) The Forest Conservation Zone shall conserve forest lands, promote the management and growing of trees, support the harvesting of trees and primary processing of wood products, and protect the air, water, and wildlife resources in the zone. Resources important to Benton County and protected by this chapter include watersheds, wildlife and fisheries habitat, maintenance of clean air and water, support activities related to forest management, opportunities for outdoor recreational activities, and grazing land for livestock. Except for activities permitted or allowed as a conditional use, non-forest uses shall be prohibited in order to minimize conflicts with forest uses, reduce the potential for wildfire, and protect this area as the primary timber producing area of the County.**
>
> **(2) The provisions of this Chapter are not intended to regulate activities governed by the Forest Practices Act and Rules.**
>
> **(3) The provisions of this Chapter are based on the mandatory standards related to land use activities on forest land specified under Oregon state statutes, and Goal 4 of the Oregon Land Use Planning Program and the implementation requirements adopted by the Land Conservation and Development Commission pursuant to Chapter 660, Division 6 of the Oregon Administrative Rules.**

Applicant Response: The provisions of this section establish the purpose of the FC zone. This section does not establish any measurable development standard or approval criteria. Conformance with the established standards of this chapter and the conditional use approval criteria will implement the purposes stated in this section.

B. BCC 60.020 (Standards for Application for the Forest Conservation Zone). This section states:

> **The Forest Conservation Zone is applied to areas designated Forestry on the adopted Comprehensive Plan Map in compliance with Statewide Planning Goal 4 and OAR 660. This zone consists of areas containing forest soils which are not otherwise subject to an exception of the statewide planning goals. The Forest Conservation Zone is also applied to other lands necessary to preserve and maintain forest uses consistent with existing and future needs for forest management. Forest land capability is indicated by the nature and type of soil, slope, size and location of the property, the suitability of the terrain, and other similar factors. The Forest Conservation Zone is also applied to intervening lands which are suitable for forest management related uses or needed to protect forest land.**

Applicant Response: This section establishes how the FC zone is to be implemented; it does not establish any measurable development standard or approval criteria.

C. BCC 60.030 Definitions. This section states:

> **As used in this chapter * * *[.]**

Applicant Response: It is understood that the definitions of this section will be used in the review of this application.

D. BCC 60.050 Notice of Pending Action. This section states:

> **Notice of all land use applications for new permanent dwellings and land divisions in the Forest Conservation Zone shall be mailed to the Department of Land Conservation and Development and the Department of Forestry at their Salem office at least ten (10) days prior to the date of decision or permit issuance. The information shall contain the information set forth in BCC 51.615.**

Applicant Response: The proposal does not include any new dwellings or a land division; this provision is therefore not applicable.

E. BCC 60.075 Period of Validity of Discretionary Decisions. This section states:

(1) When a discretionary decision under ORS 215.416 approves a dwelling pursuant to BCC 60.105(14) or (17), 60.108, or 60.109, the approval shall be void four years from the date of final decision if the development action is not initiated in that period. "Development action" typically means the property owner has submitted a complete application for a building permit for the dwelling or manufactured dwelling placement permit.

(a) One extension may be granted for two additional years.

(b) Five additional one-year extensions may be granted. Extensions shall only be granted if:

(A) The applicant makes a written request for the extension prior the expiration of the final approval or a previous extension, whichever is applicable;

(B) The applicable residential development statute has not been amended following the issued land use decision, except the amendments to ORS 215.750 Forest Dwelling Template Test by section 1, chapter 433, Oregon Laws 2019 (Enrolled House Bill 2225); and

(C) An applicable rule or land use regulation has not been amended following the issuance of the land use decision, unless allowed by the county, which may require that the applicant comply with the amended rule or land use regulation.

(c) Approval of an extension is not a land use decision and is not subject to appeal as a land use decision.

(2) A discretionary decision, other than a dwelling identified in subsection (1) of this section or a land division, approving a proposed development on Forest Conservation land outside an urban growth boundary is void two years from the date of final decision if the development action is not initiated in that period.

Applicant Response: This section establishes a time limit within which a new CUP must be initiated. Applicant understands the period of validity that is established in this section and plans to develop the site as provided in the draft conditions of approval, attached as Exhibit 21.

F. BCC 60.080 Soils Designations. This section states:

(1) For purposes of determining the "cubic feet per acre per year" in the review of an application for a dwelling pursuant to BCC 60.108(2), the county shall use the average annual increase in cubic foot volume of wood fiber per tract for fully stocked stands at the culmination of mean annual increment as reported by the USDA Soil Conservation Service/Natural Resources Conservation Service (NRCS) soil survey information, USDA Forest Service plant association guides, Oregon Department of Revenue western Oregon site class maps, or other information determined by the State Forester to be of comparable quality. Where such data are not available or are shown to be inaccurate, an alternative method for determining productivity may be used. An alternative method must provide equivalent data as explained in the Oregon Department of Forestry's Technical Bulletin entitled "Land Use Planning Notes Number 3 dated April 1998" or successor document and be approved by the Oregon Department of Forestry.

(2) For purposes other than those described in subsection (1), the County shall use the soil designation most recently published by the Natural Resources Conservation Service, except that the County may use more detailed soils data provided it is related to the NRCS land capability classification and is prepared by a soils scientist certified for changing soil designations by the Oregon Department of Agriculture.

Applicant Response: In the event that soil designation is necessary, Applicant understands that the County shall use the soil designation most recently published by the NRCS, except that the County may use more detailed soils data, provided it is related to the NRCS land capability classification and is prepared by a soils scientist certified for changing soil designations by the Oregon Department of Agriculture.

G. BCC 60.105 Permitted Uses Allowed in the Forest Conservation Zone.

Applicant Response: The Project is not a permitted use in the zone and so this section does not apply.

H. BCC 60.106 to 60.109 Dwellings In Forest Conservation Zone.

Applicant Response: The Project does not include a dwelling and so these sections do not apply.

I. BCC 60.205 Conditional Uses Subject to Approval by the Planning Official.

Applicant Response: As detailed below, the disposal site use requires review and approval by the Planning Commission, not the Planning Official; therefore, this section does not apply.

J. BCC 60.215 Conditional Uses Subject to Review by the Planning Commission.

This section states:

> **The following uses may be allowed in the Forest Conservation Zone by a conditional use permit approved by the Planning Commission in conformance with the criteria set forth in BCC 60.220, 53.215, and 53.220.**
>
> **(11) Disposal site for solid waste approved by the Benton County Board of Commissioners and the Oregon Department of Environmental Quality together with equipment, facilities, or buildings necessary for its operation.**

Applicant Response: Whether serving the existing or proposed disposal site, the proposed Project elements on the FC-zoned land fall into the category of equipment, facilities, or buildings necessary for the landfill operation. Coffin Butte Landfill has been approved by the County Commissioners and is operating under DEQ Permit #306 (Exhibits 23-25). For the above-noted reasons, a CUP can be approved by the Planning Commission for the FC-zoned portions of the property.

K. BCC 60.220 Conditional Use Criteria. This section states:

(1) A use allowed under BCC 60.205 or 60.215 may be approved only upon findings that the use:

(a) Will not force a significant change in, or significantly increase the cost of, accepted farming or forest practices on agriculture or forest lands[.]

Applicant Response: The elements that are proposed on the FC-zoned lands are an 1,800-square-foot employee building and parking, access road modifications, the relocation of leachate ponds, leachate loadout, leachate sump, an outbound scale, portions of the perimeter landfill road, cut activities for landfill, and a shop/maintenance area to support the landfill. These elements will slightly reduce the amount of land that is available for farm and forest uses; however, the area of these improvements is not actively engaged in significant farm or forest activities and is currently used for landfill operations or other non-forest or agriculture use. The majority of the surrounding properties are owned by Applicant and are engaged in commercial farming operations and/or open space/buffer uses. For reasons stated previously, the proposal will not substantially impact public roads that serve the area or substantially interfere with uses on Adjacent and Nearby Properties. Furthermore, the primary access to the site will continue to be from Coffin Butte Road. Other than slightly reducing the amount of land that can be used for farming or forest practices, the proposal will not impact farming or forestry activities in the area; thus, it will not force a change or increase the cost of these activities. The proposal therefore conforms to this approval criterion.

(b) Will not significantly increase fire hazard or significantly increase fire suppression costs or significantly increase risks to fire suppression personnel[.]

Applicant Response: The elements that are proposed on the FC-zoned lands include an 1,800-square-foot employee building and parking, access road modifications, the relocation of leachate ponds, leachate loadout, leachate sump, an outbound scale, portions of the perimeter landfill road, cut activities for landfill, and a shop/maintenance area to support the landfill. Furthermore, the roadway system will not be significantly altered by the design (a left-turn lane and bike lanes will be added, as well as stormwater management facilities).

The Fire Risk Assessment Report, attached as Exhibit 20, details the lack of fire risks and describes Applicant's Fire Mitigation Plan and protocols for the entire landfill operation. The conclusion of the report is that "operations at Coffin Butte Landfill do not present a significant fire risk."

For the above-noted reasons, the proposed improvements on the FC-zoned land will not significantly increase fire hazard or suppression costs or significantly increase risks to fire-suppression personnel.

(c) Complies with criteria set forth in BCC 53.215 and 53.220.

Applicant Response: A comprehensive review of the referenced sections was included above. The above-noted findings are incorporated herein.

(2) As a condition of approval of a conditional use permit, the owner shall sign the following declaratory statement to be recorded into the County Deed Records for the subject property on which the conditional use is located that recognizes the rights of adjacent and nearby land owners to conduct forest operations consistent with the Forest Practices Act and Rules, and that recognizes the hazards associated with the area:

The property herein described is situated in the Forest Conservation Zone in Benton County, Oregon. The purpose of such zone is to conserve forest land, promote the management and growing of trees, support the harvesting of trees and primary processing of wood products, minimize conflicts with forest and farm uses, and protect the air, water, and wildlife resources in the zone. Residents may be subjected to customary forest or farm management practices which produce noise, dust, fumes, smoke, and other impacts. The resource nature of surrounding properties can result in herbicide and pesticide spraying, slash burning, timber cutting, farm operations, crown fires, hunting, use by big-game, bears, and cougar, and other accepted resource management practices. (Crown fires are fast-moving, high-intensity forest fires in which the fire spreads from one tree crown to the next rather than only along the ground.) Resource uses are the preferred uses in this zone. Activities by residents can create management difficulties or increased costs for nearby farm or forest operations. Grantee acknowledges the need to avoid activities that negatively impact nearby farm or forest uses.

In consideration for the approval by Benton County of the following use: _____, the grantee, including heirs, assigns and lessees, recognizes that such impacts are likely to occur, and agrees therefore that no action

shall be brought at law or before any governmental body or agency involving the non-negligent utilization or continuation of accepted resource-management practices such as, but not limited to, the examples noted above. As used in this section, "accepted resource management practices" means a mode of operation that is authorized under the Forest Practices Act or necessary to a farm or forest operation to obtain a profit in money.

Applicant Response: Upon approval and as required by this section, Applicant will execute the above-noted declaratory statement and have it recorded in the Benton County deed records. This requirement is included as a condition of approval in Exhibit 21.

L. BCC 60.305 to 60.330 (Creation of New Parcels or Lots; Property Line Adjustments).

Applicant Response: The proposal does not include the creation of new lots or parcels, or a property line adjustment; therefore, these sections do not apply.

M. BCC 60.405 Siting Standards and Requirements. This section states:

All new structures allowed in the Forest Conservation Zone shall be sited in compliance with BCC Chapter 99 and the following standards designed to make such uses compatible with forest operations and agriculture, to minimize wildfire hazards and risks, and to conserve values found on forest lands:

(1) The owner of any new structure shall maintain a primary and secondary fuel-free fire-break surrounding the structure on land that is owned or controlled by the owner, in accordance with the provisions in "Recommended Fire Siting Standards for Dwellings and Structures and Fire Safety Design Standards for Roads" dated March 1, 1991 and published by the Oregon Department of Forestry.

Applicant Response: The only proposed new structure is the employee building. Applicant owns the property upon which these structures are proposed, along with all surrounding properties. Applicant proposes a structure that conforms to the provisions of this section. *See* Exhibit 2, Sheets 5, 11, 12.

(2) Non-residential structures shall be located at least twenty (20) feet from a parcel or lot line, except no setback is required for a structure of 120 square feet or less. A required side or rear setback for a non- residential structure may be reduced to three (3) feet if the structure:

(a) Is detached from other buildings by five (5) feet or more;

(b) Does not exceed a height of twenty (20) feet; and

(c) Does not exceed an area of 500 square feet.

Applicant Response: As detailed on the site plan, the new employee building is proposed to be located at least 80 feet from all property lines, which conforms to the provisions of this section. *See* Exhibit 2, Sheets 5 and 6.

(3) A structure which is not a water dependent use shall be placed at least fifty (50) feet from the ordinary high water line of any river or major stream. In the case of a creek or minor stream, a structure which is not a water dependent use shall be placed at least twenty-five (25) feet from the ordinary high water line.

Applicant Response: The structure is not water-dependent and there is not a river or major steam in the vicinity of the proposed building; the building therefore conforms to this standard.

(4) All new development approved by Benton County shall have a site specific development plan addressing emergency water supplies for fire protection which is approved by the local fire protection agency[.]

Applicant Response: Coffin Butte Landfill is currently served by the Adair Fire Protection District and therefore has access to water in emergency circumstances. In addition, as noted in the Fire Risk Assessment Report (Exhibit 20), the landfill has a site-specific fire mitigation plan. As noted in the report, Applicant maintains a 4,000-gallon water truck with spray bar and hose attachment on site that is used routinely in dry weather for dust control and can be used as an emergency water supply for firefighting. Applicant is in compliance with this requirement.

(5) All buildings shall have roofs constructed of materials defined under the Uniform Building Code as either Class A or Class B (such as but not limited to composite mineral shingles or sheets, exposed concrete slab, ferrous or copper sheets, slate shingles, clay tiles or cement tiles).

Applicant Response: Upon approval, Applicant will finalize the building plans and will ensure that roof design conforms to the requirements of this section.

(6) All new structures shall be sited on the lot or parcel so that:

(a) They have the least impact on forest operations and accepted farming practices on nearby or adjoining lands[.]

Applicant Response: While the employee building and the shop/maintenance area are the only new structures, the proposal also includes access roads, a scale, and leachate ponds to which this section may apply. This criterion references impacts to nearby or surrounding lands, not the subject property itself. The employee building is located near the office building and surrounded by the disposal site and/or buffer lands. The proposed location will not impact farming or forest activities on any nearby or adjoining lands. The leachate ponds and shop/maintenance area are proposed to be located in an area that is currently farmed; however, the property also contains a gas-to-energy plant and the properties to the west and north are zoned LS, to the east is Highway 99W, and to the south is additional land that is owned by Applicant and maintained as open space. The leachate ponds and the shop/maintenance area on the subject property will not impact farming or forest operations on any nearby or adjoining lands. Regarding the access road, this is only a minor improvement and is an extension onto LS-zoned property and thus will not impact farming or forest operations on any nearby or adjoining lands.

Overall, the proposed design will not impact forest operations and accepted farming practices on nearby or adjoining lands, and the proposal complies with this criterion.

(b) The siting ensures that adverse impacts on forest operations and accepted farming practices on the tract will be minimized;

(c) The amount of forest lands used to site access roads, service corridors, the dwelling and structures is minimized[.]

Applicant Response: These provisions generally require that the Project be sited to minimize the impacts on forest lands. The relocated leachate ponds have

been sized to accommodate the needs of the site and are not oversized. Furthermore, rather than utilizing the majority of the flatter land, these have been designed into the existing slope, which will lessen the amount of grading needed and lessen the amount of currently farmed land that will be impacted. Regarding the employee building, this is proposed to be as small as needed and clustered near the existing office and nearest to the existing road and access drive, so that additional driveways and parking areas are not needed. Lastly, the access-road modifications are not located in any area where farm or forest operations are occurring.

Overall, the building, access drives, and leachate pond locations have been designed and proposed to sizes and in locations that will minimize their impacts or farm and forest operation on the subject property in conformance with these approval criteria.

(d) The risks associated with wildfire are minimized.

Applicant Response: The elements that are proposed on the FC-zoned lands are an 1,800-square-foot employee building and parking, access road modifications, the relocation of leachate ponds, leachate loadout, leachate sump, an outbound scale, portions of the perimeter landfill road, cut activities for landfill, and a shop/maintenance area to support the landfill. Although this criterion applies only to land in the FC zone, Applicant conducted a fire risk assessment for the entire landfill operation, attached as Exhibit 20. After assessing Applicant's Fire Mitigation Plan and the types of fires that could occur, the report concludes that "operations at the Coffin Butte Landfill do not present a significant fire risk." The Project is in conformance with this approval criterion.

(7) To satisfy the criteria in BCC 60.405(6), the Planning Official may require that new structures be sited close to existing roads, clustered near existing structures, and sited on that portion of the parcel least suited for growing trees.

Applicant Response: As documented on the site plan, the new employee building is proposed in close proximity to the current Coffin Butte Road and office building. Furthermore, it is served by the existing drive. As proposed, the application conforms to this criterion.

N. BCC 60.410 Additional Siting Standards and Conditions for Dwellings.

Applicant Response: The Project does not include a dwelling; therefore, this section does not apply.

VI. COMPLIANCE WITH BCC CHAPTER 87—GOAL 5 RESOURCES.

A. BCC 87.010 Application (Wetland Overlay Zone). This section states:

> **The Wetland Overlay Zone shall apply to the Jackson-Frazier Wetland as inventoried in the February 1991 ESEE Analysis adopted into the Natural Resources and Hazards Background Report of the Benton County Comprehensive Plan.**

Applicant Response: While the landfill site contains wetlands, it is not part of the Jackson-Frazier Wetland and is not located within the Wetland Overlay zone, and there are no other Goal 5-designated wetlands on the Development Site. For these reasons, this section does not apply.

B. BCC 87.200 Purpose (Sensitive Fish and Wildlife Habitat Zone).

This section states:

> **The Sensitive Fish and Wildlife Habitat Overlay Zone shall protect sensitive habitats not protected by other programs such as the Willamette River Greenway Program, the Oregon Forest Practices Act or the "Cooperative Agreement between the Board of Forestry and the Fish and Wildlife Commission." The zone shall protect areas that have been identified by Oregon Department of Fish and Wildlife or Oregon Department of Forestry as containing a significant nesting, or roosting site or watering habitat for species that are classified as threatened or endangered and areas designated as sensitive bird nesting, roosting, or watering sites. Habitat protection shall be achieved through the use of site specific management plans that ensure that proposed uses and activities will not destroy or result in the abandonment of these areas.**

Applicant Response: The subject property is not located in the labeled Sensitive Fish and Wildlife Habitat Overlay on the Benton County Zoning Map. This section does not apply to the Project.

VII. COMPLIANCE WITH BCC CHAPTER 99—GENERAL DEVELOPMENT STANDARDS

A. BCC 99.005 Scope. This section states:

All development within Benton County, including land partitions, subdivisions and associated land development, and the construction of residential dwellings, industrial, commercial, or public buildings and other accessory structures shall conform to applicable standards of this chapter.

Applicant Response: The proposal includes development within Benton County; this chapter therefore applies. The applicable sections of this chapter are noted below.

B. BCC 99.225 Development Activities in Wetlands. This section states:

(1) If the subject property is situated wholly or partially within areas identified as wetlands on the Statewide Wetlands Inventory on file in the office of the Benton County Community Development Department, and if a permit from the Department of State Lands has not been issued for the proposed activity, the Planning Official shall provide notice to the Division of State Lands, the applicant, and the owner of record within five days of receipt of the following types of applications:

(a) Subdivisions planned unit developments.

(b) Building permits for new structures.

(c) Conditional use permits and variances that involve physical alterations to the land or construction of new structures.

(d) Other development permits and approvals that allow physical alteration of the land, including development in the floodplain.

(2) Benton County shall process the land use application and respond to comments from the Department of State Lands consistent with the policies and procedures of that Department.

Applicant Response: The subject property contains wetlands; therefore, Applicant understands that notice may be sent to DSL. Applicant will conduct a wetlands delineation, and if a wetland is impacted, it will be mitigated through coordination with DSL. There is a mitigation wetland located on site that was protected by covenants in 2017 as result of a prior fill/removal permit approved by DSL, which required mitigation. The proposed expansion does not impact this mitigation wetland. The draft conditions of approval require Applicant to complete a wetland delineation in compliance with DSL requirements. *See* Exhibit 21.

C. BCC 99.405 General Rule of Frontage. This section states:

(1) Every new dwelling and new structure designed for commercial, industrial or public occupancy which is not part of an existing use on a parcel or lot shall be sited on a parcel or lot which has a minimum of twenty-five (25) feet of frontage along an improved public road.

Applicant Response: The only new structures is the employee building which will be located on property with frontage on Coffin Butte and Soap Creek roads. There will be over 25 feet of frontage on both roads. The proposal therefore complies with this standard.

D. BCC 99.505 Dedication of Right-of-Way. This section states:

(1) An applicant for a partition within an urban growth boundary may be required to dedicate right-of-way as a condition of approval to provide for the future development or improvement of existing and planned transportation facilities in accordance with adopted Comprehensive Plan policies and requirements.

(2) Where an existing road right-of-way does not comply with the minimum County standard for the applicable road classification, an applicant for a partition located in a non-resource zone shall dedicate to the County sufficient right-of-way to meet the minimum County road standard along the frontage of the parcel or lot being divided. Such dedication shall occur prior to final approval of the partition. Such dedication will not be required:

(a) Where the applicant signs a covenant to be recorded in County Deed Records waiving building rights until such time as sufficient right-of-way is dedicated or otherwise acquired; or

(b) Where the partition does not result in the creation of one or more developable parcels or lots. A newly created parcel or lot shall not be considered developable if no new dwelling or use can be located on the parcel or lot without further partitioning or without first obtaining a conditional use permit.

(3) Property acquired for public road purposes shall be surveyed and monumented by the County.

Applicant Response: The provisions of this section apply to partitions. The proposal is not for a partition; the majority of this section is therefore not applicable. In the event that survey work or monumentation for the Coffin Butte Road improvements are needed, Applicant will complete such survey and monumenting work.

E. BCC 99.510 Road Approach Permits. This section states:

(1) If a new road approach is proposed, the applicant shall obtain a road approach permit prior to construction of the road approach. If the proposed road approach would connect to a State highway, the permit shall be obtained from the State Highway Division. If the proposed road approach would connect to any other public road, the permit shall be acquired from Benton County. A road approach permit is not required for the construction of an approach connecting with a private road or street.

(2) A new road approach shall be constructed in accordance with the specifications prescribed by the County Engineer or the State Highway Division. The specifications shall be related to the use of the driveway, the nature of the adjoining public road, and the characteristics of drainage structure at the selected location.

(3) An occupancy permit or final inspection approval required in accordance with the State Building Code shall not be issued for any structure on a parcel or lot with a road approach which was installed in violation of permit requirements, specifications or conditions. [Ord 90-0069]

Applicant Response: The proposal will modify the access point on the south side of Coffin Butte Road, removing the access point serving the existing leachate ponds and relocating the access point serving the power facility (to serve the southern development area). Applicant will obtain all permits needed for these modifications prior to initiating the use.

F. BCC 99.515 Road Design and Construction Standards. This section states:

(1) Schematic layout of proposed public and private roads or streets shall adhere to the following general guidelines:

(a) Streets should be aligned to join with planned collector and arterial streets and/or existing streets.

(b) Streets should be designed to respect topography and meet all applicable engineering standards.

(c) Intersections shall be approximate or actual right angles.

(d) Surface drainage shall be toward the intersecting street or through a drainage easement on abutting parcels or lots.

(e) Cul-de-sacs shall end with a minimum turning radius of 45 feet; however, for cul-de-sacs less than 200 feet in length within areas zoned for single-family residential use, an alternative design ("T", "Y", or other) or location may be approved by the County Engineer.

(f) Cul-de-sacs in excess of 900 feet in length within commercial or industrial areas or which serve more than 20 residential parcels or lots shall provide a secondary means of access for emergency use (fire lane).

(g) Dead-end streets shall be designed to connect with future streets on adjacent property. A temporary turn-around may be required.

(h) The County may reserve a one foot wide strip of public road right-of-way adjoining private land for the purpose of controlling access.

(i) Development containing more than twenty (20) parcels or lots shall contain multiple points of access into the development.

(j) Geometric design will follow AASHTO: A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS & STREETS, 1984 ED., standards, except when the County Engineer finds terrain or other conditions making it impossible or unfeasible to do so.

Applicant Response: The proposal includes improvements to Coffin Butte Road. As documented on the site plans, the design includes adding bike lanes and a left-turn lane, and related storm-drainage improvements. The proposed improvements conform to County standards and the provisions of this section. No dead-end streets or cul-de-sacs are proposed. The proposed improvements conform to the standards of this section. *See* Exhibit 2, Sheets 5, 7, 8, 24.

(2) All roads within existing or proposed public right-of-way located outside of an Urban Growth Boundary shall be designed and constructed pursuant to the Rural Design Criteria identified in Table I and Figure II. Plans and construction shall be approved by the County Engineer.

TABLE I, RURAL DESIGN STANDARDS

Local road standards are designated as RL-1, RL-2 and RL-3. Collector standards are designated as RC-1 and RC-2. Arterial standards are designated as RA-1 and RA-2.

Standard	Zones	Projected ADT	Projected DHV	Minimum ROW	Surface Width	Paving Material	Crushed Base Equivalent
RL-1	Resource	0-100	<30/hr	50 ft	18 ft	AC,PCC, APM	18 inches
RL-2	Dead end RR	0-200	<30/hr	50 ft	18 ft	AC,PCC APM	18 inches
RL-3	Resource, RR <1,000ft	100-750	<100/hr	60 ft	20 ft	4 inch AC,PCC	18 inches
RC-1	Resource	100-750	<100/hr	60 ft	20 ft	4 inch AC,PCC	18 inches
RC-2	Resource, RR	750-2000	<300/hr	60-70ft	24 ft	4 inch AC,PCC	20 inches
RA-1	All zones	1000-5000	<900/hr	80 ft	24-34ft	6 inch AC,PCC	20 inches
RA-2	All zones	>5000	>900/hr	100 ft	50-70ft	6 inch AC,PCC	24 inches

Standard	Shoulder	Maximum Grade	Bike Path	Min. Curve Radius	Design Speed	Parking	Road Approach
RL-1	4 ft gravel	17%	None	200 ft	30 mph	Limited Emergency	Shared 400ft gap
RL-2	4 ft gravel	15%	None	200 ft	30 mph	Parking Allowed	Shared 250ft gap
RL-3	5 ft paved	15%	RR Zone Class III	250 ft	30 mph	Limited Emergency	Shared 450ft gap
RC-1	5 ft paved	12%	RR Zone Class III	500 ft	45 mph	Emergency Only	Shared 400ft gap
RC-2	5 ft paved	10%	RR Zone Class III	760 ft	45 mph	Emergency Only	Shared 400ft gap
RA-1	6 ft paved	5%-8%	All zones Class III	800 ft	50 mph	Emergency Only	None
RA-2	6ft-12ft paved	4%-6%	All zones Class III	800 ft	50 mph	Emergency Only	None

Applicant Response: The improvements to Coffin Butte Road include only a left-turn lane and bike lanes. The proposed improvements conform to the requirements of this section and the County TSP. *See* Exhibits 2 and 15.

The standards of this section are consistent with the cross-section of the County TSP; therefore, the proposed design and planned improvements are consistent with this section.

> **(3) All roads within existing or proposed public right-of-way located within an Urban Growth Boundary shall be designed and constructed pursuant to Urban Design Criteria identified in Table II and Figure III. Plans shall be reviewed and approved by the County Engineer in consultation with public works staff of the appropriate city.**

Applicant Response: The property is not located within a UGB; therefore, this section does not apply.

> **(4) A private road or street created by partition, or an existing private or public road which provides for access to parcels or lots created by partition shall be improved to the following County Secondary Road Standards. Required plans and construction of improvements shall be inspected and approved by the County Engineer, and the applicant shall pay an engineering review fee[.]**

Applicant Response: No partitions are proposed; therefore, this section does not apply.

(5) For the protection of the public interest, the County Engineer may require improvements in excess of adopted standards, if terrain or other conditions warrant such a change.

Applicant Response: The proposed roadway improvements have been designed by an engineering firm licensed in the State of Oregon, along with a traffic engineer licensed in the State of Oregon. The qualified professionals working on the Project have designed roadway improvements that conform to County standards and engineering best practices. Applicant understands that this section allows the County Engineer to require additional improvements, if warranted.

(6) Additional off-site improvements may be required as a conditions of land division if it is found by the Planning Official, County Engineer, Planning Commission or Board of Commissioners that the land division will have a significant impact on the level of service or maintenance costs for existing roads, drainage, or other public facilities.

Applicant Response: The proposal does not include a land division; therefore, this section does not apply.

G. BCC 99.520 Improvements in a Public Right-of-Way. This section states:

An applicant intending to construct or upgrade a roadway within a public right-of-way shall be responsible for design and installation of all improvements within the public road right-of-way. Such improvements shall commence from an existing improved public roadway and continue to the subject property and twenty-five (25) feet along the frontage of the proposed parcel or lot, or to the private driveway serving the building site, whichever is greater. Required plans and construction of improvements shall be inspected and approved by the County Engineer.

Applicant Response: The proposal includes improvements in Coffin Butte Road (left-turn lane, bike lanes, and related stormwater improvements). Applicant understands that it will be responsible for design and installation of all improvements and plans to do so in accordance with the provisions of this section. *See* Exhibit 2, Sheets 5, 7, 8.

H. BCC 99.605 Annexation to Fire District Required. This section states:

If a proposed parcel or lot in a non-resource zone abuts a rural fire protection district, the applicant shall petition for and obtain annexation to the district prior to final approval of a land division.

Applicant Response: The application does not propose creating a new parcel or lot, and the entire Project is currently within the Adair Fire District, so annexation is not necessary.

I. BCC 99.650 Definitions. As used in BCC 99.650 through 99.680 (Stormwater Management).

Applicant Response: The definitions of this section are used through this narrative, and Applicant understands that the definitions will be used through the review of this application.

J. BCC 99.660 Erosion and Sediment Control. This section states:

(1) Purpose: The purpose of this section is to:

(a) Preserve and enhance the health, safety, welfare, financial investment in public and private infrastructure, private property value, and the quality of life of the inhabitants of Benton County by minimizing the risk of flooding, erosion, sedimentation, and other stormwater impacts; and

(b) Maintain or improve water quality within Benton County as required under State and Federal National Pollution Discharge Elimination System law.

Applicant Response: This section establishes a purpose; however, it does not contain any measurable development standards or approval criteria. Applicant understands that conformance with the standards of this section will ensure consistency with the purpose stated in this section.

(2) Applicability. The provisions of this section shall apply to all unincorporated areas of Benton County.

Applicant Response: The subject property is within an unincorporated area of Benton County; this section therefore applies. Upon approval of this CUP and prior to construction activities, Applicant plans to apply for all required additional development permits, including those related to erosion and sediment control, described in this section.

K. BCC 99.670 Long-Term Stormwater Management. This section states:

(1) Purpose: Establish stormwater management requirements and controls to protect and safeguard the health, safety, welfare, financial investment in public and private infrastructure, and private property value, and minimize flooding in areas where structural and non-structural stormwater management is required to improve water quality and manage long term stormwater runoff from new development and redevelopment projects that result in ground disturbance of 1 acre or more.

(2) Applicability. Land development within the Corvallis Federal Urbanized Area or within the Urban Fringe of the City of Corvallis or City of Philomath shall comply with the requirements of this section. Areas outside the Federal Urbanized Area and Corvallis and Philomath Urban Growth Boundaries may require structural and non-structural stormwater controls, including low-impact development (LID) methods, when deemed necessary by the County Engineer[.]

Applicant Response: The subject property is an area outside the Federal Urbanized Area and Corvallis and Philomath Urban Growth Boundaries; thus, development may require structural and nonstructural stormwater controls, including low-impact development (LID) methods, when deemed necessary by the County Engineer. Upon approval of this CUP and prior to construction activities, in the event that structural and nonstructural stormwater controls, including LID methods, are deemed necessary by the County Engineer, Applicant will apply for all required additional development permits. Stormwater controls have been designed to address the additional impervious areas as a result of the improvements to Coffin Butte Road, the new cell on the Development Site, and the new access roadway. *See* Exhibit 2. *See also* Exhibit 17 (CEC Preliminary Drainage Report).

L. BCC 99.705 to 99.850 Sewage disposal and Water Supply.

Applicant Response: Water and sewer is not proposed to be extended to the development area. In the event that the employee building needs water and sewer accommodations, it will be served by the same well and subsurface facilities that serve the existing office building. These sections do not apply

M. BCC 99.905 to 99.925 Improvements Agreement. These sections provide:

99.905 Improvements Agreement. When required as a condition of development for a conditional use, partition, subdivision, planned unit development, or stormwater management permit, the applicant shall execute a standard improvements agreement provided by the County Engineer guaranteeing the construction of any required public improvements. The Agreement shall be recorded to put all purchasers and interested parties on notice. The agreement shall provide that:

(1) If at any time there is a breach in the agreement, the Building Official shall withhold issuance of all building permits within the subdivision or partition until such breaches have been satisfactorily corrected.

(2) The applicant shall be responsible for installing all required improvements, including, but not limited to, streets, storm drainage, pedestrian ways, water system, sewage system, etc., to the standards and specifications approved by the County Engineer and/or Board of Commissioners. All work shall be completed to the County Engineer's approval within 18 months of final plat approval, or when building permits have been issued on fifty percent (50%) of the parcels or lots, whichever comes first.

99.910 Review and Inspections. Plans for public improvements required as a condition of development shall be submitted for review and approval by the County Engineer. During the installation of improvements, the County Engineer shall conduct periodic inspections of work-in-progress. The County Engineer shall charge a fee for plans review and inspection services as established by Order of the Board of Commissioners.

99.915 Performance Guarantee.

(1) The applicant shall file with the County Engineer a performance guarantee to assure full and faithful performance. The guarantee shall be made in one of the following forms:

(a) An escrow of funds, irrevocable sight draft, letter of credit, franchised guarantee or other certification by a reputable lending institution. Such lending institution shall not be directly owned or controlled by the applicant. The amount of funds shall be released only upon authorization of the County Engineer.

(b) A surety bond executed by a surety company authorized to transact business in the State of Oregon in a form approved by the County Counsel. The bond shall guarantee to the County that the financial backing is available so that all improvements will be completed and paid for within the time specified in BCC 99.905.

(2) The guarantee shall ensure that the applicant has funds committed in the amount determined by the County Engineer for the purpose of covering the cost of the improvements and repairs, including related engineering and incidental expenses. In the event of default by the applicant, the guarantee shall ensure that the County shall have, upon demand, funds to construct, complete or pay for all improvements or incidental expenses, including improvements full or partially constructed by the County, and bills which are outstanding for work done thereon by any party. [Ord 90-0069]

99.920 Calling the Guarantee. If the applicant fails to carry out provisions of the agreement and the County has unreimbursed costs or expenses resulting from such failure, the County shall call on the guarantee for reimbursement. If the amount of the bond or cash deposit exceeds the cost and expense incurred, the reminder shall be released. If the amount of the bond or cash deposit is less than the costs and expense incurred, the applicant shall be liable to the County for the difference.

99.925 Warranty. Upon completion of roadways and other public facilities to County standards and specifications, there shall be a minimum of three year warranty period prior to County consideration of acceptance of maintenance. Before this acceptance, maintenance and repair of public facilities shall be the duty of the applicant, developer, property owner, or of the homeowners association.

Applicant Response: The proposal includes public and private improvements. In the event that the County requires an improvement agreement, Applicant understands that the provisions of this section will apply.

VIII. OTHER ISSUES

Some who participated in the prior CUP request or BCTT raised issues on topics that are outside the jurisdiction of the County under the CUP criteria and/or are governed by DEQ or other state agency rules. In keeping with the spirit of the BCTT process, Applicant addresses those issues in this section.

A. Wildlife Habitat.

As noted above, the subject property is not within an environmental overlay zone as a designated Goal 5 resource and so is not subject to regulation by the County. Applicant does have to address wildlife habitat under state law as part of the DEQ permitting process. Applicant therefore engaged Turnstone to conduct Wildlife Habitat Assessment and Surveys (Exhibit 4). Turnstone has assessed the wildlife needs/uses of the site. The report surveyed two historic blue heron rookeries (the "Western Rookery" and the "Eastern Rookery") on the property from 2022 to 2024. No nesting pairs were observed in the Western Rookery, and so Turnstone determined that it is an abandoned Great Blue Heron Resource Site. Turnstone concluded that the Eastern Rookery is likely abandoned but recommends continuing surveys in 2025 to determine if the Eastern Rookery is inactive for a third consecutive year. If the Eastern Rookery is inactive in 2025, it will be deemed officially abandoned. *See* Exhibit 4, Addendum. The draft conditions of approval provide for a survey in 2025 and require protection of the Eastern Rookery unless and until it is determined to be officially abandoned. The Turnstone Report documents that no other critical habitat exists on the site for bald eagles, deer and elk, or any other animal. The proposed expansion therefore does not impact any significant wildlife features of the site. Applicant's lighting plan for the overall site will minimize additional light and glare in a way that will not negatively affect habitat. *See* Sight Lighting Summary, attached as Exhibit 19.

B. Archeological/cultural resources.

The subject property does not contain any County-designated historic or cultural resources under Goal 5 and is thus not subject to regulation by the County as part of the CUP process. Applicant is required to survey for such resources under state and federal law as part of the DEQ permitting process. Applicant has therefore contracted with Archeological Investigators Northwest Incorporated ("AINW") to conduct an archeological assessment of the property and coordinate with the State Historic Preservation Office (attached as Exhibit 26). AINW did discover artifacts on site but recommends a finding that the landfill expansion will have "No Adverse Effect on Historic Properties," subject to compliance with certain conditions. *See* Exhibit 26. The draft conditions of approval require Applicant to comply with these requirements.

C. Leachate Management.

The Planning Commission denied the 2021 application in part based upon a finding that the increase in tanker-truck loads will burden the transportation corridor and place an undue burden on the Corvallis wastewater treatment plant. In addition, it was suggested that treated leachate creates water quality problems. There is no evidentiary basis for these conclusions. As outlined in the Leachate Management Summary, attached as Exhibit 27, leachate collection, transport, and treatment is regulated by DEQ under the Clean Water Act. Leachate is not "hazardous waste" within the meaning of the law, and testing at the landfill indicates that the level of regulated contaminants in leachate generated by Coffin Butte Landfill are either nondetectable or well under the EPA thresholds. *See* Exhibit 27. As noted in the traffic study attached as Exhibit 15, the traffic generated by the landfill is well within the capacity of the street system, and leachate tankers have to comply with the same weight limits and taxation requirements as any other commercial truck. The leachate generated by the expansion will therefore put no "undue" burden on the transportation system. There are many other commercial trucks with heavier or more hazardous loads that regularly traverse the corridor (e.g., fuel tankers). The Project will initially generate more leachate from the landfill overall, but volumes will decrease over time as older cells are closed and will be minimized by Coffin Butte Landfill's state-of-the-art leachate management system. *See* Exhibit 27. Leachate is currently transported for treatment to the Corvallis water-treatment plant, although Applicant is exploring a transition to a different facility to improve overall efficiencies.

Applicant recognizes that leachate regulation by the EPA and DEQ is likely to change during the lifetime of the Project. Applicant will be required to comply with any such regulations or Applicant will not be able to continue to operate. Approval of the Project will not materially change that obligation because it will apply equally to the leachate generated by current and future landfill operations. Environmental and other regulations applicable to landfill operations evolve over time, and Applicant will remain in compliance.

Leachate collection and disposal resulting from the Project will have no measurable impact on Adjacent Properties or Nearby Properties or the Analysis Area, and do not place an undue burden on any public facility or service.

D. Methane.

As noted, methane regulation is under the jurisdiction of DEQ. *See* CEC Report (Exhibit 7). The CEC report details the permit modifications that will be required to move into the new cell and the requirements for compliance and ongoing monitoring. The CEC report also attaches DEQ's guidance document. DEQ regulates air quality requirements (methane, hydrogen sulfide, odor), leachate regulation, and protection of both ground and surface water, as well as protection for floodplains, wetlands, geotechnical/seismic considerations, and critical

habitat. Applicant will have to demonstrate compliance with DEQ's air quality requirements to obtain modifications to the required permits to relocate the working face to the Development Site. These regulations and ongoing monitoring will ensure that the Development Site will not have off-site environmental impacts that will seriously interfere with surrounding uses or unduly burden public facilities or services. A report from Ian Macnab, Environmental Manager at Coffin Butte Landfill, attached as Exhibit 13, details the regulatory requirements and Applicant's practices to ensure that landfill gas is collected. These practices are also covered in Weaver Consulting Group Findings, attached as Exhibit 12. Attached to Exhibit 13 is the current Coffin Butte DEQ Title V Permit that includes emission limits, how emissions are monitored, methane-collection requirements, and the extensive reporting requirements to ensure ongoing compliance. Also attached to Exhibit 13 is a 2019 Hydrogen Sulfide Test Report that shows very low to nondetectable levels of hydrogen sulfide in Coffin Butte's landfill gas.

In February 2024, the Benton County Board of Commissioners raised some questions with regard to methane emissions and recent inspections by EPA of Coffin Butte Landfill. EPA is focusing on landfills across the country as a part of EPA's Strategic Plan to mitigate climate change by reducing methane emissions. As part of this enhanced focus on landfill emissions, Coffin Butte was inspected in June 2022 and again in June of 2024. The 2022 inspection has been the subject of numerous news stories, and Applicant worked with the EPA to take corrective measures. Applicant provided a comprehensive memorandum to the County about the 2022 inspection and Applicant's response. *See* Exhibit 28. A final report from the 2024 EPA inspection is not yet available, but Applicant is aware that the inspectors found exceedances while conducting surface emissions monitoring. Applicant is addressing each exceedance as allowed in the regulations. Applicant will continue to work closely with regulators to demonstrate compliance and implement solutions, including, potentially, final capping on portions of the landfill.

The takeaways are that future operations at the Development Site must comply with all laws regulating methane and that it is Applicant's priority and practice to do, and the appropriate regulatory authorities have and will ensure that Applicant remains in compliance.

E. Arsenic.

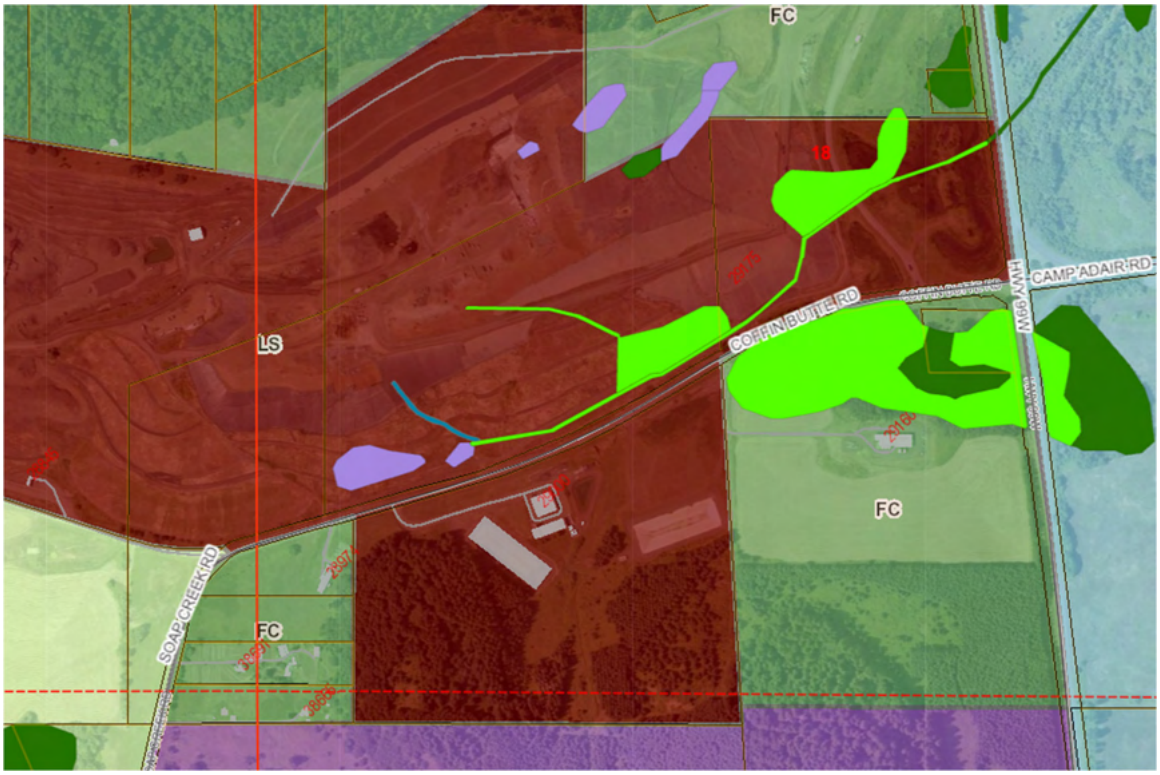
Some stakeholders have expressed concern over arsenic in the drinking water. VLI had a seepage event in 1994 that resulted in elevated arsenic readings. VLI took various and appropriate corrective measures to correct the issue. Readings taken from compliance wells installed in 2011 have been stable with averages consistent with the background concentrations of arsenic in the Willamette Valley. These steady readings indicate that there have been no leachate releases or impacts on groundwater. *See* Exhibit 29.

F. Seismic Resiliency.

Some stakeholders have expressed a concern about the impact of a significant seismic event on the landfill. As noted in the CEC report on seismic design (Exhibit 30), the proposed expansion must address seismic design requirements under both state and federal law as part of the DEQ permitting process. Thus, as part of the application submission to DEQ, additional engineering analyses will be submitted to demonstrate that landfill containment structures (i.e., including base liner and final cover systems), leachate-collection systems, and surface-water-control-systems structures are designed to resist the maximum horizontal acceleration anticipated at the site. As noted in Exhibit 30, the Seismic Hazard Analysis considers a range of previously recorded earthquakes, both near and far from the facility, and calculates parameters to use in the seismic stability models that represent the worst-case seismic loadings for the site. In 2021, a seismic analysis for Cell 6 derived a design moment magnitude of 8.48 for that site. The proposed expansion will be designed consistent with all applicable regulations to withstand a significant earthquake.

G. Wetlands.

USFWS National Wetlands Inventory Maps (attached below) indicate that the wetlands exist on tax lots 1200, 1108, and 801. None of these are designated as County Goal 5 resources, so the County has no authority to regulate the wetlands on site. At least some of the wetlands would be subject to the jurisdiction of the Oregon Department of State Lands (DSL), and so Applicant will be required to conduct a wetlands delineation prior to construction and mitigate for any disturbance to those wetlands due to the proposed expansion. The proposed conditions of approval so provide.


FC
18
LS
COFFIN BUTTE RD
CAMP ADAIR RD
HWY 99W
FC
SOAP CREEK RD
FC

IX. CONCLUSION

As documented throughout this narrative, the proposed relocation of the working face to the Development Site complies with the applicable development standards.

- The impacts from the proposed development will not "seriously interfere" with uses on Adjacent or Nearby Properties.

- The proposed development will not "seriously interfere" with the character of the Analysis Area or the purposes of the zones. Both the LS and the FC zones provide for and contemplate landfill uses in the zones, and a landfill has operated in this Analysis Area for over 50 years. The substantially reduced size of the proposed development as compared to the 2021 application, in combination with the proposed screening and mitigation measures, limits the impact of the proposed development on the Analysis Area.

- The proposed development will not impose an "undue burden" on any public improvements, facilities, utilities, or services available to the Analysis Area. The retention of and improvements to Coffin Butte Road will eliminate any transportation or emergency access impacts to the surrounding area and will improve access and safety along Coffin Butte Road. Applicant's fire prevention and mitigation plan will continue to provide protection to the site and not create a burden for the Adair Fire District. Hauling of leachate is well within the capacity of the roadway system, and leachate will continue to be disposed of per DEQ/EPA regulations. The proposed development has no other impact on public facilities and services.

- Development of the FC-zoned properties will not significantly impact forest or farm uses on Adjacent Properties.

- General environmental impacts, such as groundwater protection, leachate transport and disposal, and methane generation, will continue to be managed and regulated under the permits required by DEQ.

For these reasons, Applicant respectfully requests that the Planning Commission approve the CUP.

EXHIBIT 1
APPLICATION FORM AND FEES

Benton County
COMMUNITY DEVELOPMENT DEPARTMENT

Office: Kalapuya Building
4500 SW Research Way
Corvallis, OR 97333
(541) 766-6819
www.co.benton.or.us/cd

LAND USE APPLICATION

CONDITIONAL USE PERMIT

File # LU-_____
(OFFICE USE ONLY)

Fee: $10,000 deposit.
(SEE CURRENT FEE SCHEDULE)

ALL SECTIONS MUST BE COMPLETED BY OWNER, OWNER'S AGENT or APPLICANT. ATTACH ADDITIONAL SHEETS AS NECESSARY. COUNTY REVIEW WILL BEGIN WHEN THE APPLICATION IS DETERMINED TO BE COMPLETE.

I. Property Owner Information

Name(s): Valley Landfills, Inc., Ryan Lawler, Vice President Phone #1: 1-425-646-2142

Mailing Address 28972 Coffin Butte Road Phone #2: _____

City: Corvallis State: OR Zip: 97330 Email: c/o jeff.condit@millernash.com

II. Applicant Information (skip this section if Property Owner is Applicant)

Name(s): Valley Landfills, Inc., Ryan Lawler, Vice President Phone #1: 1-425-646-2142

Mailing Address: 28972 Coffin Butte Road Phone #2: _____

City: Corvallis State: OR Zip: 97330 Email: c/o jeff.condit@millernash.com

Other individuals to be notified of this application: Name, Address, City & Zip, or Email

_____

_____

III. Property Information

Site Address: 28972 to 29175 Coffin Butte Road, Corvallis, Oregon 97330

Assessor's Map & Tax Lot Number: T 10 S, R 41 W, Section(s) 80, Tax Lot(s) 801, 1101, 1107, 1107, 1108,

Acreage: 70.66 Zoning: LS and FC Fire District: Adair Rural

Water Supplied By: wells Sewage Disposal Type: subsurface

Existing Structures: See Burden of Proof Attached

Current use(s) of the property: See Burden of Proof Attached

IV. Request Summary (Example: **"**Conditional Use approval to operate a commercial kennel in the RR Zone.")

Conditional use approval to expand the area in which landfill activities maybe conducted to the south side of Coffin Butte Road.

Attached Documentation: With all land use applications, the "burden of proof" is on the applicant to demonstrate how the proposal complies with the Benton County development code and other law. It is important that you provide **ALL** the information listed on the following pages at the time you submit your application. The processing of your application will not begin until the application is determined to be complete.

Conditional Use Criteria *Please answer each question in detail on a separate sheet of paper.* ***BOP Attached.***

1. Describe how the proposed use will not seriously interfere with uses on adjacent property, with the character of the area, or with the purpose of the zone.

2. Describe how the proposed use will not impose an undue burden on any public improvements, facilities, utilities, or services available to the area.

3. If the property is zoned Exclusive Farm Use (EFU) or Forest Conservation (FC), describe how the proposed use will not force a significant change in accepted farm or forest practices on surrounding lands devoted to farm or forest use.

4. If the property is zoned EFU or FC, describe how the proposed use will not significantly increase the cost of accepted farm or forest practices on surrounding lands devoted to farm or forest use.

5. Will the proposed use involve the use of water (plumbing facilities, bathroom, water for processing, etc.)? _____ If yes:
   a. Is there an existing well or spring on the proposed parcel(s)? _____ Please attach a copy of a well log or pump test, if available, which identifies the rated yield of this water source.
   b. Is there an existing septic system on the proposed parcel(s)? _____ An evaluation by Environmental Health may be required of an existing system unless the system was recently installed or repaired. Please attach a copy of any septic system records you may have available.

6. Is the only access or proposed access to the property via a road that crosses a railroad? _____
   If yes, please draw the location on your map and explain here: _____

Mitigating Measures *Please answer in detail on a separate sheet of paper.*

1. Describe any special measures you propose to undertake in order to minimize impacts on adjacent properties and public services, and to ensure compliance with the purpose of the zone. Consideration may be given to such features as: location of the use on the parcel; road capacities in the area; driveway location; parking area; on-site traffic circulation; landscape or fencing separations; size of structures; signs; exterior lighting; noise; air emissions; drainage and more. **BOP Attached.**

Attachments

1. A copy of deed(s) covering the subject property. **BOP, Exhibit 25.**

2. A copy of all easements or other instruments granting access to any proposed parcel that does not have frontage on a public road. **N/A.**

3. An accurate scale drawing of the property, showing the locations of existing and proposed structures, roads, water supply, subsurface sewage system, easements, and driveways. Label all tax lots. **See BOP.**

Signature(s)

Assessed Property Value Notice

This action or any future related action(s), if approved, may result in a change to my property valuation, and therefore the tax amount I pay annually. I will contact the Assessor's Office at 541-766-6855 to discuss and understand potential property tax impacts.

■ **I understand**

I hereby certify that I am the legal owner or contract purchaser of the above noted property; that the information contained herein is accurate to the best of my knowledge; and that the requested conditional use permit would not violate any deed restrictions attached to the property.

Owner/Contract Purchaser Signature — Date: 07/16/2024

Owner/Contract Purchaser Signature — Date

For Office Use Only

Date Application Received:_____ Receipt Number:_____ By:_____

File Number Assigned:_____ Planner Assigned:_____

Date Application Deemed Complete:_____

EXHIBIT 2
ENGINEERING PLANS

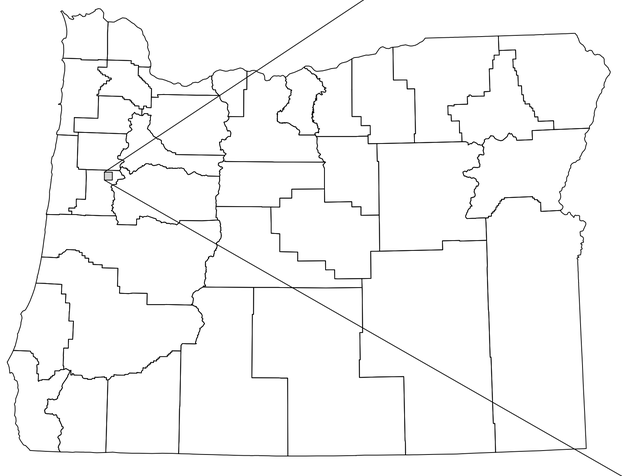
VALLEY LANDFILLS, INC.

COFFIN BUTTE LANDFILL
CONDITIONAL USE PERMIT APPLICATION
29175 COFFIN BUTTE ROAD
CORVALLIS, BENTON COUNTY, OREGON 97330

PREPARED FOR:

REPUBLIC SERVICES

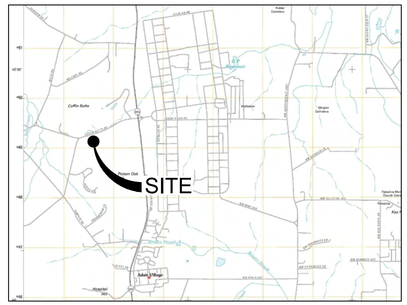
SHEET INDEX	
SHEET NUMBER	SHEET TITLE
1	COVER SHEET
2	BENTON COUNTY TAX LOTS & ZONING
2A	BENTON COUNTY TAX LOTS & ZONING
3	EXISTING CONDITIONS
4	DEMOLITION PLAN
5	OVERALL DEVELOPMENT PLAN
6	DEVELOPMENT AREA LAYOUT
7	LEFT TURN TRAFFIC PLAN
8	NORTH ROAD PLAN
9	PARKING INFRASTRUCTURE PLAN
10	DEVELOPMENT AREA TOP OF WASTE GRADES
11	DEVELOPMENT AREA PHASE 1
12	DEVELOPMENT AREA PHASE 2
13	TOP OF WASTE PHASE 1
14	TOP OF WASTE PHASE 2
15	TOP OF WASTE PHASE 3
16	TOP OF WASTE PHASE 4
17	WETPOND–DETENTION POND COMBINATION PLAN
18	LANDSCAPE PLAN
19	STOCKPILE PLAN
20	WETPOND–DETENTION POND COMBINATION PROFILES
21	WETPOND–DETENTION POND COMBINATION PROFILES
22	CROSS–SECTIONS
23	CROSS–SECTIONS
24	TRAFFIC DETAILS



OREGON COUNTIES MAP
N.T.S.

SITE MAP

SCALE IN FEET
0 600 1200



U.S.G.S. MAP

U.S.G.S 7.5 MIN. TOPOGRAPHY MAP,
LEWISBURG QUADRANGLE, OR, DATED 2011

SCALE IN FEET
0 5000 10000

REFERENCE

AERIAL PHOTOGRAPH, TOPOGRAPHIC INFORMATION FROM AERIAL SURVEY AND GRID BY COOPER AERIAL SURVEYS COMPANY; DATE OF PHOTOGRAPHY: OCTOBER 07, 2021.

REGISTERED PROFESSIONAL ENGINEER
92360PE
OREGON
JULY 13, 2017
JEFF A. SHEPHERD
EXPIRES: 06/30/2026

REVISION RECORD

NO	DATE	DESCRIPTION

CEC
Civil & Environmental Consultants, Inc.
11811 N. Tatum Blvd., Suite 3057 · Phoenix, AZ 85028
Ph: 602.760.2324 · 877.231.2324 · Fax: 602.760.2330
www.cecinc.com

VALLEY LANDFILLS, INC.
COFFIN BUTTE LANDFILL
CONDITIONAL USE PERMIT
APPLICATION
CORVALLIS, OR 97330

COVER SHEET

DATE:	JULY 2024	DRAWN BY: JS
DWG SCALE:	AS SHOWN	CHECKED BY: JAS
PROJECT NO:	322-142	
APPROVED BY:	JAS	

DRAWING NO.: 1

P:\320-0001\322-142\-CAD\Dwg\SHEET\322142-SHEET-1-Cover Sheet.dwg[1] LS:(8/7/2024 - jshah) - LP: 10/21/2024 2:46 PM

LEGEND

- PROPERTY WITH LANDFILL OPERATIONS
- PROPERTY ADJACENT TO LANDFILL OPERATIONS
- PROPERTY ADJACENT TO ADJACENT PROPERTY

NORTH

SCALE IN FEET

0 1,000 2,000

REFERENCE

AERIAL PHOTOGRAPH, TOPOGRAPHIC INFORMATION FROM AERIAL SURVEY AND GRID BY COOPER AERIAL SURVEYS COMPANY; DATE OF PHOTOGRAPHY: OCTOBER 07, 2021.

REGISTERED PROFESSIONAL ENGINEER
92360PE
OREGON
JULY 13, 2011
JEFF A. SHEPHERD
EXPIRES: 06/30/2026

REVISION RECORD

NO	DATE	DESCRIPTION

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VALLEY LANDFILLS, INC.
COFFIN BUTTE LANDFILL
CONDITIONAL USE PERMIT APPLICATION
CORVALLIS, OR 97330

BENTON COUNTY TAX LOTS & ZONING

DATE:	JULY 2024
DWG SCALE:	AS SHOWN
PROJECT NO:	322-142
DRAWN BY:	JS
CHECKED BY:	JAS
APPROVED BY:	JAS

DRAWING NO.: 2

P:\320-2001\322-142\-CADD\Dwg\2401\322142-2401-2-Benton County Tax Lots Exhibit.dwg[2] LS(8/13/2024 - jshah) - LP: 8/13/2024 8:31 AM

NO.	TAX LOT NO.	OWNER NAME	CURRENT ZONING
1	104070000100	OREGON STATE GAME COMMISSION	OS
2	104070000300	R B WEBBER DEVELOPMENT LLC	EFU
3	104070000400	WILFONG TRISHA M	RR-5
4	104070000500	BURDOCK GARLAND R	RR-5
5	104070000601	RINKER TRISTA M	RR-5
6	104070000700	CLEARY BRYCE LAWRENCE	RR-5
7	104070000800	SCOTT DARCI L	RR-5
8	104070000900	WHITE JASON BYRON & JULIE B	RR-5
10	104070001100	AMADOR MARIBEL	RR-5
11	104070001200	LEAVENWORTH EDYNE	RR-5
12	104080000100	OREGON STATE GAME COMMISSION	OS
13	104170000100	OREGON STATE GAME COMMISSION	OS
18	104180000100	OREGON STATE GAME COMMISSION	OS
19	104180000101	CONSUMERS POWER INC	OS
20	104180000102	BUREAU OF LAND MANAGEMENT	OS
21	104180000200	PELTIER REAL ESTATE CO	FC
22	104180000201	POWELL LYNN MAY & HEALD NATHAN LESLIE	FC
23	104180000202	GOETZINGER DALE L & MONA G	RR-5
24	104180000300	DUBIKIN ALEXANDRE & POLUSHKIN GLIKERIA	FC
25	104180000301	VALLEY LANDFILLS INC	FC
26	104180000400	DUBIKIN ALEXANDRE & POLUSHKIN GLIKERIA	RR-5
27	104180000500	YOUNG CAROLYN	RR-5
28	104180000600	YOUNG CAROLYN	RR-5
29	104180000700	HOCKEMA JOSEPH E & JASMINE L	RR-5
30	104180000701	HOCKEMA JOSEPH E & JASMINE L	RR-5
31	104180000800	OREGON STATE FISH & WILDLIFE	FC
32	104180000801	VALLEY LANDFILLS INC	FC
33	104180000900	VALLEY LANDFILLS INC	FC
34	104180001000	VALLEY LANDFILLS INC	FC
35	104180001101	VALLEY LANDFILLS INC	FC
36	104180001102	VALLEY LAND FILLS INC	FC
37	104180001103	PHILLIPS SAMUEL F & CHERYL G	FC
38	104180001104	VALLEY LANDFILLS INC	FC
39	104180001105	PELTIER REAL ESTATE CO	EFU
40	104180001106	VALLEY LANDFILLS INC	LS
41	104180001107	VALLEY LANDFILLS INC	LS
42	104180001108	VALLEY LANDFILLS INC	LS
43	104180001200	VALLEY LANDFILLS INC	FC
44	104190000100	OREGON STATE GAME COMMISSION	OS
45	104190000200	BRADLEY LOWELL THOMAS & MARY ERIN	RR-10
46	104190000301	HOLDORF CATHERINE E, TR	EFU
47	104190000400	TAMPICO RIDGE LLC	RR-10
48	104190000402	KIPPER ROBERT J & JULIE A, TR	RR-10
49	104190000500	GEIER JOEL E & REBECCA S SHERMAN	RR-10
50	104190000600	CRESS MERRILL	RR-10
51	104190000700	MORRELL JEFFREY J & PATRICIA D	RR-10
52	104190001700	CLAPP CYNTHIA R	EFU & RR-10
53	104190001800	KEN & SARAH EDWARDSSON RL TRUST	EFU
54	104190001801	SLABAUGH ROGER L & MICHELLE V	EFU
55	104190001900	HERNANDEZ VICTOR	EFU
56	10419B000300	PELTIER REAL ESTATE CO	RR-10

NO.	TAX LOT NO.	OWNER NAME	CURRENT ZONING
57	10419B000400	CARLIN KATHERYN L, TR	RR-10
58	10419B000500	FRAZIER STEVEN & DAVIS LUE ANN	RR-10
59	10419B000600	GIBBS LANCE A	RR-10
60	10419B001200	BARBARA FICK LIVING TRUST	RR-10
61	10419B001300	BARBARA FICK LIVING TRUST	RR-10
62	10419B001301	VALLEY LANDFILLS INC	RR-10
63	10419B001500	CATHERINE E HOLDORF LIVING TRUST	RR-10
64	10419B001600	VALLEY LANDFILLS INC	RR-10
65	10419D000100	POSTLEWAIT JACOB EDWARD & ELIZABETH REGA	RR-10
66	10419D000200	HOLMES RICHARD H & CHARLCY L	RR-10
109	10419DD03700	YANEZ ERIC & BETHANY J	RR-5
110	10419DD03800	LOPEZ OMAR GENARO	RR-5
111	10419DD03900	ANTONIO & ELIZABETH AMANDI REVOCABLE LIV	RR-5
112	10419DD04000	ANTONIO & ELIZABETH AMANDI REVOCABLE LIV	RR-5
119	104200000300	OREGON STATE GAME COMMISSION	OS
339	105130000100	R B WEBBER DEVELOPMENT LLC	EFU
340	105130000200	DAVID & DEBRA HACKLEMAN TRUST	FC
341	105130000201	DAVID & DEBRA HACKLEMAN TRUST	FC
342	105130000202	BERKLUND HARRISUE, TR	FC
343	105130000203	BERKLUND HARRISUE, TR	FC
344	105130000300	DENOMA JOHN T JR & SEARS DONNA J	FC
345	105130000301	SEARS ROLLIN & DONNA JEANNE	FC
346	105130000400	BRISKEY JOINT REVOCABLE LIVING TRUST	FC
347	105130000500	DAVID A PLANT TRUST	EFU
348	105130000501	MARCUM DONALD R JR	EFU
349	105130000502	LINDSEY RICHARD T & KAREN J	EFU
350	105130000600	WINN TERRILL JAMES & APRIL DOVE	EFU
351	105130000601	GOETZINGER DALE L & MONA G	EFU
352	105130000700	OSC	FC
353	105130000800	VALLEY LANDFILLS INC	EFU
354	105130000900	VALLEY LANDFILLS INC	EFU
355	105130000901	VALLEY LANDFILLS INC	EFU
356	105130000902	VALLEY LANDFILLS INC	EFU
357	105130001000	VALLEY LANDFILLS INC	LS
361	105140000105	HARLAN ANNE M	EFU
362	105140000107	EDWARD L PORTZ & JOANN PORTZ TRUST	EFU
365	105140000111	HARLAN ANNE M	EFU
385	105140001400	BUCKOVIC FAMILY TRUST	EFU
411	105230000100	OREGON STATE BOARD HIGHER ED	FC
412	105240000101	JOHNSON DEBORA LEE, TR	EFU
413	105240000102	JOHNSON DEBORA LEE, TR	EFU
414	105240000103	VALLEY LANDFILLS INC	EFU
415	105240000104	LABRASSEUR GEORGE F & YOLANDE	EFU
416	105240000105	MASON FAMILY LIVING TRUST	EFU
417	105240000106	HOLDORF CATHERINE E, TR	EFU
418	105240000190	STAHL DEE M & WAYNE A	EFU
419	105240000200	VALLEY LANDFILLS INC	EFU
420	105240000300	OREGON STATE BOARD HIGHER ED	FC
421	105240000400	FLAK TIMOTHY A & LIND GINA M	RR-10
437	104190000401	SEARLS JAMES CLUETT	RR-10

REFERENCE

AERIAL PHOTOGRAPH, TOPOGRAPHIC INFORMATION FROM AERIAL SURVEY AND GRID BY COOPER AERIAL SURVEYS COMPANY; DATE OF PHOTOGRAPHY: OCTOBER 07, 2021.

REGISTERED PROFESSIONAL ENGINEER
92360PE
OREGON
JULY 13, 2017
JEFF A. SHEPHERD
EXPIRES: 06/30/2026

REVISION RECORD

NO	DATE	DESCRIPTION

Civil & Environmental Consultants, Inc.
11811 N. Tatum Blvd., Suite 3057 - Phoenix, AZ 85028
Ph: 602.760.2324 · 877.231.2324 · Fax: 602.760.2330
www.cecinc.com

VALLEY LANDFILLS, INC.
COFFIN BUTTE LANDFILL
CONDITIONAL USE PERMIT
APPLICATION
CORVALLIS, OR 97330

BENTON COUNTY TAX LOTS & ZONING

DATE:	JULY 2024
DWG SCALE:	AS SHOWN
PROJECT NO:	322-142
DRAWN BY:	JS
CHECKED BY:	JAS
APPROVED BY:	JAS

DRAWING NO.:
2A

P:\320-000\322-142\-CADD\Dwg\SWD\322142-SWD1-2-Benton County Tax Lots Exhibit.dwg[2A] LS(8/13/2024 - jsmith) - LO: 8/13/2024 8:31 AM

NOTES

1. TAX LOT BOUNDARIES FROM BENTON COUNTY ZONING MAP PANEL 41047C0975G, DATED 01/19/2000 (TAX LOT BOUNDARIES MAY DIFFER FROM ZONING DATED 2021).

SITE SURVEY CONTROL POINTS			
PANEL NO.	NORTHING	EASTING	ELEVATION
29	389787.88	7493044.19	359.97
501	384664.04	7495154.42	307.12
503	387388.81	7486318.48	261.23
504	387264.72	7490779.38	284.60
509	389487.43	7488509.98	266.65
510	384184.71	7489109.45	275.60
513	385754.19	7487796.28	263.88
514	388618.37	7486338.73	248.52
10506	387033.07	7494916.43	245.27
10507	389112.23	7494668.96	221.72
10511	391036.59	7494506.97	235.97

REFERENCE

AERIAL PHOTOGRAPH, TOPOGRAPHIC INFORMATION FROM AERIAL SURVEY AND GRID BY COOPER AERIAL SURVEYS COMPANY; DATE OF PHOTOGRAPHY: OCTOBER 07, 2021.

REGISTERED PROFESSIONAL ENGINEER
92360PE
OREGON
JULY 13, 2011
JEFF A. SHEPHERD
EXPIRES: 06/30/2026

REVISION RECORD

NO	DATE	DESCRIPTION

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www.cecinc.com

VALLEY LANDFILLS, INC.
COFFIN BUTTE LANDFILL
CONDITIONAL USE PERMIT APPLICATION
CORVALLIS, OR 97330

EXISTING CONDITIONS

DATE:	JULY 2024
DWG SCALE:	AS SHOWN
PROJECT NO:	322-142
DRAWN BY:	JS
CHECKED BY:	JAS
APPROVED BY:	JAS

DRAWING NO.: 3

P:\320-0001\322-142\~CAD\Dwg\3901\322142-3901-3-Existing Conditions.dwg[3] LS[1/19/2024 - jshah] - LP: 7/2/2024 3:58 PM

LEGEND

- PROPERTY BOUNDARY
- EXISTING LANDFILL BOUNDARY
- TAX LOT BOUNDARY
- WETLAND MITIGATION BOUNDARY
- EXISTING 10-FT CONTOUR
- EXISTING 2-FT CONTOUR
- EXISTING PALUSTRINE FORESTED WETLAND
- EXISTING PALUSTRINE EMERGENT WETLAND
- HERON ROOKERY AS SHOWN ON MAP BY ODF WILDLIFE BIOLOGIST DATED 08/23/21

NORTH

SCALE IN FEET
0 400 800

REFERENCE

AERIAL PHOTOGRAPH, TOPOGRAPHIC INFORMATION FROM AERIAL SURVEY AND GRID BY COOPER AERIAL SURVEYS COMPANY; DATE OF PHOTOGRAPHY: OCTOBER 07, 2021.

REGISTERED PROFESSIONAL ENGINEER
92360PE
OREGON
JULY 13, 2011
JEFF A. SHEPHERD
EXPIRES: 06/30/2026

REVISION RECORD

NO	DATE	DESCRIPTION

CEC
Civil & Environmental Consultants, Inc.
11811 N. Tatum Blvd., Suite 3057 - Phoenix, AZ 85028
Ph: 602.760.2324 · 877.231.2324 · Fax: 602.760.2330
www.cecinc.com

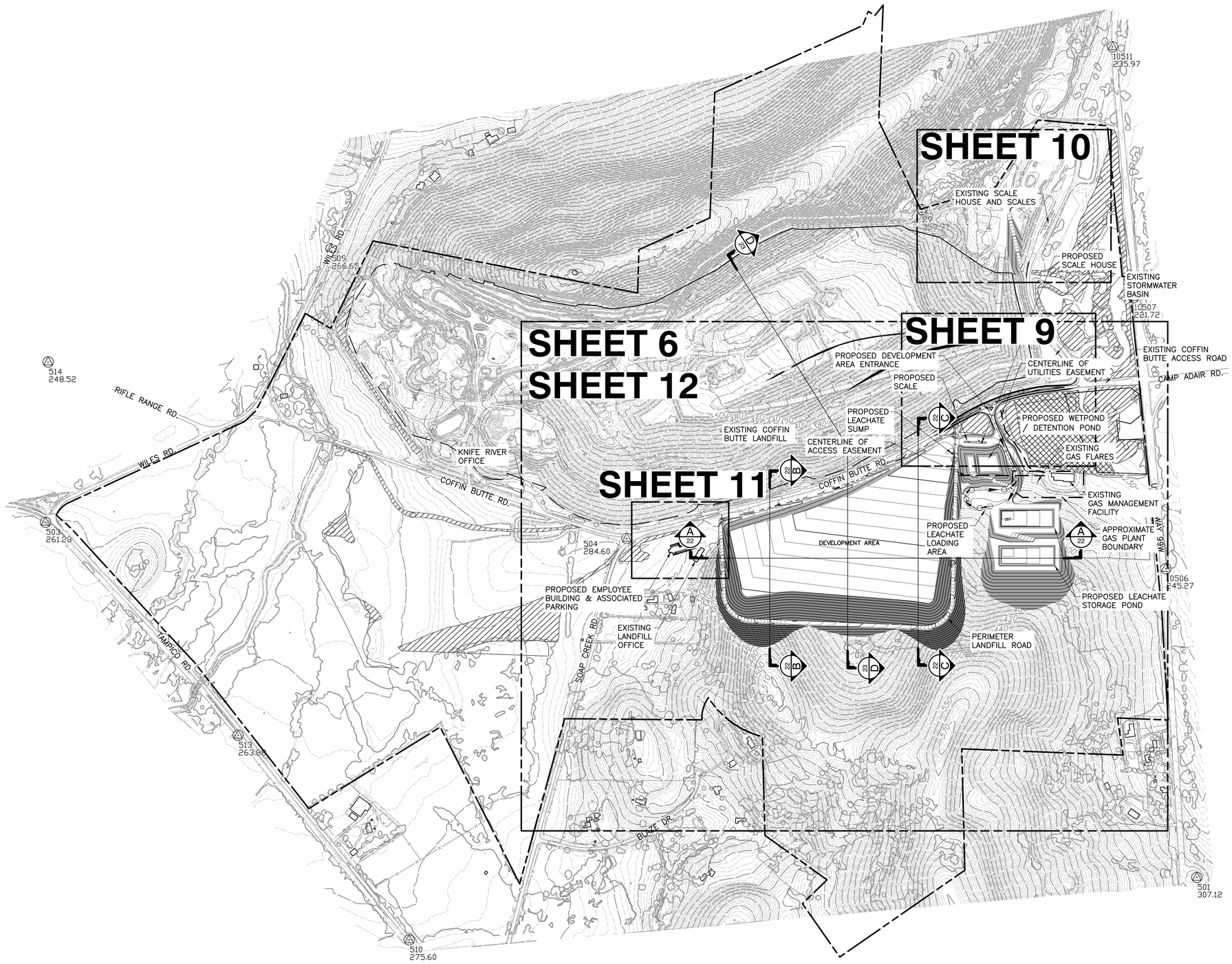
VALLEY LANDFILLS, INC.
COFFIN BUTTE LANDFILL
CONDITIONAL USE PERMIT APPLICATION
CORVALLIS, OR 97330

DEMOLITION PLAN

DATE:	JULY 2024
DWG SCALE:	AS SHOWN
PROJECT NO:	322-142
DRAWN BY:	JS
CHECKED BY:	JAS
APPROVED BY:	JAS

DRAWING NO.: 4

P:\322-0001\322-142\-CADD\Dwg\SHEET\322142-SHEET-4-Demolition Plan.dwg[4] LS(1/15/2024 - (plot)) - LP: 7/2/2024 3:59 PM



LEGEND

- PROPERTY BOUNDARY
- EXISTING LANDFILL BOUNDARY
- TAX LOT BOUNDARY
- ZONING BOUNDARY
- WETLAND MITIGATION BOUNDARY
- 300 — EXISTING 10-FT CONTOUR
- EXISTING 2-FT CONTOUR
- EXISTING PALUSTRINE FORESTED WETLAND
- EXISTING PALUSTRINE EMERGENT WETLAND
- 250 — PROPOSED 10-FT CONTOUR

NOTES

1. TAX LOT BOUNDARIES FROM BENTON COUNTY ZONING MAP PANEL 41047C0975G, DATED 01/19/2000 (TAX LOT BOUNDARIES MAY DIFFER FROM ZONING DATED 2021).

NORTH

SCALE IN FEET
0 400 800

REFERENCE

AERIAL PHOTOGRAPH, TOPOGRAPHIC INFORMATION FROM AERIAL SURVEY AND GRID BY COOPER AERIAL SURVEYS COMPANY; DATE OF PHOTOGRAPHY: OCTOBER 07, 2021.

REGISTERED PROFESSIONAL ENGINEER
92360PE
OREGON
JULY 13, 2017
JEFF A. SHEPHERD
EXPIRES: 06/30/2026

REVISION RECORD

NO	DATE	DESCRIPTION

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www.cecinc.com

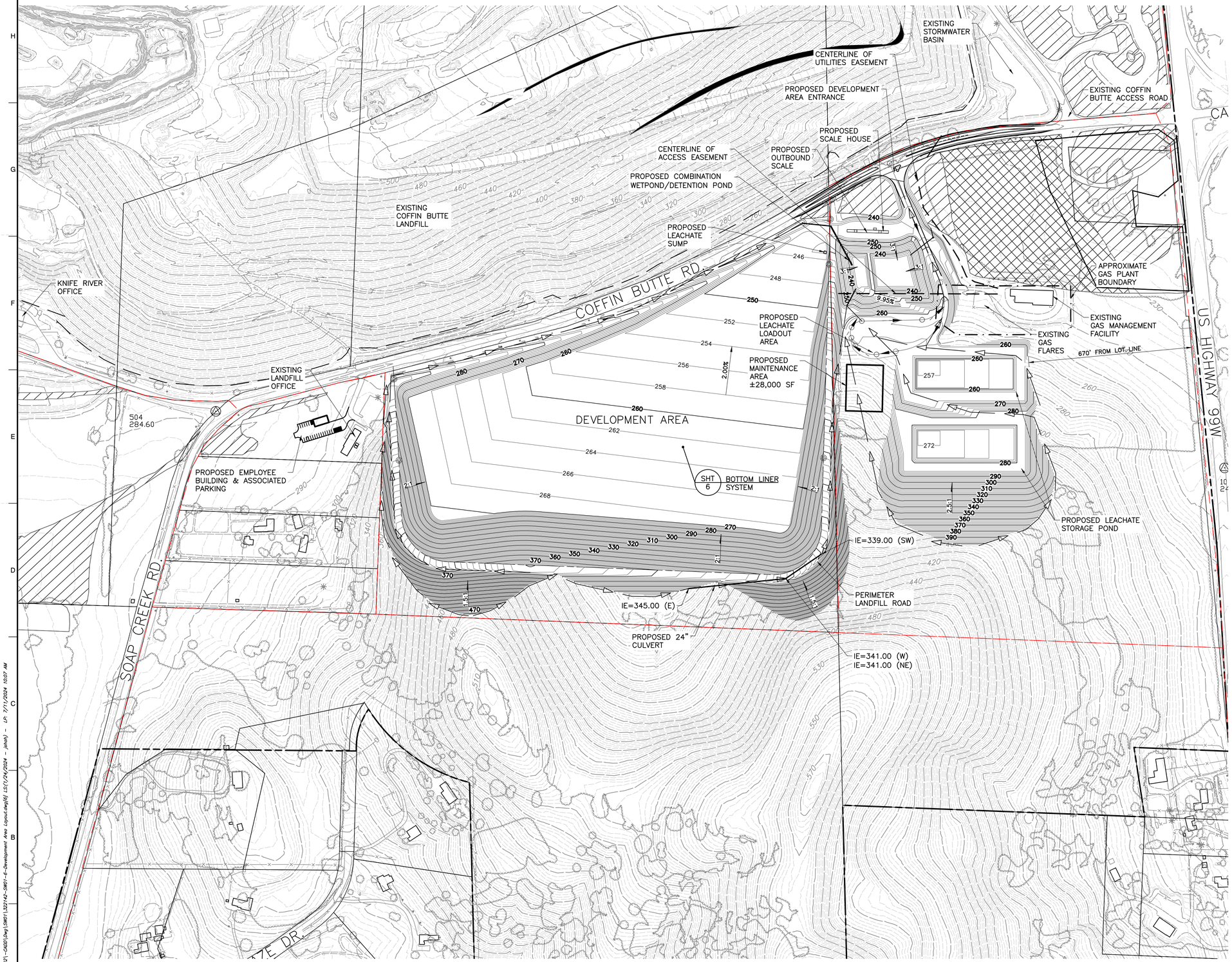
VALLEY LANDFILLS, INC.
COFFIN BUTTE LANDFILL
CONDITIONAL USE PERMIT APPLICATION
CORVALLIS, OR 97330

OVERALL DEVELOPMENT PLAN

DRAWN BY:	JS
DATE:	JULY 2024
CHECKED BY:	JAS
DWG SCALE:	AS SHOWN
PROJECT NO.:	322-142
APPROVED BY:	JAS

DRAWING NO.: 5

P:\322-2001\322-1421-CAD\Dwg\SHT01\322142-SHT01-5-Overall Development Plan.dwg[5] LS(1:24)2024 - jshaw) - LP: 8/6/2024 8:37 AM

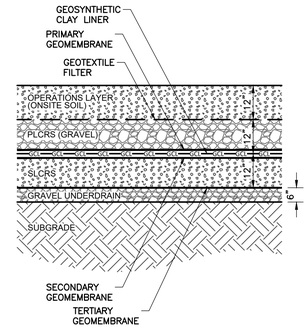


LEGEND

- PROPERTY BOUNDARY
- EXISTING LANDFILL BOUNDARY
- TAX LOT BOUNDARY
- ZONING BOUNDARY
- WETLAND MITIGATION BOUNDARY
- 300 EXISTING 10-FT CONTOUR
- EXISTING 2-FT CONTOUR
- EXISTING PALUSTRINE FORESTED WETLAND
- EXISTING PALUSTRINE EMERGENT WETLAND
- 250 PROPOSED 10-FT CONTOUR
- 254 PROPOSD 2-FT CONTOUR
- FLOW PATH

NOTES

1. TAX LOT BOUNDARIES FROM BENTON COUNTY ZONING MAP PANEL 41047C0975G, DATED 01/19/2000 (TAX LOT BOUNDARIES MAY DIFFER FROM ZONING DATED 2021).
2. PERIMETER LANDFILL ROAD WILL ONLY BE FOR PICKUP TRUCKS OR SMALLER VEHICLES.



BOTTOM LINER SYSTEM

NORTH

SCALE IN FEET
0 200 400

REFERENCE

AERIAL PHOTOGRAPH, TOPOGRAPHIC INFORMATION FROM AERIAL SURVEY AND GRID BY COOPER AERIAL SURVEYS COMPANY; DATE OF PHOTOGRAPHY: OCTOBER 07, 2021.

REGISTERED PROFESSIONAL ENGINEER
92360PE
OREGON
JULY 13, 2017
JEFF A. SHEPHERD
EXPIRES: 06/30/2026

REVISION RECORD

NO	DATE	DESCRIPTION

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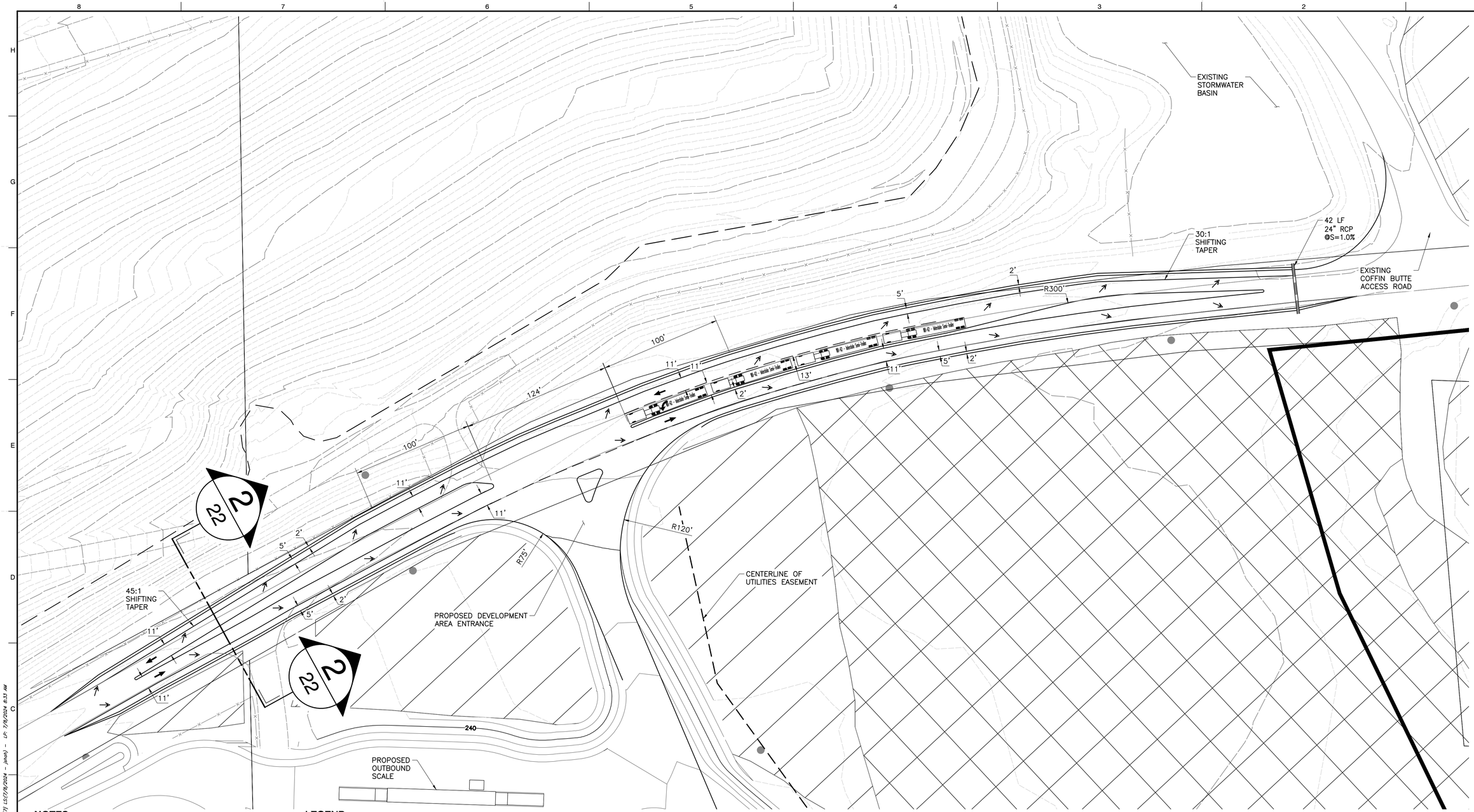
VALLEY LANDFILLS, INC.
COFFIN BUTTE LANDFILL
CONDITIONAL USE PERMIT
APPLICATION
CORVALLIS, OR 97330

DEVELOPMENT AREA LAYOUT

DATE:	JULY 2024	DRAWN BY:	JS
DWG SCALE:	AS SHOWN	CHECKED BY:	JAS
PROJECT NO:			322-142
APPROVED BY:			JAS

DRAWING NO.: 6



NOTES

1. LEFT TURN CHANNELIZATION BASED ON STATE OF OREGON DEPARTMENT OF TRANSPORTATION HIGHWAY DESIGN MANUAL FIGURE 8-9 FOR A DESIGN SPEED OF 40 MPH.
2. THE ADDITIONAL IMPERVIOUS AREA ADDED DUE TO THE ROAD WIDENING WILL BE APPROXIMATELY 0.65 ACRES.
3. STORMWATER RUNOFF WILL BE CAPTURES IN DRAINAGE CHANNELS OR CULVERT PIPE AND DIRECTED TO THE EXISTING STORMWATER BASIN ON NORTHWEST CORNER OF COFFIN BUTTE ROAD AND THE ENTRANCE TO COFFIN BUTTE LANDFILL.

LEGEND

- PROPERTY BOUNDARY
- EXISTING LANDFILL BOUNDARY
- TAX LOT BOUNDARY
- ZONING BOUNDARY
- WETLAND MITIGATION BOUNDARY
- 300 EXISTING 10-FT CONTOUR
- EXISTING 2-FT CONTOUR
- EXISTING PALUSTRINE FORESTED WETLAND
- EXISTING PALUSTRINE EMERGENT WETLAND
- 250 PROPOSED 10-FT CONTOUR
- 254 PROPOSD 2-FT CONTOUR

NORTH

SCALE IN FEET

0 40 80

REFERENCE

AERIAL PHOTOGRAPH, TOPOGRAPHIC INFORMATION FROM AERIAL SURVEY AND GRID BY COOPER AERIAL SURVEYS COMPANY; DATE OF PHOTOGRAPHY: OCTOBER 07, 2021.

REGISTERED PROFESSIONAL ENGINEER
92360PE
OREGON
JULY 13, 2017
JEFF A. SHEPHERD
EXPIRES: 06/30/2026

REVISION RECORD

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VALLEY LANDFILLS, INC.
COFFIN BUTTE LANDFILL
CONDITIONAL USE PERMIT
APPLICATION
CORVALLIS, OR 97330

LEFT TURN TRAFFIC PLAN

DATE:	JULY 2024	DRAWN BY:	JS
DWG SCALE:	AS SHOWN	CHECKED BY:	JAS
PROJECT NO:			322-142
APPROVED BY:			JAS

DRAWING NO.: 7

P:\320-000\322-142\-CADD\Dwg\SW01\322142-SW01-7-Left Turn Traffic Plan.dwg[7] LS:(7/8/2024 - jshah) - LP: 7/8/2024 8:33 AM

RESIDENTIAL DROP-OFF AREA

EXISTING SCALE HOUSE AND SCALES

SEE DETAIL ON THIS SHEET

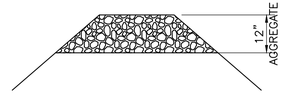
PROPOSED RAMP FOR TRUCKS GOING TO DEVELOPMENT AREA

29
359.97

270
260
250

LEGEND

- PROPERTY BOUNDARY
- EXISTING LANDFILL BOUNDARY
- TAX LOT BOUNDARY
- ZONING BOUNDARY
- WETLAND MITIGATION BOUNDARY
- 300 — EXISTING 10-FT CONTOUR
- EXISTING 2-FT CONTOUR
- EXISTING PALUSTRINE FORESTED WETLAND
- EXISTING PALUSTRINE EMERGENT WETLAND
- 250 — PROPOSED 10-FT CONTOUR
- 254 — PROPOSD 2-FT CONTOUR
- HERON ROOKERY AS SHOWN ON MAP BY ODF WILDLIFE BIOLOGIST DATED 08/23/21



ROAD CROSS-SECTION DETAIL
N.T.S

NORTH

SCALE IN FEET
0 60 120

REFERENCE

AERIAL PHOTOGRAPH, TOPOGRAPHIC INFORMATION FROM AERIAL SURVEY AND GRID BY COOPER AERIAL SURVEYS COMPANY; DATE OF PHOTOGRAPHY: OCTOBER 07, 2021.

REGISTERED PROFESSIONAL ENGINEER
92360PE
OREGON
JULY 13, 2017
JEFF A. SHEPHERD
EXPIRES: 06/30/2026

REVISION RECORD

NO	DATE	DESCRIPTION

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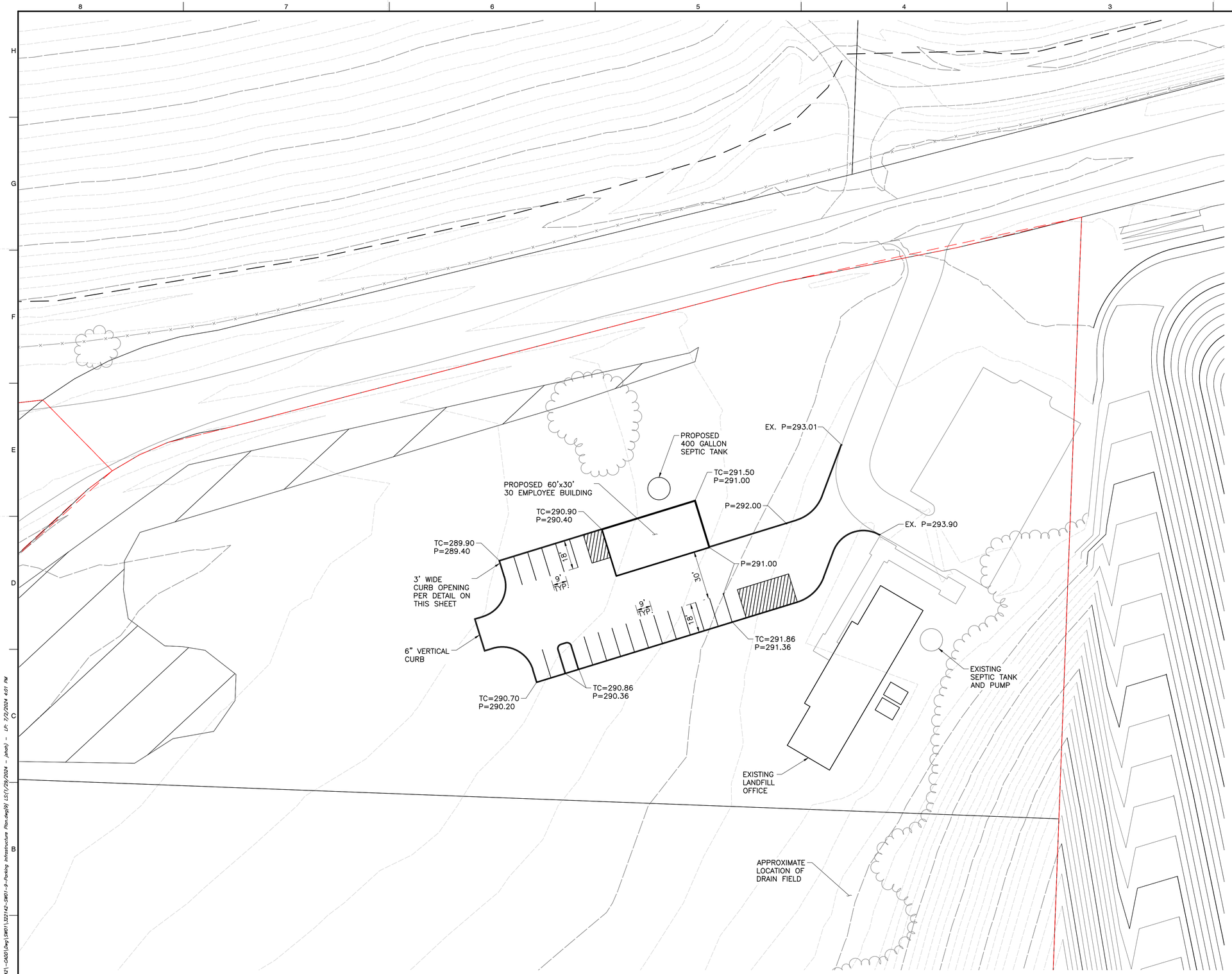
VALLEY LANDFILLS, INC.
COFFIN BUTTE LANDFILL
CONDITIONAL USE PERMIT APPLICATION
CORVALLIS, OR 97330

NORTH ROAD PLAN

DATE:	JULY 2024
DWG SCALE:	AS SHOWN
PROJECT NO.:	322-142
DRAWN BY:	JS
CHECKED BY:	JAS
APPROVED BY:	JAS

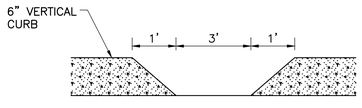
DRAWING NO.: 8

P:\320-000\322-142_CAD\Dwg\SWD\322142-SWD1-8-North Road Plan.dwg[8] LS(1/29/2024 - johnb) - LP: 7/2/2024 4:01 PM



LEGEND

- PROPERTY BOUNDARY
- EXISTING LANDFILL BOUNDARY
- TAX LOT BOUNDARY
- ZONING BOUNDARY
- WETLAND MITIGATION BOUNDARY
- 300 — EXISTING 10–FT CONTOUR
- EXISTING 2–FT CONTOUR
- EXISTING PALUSTRINE FORESTED WETLAND
- EXISTING PALUSTRINE EMERGENT WETLAND
- 250 — PROPOSED 10–FT CONTOUR
- 254 — PROPOSD 2–FT CONTOUR
- HERON ROOKERY AS SHOWN ON MAP BY ODF WILDLIFE BIOLOGIST DATED 08/23/21



CURB OPENING DETAIL
N.T.S

NOTE

1. PROPOSED SEPTIC TANK TO BE PUMPED AS REQUIRED.
2. POTABLE WATER WILL BE OBTAINED FROM ON–SITE WATER WELL.
3. APPROXIMATELY 30 PEOPLE WILL BE USING THE LOCKER ROOM.

NORTH

SCALE IN FEET
0 30 60

REFERENCE

AERIAL PHOTOGRAPH, TOPOGRAPHIC INFORMATION FROM AERIAL SURVEY AND GRID BY COOPER AERIAL SURVEYS COMPANY; DATE OF PHOTOGRAPHY: OCTOBER 07, 2021.

REGISTERED PROFESSIONAL ENGINEER
92360PE
OREGON
JULY 13, 2011
JEFF A. SHEPHERD
EXPIRES: 06/30/2026

REVISION RECORD

NO	DATE	DESCRIPTION

Civil & Environmental Consultants, Inc.
11811 N. Tatum Blvd., Suite 3057 · Phoenix, AZ 85028
Ph: 602.760.2324 · 877.231.2324 · Fax: 602.760.2330
www.cecinc.com

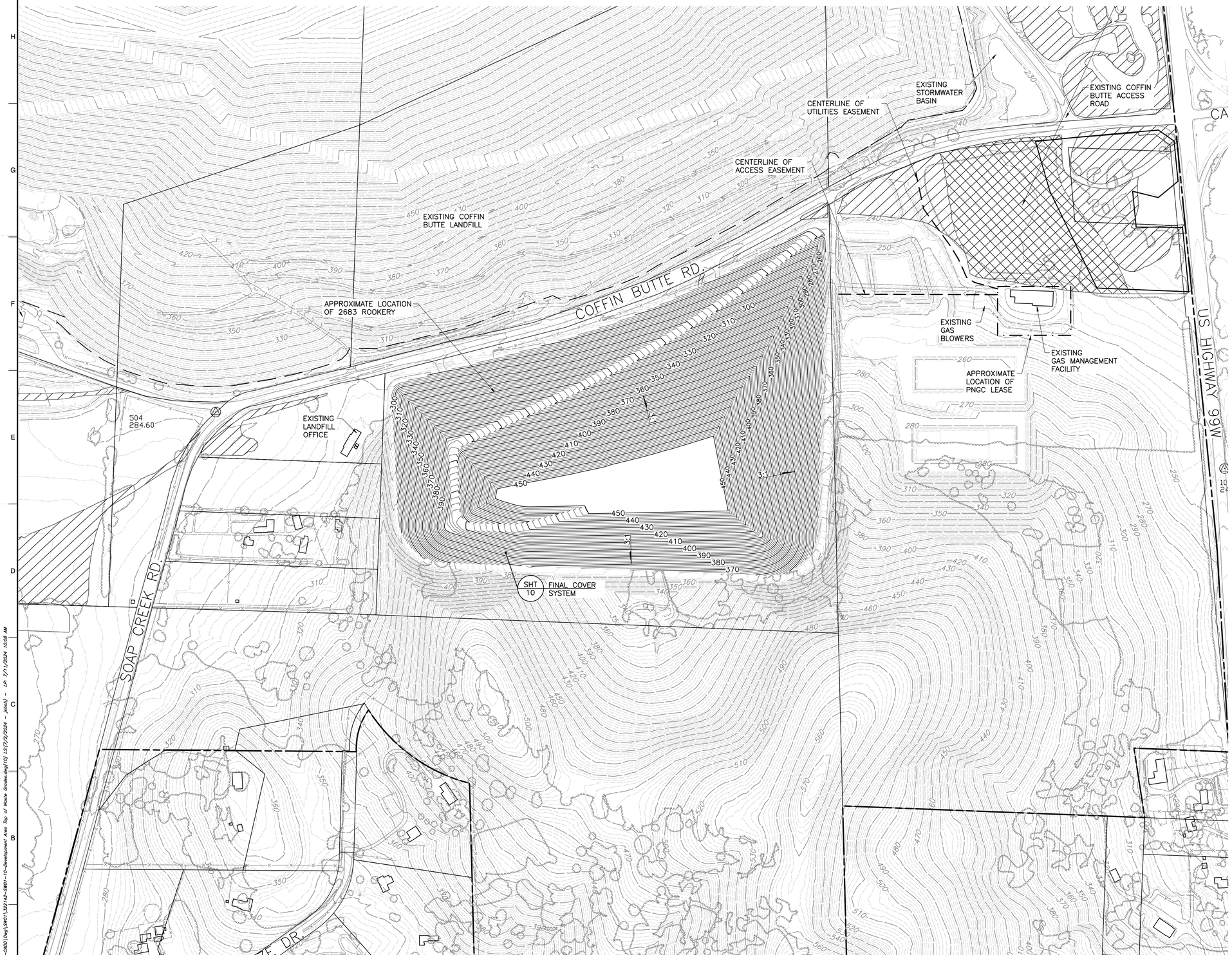
VALLEY LANDFILLS, INC.
COFFIN BUTTE LANDFILL
CONDITIONAL USE PERMIT APPLICATION
CORVALLIS, OR 97330

PARKING INFRASTRUCTURE PLAN

DATE:	JULY 2024
DWG SCALE:	AS SHOWN
PROJECT NO:	322-142
DRAWN BY:	JS
CHECKED BY:	JAS
APPROVED BY:	JAS

DRAWING NO.: 9

P:\320-0001\322-142\~CAD\Dwg\3901\322142-3901-9-Parking Infrastructure Plan.dwg[9] LS(1/29/2024 - jshah) - LP: 1/2/2024 4:01 PM

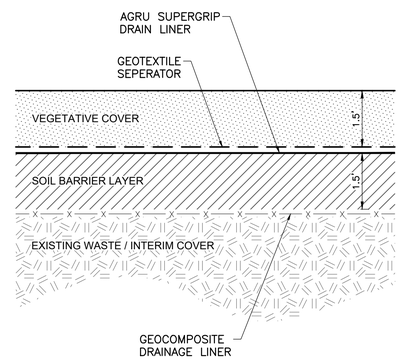


LEGEND

- PROPERTY BOUNDARY
- EXISTING LANDFILL BOUNDARY
- TAX LOT BOUNDARY
- WETLAND MITIGATION BOUNDARY
- 300 EXISTING 10-FT CONTOUR
- EXISTING 2-FT CONTOUR
- EXISTING PALUSTRINE FORESTED WETLAND
- EXISTING PALUSTRINE EMERGENT WETLAND
- 250 PROPOSED 10-FT TOP OF WASTE CONTOUR
- 254 PROPOSD 2-FT TOP OF CONTOUR

NOTES

1. TAX LOT BOUNDARIES FROM BENTON COUNTY ZONING MAP PANEL 41047C0975G, DATED 01/19/2000 (TAX LOT BOUNDARIES MAY DIFFER FROM ZONING DATED 2021).
2. PERIMETER LANDFILL ROAD WILL ONLY BE FOR PICKUP TRUCKS OR SMALLER VEHICLES.



FINAL COVER SYSTEM

NORTH

SCALE IN FEET
0 200 400

REFERENCE

AERIAL PHOTOGRAPH, TOPOGRAPHIC INFORMATION FROM AERIAL SURVEY AND GRID BY COOPER AERIAL SURVEYS COMPANY; DATE OF PHOTOGRAPHY: OCTOBER 07, 2021.

REGISTERED PROFESSIONAL ENGINEER
92360PE
OREGON
JULY 13, 2017
JEFF A. SHEPHERD
EXPIRES: 06/30/2026

REVISION RECORD

NO	DATE	DESCRIPTION

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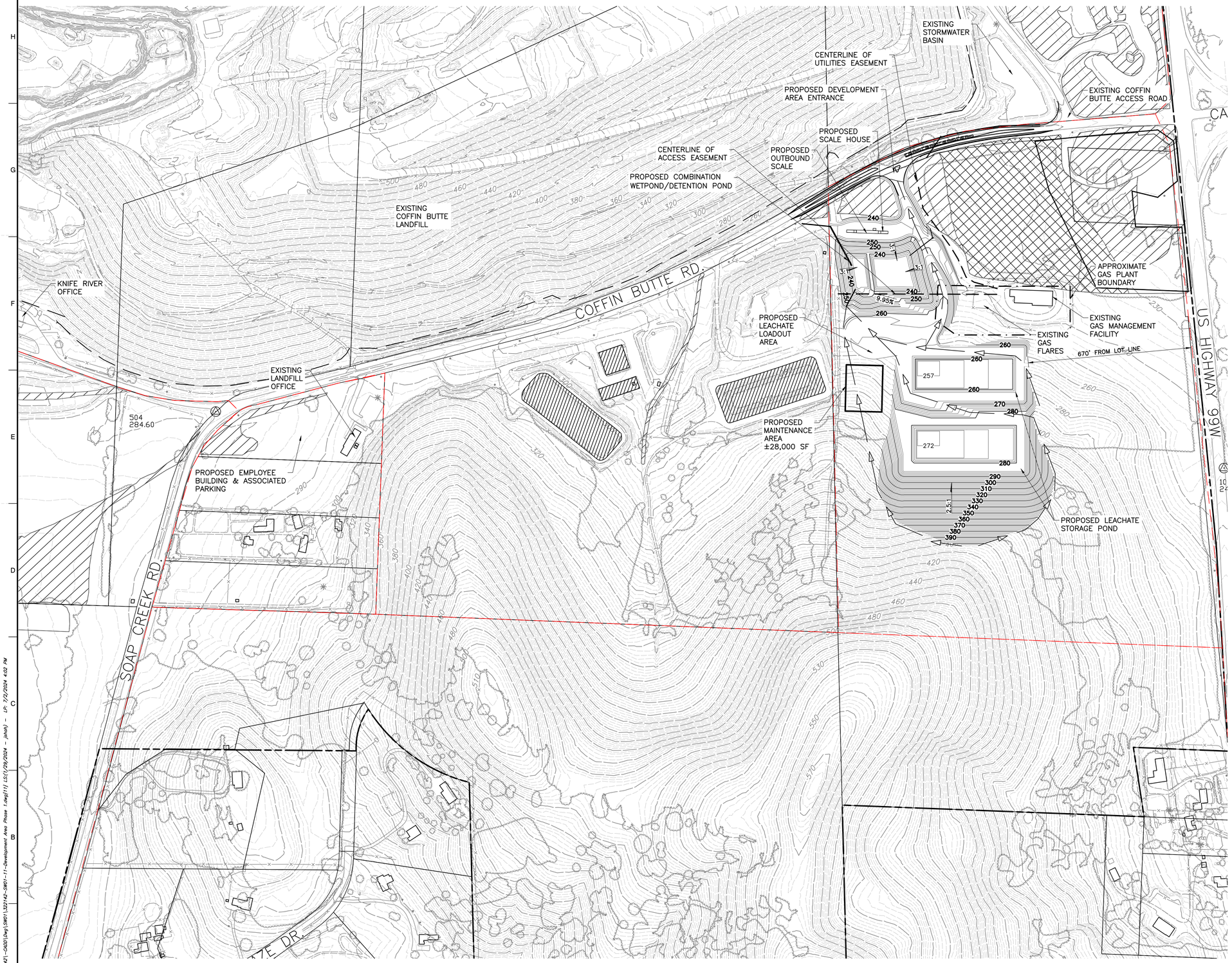
VALLEY LANDFILLS, INC.
COFFIN BUTTE LANDFILL
CONDITIONAL USE PERMIT APPLICATION
CORVALLIS, OR 97330

DEVELOPMENT AREA
TOP OF WASTE GRADES

DATE:	JULY 2024	DRAWN BY:	JS
DWG SCALE:	AS SHOWN	CHECKED BY:	JAS
PROJECT NO:			322-142
APPROVED BY:			JAS

DRAWING NO.: 10

P:\320-000\322-142\-CADD\Dwg\SW01\322142-SW01-10-Development Area Top of Waste Grades.dwg[10] LS:(7/2/2024 - jshah) - LP: 7/11/2024 10:08 AM



LEGEND

- PROPERTY BOUNDARY
- EXISTING LANDFILL BOUNDARY
- TAX LOT BOUNDARY
- ZONING BOUNDARY
- WETLAND MITIGATION BOUNDARY
- 300 EXISTING 10-FT CONTOUR
- EXISTING 2-FT CONTOUR
- EXISTING PALUSTRINE FORESTED WETLAND
- EXISTING PALUSTRINE EMERGENT WETLAND
- 250 PROPOSED 10-FT CONTOUR
- 254 PROPOSD 2-FT CONTOUR
- FLOW PATH

NOTES

1. TAX LOT BOUNDARIES FROM BENTON COUNTY ZONING MAP PANEL 41047C0975G, DATED 01/19/2000 (TAX LOT BOUNDARIES MAY DIFFER FROM ZONING DATED 2021).
2. PERIMETER LANDFILL ROAD WILL ONLY BE FOR PICKUP TRUCKS OR SMALLER VEHICLES.

DEVELOPMENT AREA PHASE 1 (YEAR 1)

1. CUT VOLUME = 416,325 CY
   FILL VOLUME = 48,304 CY
   TOTAL VOLUME (CUT) = 368,021 CY
2. EXCESS CUT WILL BE HAULED TO THE QUARRY FOR USE AS FILL MATERIAL FOR CELL 6 OR AS DAILY/INTERMEDIATE COVER.

REFERENCE

AERIAL PHOTOGRAPH, TOPOGRAPHIC INFORMATION FROM AERIAL SURVEY AND GRID BY COOPER AERIAL SURVEYS COMPANY; DATE OF PHOTOGRAPHY: OCTOBER 07, 2021.

REGISTERED PROFESSIONAL ENGINEER
92360PE
OREGON
JULY 13, 2017
JEFF A. SHEPHERD
EXPIRES: 06/30/2026

REVISION RECORD

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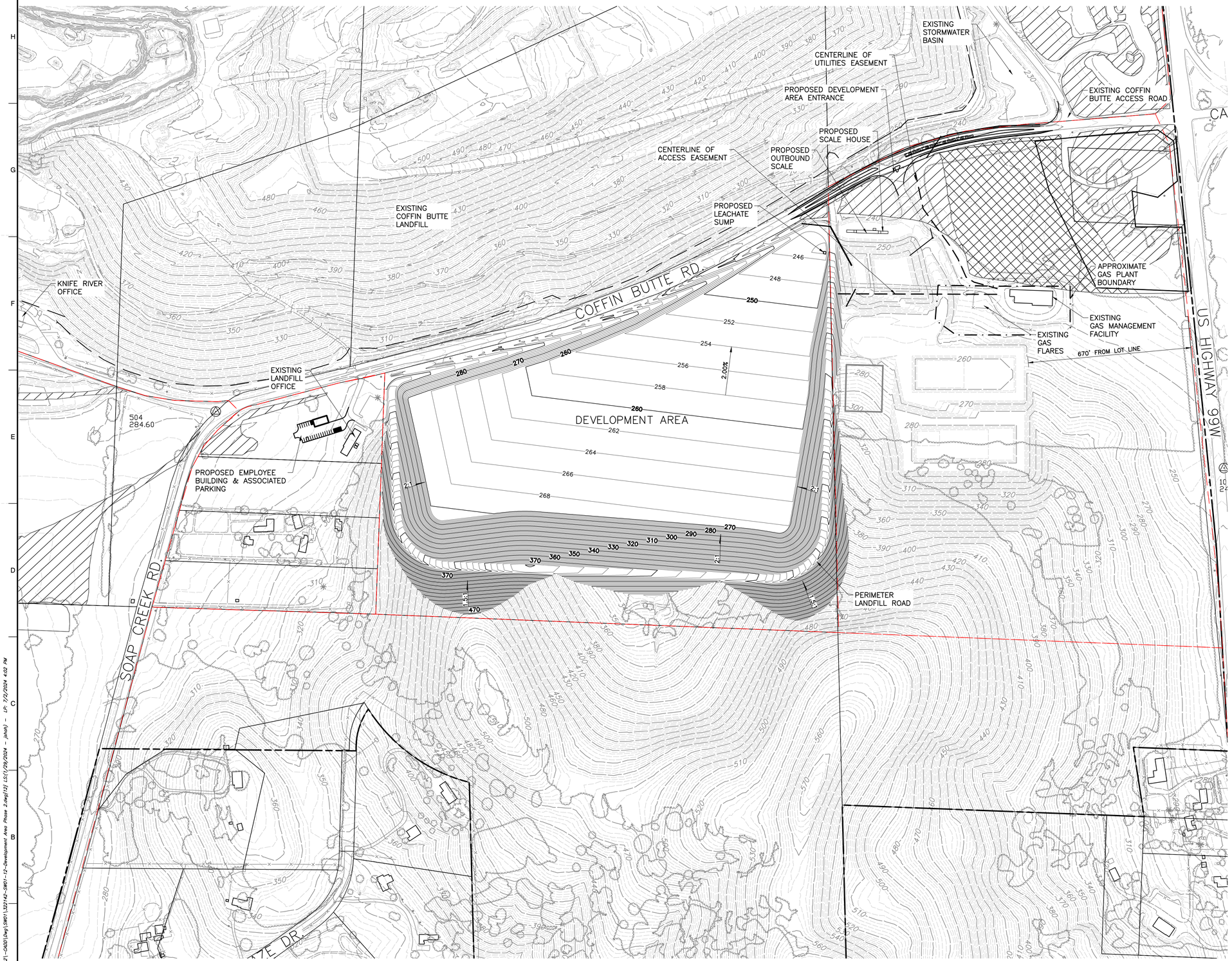
VALLEY LANDFILLS, INC.
COFFIN BUTTE LANDFILL
CONDITIONAL USE PERMIT
APPLICATION
CORVALLIS, OR 97330

DEVELOPMENT AREA PHASE 1

DATE:	JULY 2024	DRAWN BY:	JS
DWG SCALE:	AS SHOWN	CHECKED BY:	JAS
PROJECT NO:			322-142
APPROVED BY:			JAS

DRAWING NO.: 11

P:\320-000\322-142\-CADD\Dwg\SW01\322142-SW01-11-Development Area Phase 1.dwg\11\ LS:(1/29/2024 - jshah) - LP: 7/2/2024 4:02 PM



LEGEND

- PROPERTY BOUNDARY
- EXISTING LANDFILL BOUNDARY
- TAX LOT BOUNDARY
- ZONING BOUNDARY
- WETLAND MITIGATION BOUNDARY
- 300 EXISTING 10-FT CONTOUR
- EXISTING 2-FT CONTOUR
- EXISTING PALUSTRINE FORESTED WETLAND
- EXISTING PALUSTRINE EMERGENT WETLAND
- 250 PROPOSED 10-FT CONTOUR
- 254 PROPOSD 2-FT CONTOUR
- FLOW PATH

NOTES

1. TAX LOT BOUNDARIES FROM BENTON COUNTY ZONING MAP PANEL 41047C0975G, DATED 01/19/2000 (TAX LOT BOUNDARIES MAY DIFFER FROM ZONING DATED 2021).
2. PERIMETER LANDFILL ROAD WILL ONLY BE FOR PICKUP TRUCKS OR SMALLER VEHICLES.

DEVELOPMENT AREA PHASE 2 (YEAR 2 AND 3)

1. CUT VOLUME = 3,254,107 CY
   FILL VOLUME = 107,454 CY
   TOTAL VOLUME (CUT) = 3,146,653 CY
2. EXCESS CUT WILL BE HAULED TO THE QUARRY FOR USE AS FILL MATERIAL FOR CELLS 7-8 OR AS DAILY/INTERMEDIATE COVER.

REFERENCE

AERIAL PHOTOGRAPH, TOPOGRAPHIC INFORMATION FROM AERIAL SURVEY AND GRID BY COOPER AERIAL SURVEYS COMPANY; DATE OF PHOTOGRAPHY: OCTOBER 07, 2021.

REGISTERED PROFESSIONAL ENGINEER
92360PE
OREGON
JULY 13, 2017
JEFF A. SHEPHERD
EXPIRES: 06/30/2026

REVISION RECORD

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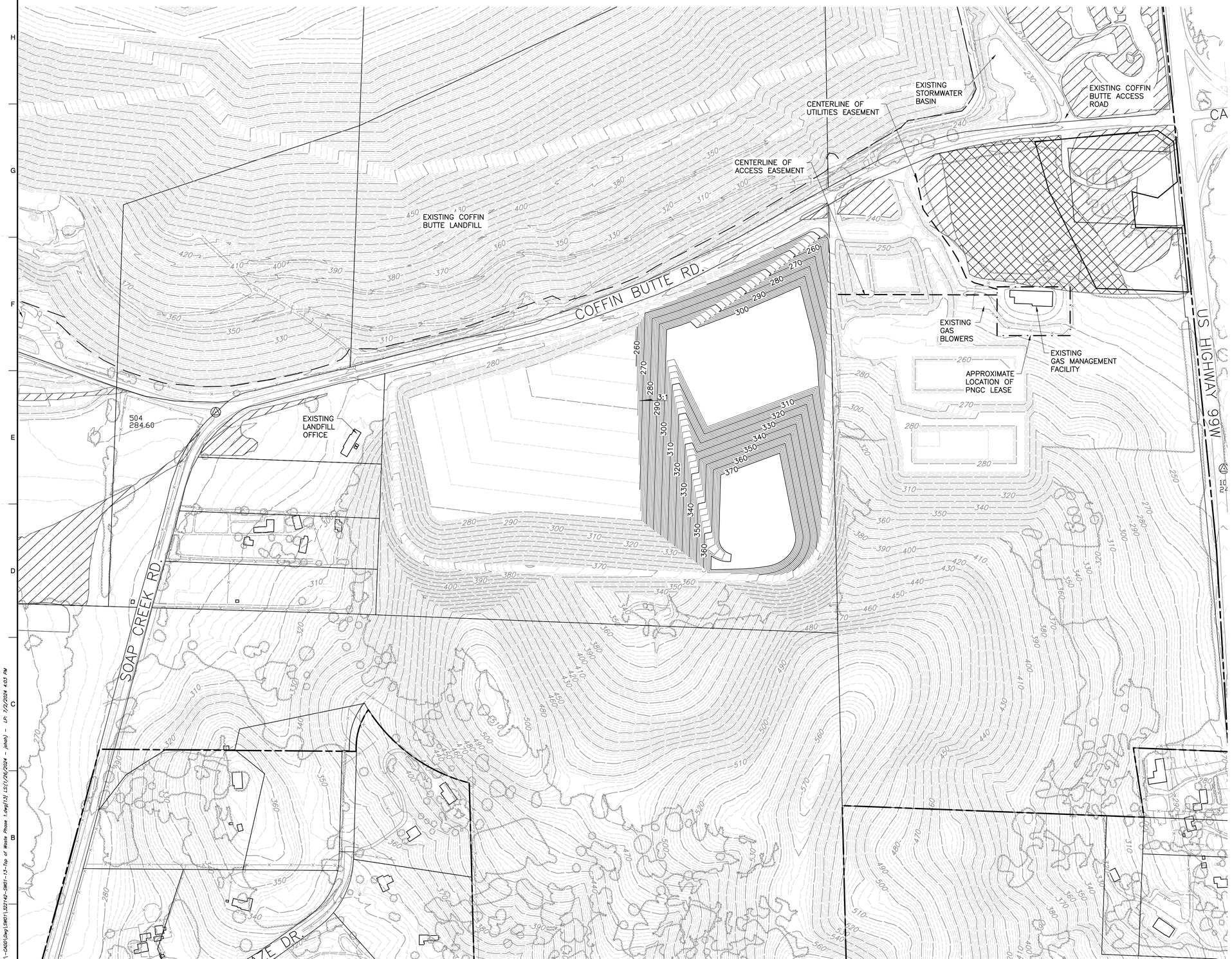
VALLEY LANDFILLS, INC.
COFFIN BUTTE LANDFILL
CONDITIONAL USE PERMIT APPLICATION
CORVALLIS, OR 97330

DEVELOPMENT AREA PHASE 2

DATE:	JULY 2024
DWG SCALE:	AS SHOWN
PROJECT NO:	322-142
DRAWN BY:	JS
CHECKED BY:	JAS
APPROVED BY:	JAS

DRAWING NO.: 12

P:\322-000\322-142\-CADD\Dwg\SWD\322142-SWD1-12-Development Area Phase 2.dwg[12] LS[7/29/2024 - jshah] - LP: 7/2/2024 4:02 PM



LEGEND

- PROPERTY BOUNDARY
- EXISTING LANDFILL BOUNDARY
- TAX LOT BOUNDARY
- WETLAND MITIGATION BOUNDARY
- 300 EXISTING 10-FT CONTOUR
- EXISTING 2-FT CONTOUR
- EXISTING PALUSTRINE FORESTED WETLAND
- EXISTING PALUSTRINE EMERGENT WETLAND
- 250 PROPOSED 10-FT TOP OF WASTE CONTOUR
- 254 PROPOSD 2-FT TOP OF CONTOUR

NOTES

1. TAX LOT BOUNDARIES FROM BENTON COUNTY ZONING MAP PANEL 41047C0975G, DATED 01/19/2000 (TAX LOT BOUNDARIES MAY DIFFER FROM ZONING DATED 2021).
2. PERIMETER LANDFILL ROAD WILL ONLY BE FOR PICKUP TRUCKS OR SMALLER VEHICLES.

TOP OF WASTE PHASE 1 (YEAR 4)

1. FILL VOLUME = 1,500,000 CY

NORTH

SCALE IN FEET

0 200 400

REFERENCE

AERIAL PHOTOGRAPH, TOPOGRAPHIC INFORMATION FROM AERIAL SURVEY AND GRID BY COOPER AERIAL SURVEYS COMPANY; DATE OF PHOTOGRAPHY: OCTOBER 07, 2021.

REGISTERED PROFESSIONAL ENGINEER
92360PE
OREGON
JULY 13, 2017
JEFF A. SHEPHERD
EXPIRES: 06/30/2026

REVISION RECORD

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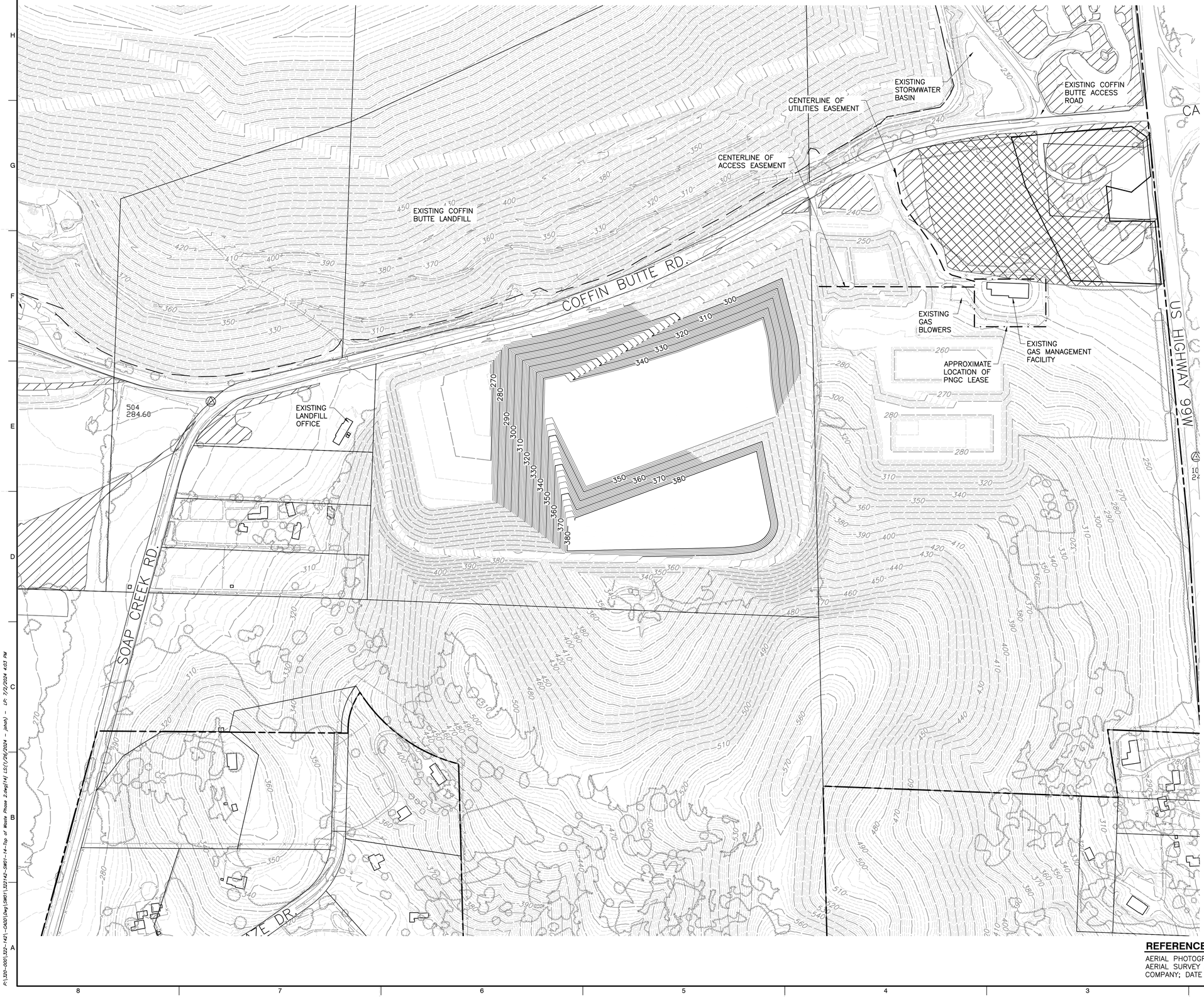
VALLEY LANDFILLS, INC.
COFFIN BUTTE LANDFILL
CONDITIONAL USE PERMIT
APPLICATION
CORVALLIS, OR 97330

TOP OF WASTE PHASE 1

DATE:	JULY 2024	DRAWN BY:	JS
DWG SCALE:	AS SHOWN	CHECKED BY:	JAS
PROJECT NO:			322-142
APPROVED BY:			JAS

DRAWING NO.: 13

P:\320-000\322-142\-CAD0\Dwg\SW01\322142-SW01-13-Top of Waste Phase 1.dwg[13] LS:(1/26/2024 - jshah) - LP: 7/2/2024 4:03 PM



LEGEND

- PROPERTY BOUNDARY
- EXISTING LANDFILL BOUNDARY
- TAX LOT BOUNDARY
- WETLAND MITIGATION BOUNDARY
- 300 EXISTING 10-FT CONTOUR
- EXISTING 2-FT CONTOUR
- EXISTING PALUSTRINE FORESTED WETLAND
- EXISTING PALUSTRINE EMERGENT WETLAND
- 250 PROPOSED 10-FT TOP OF WASTE CONTOUR
- 254 PROPOSD 2-FT TOP OF CONTOUR

NOTES

1. TAX LOT BOUNDARIES FROM BENTON COUNTY ZONING MAP PANEL 41047C0975G, DATED 01/19/2000 (TAX LOT BOUNDARIES MAY DIFFER FROM ZONING DATED 2021).
2. PERIMETER LANDFILL ROAD WILL ONLY BE FOR PICKUP TRUCKS OR SMALLER VEHICLES.

TOP OF WASTE PHASE 2 (YEAR 5 AND 6)

1. FILL VOLUME = 1,500,000 CY

NORTH

SCALE IN FEET

0 200 400

REFERENCE

AERIAL PHOTOGRAPH, TOPOGRAPHIC INFORMATION FROM AERIAL SURVEY AND GRID BY COOPER AERIAL SURVEYS COMPANY; DATE OF PHOTOGRAPHY: OCTOBER 07, 2021.

REGISTERED PROFESSIONAL ENGINEER
92360PE
OREGON
JULY 13, 2017
JEFF A. SHEPHERD
EXPIRES: 06/30/2026

REVISION RECORD

NO	DATE	DESCRIPTION

Civil & Environmental Consultants, Inc.
11811 N. Tatum Blvd., Suite 3057 - Phoenix, AZ 85028
Ph: 602.760.2324 · 877.231.2324 · Fax: 602.760.2330
www.cecinc.com

VALLEY LANDFILLS, INC.
COFFIN BUTTE LANDFILL
CONDITIONAL USE PERMIT
APPLICATION
CORVALLIS, OR 97330

TOP OF WASTE PHASE 2

DATE:	JULY 2024	DRAWN BY:	JS
DWG SCALE:	AS SHOWN	CHECKED BY:	JAS
PROJECT NO:			322-142
APPROVED BY:			JAS

DRAWING NO.: 14

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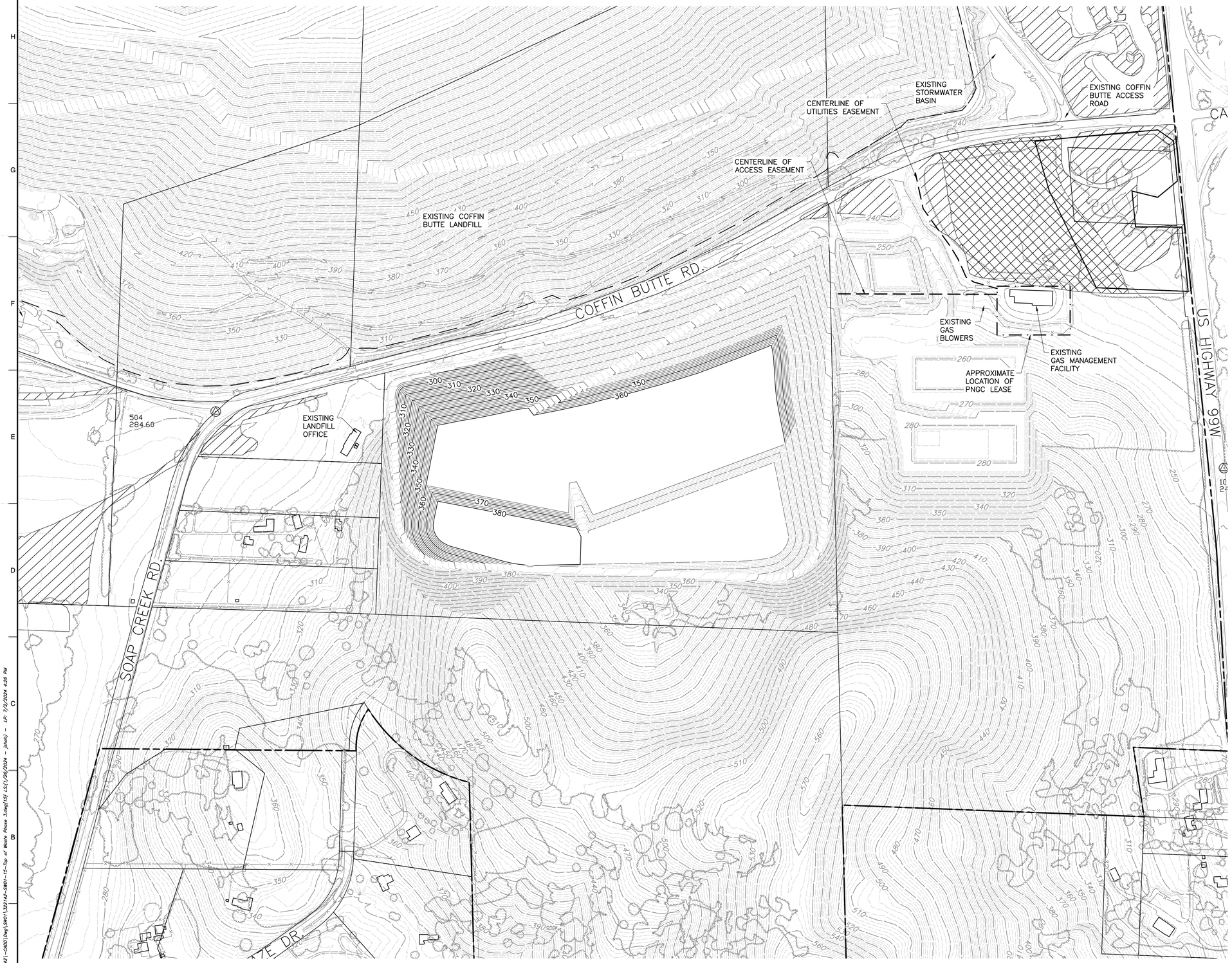

LEGEND

- PROPERTY BOUNDARY
- EXISTING LANDFILL BOUNDARY
- TAX LOT BOUNDARY
- WETLAND MITIGATION BOUNDARY
- 300 EXISTING 10-FT CONTOUR
- EXISTING 2-FT CONTOUR
- EXISTING PALUSTRINE FORESTED WETLAND
- EXISTING PALUSTRINE EMERGENT WETLAND
- 250 PROPOSED 10-FT TOP OF WASTE CONTOUR
- 254 PROPOSD 2-FT TOP OF CONTOUR

NOTES

1. TAX LOT BOUNDARIES FROM BENTON COUNTY ZONING MAP PANEL 41047C0975G, DATED 01/19/2000 (TAX LOT BOUNDARIES MAY DIFFER FROM ZONING DATED 2021).
2. PERIMETER LANDFILL ROAD WILL ONLY BE FOR PICKUP TRUCKS OR SMALLER VEHICLES.

TOP OF WASTE PHASE 3 (YEAR 7)

1. FILL VOLUME = 1,500,000 CY

NORTH

SCALE IN FEET
0 200 400

REFERENCE

AERIAL PHOTOGRAPH, TOPOGRAPHIC INFORMATION FROM AERIAL SURVEY AND GRID BY COOPER AERIAL SURVEYS COMPANY; DATE OF PHOTOGRAPHY: OCTOBER 07, 2021.

REGISTERED PROFESSIONAL ENGINEER
92360PE
OREGON
JULY 13, 2017
JEFF A. SHEPHERD
EXPIRES: 06/30/2026

REVISION RECORD

NO	DATE	DESCRIPTION

CEC
Civil & Environmental Consultants, Inc.
11811 N. Tatum Blvd., Suite 3057 · Phoenix, AZ 85028
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www.cecinc.com

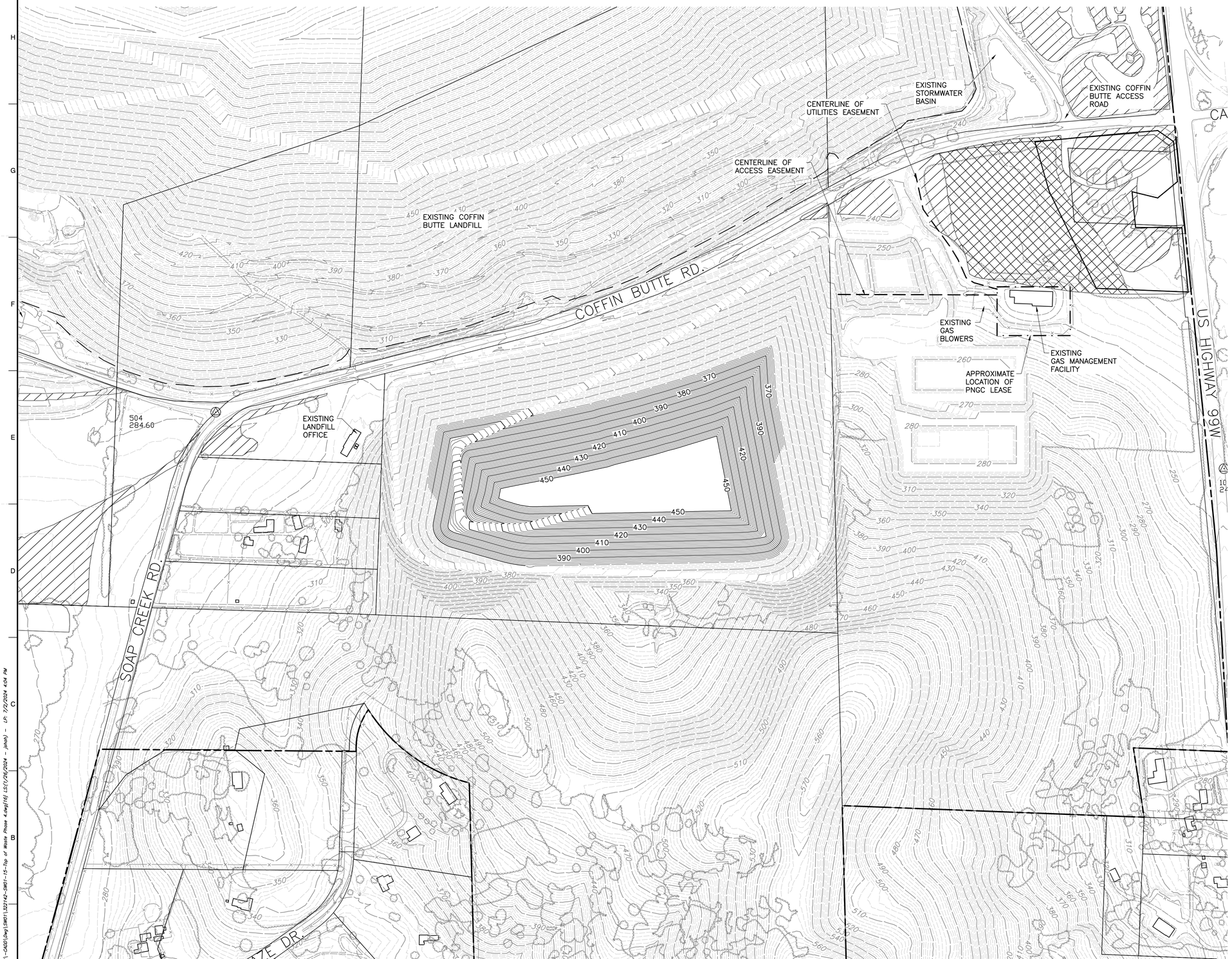
VALLEY LANDFILLS, INC.
COFFIN BUTTE LANDFILL
CONDITIONAL USE PERMIT APPLICATION
CORVALLIS, OR 97330

TOP OF WASTE PHASE 2

DATE:	JULY 2024
DWG SCALE:	AS SHOWN
PROJECT NO:	322-142
DRAWN BY:	JS
CHECKED BY:	JAS
APPROVED BY:	JAS

DRAWING NO.: 15

P:\320-0001\322-1421-CAD\Dwg\SWD\322142-SWD1-15-Top of Waste Phase 3.dwg[15] LS(1/26/2024 - jhoh) - LP: 7/2/2024 4:26 PM



LEGEND

- PROPERTY BOUNDARY
- EXISTING LANDFILL BOUNDARY
- TAX LOT BOUNDARY
- WETLAND MITIGATION BOUNDARY
- 300 EXISTING 10-FT CONTOUR
- EXISTING 2-FT CONTOUR
- EXISTING PALUSTRINE FORESTED WETLAND
- EXISTING PALUSTRINE EMERGENT WETLAND
- 250 PROPOSED 10-FT TOP OF WASTE CONTOUR
- 254 PROPOSD 2-FT TOP OF CONTOUR

NOTES

1. TAX LOT BOUNDARIES FROM BENTON COUNTY ZONING MAP PANEL 41047C0975G, DATED 01/19/2000 (TAX LOT BOUNDARIES MAY DIFFER FROM ZONING DATED 2021).
2. PERIMETER LANDFILL ROAD WILL ONLY BE FOR PICKUP TRUCKS OR SMALLER VEHICLES.

TOP OF WASTE PHASE 4 (YEAR 8-9)

1. FILL VOLUME = 1,860,000 CY

REFERENCE

AERIAL PHOTOGRAPH, TOPOGRAPHIC INFORMATION FROM AERIAL SURVEY AND GRID BY COOPER AERIAL SURVEYS COMPANY; DATE OF PHOTOGRAPHY: OCTOBER 07, 2021.

REGISTERED PROFESSIONAL ENGINEER
92360PE
OREGON
JULY 13, 2017
JEFF A. SHEPHERD
EXPIRES: 06/30/2026

REVISION RECORD

NO	DATE	DESCRIPTION

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Ph: 602.760.2324 · 877.231.2324 · Fax: 602.760.2330
www.cecinc.com

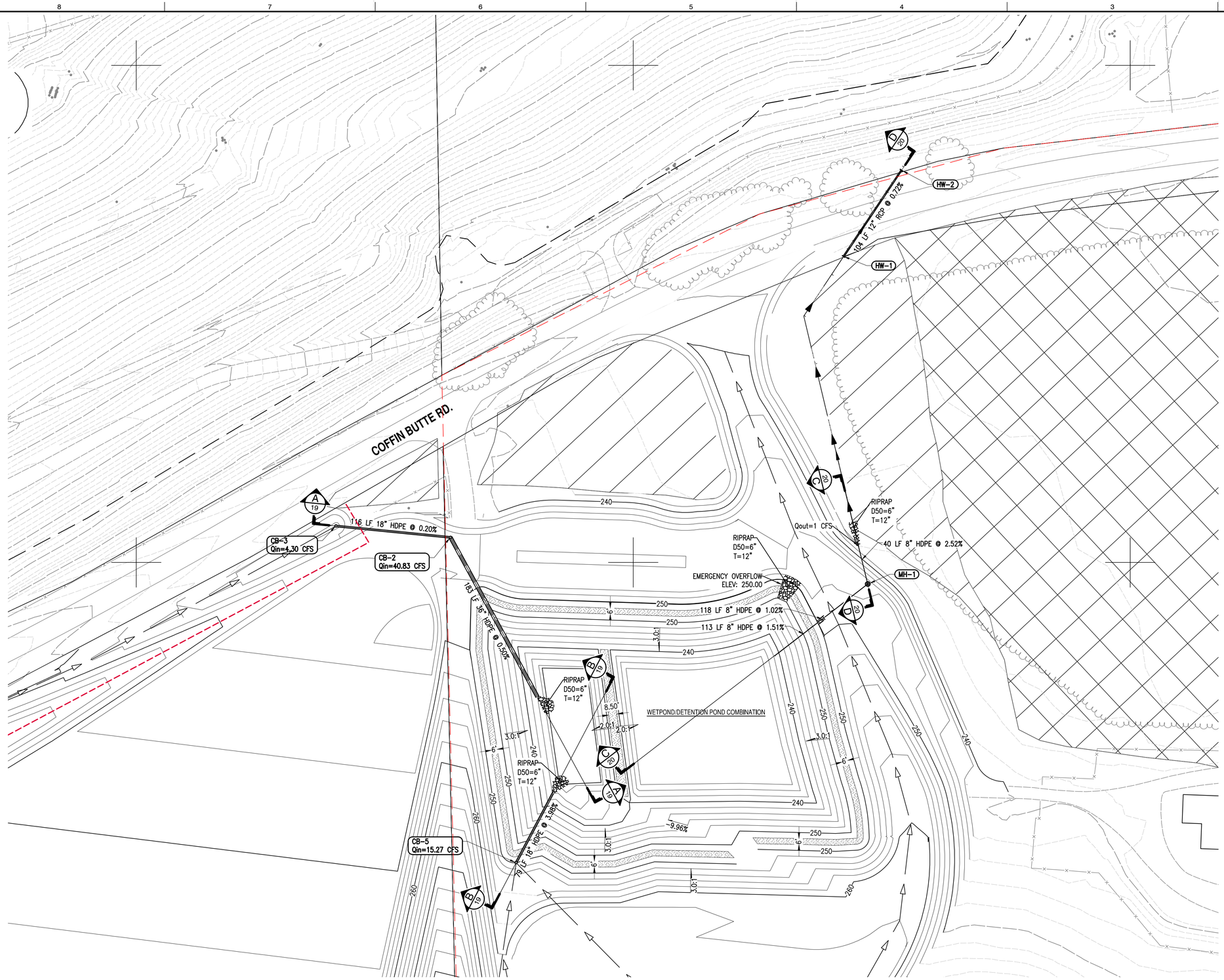
VALLEY LANDFILLS, INC.
COFFIN BUTTE LANDFILL
CONDITIONAL USE PERMIT
APPLICATION
CORVALLIS, OR 97330

TOP OF WASTE PHASE 4

DATE:	JULY 2024	DRAWN BY:	JS
DWG SCALE:	AS SHOWN	CHECKED BY:	JAS
PROJECT NO:			322-142
APPROVED BY:			JAS

DRAWING NO.: 16

P:\320-000\322-142\-CAD0\Dwg\SW01\322142-SW01-15-Top of Waste Phase 4.dwg[16] LS:(1/26/2024 - jshah) - LP: 7/2/2024 4:04 PM



LEGEND

- EXISTING GROUND ON OCTOBER 07, 2021
- PROPOSED TOP OF WASTE GRADES
- PROPOSED DEVELOPMENT AREA GRADES
- DRAINAGE SWALE
- ST — 8-INCH STORM PIPE
- FLOW PATH
- STORM PIPE > 8-INCH
- 30-INCH CATCH BASIN
- HEADWALL
- RIPRAP
- TOP OF BERM
- C — C SECTION

WETPOND / DETENTION POND COMBINATION	
REQUIRED VOLUME (Vr)	113,750 CF
PROVIDED VOLUME (Vp)	767,696 CF
POND BOTTOM	234.00
WQ DESIGN WS ELEVATION	242.00
DETENTION DESIGN WS ELEVATION	250.00
DETENTION OVERFLOW WS ELEVATION	251.00
EMERGENCY OVERFLOW WS ELEVATION	252.00

REFERENCE

AERIAL PHOTOGRAPH, TOPOGRAPHIC INFORMATION FROM AERIAL SURVEY AND GRID BY COOPER AERIAL SURVEYS COMPANY; DATE OF PHOTOGRAPHY: OCTOBER 07, 2021.

REGISTERED PROFESSIONAL ENGINEER
92360PE
OREGON
JULY 13, 2017
JEFF A. SHEPHERD
EXPIRES: 06/30/2026

REVISION RECORD

NO	DATE	DESCRIPTION

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11811 N. Tatum Blvd., Suite 3057 - Phoenix, AZ 85028
Ph: 602.760.2324 · 877.231.2324 · Fax: 602.760.2330
www.cecinc.com

VALLEY LANDFILLS, INC.
COFFIN BUTTE LANDFILL
CONDITIONAL USE PERMIT
APPLICATION
CORVALLIS, OR 97330

WETPOND-DETENTION
POND COMBINATION PLAN

DATE:	JULY 2024	DRAWN BY:	JS
DWG SCALE:	AS SHOWN	CHECKED BY:	JAS
PROJECT NO:	322-142		
APPROVED BY:	JAS		

DRAWING NO.: 17

P:\320-000\322-142\-CADD\Dwg\SW01\322142-SW01-10-Storwater Management.dwg[17] LS:(1/25/2024 - jshah) - LP: 7/2/2024 4:05 PM

LEGEND

- PROPERTY BOUNDARY
- EXISTING LANDFILL BOUNDARY
- TAX LOT BOUNDARY
- ZONING BOUNDARY
- WETLAND MITIGATION BOUNDARY
- 300 EXISTING 10-FT CONTOUR
- EXISTING 2-FT CONTOUR
- EXISTING PALUSTRINE FORESTED WETLAND
- EXISTING PALUSTRINE EMERGENT WETLAND
- 250 PROPOSED 10-FT CONTOUR
- 254 PROPOSD 2-FT CONTOUR
- PROPOSED TREES

NOTES

1. TAX LOT BOUNDARIES FROM BENTON COUNTY ZONING MAP PANEL 41047C0975G, DATED 01/19/2000 (TAX LOT BOUNDARIES MAY DIFFER FROM ZONING DATED 2021).
2. PERIMETER LANDFILL ROAD WILL ONLY BE FOR PICKUP TRUCKS OR SMALLER VEHICLES.

REFERENCE

AERIAL PHOTOGRAPH, TOPOGRAPHIC INFORMATION FROM AERIAL SURVEY AND GRID BY COOPER AERIAL SURVEYS COMPANY; DATE OF PHOTOGRAPHY: OCTOBER 07, 2021.

REGISTERED PROFESSIONAL ENGINEER
92360PE
OREGON
JULY 13, 2017
JEFF A. SHEPHERD
EXPIRES: 06/30/2026

REVISION RECORD

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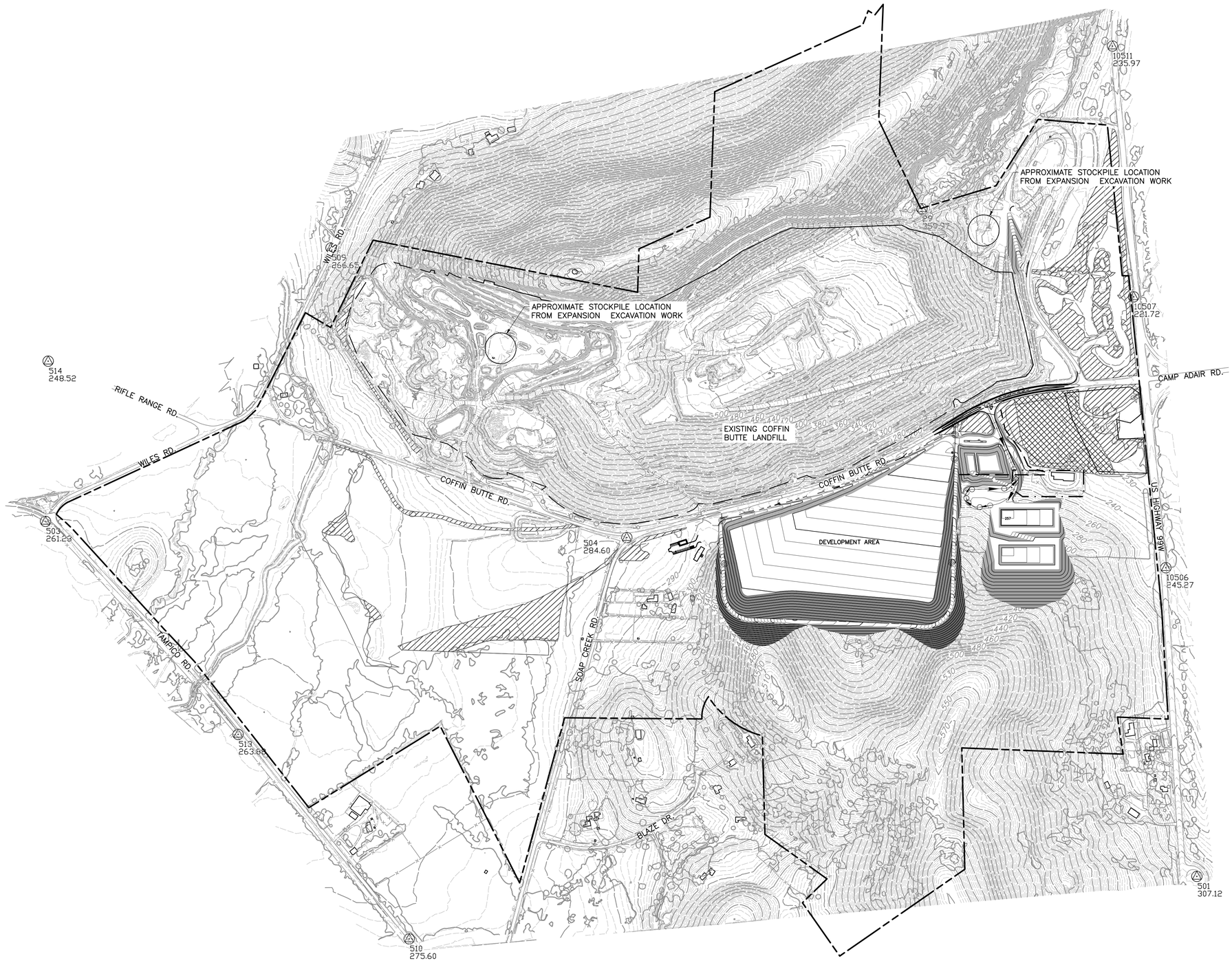
VALLEY LANDFILLS, INC.
COFFIN BUTTE LANDFILL
CONDITIONAL USE PERMIT
APPLICATION
CORVALLIS, OR 97330

LANDSCAPE PLAN

DATE:	JULY 2024	DRAWN BY:	JS
DWG SCALE:	AS SHOWN	CHECKED BY:	JAS
PROJECT NO:			322-142
APPROVED BY:			JAS

DRAWING NO.: 18

P:\320-000\322-142\-CADD\Dwg\SW01\322142-SW01-18-Landscape Plan.dwg[18] LS:(1/24/2024 - jshah) - LP: 7/2/2024 4:05 PM



LEGEND

- PROPERTY BOUNDARY
- EXISTING LANDFILL BOUNDARY
- TAX LOT BOUNDARY
- ZONING BOUNDARY
- WETLAND MITIGATION BOUNDARY
- 300 EXISTING 10-FT CONTOUR
- EXISTING 2-FT CONTOUR
- EXISTING PALUSTRINE FORESTED WETLAND
- EXISTING PALUSTRINE EMERGENT WETLAND
- 250 PROPOSED 10-FT CONTOUR

NOTES

1. TAX LOT BOUNDARIES FROM BENTON COUNTY ZONING MAP PANEL 41047C0975G, DATED 01/19/2000 (TAX LOT BOUNDARIES MAY DIFFER FROM ZONING DATED 2021).

NORTH

SCALE IN FEET

0 400 800

REFERENCE

AERIAL PHOTOGRAPH, TOPOGRAPHIC INFORMATION FROM AERIAL SURVEY AND GRID BY COOPER AERIAL SURVEYS COMPANY; DATE OF PHOTOGRAPHY: OCTOBER 07, 2021.

REGISTERED PROFESSIONAL ENGINEER 92360PE OREGON JULY 13, 2017 JEFF A. SHEPHERD

EXPIRES: 06/30/2026

REVISION RECORD

NO	DATE	DESCRIPTION

Civil & Environmental Consultants, Inc.
11811 N. Tatum Blvd., Suite 3057 - Phoenix, AZ 85028
Ph: 602.760.2324 · 877.231.2324 · Fax: 602.760.2330
www.cecinc.com

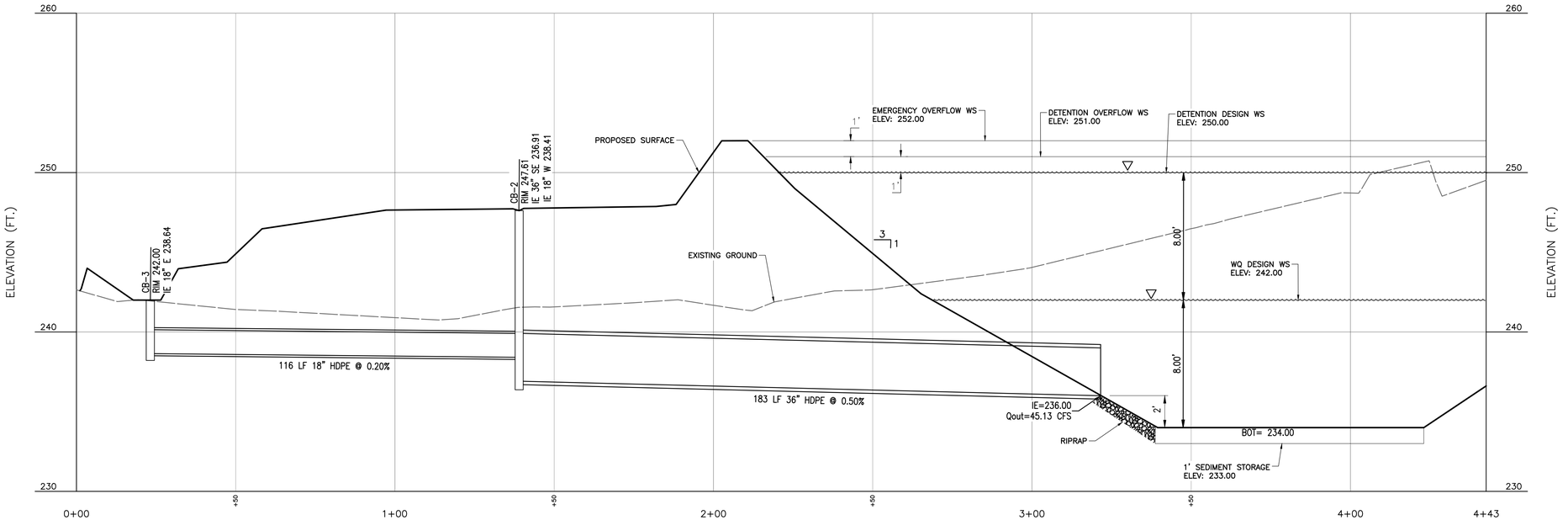
VALLEY LANDFILLS, INC.
COFFIN BUTTE LANDFILL
CONDITIONAL USE PERMIT
APPLICATION
CORVALLIS, OR 97330

STOCKPILE PLAN

DATE:	JULY 2024	DRAWN BY:	JS
DWG SCALE:	AS SHOWN	CHECKED BY:	JAS
PROJECT NO:	322-142		
APPROVED BY:	JAS		

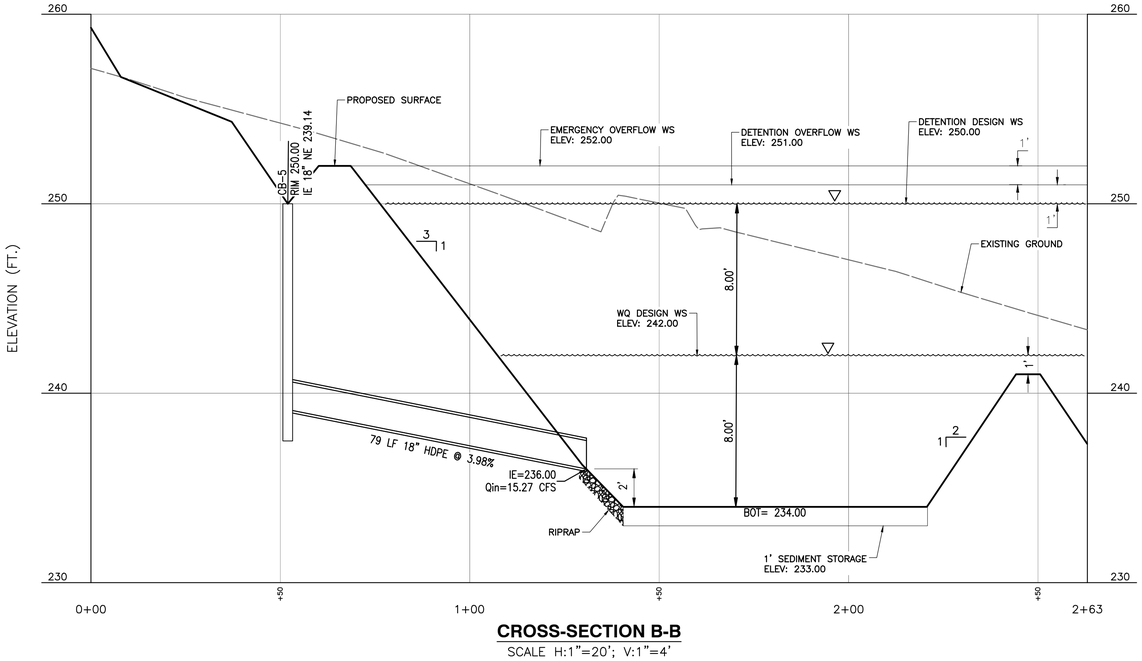
DRAWING NO.: 19

P:\320-000\322-142\-CADD\Dwg\SW01\322142-SW01-19-Stockpile Plan.dwg[19] LS:(1/26/2024 - jshah) - LP: 7/2/2024 4:15 PM



CROSS-SECTION A-A

SCALE H:1"=20'; V:1"=4'



CROSS-SECTION B-B

SCALE H:1"=20'; V:1"=4'

REFERENCE

AERIAL PHOTOGRAPH, TOPOGRAPHIC INFORMATION FROM AERIAL SURVEY AND GRID BY COOPER AERIAL SURVEYS COMPANY; DATE OF PHOTOGRAPHY: OCTOBER 07, 2021.

REGISTERED PROFESSIONAL ENGINEER
92360PE
OREGON
JULY 13, 2017
JEFF A. SHEPHERD
EXPIRES: 06/30/2026

REVISION RECORD

NO	DATE	DESCRIPTION

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VALLEY LANDFILLS, INC.
COFFIN BUTTE LANDFILL
CONDITIONAL USE PERMIT
APPLICATION
CORVALLIS, OR 97330

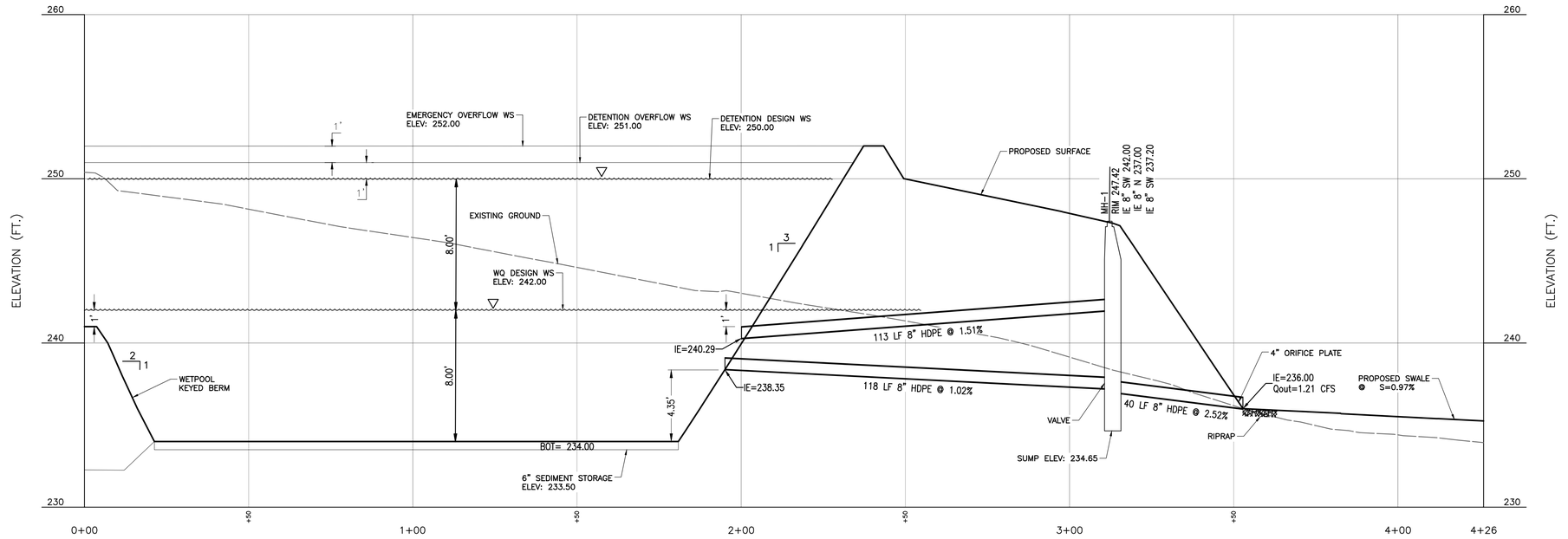
WETPOND-DETENTION POND
COMBINATION PROFILES

DATE:	JULY 2024
DWG SCALE:	AS SHOWN
PROJECT NO:	322-142
APPROVED BY:	JAS
DRAWN BY:	JS
CHECKED BY:	JAS

DRAWING NO.:

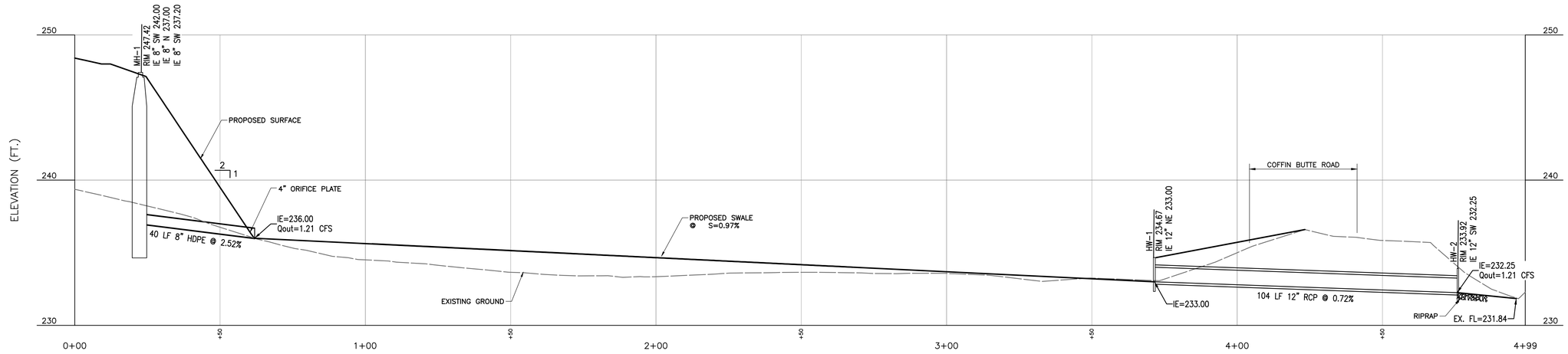
20

P:\320-0001\322-142\-CADD\Dwg\SWD\322142-SWD1-21-Cross Sections.dwg[20] LS(7/2/2024 - jshaw) - LP: 7/2/2024 4:23 PM



CROSS-SECTION C-C

SCALE H:1"=20'; V:1"=4'



CROSS-SECTION D-D

SCALE H:1"=20'; V:1"=4'

REFERENCE

AERIAL PHOTOGRAPH, TOPOGRAPHIC INFORMATION FROM AERIAL SURVEY AND GRID BY COOPER AERIAL SURVEYS COMPANY; DATE OF PHOTOGRAPHY: OCTOBER 07, 2021.

REGISTERED PROFESSIONAL ENGINEER
92360PE
OREGON
JULY 13, 2011
JEFF A. SHEPHERD
EXPIRES: 06/30/2026

REVISION RECORD

NO	DATE	DESCRIPTION

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Ph: 602.760.2324 · 877.231.2324 · Fax: 602.760.2330
www.cecinc.com

VALLEY LANDFILLS, INC.
COFFIN BUTTE LANDFILL
CONDITIONAL USE PERMIT
APPLICATION
CORVALLIS, OR 97330

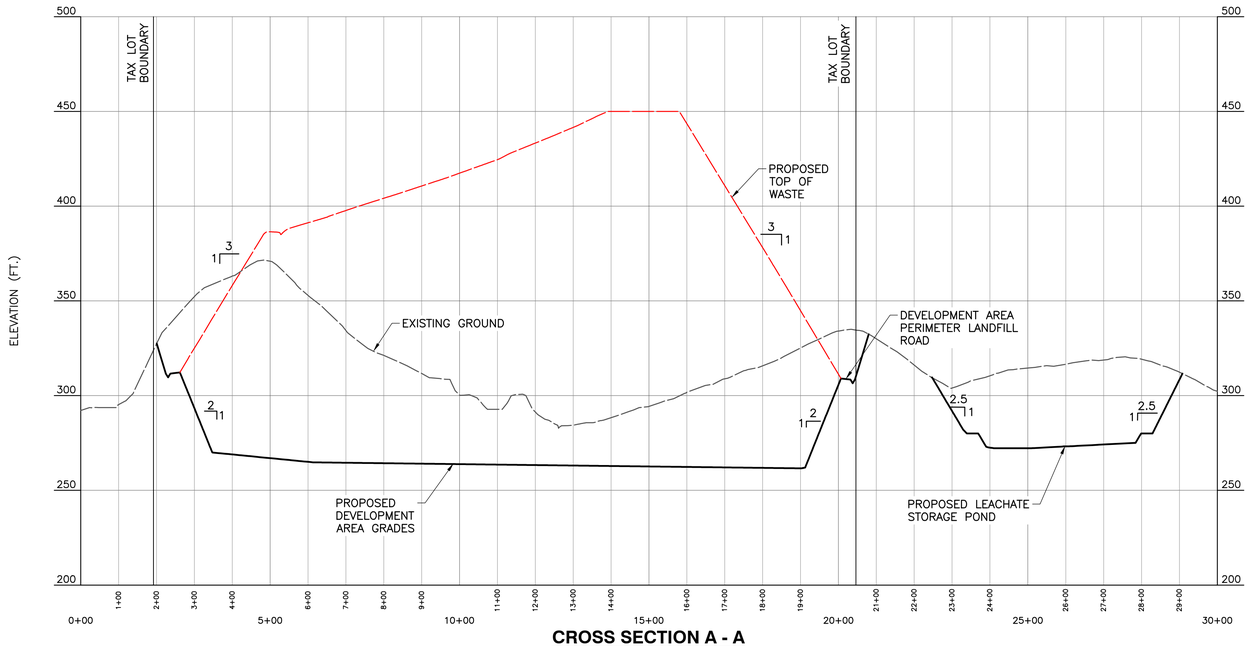
WETPOND-DETENTION POND
COMBINATION PROFILES

DATE:	JULY 2024
DWG SCALE:	AS SHOWN
PROJECT NO:	322-142
DRAWN BY:	JS
CHECKED BY:	JAS
APPROVED BY:	JAS

DRAWING NO.:

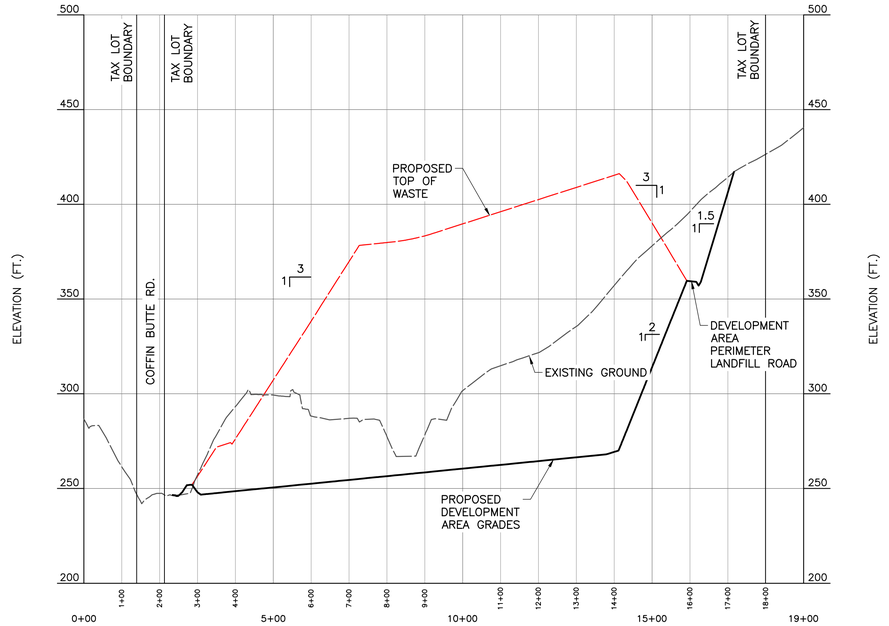
21

P:\320-000\322-142\-CADD\Dwg\SWD1\322142-SWD1-21-Cross Sections.dwg[21] LS(7/2/2024 - jshaw) - LP: 7/2/2024 4:23 PM



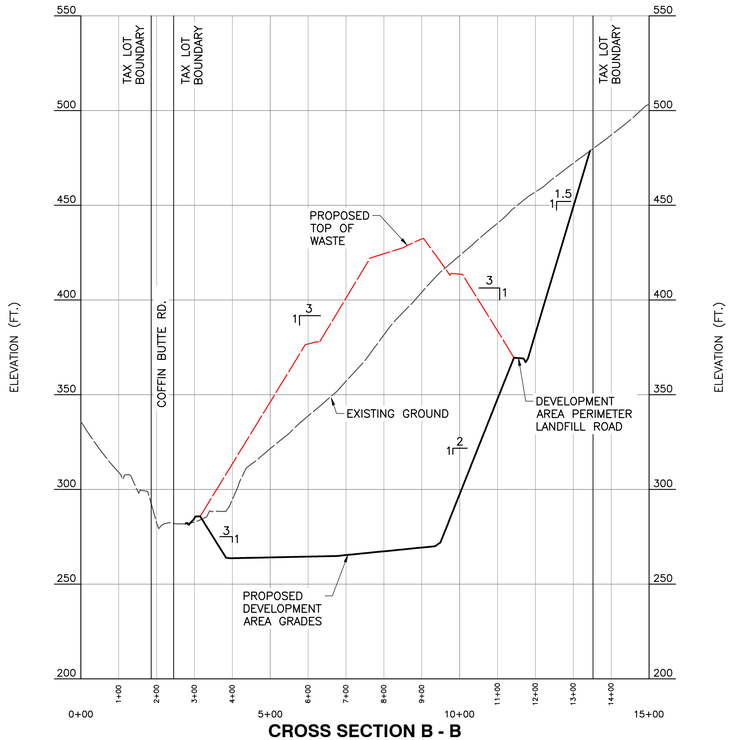
CROSS SECTION A - A

SCALE H:1"=200'; V:1"=40'



CROSS SECTION C - C

SCALE H:1"=200'; V:1"=40'



CROSS SECTION B - B

SCALE H:1"=200'; V:1"=40'

LEGEND

- EXISTING GROUND ON OCTOBER 07, 2021
- PROPOSED TOP OF WASTE GRADES
- PROPOSED DEVELOPMENT AREA GRADES

REFERENCE

AERIAL PHOTOGRAPH, TOPOGRAPHIC INFORMATION FROM AERIAL SURVEY AND GRID BY COOPER AERIAL SURVEYS COMPANY; DATE OF PHOTOGRAPHY: OCTOBER 07, 2021.

REGISTERED PROFESSIONAL ENGINEER 92360PE OREGON JULY 13, 2017 JEFF A. SHEPHERD

EXPIRES: 06/30/2026

REVISION RECORD

NO	DATE	DESCRIPTION

Civil & Environmental Consultants, Inc.
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Ph: 602.760.2324 · 877.231.2324 · Fax: 602.760.2330
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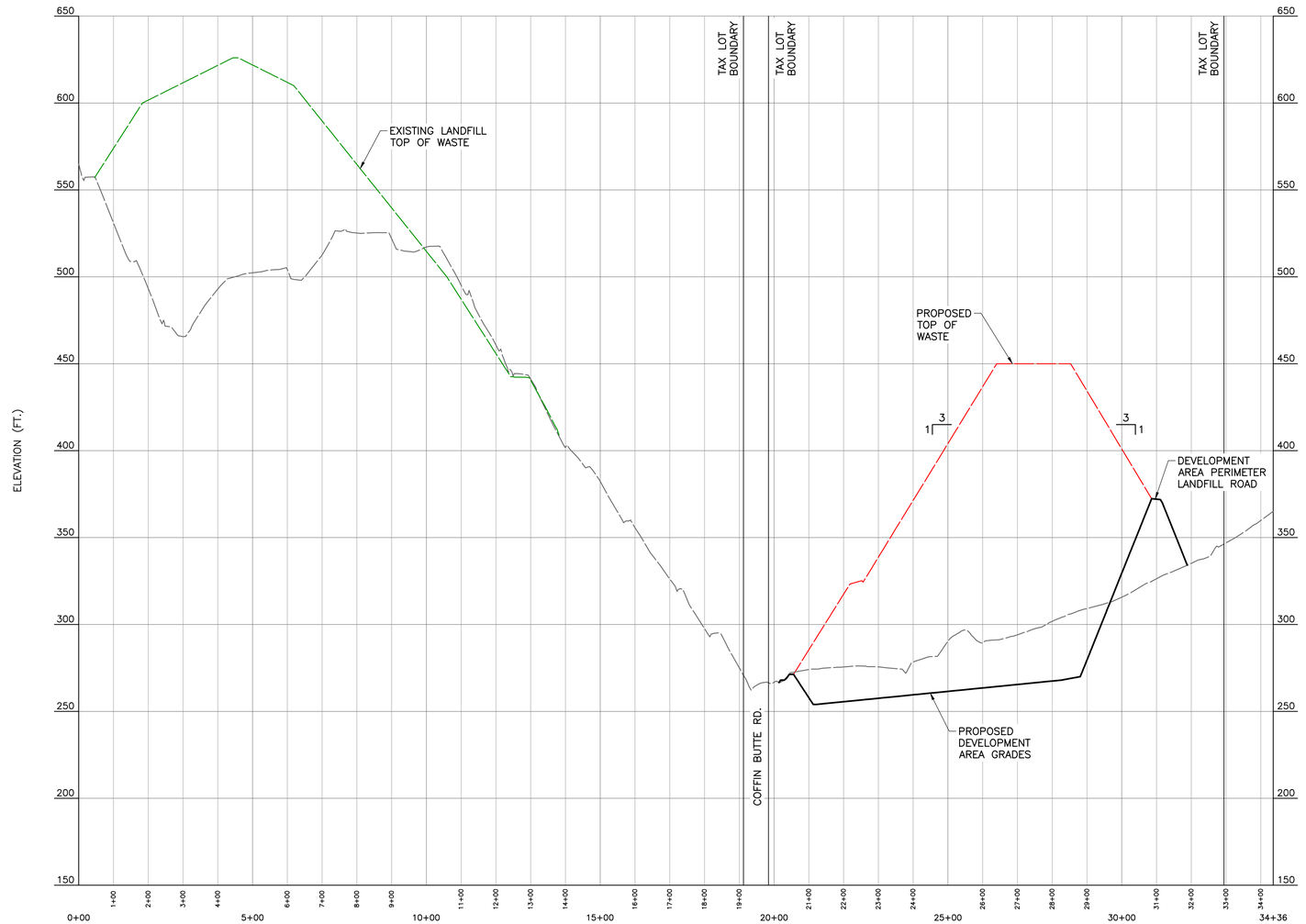
COFFIN BUTTE LANDFILL
CONDITIONAL USE PERMIT
APPLICATION
CORVALLIS, OR 97330

CROSS-SECTIONS

DATE:	JULY 2024	DRAWN BY:	JS
DWG SCALE:	AS SHOWN	CHECKED BY:	JAS
PROJECT NO:			322-142
APPROVED BY:			JAS

DRAWING NO.: 22

P:\320-000\322-142\-CADD\Dwg\SW01\322142-SW01-21-Cross Sections.dwg[22] LS:(8/6/2024 - jshah) - LP: 8/6/2024 8:33 AM



CROSS SECTION D - D

SCALE H:1"=200'; V:1"=40'

LEGEND

- EXISTING GROUND ON OCTOBER 07, 2021
- PROPOSED TOP OF WASTE GRADES
- PROPOSED DEVELOPMENT AREA GRADES

REFERENCE

AERIAL PHOTOGRAPH, TOPOGRAPHIC INFORMATION FROM AERIAL SURVEY AND GRID BY COOPER AERIAL SURVEYS COMPANY; DATE OF PHOTOGRAPHY: OCTOBER 07, 2021.

REGISTERED PROFESSIONAL ENGINEER
92360PE
OREGON
JULY 13, 2017
JEFF A. SHEPHERD
EXPIRES: 06/30/2026

REVISION RECORD

NO	DATE	DESCRIPTION

Civil & Environmental Consultants, Inc.
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Ph: 602.760.2324 · 877.231.2324 · Fax: 602.760.2330
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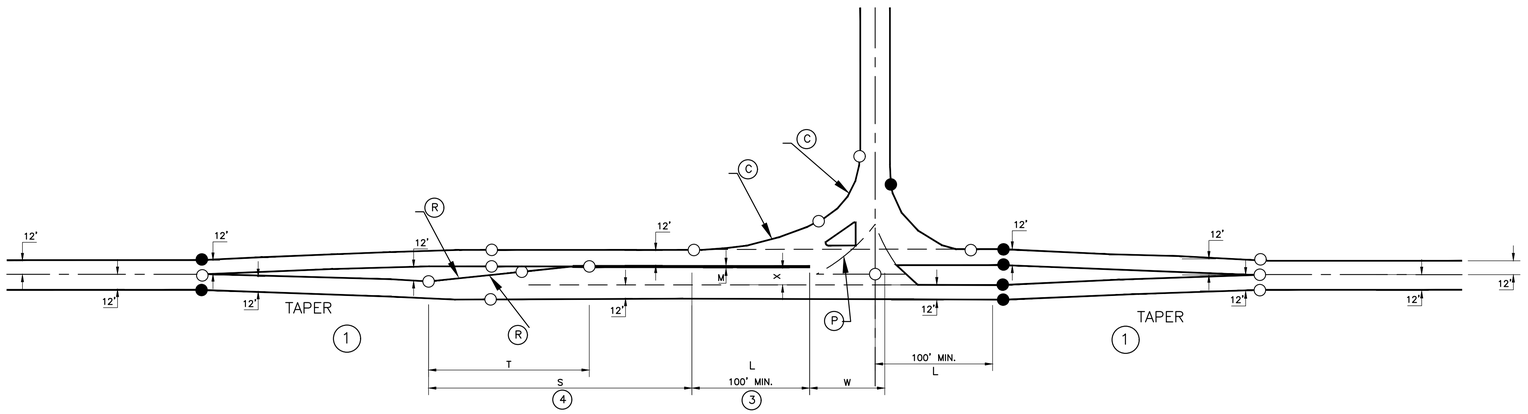
VALLEY LANDFILLS, INC.
COFFIN BUTTE LANDFILL
CONDITIONAL USE PERMIT
APPLICATION
CORVALLIS, OR 97330

CROSS-SECTIONS

DATE:	JULY 2024	DRAWN BY:	JS
DWG SCALE:	AS SHOWN	CHECKED BY:	JAS
PROJECT NO:			322-142
APPROVED BY:			JAS

DRAWING NO.: 23

P:\320-000\322-142\-CAD\Dwg\SW01\322142-SW01-21-Cross Sections.dwg\23 LS:(8/6/2024 - jshah) - LP: 8/6/2024 8:33 AM



Ⓒ THE SMALLEST RADIUS THAT WILL ACCOMMODATE THE APPROPRIATE DESIGN VEHICLE SHOULD BE USED. INTERSECTIONS ON ROUTE MAP 7 WITH MAJOR TRUCK MOVEMENT SHALL "ACCOMMODATE" THE INTERSTATE DESIGN VEHICLE. WHERE IT IS NECESSARY TO "DESIGN FOR" THE DESIGN VEHICLE, TWO-CENTERED CURVES MINIMIZE AREA OF PAVEMENT. VEHICLE TEMPLATES OR COMPUTER GENERATED PATHS SHOULD BE USED TO DETERMINE CLEARANCES. THE HDM CHAPTER 8 DISCUSSES "DESIGNING FOR" VS "ACCOMMODATING" THE DESIGN VEHICLE. IN MOST CASES, THE INTERSECTION SHOULD ONLY "ACCOMMODATE" THE DESIGN VEHICLE SINCE TIGHTER CURB RETURNS AND THUS SMALLER INTERSECTIONS ARE GENERALLY SAFER.

Ⓟ INSIDE SWEPT PATH OF APPROPRIATE DESIGN VEHICLE. VEHICLE TEMPLATES OR COMPUTER GENERATED PATHS SHOULD BE USED TO DETERMINE THE INTERSECTION WIDTH "W". THIS PATH MUST HAVE A MINIMUM 2' OFFSET FROM THE LANE LINES OF OPPOSING DIRECTION TRAFFIC.

DATA TABLE				
DESIGN SPEED (mph)	① TAPER RATE	T (FT.)	④ S (FT.)	X (FT.)
25	15:1	100	120	14
30	15:1	100	120	14
35	25:1	110	130	14
40	30:1	120	170	14
45	45:1	135	215	14
50	50:1	145	265	14
55	55:1	160	320	14
60	55:1	170	385	16
65	55:1	180	450	16
70	55:1	180	520	16

W = INTERSECTION WIDTH. 65' MINIMUM FOR 4-LEG. 90° INTERSECTIONS. SHALL BE LARGE ENOUGH TO ACCOMMODATE APPROPRIATE DESIGN VEHICLE.

T = DISTANCE TO DEVELOP LEFT TURN POCKET.

S = DECELERATION DISTANCE

L = STORAGE LENGTH

X = MEDIAN WIDTH

M = 4' WITH 16' OR WIDER MEDIAN IN CHANNELIZATION
2' WITH 14' MEDIAN IN CHANNELIZATION

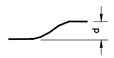
R = $T^2 + d^2 / 4 (d)$; d=LATERAL DISTANCE OF REVERSING CURVE

① TAPER RATE-SEE DATA TABLE

② SEE RIGHT TURN CHANNELIZATION FIG. 8-8

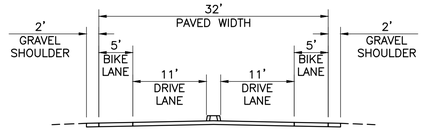
③ THE STORAGE LENGTH L SHALL BE DETERMINED BY A TRAFFIC STUDY. L SHALL NOT BE LESS THAN 100 FT (THIS WILL ACCOMMODATE ONE TRUCK AND ONE PASSENGER VEHICLE).

④ WHERE GRADES EXCEED 3%, CONSIDERATION SHOULD BE GIVEN TO ADJUSTING THE DECELERATION LENGTH (S). SEE AASHTO TABLE 10-5 FOR GUIDANCE.

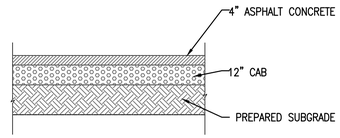


NOTE: USE STANDARD SHOULDER WIDTH THROUGH CHANNELIZED SECTION. FOR STAND ALONE SAFETY PROJECTS, THE ADJACENT SHOULDER WIDTH MAYBE USED WITH A MINIMUM OF 4' SHOULDER WIDTH FOR BICYCLE ACCOMMODATION.

FIGURE 8-9: LEFT-TURN CHANNELIZATION



TYPICAL MAJOR COLLECTOR ROAD SECTION A-A



TYPICAL MAJOR COLLECTOR PAVEMENT SECTION

STATE OF OREGON

DEPARTMENT OF TRANSPORTATION

ROADWAY ENGINEERING UNIT

LEFT TURN CHANNELIZATION

HIGHWAY DESIGN MANUAL

REFERENCE

AERIAL PHOTOGRAPH, TOPOGRAPHIC INFORMATION FROM AERIAL SURVEY AND GRID BY COOPER AERIAL SURVEYS COMPANY; DATE OF PHOTOGRAPHY: OCTOBER 07, 2021.

REGISTERED PROFESSIONAL ENGINEER
92360PE
OREGON
JULY 13, 2011
JEFF A. SHEPHERD
EXPIRES: 06/30/2026

REVISION RECORD

NO	DATE	DESCRIPTION

Civil & Environmental Consultants, Inc.
11811 N. Tatum Blvd., Suite 3057 · Phoenix, AZ 85028
Ph: 602.760.2324 · 877.231.2324 · Fax: 602.760.2330
www.cecinc.com

VALLEY LANDFILLS, INC.
COFFIN BUTTE LANDFILL
CONDITIONAL USE PERMIT
APPLICATION
CORVALLIS, OR 97330

TRAFFIC DETAILS

DATE:	JULY 2024	DRAWN BY: JS
DWG SCALE:	AS SHOWN	CHECKED BY: JAS
PROJECT NO:		322-142
APPROVED BY:		JAS

DRAWING NO.: 24

P:\320-0001\322-142\-CAD\Dwg\3901\322142-3901-22-Traffic Details.dwg[24] LS:(9/6/2024 - jshah) - LD: 9/6/2024 8:33 AM

EXHIBIT 3

VESTING DEEDS TO THE TAX LOTS CONTAINED IN THE DEVELOPMENT SITE

BENTON COUNTY, OREGON **2011-483725**
DE-SP
Stn=9 PAIGE **10/13/2011 12:26:34 PM**
$20.00 $11.00 $10.00 $17.00 $20.00 **$78.00**

I, James V. Morales, County Clerk for Benton County, Oregon, certify that the instrument identified herein was recorded in the Clerk records.
James V. Morales - County Clerk

AFTER RECORDING RETURN TO:
Williams Mullen
200 South 10th Street, 16th Floor
Richmond, Virginia 23219
Attn: David A. Reed, Esq.

0937

SPECIAL WARRANTY DEED

October 12, 2011

STATE OF OREGON §
§
COUNTY OF BENTON §

That VALLEY LANDFILLS, INC., an Oregon corporation ("Grantor"), for and in consideration of the sum of TEN AND NO/100 DOLLARS ($10.00) and other valuable consideration, the receipt of which is hereby acknowledged, has GRANTED, BARGAINED, SOLD, and CONVEYED, and by these presents does GRANT, BARGAIN, SELL and CONVEY unto VALLEY LANDFILLS, INC., an Oregon corporation ("Grantee") all of that certain lot, tract or parcel of land located in Benton County, Oregon and being more fully described on Exhibit "A" attached hereto and incorporated herein by reference.

TOGETHER WITH all improvements thereon, all personal property located at, on, upon, under or associated therewith, riparian and other water rights, oil, gas and mineral rights, and all privileges and easements appurtenant to the certain lot, tract or parcel of land described in Exhibit "A" (collectively, the "Property").

For the same consideration recited above, Grantor hereby BARGAINS, SELLS and TRANSFERS all interest, if any, of Grantor in (i) strips or gores lying adjacent to the Property and abutting or immediately adjacent properties, and (ii) any land underlying and adjacent streets or roads.

This conveyance is made subject to all covenants, easements, conditions, restrictions and other matters of record or which would be disclosed by a survey or physical inspection of the Property), but only to the extent they affect or relate to the property.

TO HAVE AND TO HOLD the Property, unto Grantee and Grantee's successors and assigns forever; and Grantor does hereby bind itself and its successors and assigns to WARRANT AND FOREVER DEFEND all and singular the Property unto Grantee, its

successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof, by, through or under Grantor, but not otherwise.

WHEREFORE, the Special Warranty Deed is executed to be effective as of the date set forth above.

GRANTOR:

VALLEY LANDFILLS, INC.,
an Oregon corporation

By: _____
Printed Name: Tim M. Benter
Title: Vice President

STATE OF Arizona §
§
COUNTY OF Maricopa §

This instrument was acknowledged before me on this 12th day of October, 2011, by Tim M. Benter, as Vice President, of Valley Landfills, Inc., an Oregon corporation, for and on behalf of said corporation.

Notary Public in and for the State of Arizona

Jessica Beatty
Printed Name of Notary Public
My Commission Expires: 5/25/2014

Notary Public State of Arizona
Maricopa County
Jessica Ann Beatty
My Commission Expires 05/25/2014

EXHIBIT "A"
The Property

RESULTANT VALLEY LANDFILLS TRACT (TL 801+ portion TL 1106)

All of that land referred to as Parcel 1 as conveyed to Valley Landfills, Inc. by deed recorded as M-236945-97, Deed Records of Benton County, Oregon;

TOGETHER WITH the following-described tract:

A tract of land in Section 18, Township 10 South, Range 4 West, Willamette Meridian, Benton County, Oregon, said tract being that "parcel of land" conveyed to Valley Landfills, Inc. by deed recorded as M-102556-88, Deed Records of Benton County, and being more specifically described as follows:

Beginning at the Northwest corner of the Monroe Hodges DLC No. 46 in said Township and Range;
THENCE along the north line of Parcel I of that land conveyed to Valley Landfills, Inc. by deed recorded as M-236945-97, Deed Records of Benton County, S 63°12'20"W 688.06 feet to a 5/8" iron rod on the west one-sixteenth line of said Section 18;
THENCE along said one-sixteenth line, N 00°02'20"E 1479.53 feet to a 5/8" iron rod;
THENCE S 27°40'17"E 800.38 feet to a 5/8" iron rod;
THENCE N 71°09'04"E 600.00 feet to a 5/8" iron rod;
THENCE N 30°15'15"E 598.74 feet to a 5/8" iron rod;
THENCE S 87°52'19"E 532.63 feet to a 5/8" iron rod on a line parallel with and 100 feet westerly of, when measure perpendicular to, the centerline of the relocated Pacific Highway West as described and conveyed to the State of Oregon by deed recorded in Book 119 at Page 836, Deed Records of Benton County;
THENCE along said parallel line, S 07°30'41"E 921.39 feet to a 5/8" iron rod at the Northeast corner of that tract conveyed to Consumers Power, Inc. by deed recorded in Book 185 at Page 214, Deed Records of Benton County;

THENCE S 89°59'11"W 209.79 feet to a 5/8" iron rod at the Northwest corner of said Consumers Power tract;
THENCE S 07°30'41"E 209.79 feet to a 5/8" iron rod at the Southwest corner thereof, being on a line parallel with and 30 feet Northerly of, when measure perpendicular to, the north line of the Monroe Hodges DLC No. 46 in said Township and Range;
THENCE along said line parallel to the Hodges DLC line, S 89°59'11"W 1132.30 feet to the Northwest corner of that 30 foot-wide strip of land described as part of Parcel I as conveyed to Valley Landfills, Inc. by deed recorded as M-236945-97, Deed Records of Benton County;
THENCE S 00°00'49"E 30 feet to a point on the westerly projection of said north line of the Hodges DLC, said point being S 89°59'11"W 30 feet from the Northwest corner of said Hodges DLC;
THENCE N89°59'11"E 30 feet to the point of beginning at said Northwest DLC corner.

The Basis of Bearings and data for this description is Benton County survey CS 8020.
16022245_1.DOC

M-142396-91

WARRANTY DEED
(Statutory Form)

GRANTOR: DONALD E. RATLIFF and MAURINE C. RATLIFF, Trustees under Declaration of Trust dated May 7, 1986

CONVEYS AND WARRANTS TO

GRANTEE: VALLEY LANDFILLS, INC., an Oregon Corporation

the following described real property free of encumbrances except as specifically set forth herein:

SEE ATTACHED EXHIBIT "A"

10-11189

10-4-18 1101

THIS INSTRUMENT WILL NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY APPROVED USES.

The true and actual consideration for this transfer stated in terms of dollars is $ 115,000.00 . However, if the actual consideration consists of or includes other property or other value given or promised, such other property or value was part of the / the whole of the (indicate which) consideration.

If grantor is a corporation, this has been signed by authority of the Board of Directors.

DATED: December 12, 1991

GRANTOR: Donald E. Ratliff
Donald E. Ratliff, Trustee
Maurine C. Ratliff
Maurine C. Ratliff, Trustee

Until a change is requested, all tax statements shall be sent to the following address:

PO BOX 807, CORVALLIS OR 97339

STATE OF OREGON, County of Benton ss.
Date: DECEMBER 12, 1991
Personally appeared the above named Donald E. Ratliff and Maurine C. Ratliff and acknowledged the foregoing instrument to be their voluntary act and deed. Before me:

Notary Public for Oregon
My commission expires: 10/28/95

STATE OF OREGON, County of ss.
Date:
Personally appeared, who being sworn, stated that he/she is the of grantor corporation and that this instrument was voluntarily signed on behalf of the corporation. Before me:

Notary Public for Oregon
My commission expires:

WARRANTY DEED

RATLIFF TO VALLEY LANDFILL INC.

AFTER RECORDING RETURN TO
VALLEY LANDFILLS INC.
PO Box 807
Corvallis OR 97339

(DON'T USE THIS SPACE: RESERVED FOR RECORDING LABEL IN COUNTIES WHERE USED.)

STATE OF OREGON, County of ss.
I certify that the within instrument was received for record on the day of , 19 , at o'clock M., and recorded in book on page
Witness my hand and seal of County affixed.

County Clerk

By Deputy

NUMBER

K-10 5001

EXHIBIT "A"

Beginning at a point which is 142.00 feet South 89°52' East and 614.31 feet North from the Southeast corner of the J. T. Hugharts Donation Land Claim No. 41 in Township 10 South, Range 4 West and No. 61 in Township 10 South, Range 5 West of the Willamette Meridian, Benton County, Oregon; running thence North 389.03 feet to an iron rod in the center line of the County Road; thence along the center of said County Road as follows: South 73°35'06" West 477.79 feet, along a spiral curve to the left (the long chord of which bears South 68°15'06" West 199.38 feet) a distance of 200.00 feet, along a 16° curve to the left (the long chord of which bears South 43°30' West 175.00 feet) a distance of 176.09 feet, and along a spiral curve to the left a distance of 56.18 feet, more or less, to a point due West of the point of beginning; thence East, leaving said County Road, 782.04 feet, more or less, to the point of beginning.

Subject to:

1. The rights of the public in and to that portion of the premises herein described lying within the limits of roads, streets and highways.

2. An easement created by instrument, including the terms and provisions thereof, Dated March 6, 1940 Recorded August 4, 1941, in Book 98, Page 446, Deed Records of Benton County, Oregon in favor of Benton-Lincoln Electric Cooperative, Inc. for Electric and telephone transmission and distribution lines; affects No specific location given.

3. Conditions, restrictions and reservations as contained in that certain deed from the United States of America to Bernard W. Hanson, et ux, recorded February February 25, 1949, in Book 125, Page 647, Deed Records of Benton County, Oregon.

4. An easement created by instrument, including the terms and provisions thereof, Dated June 4, 1971 Recorded September 27, 1971, as M-27769, Microfilm Records of Benton County, Oregon in favor of Consumers Power, Inc. for Electric and telephone transmission and distribution lines; affects Westerly boundary along Co. Rd. No. 05450.

5. An easement created by instrument, including the terms and provisions thereof, Dated August 17, 1972 Recorded November 1, 1972, as M-36153, Microfilm Records of Benton County, Oregon in favor of Consumers Power, Inc. for Electric and telephone transmission and distribution lines; affects Northerly boundary along Coffin Butte Road and Easterly boundary.

Account No.: 10-4-18 1101 Data: 005839

STATE OF OREGON } ss. 131648
County of Benton }

I hereby certify that the within instrument was received for record

'91 DEC 13 PM 2 44

and assigned № 142396 1991

in the Microfilm records of said county

Witness My Hand and Seal of County Affixed

DANIEL G. BURK
DIRECTOR OF RECORDS & ELECTIONS

By Marilyn Hamilton DEPUTY

55

M 278438-99

AFTER RECORDING, RETURN TO:

Valley Landfills Inc.
P.O. Box 807
Corvallis, Oregon 97339

Until a change is requested,
all tax statements shall be sent to:

Valley Landfills Inc.
P.O. Box 807
Corvallis, Oregon 97339

TICOR TITLE INSURANCE CO. 80-617

STATUTORY WARRANTY DEED

***Valley Landfills Inc., an Oregon Corporation*, who took title as *Valley Land Fills Inc., an Oregon Corporation* ("Grantor"), conveys and warrants to *Valley Landfills Inc., an Oregon Corporation* ("Grantee") the real property described on the attached *Exhibit A*, free of encumbrances except easements, covenants, conditions, restrictions and encumbrances of record.**

The true consideration for this conveyance is the correction of vesting.

THIS INSTRUMENT WILL NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY APPROVED USES AND TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES AS DEFINED IN ORS 30.930.

DATED this 16th day of August, 1999.

Valley Land Fills Inc.
By: [signature]
Name/Title: Duane Sorensen, President

10-4-18 (28)

STATE OF OREGON
County of Benton ***ss***

The foregoing instrument was acknowledged before me this 16th ***day of*** August***, 1999, by*** Duane Sorensen***, as*** President ***of*** Valley Land Fills***, on its behalf.***

[signature]
Notary Public for Oregon

OFFICIAL SEAL
GEORGE ABELE
NOTARY PUBLIC - OREGON
COMMISSION NO.051901
MY COMMISSION EXPIRES MAR. 07, 2000

EXHIBIT A

Legal Description

Beginning at the point of intersection of the centerline of Benton County Road No. 642 and the West line of the Monroe Hodges Donation Land Claim No. 46 in Section 18, Township 10 South, Range 4 West, Willamette Meridian, Benton County, Oregon; running thence South 3°33' East along the West line of said Donation Land Claim No. 46, 1,778.33 feet, more or less, to an iron pipe; thence North 89°52' West 1,897.40 feet to a point which is South 89°52' East, 142.00 feet from the Southeast corner of the Joseph T. Hughart Donation Land Claim No. 61; thence due North 1,003.34 feet to the centerline of said County Road No. 642; thence Northeasterly along the centerline of said County Road No. 642, 1,966.00 feet, more or less, to the point of beginning, in the County of Benton and State of Oregon.

273799

STATE OF OREGON } SS.
County of Benton

I hereby certify that the within instrument was received for record

'99DEC30 PM 1:22

AND ASSIGNED **M278438** 1999

In the microfilm records of said county

Witness My Hand and Seal of County Affixed
JOHN K. ANDERSON
County Administrative Officer

By _____ Deputy

49 5013

M278439-99

AFTER RECORDING, RETURN TO:

Valley Landfills Inc.
P.O. Box 807
Corvallis, Oregon 97339

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Corvallis, Oregon 97339

TICOR TITLE INSURANCE CO. 80-617

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DATED this 16th day of August, 1999.

Valley Landfills, Inc.
By: Duane Sorensen
Name/Title: Duane Sorensen, President

STATE OF OREGON)
) ss
County of Benton)

The foregoing instrument was acknowledged before me this 16th day of August, 1999, by Duane Sorensen, as President of Valley Landfills, Inc., on its behalf.

OFFICIAL SEAL
GEORGE ABELE
NOTARY PUBLIC - OREGON
COMMISSION NO.051901
MY COMMISSION EXPIRES MAR. 07, 2000

George Abele
Notary Public for Oregon

20 (21) 10-4-18 (2) 10-4-19

EXHIBIT A

Legal Description

TRACT A:

All that part of the following described tract of land lying and being West of U.S. Highway 99W as the same is now located:

Beginning at a point on the West boundary line of the former right of way of the Southern Pacific Co., formerly the Oregon and California Railroad Company, as said right of way was located on July 3, 1962, which point is North 27.50 chains and West 10.71 chains from the Southeast corner of Monroe Hodges Donation Land Claim No. 46, Township 10 South, Range 4 West of the Willamette Meridian, Benton County, Oregon; and running thence West 66.01 chains to the West boundary line of said claim; thence North 3°21' West on said West boundary line, 32.20 chains; thence East 48.79 chains; thence South 2°30' West 12.43 chains; thence East 20.11 chains to a point on the West boundary line of the said railroad right of way; thence South 2°30' West, along the West boundary line of the said right of way, 19.58 chains to the point of beginning.

EXCEPTING THEREFROM the following described tract, to-wit:

Beginning at a point on the South line of the tract described in deed recorded in Book 125, Page 431, Benton County Deed Records, 27.50 chains North 3°13' West, along the claim line, and 18.36 chains North 89°55' East along the South line of said tract, from the Southwest corner of the Monroe Hodges Donation Land Claim No. 46, Township 10 South, Range 4 West, of the Willamette Meridian, Benton County, Oregon; thence North 89°55' East, along the South line of said tract, 5.620 chains to the West line of the Corvallis-Monmouth State Highway; thence North 5°29' West, along the West line of said highway, 4.291 chains; thence South 89°55' West, parallel to the South line of said tract, 6.060 chains; thence South 11°12'30'' East 4.353 chains to the point of beginning.

TRACT B:

That portion of the following described property lying South of Coffin Butte Road, Benton County, Oregon.

All that part of the following described tract lying West of the Pacific Highway West (U.S. 99 West) and South of County Road No. 45-12:

Beginning at the Northwest corner of the Monroe Hodges Donation Land Claim No. 46, Township 10 South, Range 4 West of the Willamette Meridian, Benton County, Oregon; thence East 50.865 chains along the North line of said claim; thence South 2°10' West 23.02 chains; thence West 49.01 chains to the West line of said claim; thence North 3°21' West 23.05 chains to the point of beginning.

EXHIBIT A

Legal Description

EXCEPTING THEREFROM the following described tract:

Beginning at a point on the West line of Highway 99 West at a point 300 feet North along the West line of said highway from the intersection with the South line of Tract 3 of deed recorded February 4, 1957 in Book 158, Page 313, Deed Records of Benton County, Oregon, in the Monroe Hodges Donation Land Claim No. 46, Township 10 South, Range 4 West of the Willamette Meridian, Benton County, Oregon; thence West parallel to the South line of said Tract 3, a distance of 435.6 feet; thence Northerly parallel to the West line of said highway, 300 feet; thence East to a point on the West line of said highway at a point 300 feet North of the point of beginning; thence South along said highway line 300 feet to the point of beginning.

ALSO EXCEPTING from the above described property that portion thereof conveyed to the State of Oregon for highway purposes by deed from the United States of America, acting by and through the Federal Farm Mortgage Corporation, dated May 16, 1947 and recorded October 25, 1947, in Book 119, Page 836, Deed Records of Benton County, Oregon.

ALSO EXCEPTING from the above described property that portion thereof conveyed to Benton County, Oregon, for road purposes by deed from the United States of America, dated May 9, 1947, recorded August 7, 1947 in Book 118, Page 568, Deed Records of Benton County, Oregon.

273800

STATE OF OREGON } ss.
County of Benton

I hereby certify that the within instrument was received for record

'99DEC30 PM 1:22

AND ASSIGNED M278439

In the microfilm records of said county

Witness My Hand and Seal of County Affixed
JOHN K. ANDERSON
County Administrative Officer

By _____ Deputy

M278439-99

AFTER RECORDING, RETURN TO:

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P.O. Box 807
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DATED this 16th day of August, 1999.

Valley Landfills, Inc.
By: Duane Sorensen
Name/Title: Duane Sorensen, President

STATE OF OREGON)
) ss
County of Benton)

The foregoing instrument was acknowledged before me this 16th day of August, 1999, by Duane Sorensen, as President of Valley Landfills, Inc., on its behalf.

OFFICIAL SEAL
GEORGE ABELE
NOTARY PUBLIC - OREGON
COMMISSION NO.051901
MY COMMISSION EXPIRES MAR. 07, 2000

George Abele
Notary Public for Oregon

20 (21) 10-4-18 (2) 10-4-19

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EXHIBIT A

Legal Description

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273800

STATE OF OREGON } ss.
County of Benton

I hereby certify that the within instrument was received for record

'99DEC30 PM 1:22

AND ASSIGNED M278439

In the microfilm records of said county

Witness My Hand and Seal of County Affixed
JOHN K. ANDERSON
County Administrative Officer

By _____ Deputy

EXHIBIT 4

WILDLIFE HABITAT ASSESSMENT AND SURVEYS AND ADDENDUM TO THE FINAL 2024 REPORT

Photo credit: S. James

Submitted to:

Jeff Shepherd, P.E.
Civil & Environmental
Consultants, Inc.

Submitted by:
Turnstone Environmental
Consultants, Inc.
PO Box 83362
Portland, OR 97283

Submitted:

July 12, 2024

Final 2024 Report:

Wildlife Habitat Assessment and Surveys

for the Coffin Butte Landfill Expansion Project

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INTRODUCTION

Civil & Environmental Consultants, Inc. ("CEC") contracted Turnstone Environmental Consultants, Inc. ("Turnstone") to perform a wildlife study for the Coffin Butte Landfill Expansion Project Area ("Project Area"). This study seeks to understand the following:

- Avian Monitoring
  - Likelihood of usage of the Project Area by protected grassland bird species
  - Occupancy status of the great blue heron nesting in the two known rookery sites
  - Behavior of bald eagles at the Coffin Butte Landfill Expansion Project Area
- Deer and Elk Study
  - Distribution and relative importance of deer and elk habitat surrounding and within the Coffin Butte Landfill Expansion Project Area

This report describes the findings of the habitat assessment and surveys as of July 12, 2024.

AVIAN MONITORING

Turnstone developed an Avian Monitoring Plan for the Coffin Butte Landfill Expansion Project (Appendix A). Wildlife biologists Jennifer Ringo and Gregory Reed from the Oregon Department of Fish and Wildlife (ODFW) and Jennifer Weikel from the Oregon Department of Forestry (ODF) reviewed the draft plan, suggested various edits, and ultimately approved the final monitoring plan. Communications with ODFW and ODF wildlife biologists are included in Appendix B. A copy of the draft report with imbedded ODFW and ODF wildlife biologist comments are available upon request.

The methods for the surveys are described in the Avian Monitoring Plan (Appendix A). The following topics are covered during training of all avian survey personnel:

Protocol and Data Procedures:

- General safety and survey techniques
- Scheduling
- General discussion of site maps
- Proper completion of forms
- Data management schedule

Great Blue Heron and Bald Eagle Life History:

- Ethology
- Suitable habitat
- Nesting chronology

Survey Procedures

- Basic flight patterns and vocalizations of the great blue heron and bald eagle
- Protocol and non-protocol weather conditions

Orienteering:

- GPS, UTM coordinates, map, and compass use
- Orthophoto interpretation

Grassland Bird Habitat

The project area contains closed landfill cells with open areas dominated by graminoids. These closed landfill cells are potential habitat for grassland birds, including the streaked horned lark (*Eremophila alpestris strigata*), a species protected by the Endangered Species Act of 1973.

In January of 2022, Turnstone ecologist Stephanie James visited the potential grassland bird habitat with ODFW grassland bird specialist Anne Mary Myers and ODFW wildlife biologist Gregory Reed to assess the likelihood of protected bird species using the Project Area as foraging and/or nesting habitat. Weather conditions were agreeable to observing the nest sites, with no rain or fog to impede visibility.

ODFW biologists determined the potential grassland habitat and rock quarry areas north of Coffin Butte Road are not likely used as nesting habitat by protected grassland birds, specifically the streaked horned lark (*Eremophila alpestris strigata*) and Oregon vesper sparrow (*Pooecetes gramineus* ssp. *affinis*); therefore, species-specific surveys for grassland birds are not needed.

Great Blue Heron Rookery Monitoring

Turnstone biologists are monitoring two great blue heron rookeries located within the Coffin Butte Landfill Expansion Project Area (Figure 1). In 2022 and 2023, Turnstone biologists conducted six reproductive productivity surveys each year for nesting great blue herons in the two known rookery locations. In 2024, at the time this report was finalized (July 12, 2024), Turnstone biologists have completed five out of six planned reproductive surveys. The survey forms for all years of monitoring are in Appendix C.

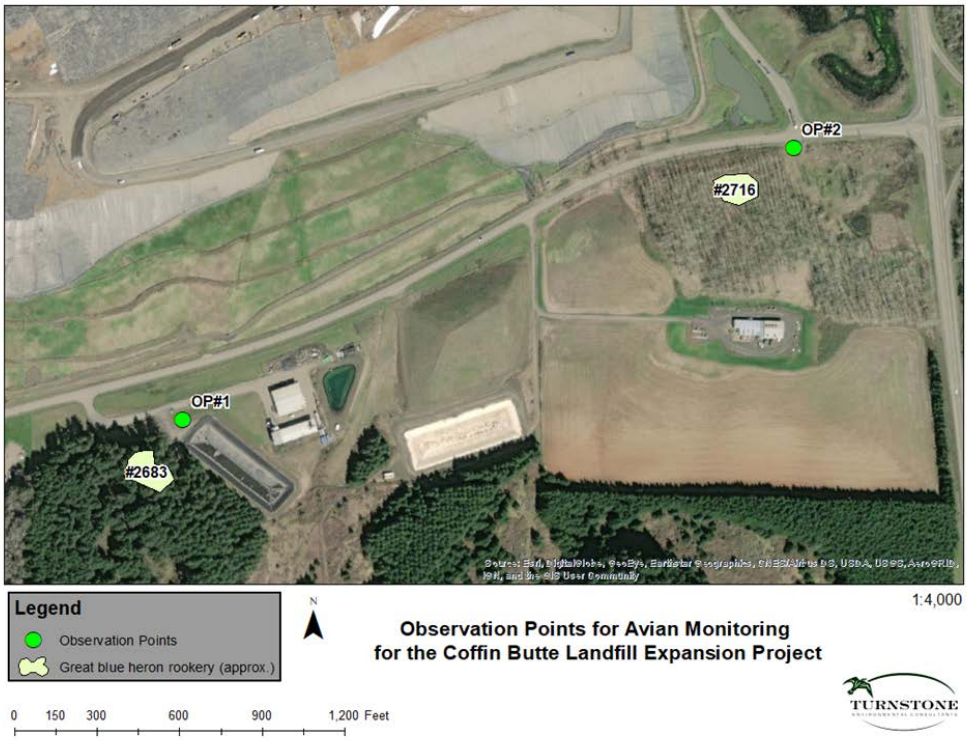

Figure 1. Great Blue Heron Rookeries in the Project Area and Observation Points

Year 1 Surveys (2022)

Turnstone biologists conducted six daytime surveys at each rookery site from February 17 through August 15, 2022 (Table 1 and Table 2). Turnstone biologists did not observe or detect any great blue herons nesting during any of the six visits at the western rookery (#2683). All surveys were conducted during mild weather conditions. One red-tailed hawk was observed several times during the survey and may be nesting in one of the potentially abandoned heron stick nests.

The great blue herons at the eastern site (#2716) occupied 14 stick nests during the first three surveys, from February through the end of April. The herons were generally standing and building on the nests, indicating a nest building period and possibly the initiation of an incubation period. In June, bald eagle juveniles invaded the colony and were observed moving between 10 of the 14 nests. All surveys were conducted during mild weather conditions.

Table 1. 2022 Great Blue Heron Survey Results for the Western Rookery (#2683)

Observation Period	Survey Date	Surveyor	Results of Reproductive Monitoring	
			Great Blue Heron	Other Birds Observed in Nests [1]
2/15 to 3/15	2/17	Stephanie James	10 inactive nests	RTHA
3/15 to 4/15	3/22	Stephanie James	10 inactive nests	RTHA
4/15 to 5/15	4/28	Stephanie James	10 inactive nests	RTHA
5/15 to 6/15	6/01	Stephanie James	10 inactive nests	RTHA
6/15 to 7/15	7/12	Stephanie James	10 inactive nests	RTHA
7/15 to 8/15	8/15	Stephanie James	10 inactive nests	RTHA, BAEA

Table 2. 2022 Great Blue Heron Survey Results for the Eastern Rookery (#2716)

Observation Period	Survey Date	Surveyor	Results of Reproductive Monitoring	
			Great Blue Heron	Other Birds Observed in Nests
2/15 to 3/15	2/17	Stephanie James	1 active nest	None
3/15 to 4/15	3/22	Stephanie James	11 active nests	None

[1] RTHA = red-tailed hawk, BAEA = bald eagle, CORA = common raven

Observation Period	Survey Date	Surveyor	Results of Reproductive Monitoring	
			Great Blue Heron	Other Birds Observed in Nests
4/15 to 5/15	4/28	Stephanie James	14 active nests	None
5/15 to 6/15	6/01	Stephanie James	14 inactive nests	BAEA
6/15 to 7/15	7/12	Stephanie James	14 inactive nests	None
7/15 to 8/15	8/15	Stephanie James	14 inactive nests	None

Year 2 Surveys (2023)

Biologists conducted six daytime surveys at each rookery site from March 1 through July 21, 2023 (Table 3 and Table 4). Turnstone biologists did not observe or detect any great blue herons nesting during any of the six visits at the two observation points. All surveys were conducted during mild weather conditions.

Table 3. 2023 Great Blue Heron Survey Results for the Western Rookery (#2683)

Observation Period	Survey Date	Surveyor	Results of Reproductive Monitoring	
			Great Blue Heron	Other Birds Observed in Nests
2/15 to 3/15	3/01	Stephanie James, Sarah McCord	10 inactive nests	CORA, RTHA, BAEA
3/15 to 4/15	3/31	Sarah McCord	10 inactive nests	RTHA, BAEA
4/15 to 5/15	5/05	Sarah McCord	10 inactive nests	RTHA
5/15 to 6/15	5/19	Sarah McCord	10 inactive nests	RTHA
6/15 to 7/15	6/16	Sarah McCord	10 inactive nests	RTHA
7/15 to 8/15	7/21	Sarah McCord	10 inactive nests	RTHA

Table 4. 2023 Great Blue Heron Survey Results for the Eastern Rookery (#2716)

Observation Period	Survey Date	Surveyor	Results of Reproductive Monitoring	
			Great Blue Heron	Other Birds Observed in Nests
2/15 to 3/15	3/01	Stephanie James, Sarah McCord	13 inactive nests	RTHA
3/15 to 4/15	3/31	Sarah McCord	13 inactive nests	RTHA
4/15 to 5/15	5/05	Sarah McCord	13 inactive nests	None
5/15 to 6/15	5/19	Sarah McCord	13 inactive nests	BAEA
6/15 to 7/15	6/16	Sarah McCord	13 inactive nests	None
7/15 to 8/15	7/21	Sarah McCord	13 inactive nests	None

Year 3 Surveys (2024)

At the time of the finalization of this report (July 12, 2024), Turnstone biologists had conducted five of the six required daytime surveys at each rookery site from February 22 through June 28, 2024 (Table 3). Turnstone biologists did not observe any great blue herons using the stick nests for nesting during any of the six visits at the two observation points. All surveys were conducted during mild weather conditions.

Table 5. 2024 Great Blue Heron Survey Results for the Western Rookery (#2683)

Observation Period	Survey Date	Surveyor	Results of Reproductive Monitoring	
			Great Blue Heron	Other Birds Observed in Nests
2/15 to 3/15	2/22	Sarah McCord	10 inactive nests	None
3/15 to 4/15	4/4	Sarah McCord	10 inactive nests	None
4/15 to 5/15	4/19	Sarah McCord	10 inactive nests	None
5/15 to 6/15	5/30	Sarah McCord	10 inactive nests	None
6/15 to 7/15	6/28	Sarah McCord	10 inactive nests	None
7/15 to 8/15	TBD	TBD	TBD	TBD

Table 6. 2024 Great Blue Heron Survey Results for the Eastern Rookery (#2716)

Observation Period	Survey Date	Surveyor	Results	
			Great Blue Heron	Other Birds Observed in Nests
2/15 to 3/15	2/22	Sarah McCord	13 inactive nests	None
3/15 to 4/15	4/4	Sarah McCord	13 inactive nests	None
4/15 to 5/15	4/19	Sarah McCord	13 inactive nests	None
5/15 to 6/15	5/30	Sarah McCord	13 inactive nests	None
6/15 to 7/15	6/28	Sarah McCord	13 inactive nests	None
7/15 to 8/15	TBD	TBD	TBD	TBD

Conclusion

Western Rookery (#2683)

During two years of protocol surveys (2022-2023), Turnstone biologists observed no active nesting by great blue herons within the western rookery (#2683). Three bird species were recorded visiting the stick nests during that time, including the common raven (*Corvus corax*), red-tailed hawk (*Buteo jamaicensis*), and bald eagle. A pair of red-tailed hawks were present during each survey, acting defensively, and are likely nesting in the in an abandoned stick nest the rookery in 2023.

Turnstone is continuing surveys in Year 3 (2024) to confirm the abandoned status, which requires three consecutive years of inactive status. At the time this report was finalized (July 12, 2024), Turnstone biologists completed five of the six required surveys. No nesting herons were observed as yet in 2024.

The western rookery is likely abandoned by great blue herons; however, the official status of the heron nests cannot be determined until the conclusion of the final sixth survey in 2024. Once the final visit is complete, Turnstone will submit an addendum to this report with the results.

Eastern Rookery (#2716)

During Year 1 (2022) surveys, Turnstone biologists observed active nesting by great blue herons within the eastern rookery (#2716) during the first three survey periods; however, in early June the colony had failed, and juvenile bald eagles were observed visiting the majority of the nests.

A red-tailed hawk pair was observed nesting in an abandoned stick nest in the rookery in Year 2 (2023). No great blue herons were observed in the eastern rookery (#2716) during any of the six 2023 reproductive productivity surveys; therefore, the rookery is considered inactive for 2023.

As with the western rookery, the eastern rookery is likely also abandoned by great blue herons. The official status of the heron nests cannot be determined until the conclusion of the final sixth survey in 2024. Once the final visit is complete, Turnstone will submit an addendum to this report with the results.

Mitigation and Protection Strategy for Great Blue Heron

As of the date of this final report, biologists have not observed any great blue heron nesting activity in the western rookery (#2683), which would be removed by the Landfill Expansion Project. If it is determined that there might be nesting activity during the final sixth survey of 2024, then mitigation measures would be implemented with the guidance of the state biologists with ODFW and ODF for compliance with state laws governing protections of resource sites.

If herons are found to be using the eastern rookery (#2716) during the final survey of 2024, then a Protection Strategy would be implemented during the Landfill Expansion Project activities, using a two-tiered approach with protection within the rookery itself (resource site) and within a buffer zone. This strategy provides effective protection within the rookery while allowing compatible activities at greater distances.

The relatively flat forested structure of the eastern rookery (#2716), existing tall hardwood trees in the contiguous forest extending away from Coffin Butte Road, and high human activity surrounding the rookery affect the shape of the buffer zones. The strategy for protecting the eastern rookery (#2716) includes providing protections within the resource site and a buffer zone extending 300 feet, measured from the perimeter of the rookery (Figure 2).

Great Blue Heron Rookery (within resource site)

The extent of the great blue heron rookery resource site was mapped on the ground to include active nest trees. Within the resource site, the land managers would retain all trees. There would be no habitat modification, such as overstory tree removal, vegetation clearing, construction of new roads, trails, buildings. Only actions allowed within the resource site would be deemed necessary by ODFW and the State Forester for improving the nesting habitat.

Vegetated Buffer Zone (within 300-ft buffer)

The Vegetated Buffer Zone would occur within the contiguous hardwood forest area which includes key components, perching and fledging trees, and replacement trees. No habitat modification, such as timber cutting, vegetation clearing, and development of new roads, trails, or buildings would occur within this zone.

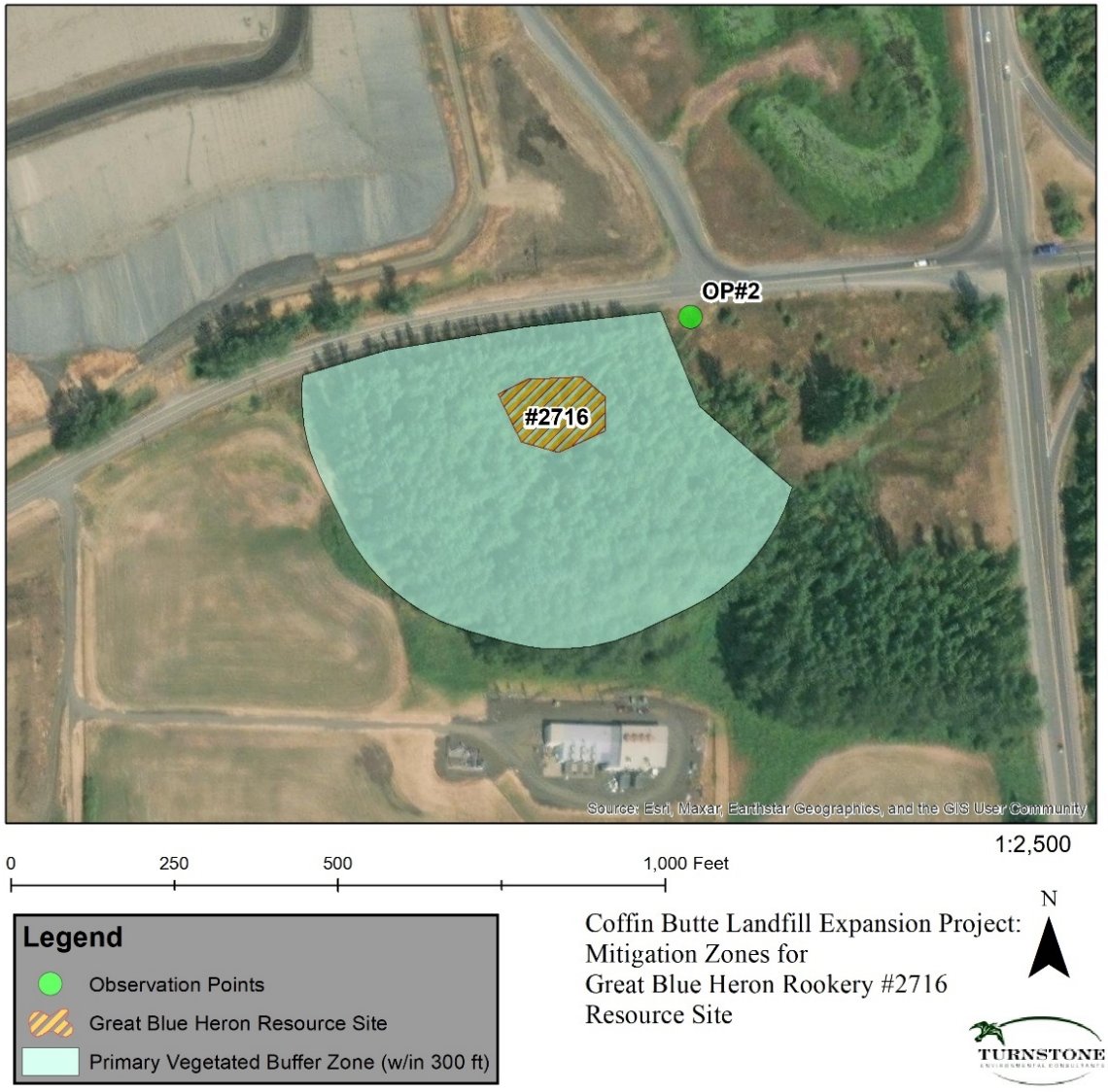

Figure 2. Great Blue Heron Protection Zone Surrounding the Eastern Rookery #2716

Due to the proximity of a high-use road, the great blue herons using the eastern rookery are likely habituated to the traffic noise; therefore, vehicular use of Coffin Butte Road within 300 feet of the rookery would be allowed during the great blue heron nesting period (February 15th to July 31st). The highest priority for protections within the Primary Vegetated Buffer Zone is the forest cover located between the resource site and Coffin Butte Road which acts as a visual screen. Forest management activities would only occur within the Primary Vegetated Buffer Zone with the approval of ODFW and the State Forester and for the enhancement of great blue heron nesting habitat. These enhancements may include tree topping to reduce windthrow potential and would only occur outside of the great blue heron nesting period (February 15th to July 31st).

Bald Eagle Activity

Turnstone conducted monthly monitoring of the behavior of bald eagles within Coffin Butte Landfill Expansion Project Area. The methods for the surveys are described in the Avian Monitoring Plan (Appendix A).

Year 1 (2022)

Turnstone biologists completed five surveys in 2022 for bald eagles during mild weather conditions which allowed for good visibility of the entire Coffin Butte Landfill Expansion Project Area. Biologists observed foraging and soaring behaviors in groups of eagles with as many as eleven juvenile bald eagles and six adult bald eagles. Biologists did not observe any bald eagles using nest sites within the study area.

Table 7. 2022 Bald Eagle Survey Results

Observation Period	Survey Date	Surveyor	Highest Number of Bald Eagles Observed at One Time	
			Juveniles	Adults
2/15 to 3/15	2/17	Stephanie James	4	6
3/15 to 4/15	3/22	Stephanie James	4	6
4/15 to 5/15	4/28	Stephanie James	4	6
5/15 to 6/15	6/01	Stephanie James	4	6
6/15 to 7/15	7/12	Stephanie James	4	6

Year 2 (2023)

Turnstone biologists completed five surveys in 2023 for bald eagles during mild weather conditions which allowed for good visibility of the entire Coffin Butte Landfill Expansion Project Area. Biologists observed foraging and soaring behaviors in groups of eagles with as many as four juvenile bald eagles and six adult bald eagles. Biologists did not observe any bald eagles using nest sites within the study area.

Table 8. 2023 Bald Eagle Survey Results

Observation Period	Survey Date	Surveyor	Highest Number of Bald Eagles Observed at One Time	
			Juveniles	Adults
2/15 to 3/15	2/17	Stephanie James, Sarah McCord	5	6
3/15 to 4/15	3/22	Sarah McCord	11	3

Observation Period	Survey Date	Surveyor	Highest Number of Bald Eagles Observed at One Time	
			Juveniles	Adults
4/15 to 5/15	4/28	Sarah McCord	3	2
5/15 to 6/15	6/01	Sarah McCord	5	3
6/15 to 7/15	7/12	Sarah McCord	0	0

Year 3 (2024)

Turnstone biologist Sarah McCord has completed all five surveys in 2024 for bald eagles during mild weather conditions which allowed for good visibility of the entire Coffin Butte Landfill Expansion Project Area. McCord observed roosting, foraging, and soaring behaviors in groups of eagles with as many as seven (7) juvenile bald eagles and (10) adult bald eagles.

McCord observed a golden eagle flying over the landfill with a blond nape and white based primaries during the first visit on February 22, 2024. Biologists did not observe any bald or golden eagles using nest sites within the study area in 2024.

Table 9. 2024 Bald Eagle Survey Results

Observation Period	Survey Date	Surveyor	Highest Number of Bald Eagles Observed at One Time	
			Juveniles	Adults
2/15 to 3/15	2/17	Sarah McCord	3	1
3/15 to 4/15	3/22	Sarah McCord	2	1
4/15 to 5/15	4/28	Sarah McCord	7	10
5/15 to 6/15	6/01	Sarah McCord	4	4
6/15 to 7/15	7/12	Sarah McCord	2	2

Conclusion

During three years (2022, 2023, and 2024) of monitoring bald eagle activity within the Coffin Butte Landfill Expansion Project Area, Turnstone biologists observed bald eagle juveniles and adults foraging, soaring, gliding, calling, and perching in adjacent trees. No bald eagles were observed nesting during any of the five surveys in each year; therefore, bald eagles are not likely nesting in the Coffin Butte Landfill Expansion Project.

DEER AND ELK STUDY

Turnstone is tasked with gathering existing information, performing field reconnaissance, and conducting a review of the use of the Coffin Butte Landfill Expansion Project Area by resident and/or migratory Columbian black-tailed deer (*Odocoileus hemionus columbianus*) and Roosevelt elk (*Cervus canadensis roosevelti*). The elk study uses a two-phase approach to gather information on deer and elk near the Project Area, integrating remote sensing, regional habitat analysis, and field reconnaissance by wildlife biologists.

The first phase of the deer and elk study includes a review of existing information, which is ongoing. The second phase of the deer and elk study included gathering additional baseline habitat data through field reconnaissance which aids in establishing locations for an array of trail cameras to document seasonal timing of deer and elk movement.

Habitat Assessment

The findings of this interim report are based on the information gathered during field investigation, recent aerial photographs, and the desktop evaluation of spatial data, including anecdotal observations within the 804-acre deer and elk Study Area, which includes all Coffin Butte Landfill Properties. The Deer and Elk Assessment Area includes the areas within a 5-mile radius of the Coffin Butte Study Area. The surrounding 5-mile Assessment Area includes 67,577 acres (Figure 3).

Turnstone wildlife biologists and geographic information system (GIS) analysts reviewed deer and elk habitat mapping created by ODFW in 2017.

The ODFW habitat categorization includes five habitat types with the following characteristics:

- **Summer Concentration Areas (Category 2):** provide essential and limited functions and values for concentrated migratory deer or elk typically from May through October
- **Winter Concentration Areas (Category 2):** provide essential and limited functions and values for concentrated migratory deer or elk typically from November through April
- **Year-round Major Habitat (Category 3):** provide essential functions and values for non-migratory deer or elk; not limited on a physiographic basis
- **Year-round Peripheral Habitat (Category 4):** provide important, but not essential functions and values for deer or elk
- **Impacted habitat (Category 4):** areas where the presence of deer and elk are considered in conflict with primary land uses

Deer and Elk Habitat Assessment Results

The study area contained no summer or winter concentration areas, which are essential for deer and elk that exhibit predominantly migratory behavior. These summer and winter concentration areas provide essential functions, such as thermal cover, protection from predation, and calving and fawning areas that are generally limited on the landscape. Over half of the surrounding 5-mile Assessment Area is considered Impacted Habitat, which are generally developed areas.

Year-round Major Habitat, which provides essential but not limited habitat for non-migratory deer and elk, occurs within about 27-percent of the surrounding 5-mile Assessment Area but

does not occur within the Coffin Butte study area. One hundred percent of the Coffin Butte study area is considered Year-round Peripheral Habitat, which provides important but not essential or limited functions, such as cover and forage. Table 10 summarizes the extent of elk habitat types within the Coffin Butte Study Area and surrounding 5-mile Assessment Area.

Turnstone biologists agree with the 2017 ODFW habitat mapping that found the deer and elk habitat within the Coffin Butte Study Area is likely important but not essential habitat for resident and migratory deer and elk populations.

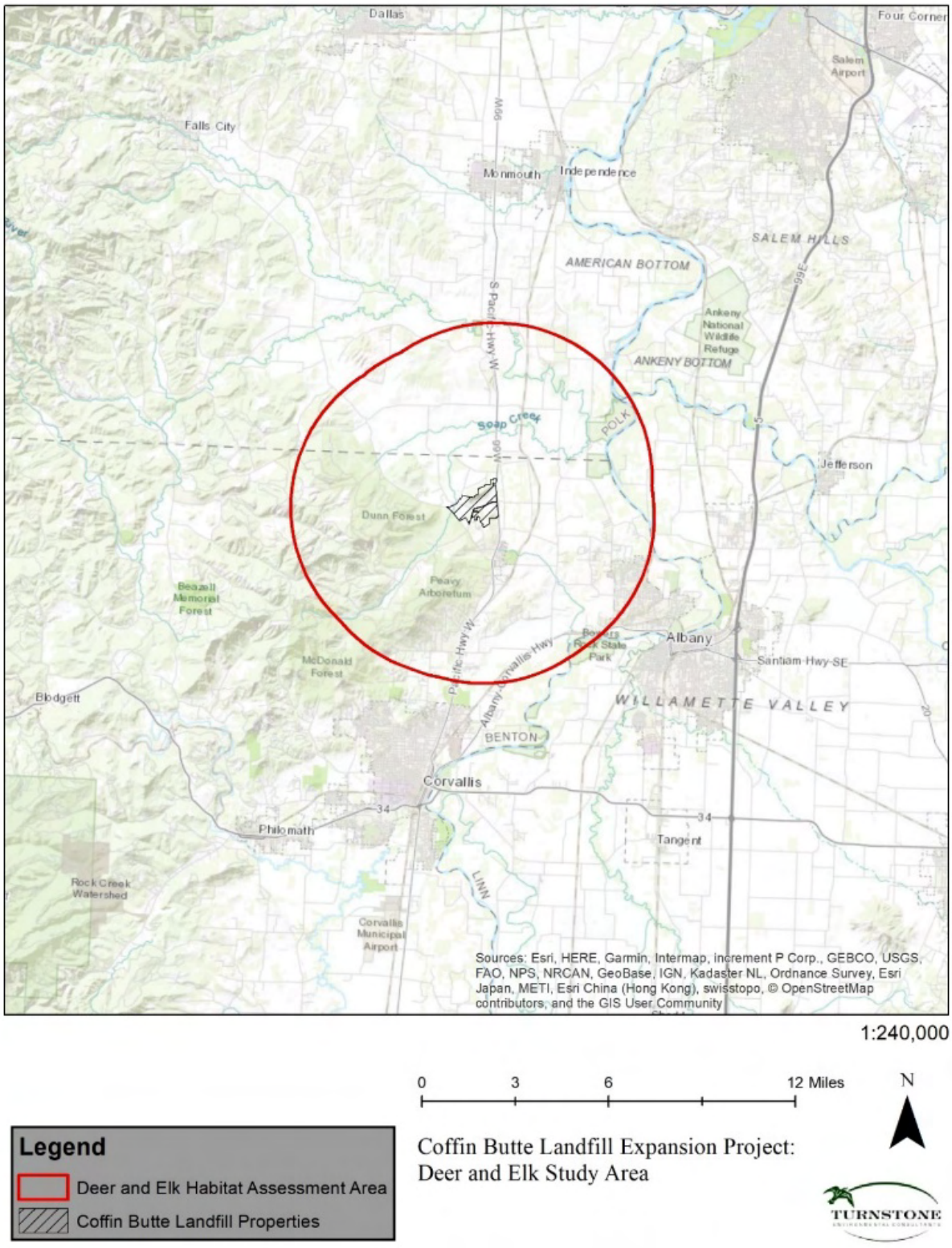

Figure 3. Study Area for the Elk Habitat Assessment

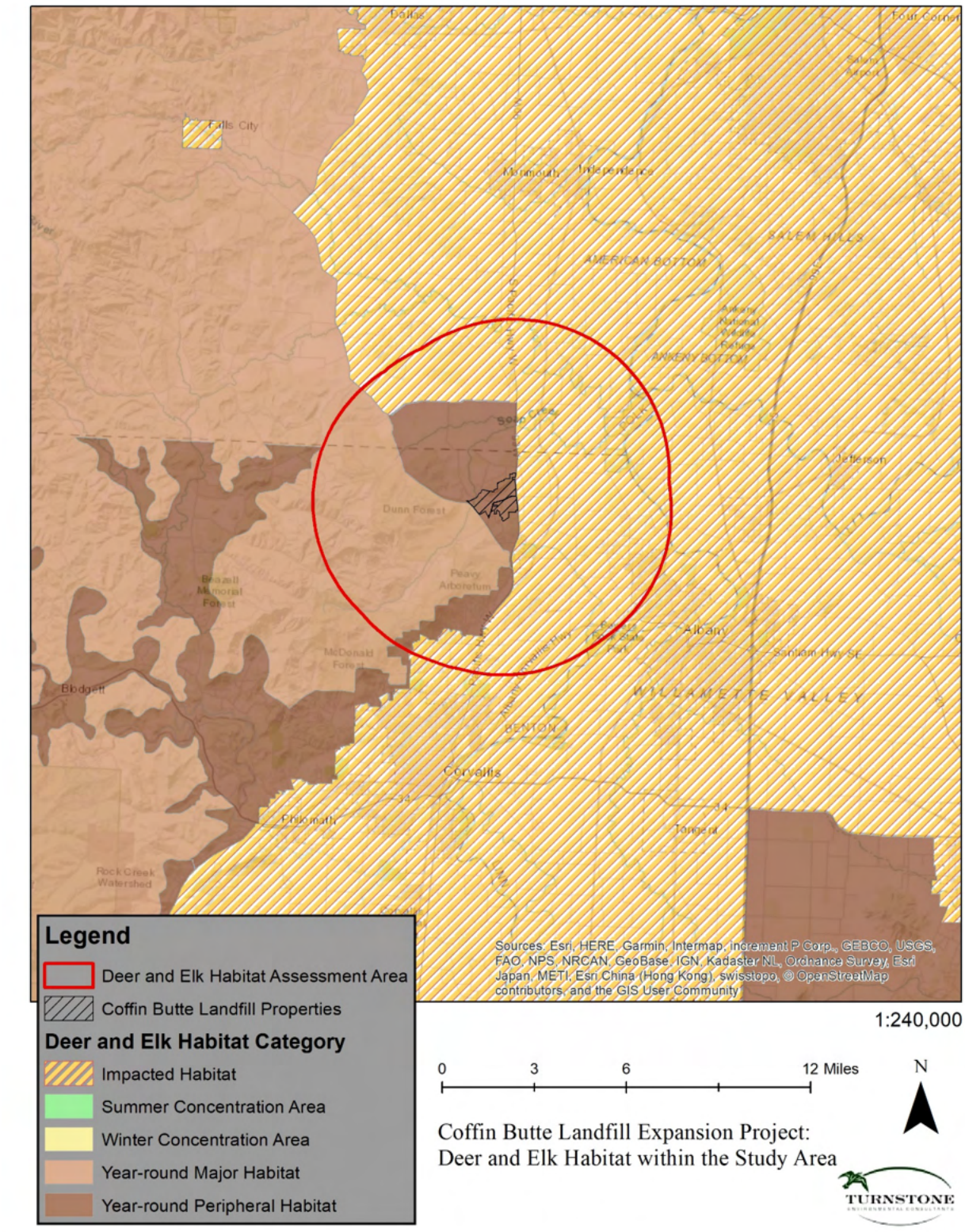

Figure 4. Deer and Elk Habitat in the Coffin Butte Landfill Expansion Project Study Area

Table 10. Elk Habitat within the Coffin Butte Landfill Expansion Project Study Area

Habitat Type	Habitat Category	Project Area (acres)	Percent of Project Area	Study Area (acres)	Percent of Study Area
Summer Concentration Area	2	0	0	0	0.0%
Winter Concentration Area	2	0	0	0	0.0%
Year-round Major Habitat	3	0	0	18,121	26.8%
Year-round Peripheral Habitat	4	804	100%	10,765	15.9%
Impacted Habitat	4	0	0	38,691	57.3%
Totals	**--**	**804**	**100%**	**67,577**	**100%**

Trail Camera Study

Turnstone wildlife biologists installed five trail cameras affixed to trees in five sampling areas with one camera in each sampling area in late May 2022. Two of the five cameras (A-4 and A-5) are located within the construction limits of the proposed landfill expansion site and three are outside the project site (A-1, A-3, and A-6). Turnstone biologists placed trail cameras along abandoned roads, game trails, and in forested areas with an open understory.

Large mammal species that occasionally use the Coffin Butte Landfill Expansion Project Area include the bobcat (*Lynx rufus*), cougar (*Puma concolor*), coyote (*Canis latrans*), Roosevelt elk (*Cervus canadensis roosevelti*), raccoon (*Procyon lotor*), and striped skunk (*Mephitis mephitis*).

Black-tailed deer use the project area throughout the year with the highest usage in the edge habit near Camera A-1, with an average of less than one (0.76) detection per day. All other trail cameras detected black-tailed deer an average of about once or twice per week (Table 11).

Table 11. Black-tailed Deer Detections per Day on Trail Cameras

Common Name	A-1	A-3	A-4	A-5	A-6
Black-tailed deer	276	76	160	143	134
Detections per day	0.76	0.21	0.13	0.39	0.37

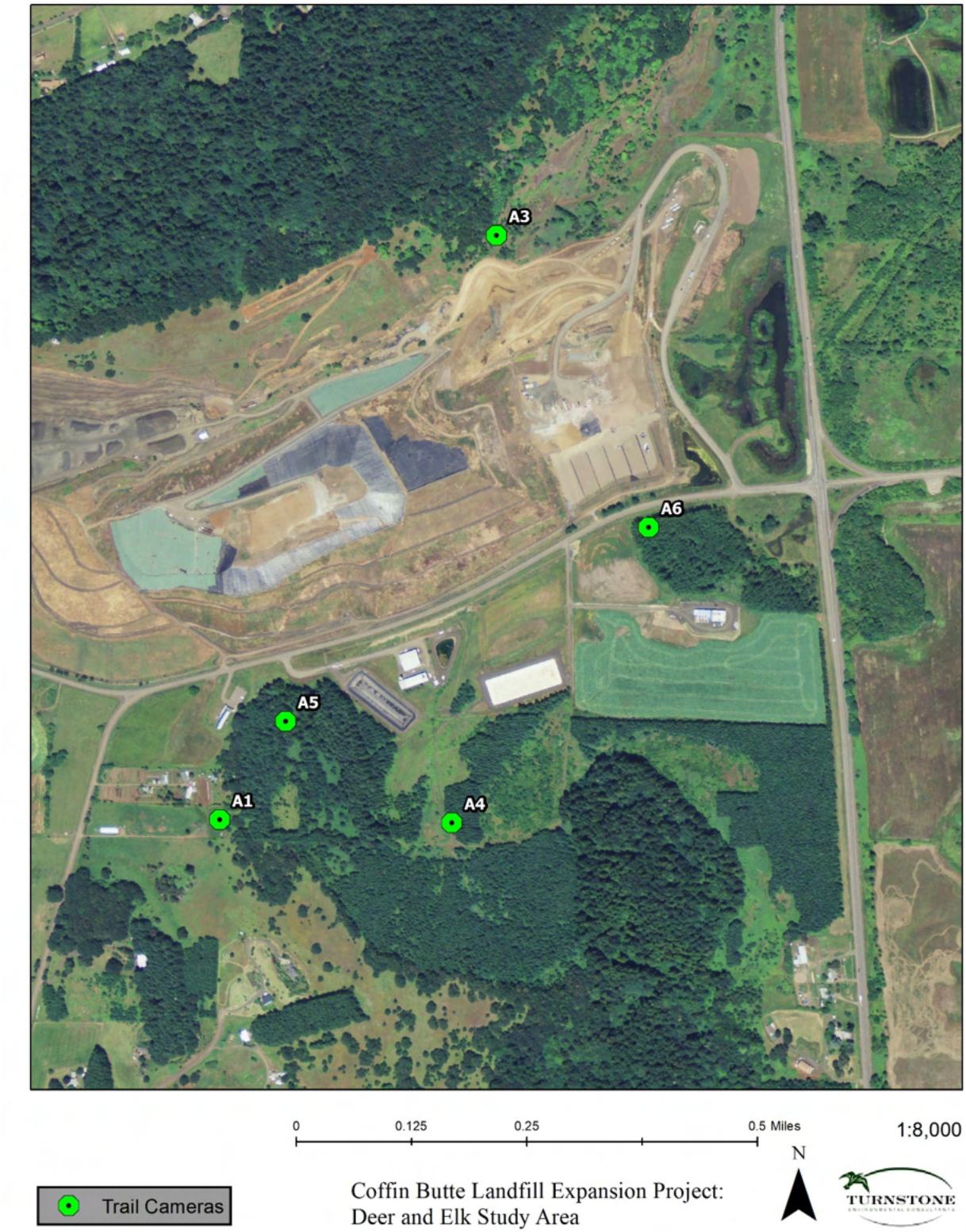

Figure 5. Trail Camera Locations in the Coffin Butte Landfill Expansion Project Study Area

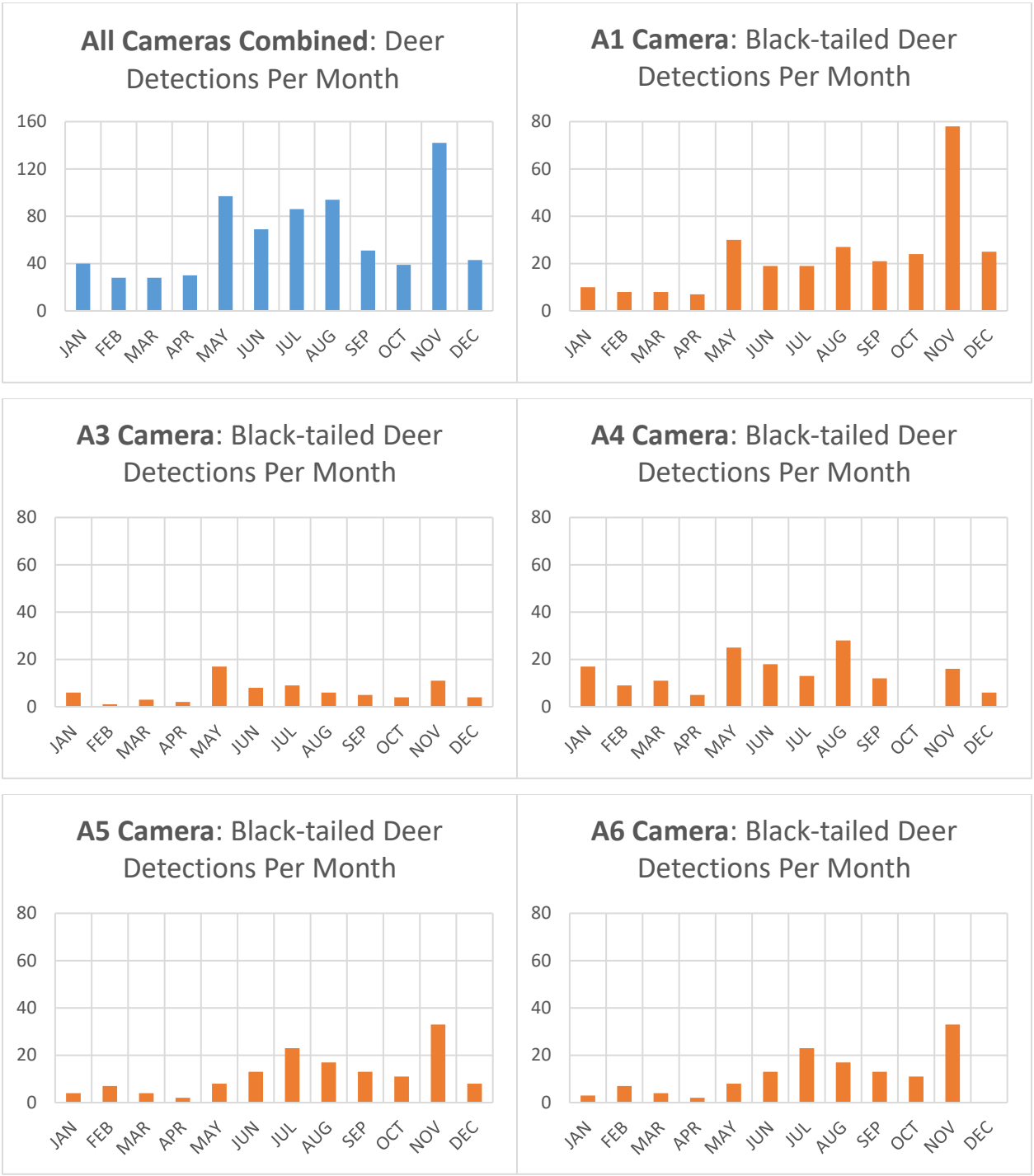

Figure 6. Black-tailed Deer Detections Per Month at Each Trail Camera

Table 12. Detections for Each Mammal Species Observed in the Camera Study Area

Common Name	A-1	A-3	A-4	A-5	A-6	Totals
Black-tailed deer	276	76	160	143	134	789
Bobcat	1	-	-	-	1	2
Cougar	1	-	1	-	-	2
Coyote	5	3	3	7	6	24
Elk	-	-	12	-	2	14
Raccoon	1	-	-	2	1	4
Skunk	-	-	-	-	3	3
All mammal species	283	80	176	152	148	838

A single cow and calf elk twosome were detected in late August and early September on Camera A-1 and A-4. A herd of elk were detected in mid-November during an 11-day period, numbering approximately 10 adults and 6 young of the year. A large herd of elk, numbering around 46 individuals visited the young coniferous forest stand in which Camera A-4 is placed for a 2-day period in early January.

The trail camera monitoring confirms the Coffin Butte study area is considered year-round habitat for black-tailed deer and peripheral habitat for elk and other large mammal species. This deer and elk habitat within the Coffin Butte Study Area provides cover and forage, that is likely important but not essential for resident and migratory deer and elk populations.

Figure 7. Large Mammals (excluding deer) Observed on Trail Cameras

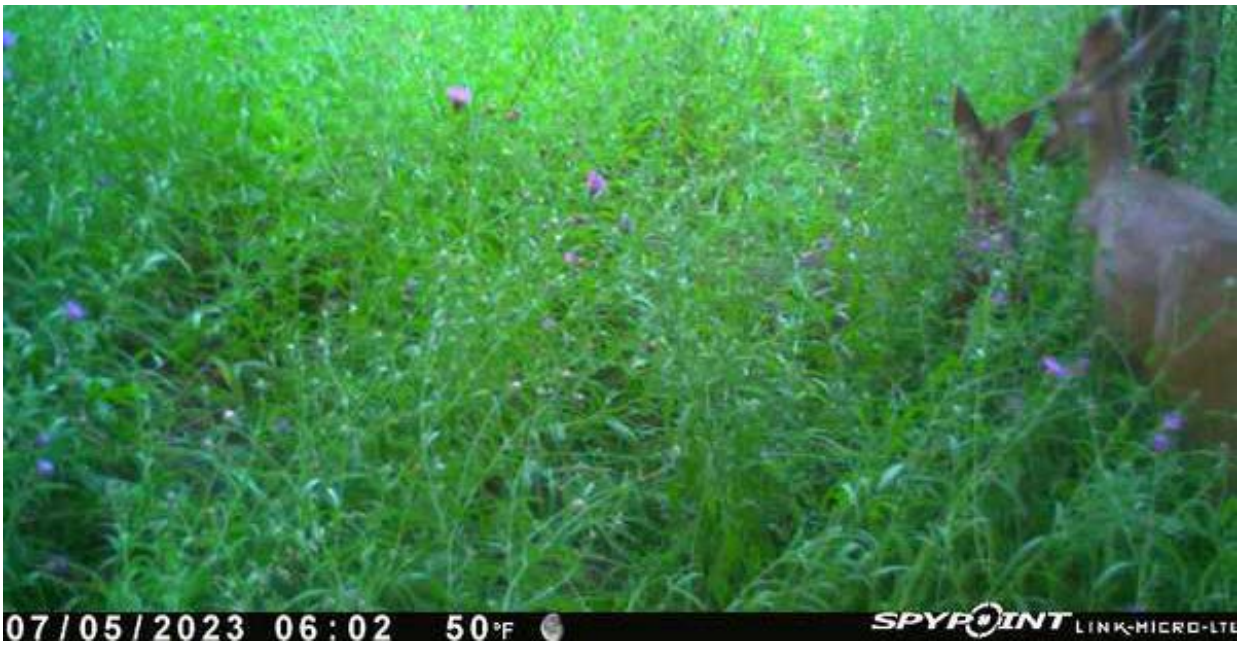

Figure 8. Adult Female Black-tailed Deer with Young of the Year in July on Camera A-1

Figure 9. A herd of elk in the Young Coniferous Forest in Mid-November on Camera A-4

Figure 10. Adult Male black-tailed Deer on Camera A-5 on an August Morning

APPENDIX A: AVIAN MONITORING PLAN

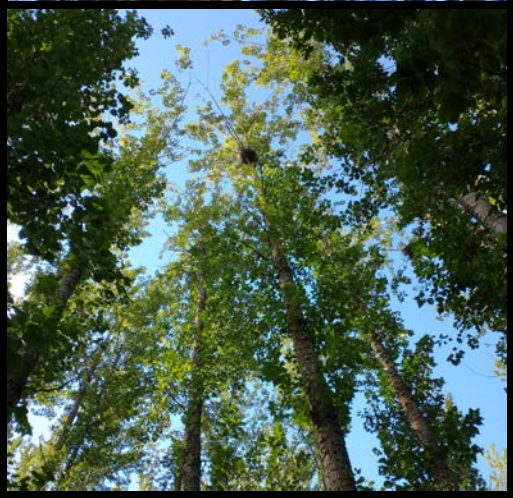

Photo credit: S. James

Final:

Avian Monitoring Plan

for Coffin Butte Landfill Expansion Project Area

Submitted to:

Civil & Environmental Consultants, Inc.
4045 NW 64th Street, Suite 415
OK City, OK 73116

Submitted by:

Turnstone Environmental Consultants, I
PO Box 83362
Portland, OR 97283

Date:

April 14, 2022

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INTRODUCTION

Turnstone Environmental Consultants, Inc. (Turnstone) proposes to conduct surveys for protected avian species within the Coffin Butte Landfill Expansion Project Area (Project Area) located in Benton County. Turnstone conducted a habitat assessment for the presence of protected bird species' habitat within the Project Area and found nesting habitat for the great blue heron (*Ardea herodias*) and foraging habitat for the bald eagle (*Haliaeetus leucocephalus*). Bald eagles are protected under the federal 1940 Bald Eagle Protection Act (16 USC 668–668d) and Heron rookeries are protected under the Oregon Forest Practices Act ("FPA"; OAR 629-665-0120). This monitoring plan details the species-specific survey methods for great blue herons and bald eagles which are known or suspected to occur within the Project Area.

HABITAT ASSESSMENT

Turnstone ecologist Stephanie James visited the western great blue heron rookery (#2683) and potential grassland bird habitat covering the closed landfill cells with wildlife biologists Anne Mary Myers and Gregory Reed from the Oregon Department of Fish and Wildlife (ODFW) in January 2022 to assess the likelihood of protected bird species using the Project Area as habitat. Weather conditions were agreeable to observing the nest sites, with no rain or fog to impede visibility.

ODFW biologists determined the potential grassland habitat and rock quarry areas north of Coffin Butte Road are not likely to be used as nesting habitat by protected grassland birds, specifically the streaked horned lark (*Eremophila alpestris strigata*) and Oregon vesper sparrow (*Pooecetes gramineus ssp. affinis*); therefore, surveys for grassland birds will not be needed.

Bald eagles were observed soaring and foraging in the Project Area. The bald eagle uses the Project Area as foraging habitat; however, it is unlikely bald eagles use the Project Area as nesting habitat.

Great blue herons likely use the western rookery (#2683) as nesting habitat. James and the ODFW wildlife biologists accessed the western rookery on foot and observed 24 stick nests in 17 nest trees. James documented the likely use of the eastern rookery (#2716) in October 2021 noting the signs of recent use such as the presence of stick nests with whitewash below. In January 2022, James observed 11 stick nests in 9 trees at the eastern rookery.

Monitoring Great blue heron nests could be accomplished from an observation point outside the forest stand and at least 150 feet from the closest nest, where there is low risk of disturbing or disrupting nesting (Figure 1).

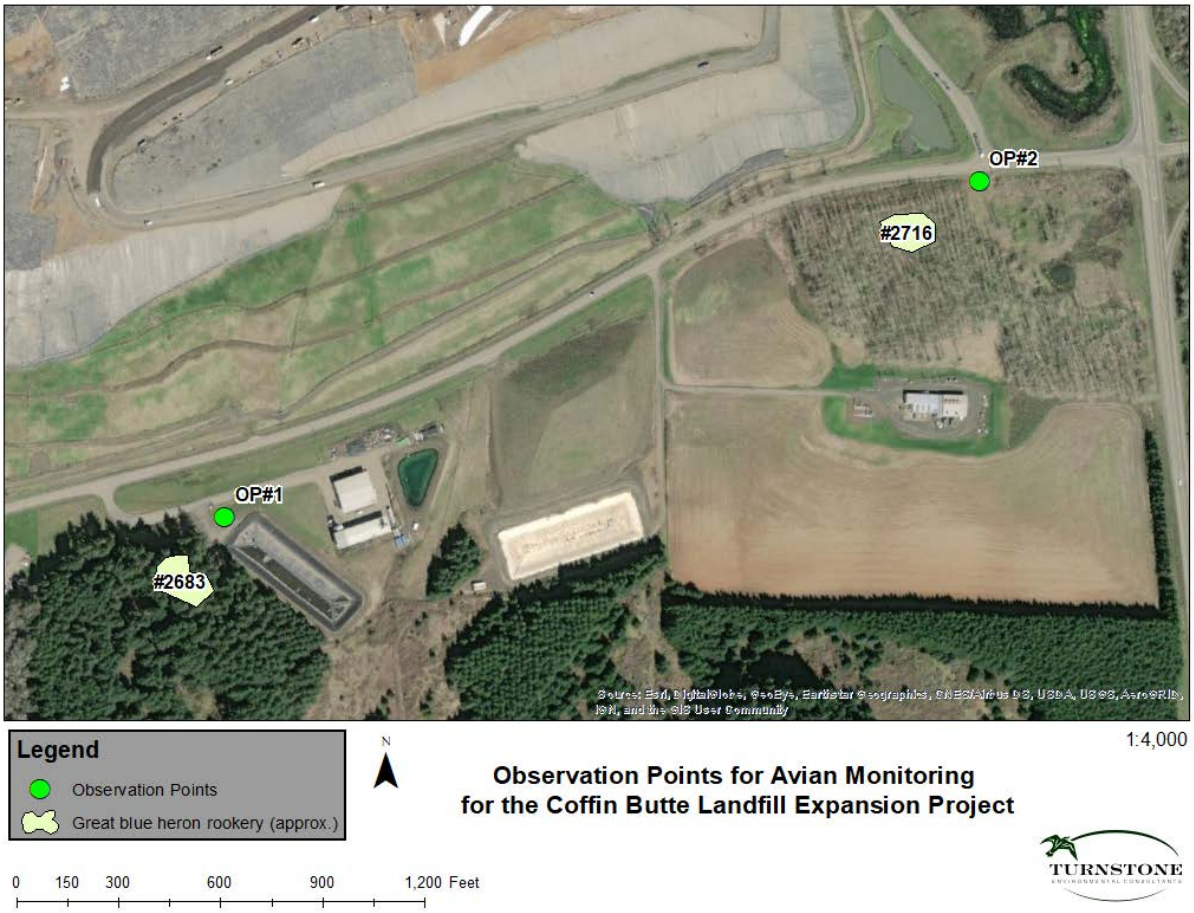

Figure 1. Observation Points for Avian Monitoring

SPECIES-SPECIFIC STUDIES

Great Blue Heron

Turnstone biologists will assess the extent of each rookery and conduct surveys during the breeding season. Mapping the extent of key components of each rookery will include the drip line of trees with stick nests and perching, fledgling, and replacement trees plus a forested buffer area as described in Forest Practice Rules.

Survey Schedule

In 2022, Turnstone will install one observation point for each of the two great blue heron rookeries. Turnstone will survey the two known sites for heron nesting, when heron court and initiate their breeding season and into the egg laying/incubation breeding stage. Turnstone biologists will assess the current nesting status of the known sites by conducting at surveys once per month during the breeding season. Turnstone recommends surveying the two known sites for occupancy and breeding status by conducting five survey visits during the breeding season (February 15 to Aug 15).

Survey Methodology

Surveys for the great blue heron will include estimating the number of occupied nests and breeding success, if possible, at the two known rookery sites located within the Project Area.

Biologists will survey each of the two rookeries to assess the current occupancy status. At the western rookery (#2683), biologists will monitor as many of the 24 great blue heron nests as possible from a single observation point (OP#1). Biologists will also determine breeding status for as many as possible of the 24 nests and any newly constructed nests. At the eastern rookery (#2716), biologists will monitor as many of the 11 great blue heron nests as possible from a single observation point (OP#2). Biologists will also determine breeding status for as many as possible of the 11 known nests and any newly constructed nests.

Table 1. Survey Visit Timing and Great Blue Heron Nesting Stages

Visit #	Date	Nesting Stage	Information Collected
1	February 15 to March 15	Nest building	Mapping and photographing each nest visible from the observation point at each rookery, noting if it is active or inactive, and noting any human disturbances and heron response during the observation period
2	March 15 to April 15	Egg laying/ Incubation	Mapping any new nests, recording active/inactive status for each visible nest, and noting any human disturbances and heron response during the observation period
3	April 15 to May 15	Incubation/Nestling	Recording active/inactive status and juvenile presence for each visible nest, and noting any human disturbances and heron response during the observation period
4	May 15 to June 15	Nestling/Fledgling	Recording active/inactive status and juvenile presence for each visible nest, and noting any human disturbances and heron response during the observation period
5	June 15 to July 15	Fledgling	Recording active/inactive status and juvenile presence for each visible nest, and noting any human disturbances and heron response during the observation period

Visit #	Date	Nesting Stage	Information Collected
6	July 15 to August 15	Fledgling	Recording active/inactive status and juvenile presence for each visible nest, and noting any human disturbances and heron response during the observation period

During each visit, surveyors would observe each heron nesting site for a 2-hour observation period during daylight hours when weather conditions are mild. Biologists will note any key components associated with a nest site, such as perching trees, fledging trees, and replacement nest trees, by observing herons use during visits.

A heron nest would be considered active if it has known or inferred presence of a mated pair as indicated by observance of at least one of the following activity patterns:

- Two adult herons are present on or near a nest, which has recently been repaired with fresh sticks (clean breaks) or fresh boughs on top, and/or having droppings and/or molted feathers on its rim or the ground underneath
- One adult heron is sitting low in the nest, presumably incubating
- Adult observed feeding young
- Eggs are present
- Young in nest or fledglings are present, by audio or visual detection

A heron nest would be considered unoccupied for the year if no presence activity (as described above) is observed during all five visits. If activity is observed initially but then no activity is observed for three consecutive visits the rookery would be considered active, but the nest failed.

Bald Eagle Surveys

Bald eagles are known to forage at the Coffin Butte landfill site; however, there are no known nest sites in or adjacent to the Project Area. Turnstone recommends surveying from a prominent point for a 2-hour observation period during daylight hours during the following survey windows. Additionally, the landfill site will be surveyed for bald eagle usage to determine if they are nesting, roosting, and/or foraging in the vicinity during nesting season which starts in February.

Table 2. Survey Timing for Bald Eagle Monitoring

Visit #	Date	Information Collected
1	February 15 to March 15	Record bald eagle activity within project area
2	March 15 to April 15	Record bald eagle activity within project area
3	April 15 to May 15	Record bald eagle activity within project area

Visit #	Date	Information Collected
4	May 15 to June 15	Record bald eagle activity within project area
5	June 15 to July 15	Record bald eagle activity within project area

Survey Methods

Turnstone biologists will assess the use of the Project Area as foraging habitat for bald eagles by observing their behavior from one of the two observation points (Figure 1) for a 2-hour observation period during daylight hours, concurrent with great blue heron observation period. During each visit, surveyors will record the greatest number of bald eagle adults and the greatest number of bald eagle juveniles seen at one time during the observation period.

If a new bald eagle nest is observed in or adjacent to the Project Area, then Turnstone biologists will assess the current nesting status of the bald eagle sites. This would be accomplished by conducting four-hour visits one per month between March 1 and July 15, coinciding with the primary nest initiation and young rearing periods, and from a vantage point using scope and binoculars that do not disturb eagles during suitable observation conditions.

Reporting

Within 4 weeks of the survey completion, Turnstone will submit a field survey technical memorandum that includes the survey methods, results, and mapping that depicts complete survey area and results. Turnstone will submit detection location information in GIS format within 2 weeks of completion and in a technical memo, which also documents the survey approach, protocols, and mapped results within 4 weeks of completion.

APPENDIX B: COMMUNICATIONS WITH ODFW AND ODF WILDLIFE BIOLOGISTS

From:	WEIKEL Jennifer * ODF
To:	Stephanie James; REED Gregory C * ODFW
Cc:	AnneMary Myers
Subject:	RE: Coffin Butte site visit
Date:	Wednesday, March 16, 2022 12:00:04 PM
Attachments:	CB_monitoring_plan_2022-03-02 - ODF edits.docx

Looks good Stephanie. I only have one comment in the document.

Your plan would exceed what we'd need for any Forest Practices-related issues. If you find that one of the rookeries is not active in 2022, I would recommend at least two additional years of surveys. If we have three consecutive years surveys with no nesting, we can change the status of that rookery to abandoned under the FPA.

Jennifer Weikel
Wildlife Biologist, Forest Resources Division
Oregon Department of Forestry
jennifer.weikel@odf.oregon.gov

From: Stephanie James <stephanie@turnstoneenvironmental.com>
Sent: Wednesday, March 02, 2022 2:59 PM
To: REED Gregory C * ODFW <Gregory.C.REED@odfw.oregon.gov>
Cc: AnneMary Myers <AnneMary.Myers@state.or.us>; WEIKEL Jennifer * ODF <Jennifer.WEIKEL@odf.oregon.gov>
Subject: RE: Coffin Butte site visit

Greetings,

Greg and Jennifer R – Thank you for reviewing and providing input. This draft monitoring plan includes responses to your comments/edits. Turnstone is currently under contract to survey for 2022 only. However, the plan at this point is to conduct surveys each year indefinitely.

Jennifer W – Please review the attached monitoring plan for the Coffin Butte Landfill Expansion project.

Thanks,
Stephanie

Stephanie A. James - Environmental Scientist
Turnstone Environmental Consultants, Inc.
(503) 283-5338 x103

From: REED Gregory C * ODFW <Gregory.C.REED@odfw.oregon.gov>

Sent: Wednesday, February 23, 2022 5:12 PM
To: Stephanie James <stephanie@turnstoneenvironmental.com>
Cc: AnneMary Myers <AnneMary.Myers@state.or.us>
Subject: RE: Coffin Butte site visit

Hi Stephanie,

Thanks for sending the survey plan. Overall, I think the plan looks good. We made a few edits and asked a few questions with track changes. Our manager, Jennifer Ringo, also added some suggestions throughout. We were also curious how many years the surveys are planned?

If you haven't done so already, I would also recommend coordinating with ODF's private lands wildlife biologist, Jennifer Weikel (jennifer.weikel@odf.oregon.gov) or the Stewardship Forester for this area. They would probably have some guidance on what would be deemed an inactive or unoccupied rookery based on the FPA rules. Let us know if there are any follow up questions or clarifications needed.

Best,

Greg Reed
District Wildlife Biologist
Oregon Department of Fish and Wildlife
7118 NE Vandenberg Ave
Corvallis, OR 97330
Office: 541-757-5226
Cell: 541-961-6381

My email address has changed to: gregory.c.reed@odfw.oregon.gov

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From: Stephanie James <stephanie@turnstoneenvironmental.com>
Sent: Wednesday, February 16, 2022 6:53 AM
To: REED Gregory C * ODFW <Gregory.C.REED@odfw.oregon.gov>
Cc: AnneMary Myers <AnneMary.Myers@state.or.us>
Subject: RE: Coffin Butte site visit

Hi Greg and Anne Mary,

Please find attached a survey plan for the Coffin Butte Expansion Project. Let us know if there are any modifications needed. We plan to conduct the first surveys in early March.

Thanks,
Stephanie

Stephanie A. James - Environmental Scientist
Turnstone Environmental Consultants, Inc.
(503) 283-5338 x103

From: REED Gregory C * ODFW <Gregory.C.REED@odfw.oregon.gov>
Sent: Wednesday, January 19, 2022 11:44 AM
To: Stephanie James <stephanie@turnstoneenvironmental.com>
Subject: RE: Coffin Butte site visit

Sounds good. I assume we will just meet at the main office building for the Coffin Butte?

From: Stephanie James <stephanie@turnstoneenvironmental.com>
Sent: Wednesday, January 19, 2022 11:35 AM
To: REED Gregory C * ODFW <Gregory.C.REED@odfw.oregon.gov>
Subject: RE: Coffin Butte site visit

That would be great to have Anne Mary join. Wednesday at 1pm works for me. I'll make sure that we have a decent path for accessing the western rookery. Please be ready to encounter lots of poison oak!

Stephanie A. James - Environmental Scientist
Turnstone Environmental Consultants, Inc.
(503) 283-5338 x103

From: REED Gregory C * ODFW <Gregory.C.REED@odfw.oregon.gov>
Sent: Wednesday, January 19, 2022 11:31 AM
To: Stephanie James <stephanie@turnstoneenvironmental.com>
Subject: RE: Coffin Butte site visit

Does 1 pm on Wed work for you? I would also like the Assistant District Wildlife Biologist, Anne Mary Myers, to come along, if that is alright? Previously, she was ODFW's Grasslands Biologist, so she is a great asset if we are going to look at grassland bird habitat.

-Greg

From: Stephanie James <stephanie@turnstoneenvironmental.com>
Sent: Wednesday, January 19, 2022 11:14 AM
To: REED Gregory C * ODFW <Gregory.C.REED@odfw.oregon.gov>
Subject: RE: Coffin Butte site visit

Hi Greg –

Wednesday or Thursday next week would work for me. I would like to access the western GBHE rookery in the conifers on Poison Oak Hill, and then also look at potential grassland bird habitat (SHLA and VESP) on some of the closed landfill cells north of Coffin Butte road. It shouldn't take more than 2 hours.

Also, please let me know if ODFW can release the location(s) of any other GBHE rookeries in the area.

Thanks,
Stephanie

Stephanie A. James - Environmental Scientist
Turnstone Environmental Consultants, Inc.
(503) 283-5338 x103

From: REED Gregory C * ODFW <Gregory.C.REED@odfw.oregon.gov>
Sent: Wednesday, January 19, 2022 11:02 AM
To: Stephanie James <stephanie@turnstoneenvironmental.com>
Subject: RE: Coffin Butte site visit

Hi Stephanie,

Sorry for not getting back to you. I would be happy to meet with you next week. What are you wanting to look at on the site visit? I am available Tues afternoon, and most of Wed-Fri next week. There is a very small chance we will start our elk helicopter surveys next week, which would limit my availability.

Thanks,

Greg Reed
District Wildlife Biologist
Oregon Department of Fish and Wildlife
7118 NE Vandenberg Ave
Corvallis, OR 97330
Office: 541-757-5226
Cell: 541-961-6381

My email address has changed to: gregory.c.reed@odfw.oregon.gov

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From: Stephanie James <stephanie@turnstoneenvironmental.com>

Sent: Wednesday, January 19, 2022 10:48 AM
To: REED Gregory C * ODFW <Gregory.C.REED@odfw.oregon.gov>
Subject: RE: Coffin Butte site visit

Hi Greg – Please let me know if you're available for a site visit next week.

Thanks,
Stephanie

Stephanie A. James - Environmental Scientist
Turnstone Environmental Consultants, Inc.
(503) 283-5338 x103

From: Stephanie James
Sent: Monday, January 17, 2022 10:35 AM
To: Gregory.C.Reed@odfw.oregon.gov
Subject: Coffin Butte site visit

Hi Greg,

Are you available the week of January 24 to visit the GBH rookeries at the Coffin Butte site?

Stephanie A. James - Environmental Scientist
Turnstone Environmental Consultants, Inc.
(503) 283-5338 x103

APPENDIX C: FIELD FORMS

Great Blue Heron Data Sheet - Colony Reproductive Productivity

Colony Name: Coffin Butte - West **Colony Code:** #2683

Date: 02/22/2024 **Visit No:** 1 **Previous Visit Date: N/A**

Arrival Time: 07:45 **Departure Time:** 09:45

Observers: Sarah McCord

Weather: Partly cloudy, dry, calm

Comments: No GBHE observed in the rookery during survey. One RTHA seen in and around the nests, calling and perched, likely using stand for nesting.

Nest Status Codes	Nest Activity Code eg's
STD - adult standing	**1AS/2AS -** 1 or 2 adult stand
INC - incubation	**ASN -** adult stand near
YNG - young in nest	**EX -** adult exchange
NV - birds not visible	**COP -** copulatory behaviour
FN - failed nest	**STICK** - stick brought to nest

Young Age Codes	
1 - 1 to 2 wks old	**3 -** 4 to 6 wks old
2 - 2 to 4 wks old	**4 -** 6 to 8 wks old

Observer Location	Tree No.	Nest No.	Nest Location	Nest Active? (Y/N)	Nest Status	No. Adults	No. Young	Age of Young	Nest Activities	Comments
OB1	A	1	70%	N		0	0			
OB1	A	2	55%	N		0	0			
OB1	B	3	65%	N		0	0			
OB1	C	4	80%	N		0	0			
OB1	C	5	55%	N		0	0			
OB1	D	6	70%	N		0	0			
OB1	E	7	60%	N		0	0			
OB1	F	8	55%	N		0	0			
OB1	G	9	45%	N		0	0			
OB1	H	10	85%	N		0	0			

Great Blue Heron Data Sheet - Colony Reproductive Productivity

Colony Name: Coffin Butte - West **Colony Code:** #2683

Date: 04/04/2024 **Visit No:** 2 **Previous Visit Date:** 02/22/2024

Arrival Time: 07:47 **Departure Time:** 09:47

Observers: Sarah McCord

Weather: Overcast, dry, calm

Comments: RTHA in the stand. No heron activity.

Nest Status Codes	Nest Activity Code eg's
STD - adult standing	**1AS/2AS -** 1 or 2 adult stand
INC - incubation	**ASN -** adult stand near
YNG - young in nest	**EX -** adult exchange
NV - birds not visible	**COP -** copulatory behaviour
FN - failed nest	**STICK** - stick brought to nest

Young Age Codes	
1 - 1 to 2 wks old	**3 -** 4 to 6 wks old
2 - 2 to 4 wks old	**4 -** 6 to 8 wks old

Observer Location	Tree No.	Nest No.	Nest Location	Nest Active? (Y/N)	Nest Status	No. Adults	No. Young	Age of Young	Nest Activities	Comments
OB1	A	1	70%	N		0	0			
OB1	A	2	55%	N		0	0			
OB1	B	3	65%	N		0	0			
OB1	C	4	80%	N		0	0			
OB1	C	5	55%	N		0	0			
OB1	D	6	70%	N		0	0			
OB1	E	7	60%	N		0	0			
OB1	F	8	55%	N		0	0			
OB1	G	9	45%	N		0	0			
OB1	H	10	85%	N		0	0			

Great Blue Heron Data Sheet - Colony Reproductive Productivity

Colony Name: Coffin Butte - West **Colony Code:** #2683

Date: 04/19/2024 **Visit No:** 3 **Previous Visit Date:** 04/04/2024

Arrival Time: 12:46 **Departure Time:** 14:46

Observers: Sarah McCord

Weather: Breezy, dry, clear

Comments: No GBHE observed in the rookery during survey.

Nest Status Codes	Nest Activity Code eg's
STD - adult standing	**1AS/2AS -** 1 or 2 adult stand
INC - incubation	**ASN -** adult stand near
YNG - young in nest	**EX -** adult exchange
NV - birds not visible	**COP -** copulatory behaviour
FN - failed nest	**STICK** - stick brought to nest

Young Age Codes	
1 - 1 to 2 wks old	**3 -** 4 to 6 wks old
2 - 2 to 4 wks old	**4 -** 6 to 8 wks old

Observer Location	Tree No.	Nest No.	Nest Location	Nest Active? (Y/N)	Nest Status	No. Adults	No. Young	Age of Young	Nest Activities	Comments
OB1	A	1	70%	N		0	0			
OB1	A	2	55%	N		0	0			
OB1	B	3	65%	N		0	0			
OB1	C	4	80%	N		0	0			
OB1	C	5	55%	N		0	0			
OB1	D	6	70%	N		0	0			
OB1	E	7	60%	N		0	0			
OB1	F	8	55%	N		0	0			
OB1	G	9	45%	N		0	0			
OB1	H	10	85%	N		0	0			

Great Blue Heron Data Sheet - Colony Reproductive Productivity

Colony Name: Coffin Butte - West **Colony Code:** #2683

Date: 05/30/2024 **Visit No:** 4 **Previous Visit Date:** 04/19/2024

Arrival Time: 07:56 **Departure Time:** 09:56

Observers: Sarah McCord

Weather: Breezy, scattered clouds, dry

Comments: Two adult BAEA, three sub-adult BAEA, and two adult RTHA in the stand. No heron activity.

Nest Status Codes	Nest Activity Code eg's
STD - adult standing	**1AS/2AS -** 1 or 2 adult stand
INC - incubation	**ASN -** adult stand near
YNG - young in nest	**EX -** adult exchange
NV - birds not visible	**COP -** copulatory behaviour
FN - failed nest	**STICK** - stick brought to nest

Young Age Codes	
1 - 1 to 2 wks old	**3 -** 4 to 6 wks old
2 - 2 to 4 wks old	**4 -** 6 to 8 wks old

Observer Location	Tree No.	Nest No.	Nest Location	Nest Active? (Y/N)	Nest Status	No. Adults	No. Young	Age of Young	Nest Activities	Comments
OB1	A	1	70%	N		0	0			
OB1	A	2	55%	N		0	0			
OB1	B	3	65%	N		0	0			
OB1	C	4	80%	N		0	0			
OB1	C	5	55%	N		0	0			
OB1	D	6	70%	N		0	0			
OB1	E	7	60%	N		0	0			
OB1	F	8	55%	N		0	0			
OB1	G	9	45%	N		0	0			
OB1	H	10	85%	N		0	0			

Great Blue Heron Data Sheet - Colony Reproductive Productivity

Colony Name: Coffin Butte - West **Colony Code:** #2683

Date: 05/30/2024 **Visit No:** 5 **Previous Visit Date:** 04/19/2024

Arrival Time: 06:52 **Departure Time:** 08:52

Observers: Sarah McCord

Weather: Breezy, scattered clouds, dry

Comments: Two juvenile BAEA in stand upon arrival. Two STJA juveniles begging and being fed by adult. No herons.

Nest Status Codes	Nest Activity Code eg's
STD - adult standing	**1AS/2AS -** 1 or 2 adult stand
INC - incubation	**ASN -** adult stand near
YNG - young in nest	**EX -** adult exchange
NV - birds not visible	**COP -** copulatory behaviour
FN - failed nest	**STICK** - stick brought to nest

Young Age Codes	
1 - 1 to 2 wks old	**3 -** 4 to 6 wks old
2 - 2 to 4 wks old	**4 -** 6 to 8 wks old

Observer Location	Tree No.	Nest No.	Nest Location	Nest Active? (Y/N)	Nest Status	No. Adults	No. Young	Age of Young	Nest Activities	Comments
OB1	A	1	70%	N		0	0			
OB1	A	2	55%	N		0	0			
OB1	B	3	65%	N		0	0			
OB1	C	4	80%	N		0	0			
OB1	C	5	55%	N		0	0			
OB1	D	6	70%	N		0	0			
OB1	E	7	60%	N		0	0			
OB1	F	8	55%	N		0	0			
OB1	G	9	45%	N		0	0			
OB1	H	10	85%	N		0	0			

Great Blue Heron - Coffin Butte Landfill Annual Colony Visits Summary

Colony Name: Coffin Butte - West **Colony Code:** #2683

Date: 7/11/2024 **No. of Visits:** 5

Observers: S. McCord

Weather: Surveys conditions were calm and dry or with light precipitation

GPS Coordinates: 44.6988, -123.2235

Comments: No GBHE observed in the rookery. 6th survey is planned to occur between July 15 and August 15, 2024, and will be included in an addendum report.

No. Data Sheets Used in Season:	
	Summary
	Tree Mapping
	Disturbance
X	Reproductive Productivity
	Arrival/Departure
	Colony Floor Search
	Climbing

Individual Nest Information				1st Visit Date: 02/22/2024			2nd Visit Date: 04/04/2024			3rd Visit Date: 04/19/2024					Comments
From Where	Tree No.	Nest No.	Nest Location	Nest Status	No. Young	Age of Young	Nest Status	No. Young	Age of Young	Nest Status	No. Young	Age of Young			
OB1	A	1	70%												INACTIVE
OB1	A	2	55%												INACTIVE
OB1	B	3	65%												INACTIVE
OB1	C	4	80%												INACTIVE
OB1	C	5	55%												INACTIVE
OB1	D	6	70%												INACTIVE
OB1	E	7	60%												INACTIVE
OB1	F	8	55%												INACTIVE
OB1	G	9	45%												INACTIVE
OB1	H	10	85%												INACTIVE

Great Blue Heron - Coffin Butte Landfill Annual Colony Visits Summary

Colony Name: Coffin Butte - West **Colony Code:** #2683

Date: 7/11/2024 **No. of Visits:** 5

Observers: S. McCord

Weather: Surveys conditions were calm and dry or with light precipitation

GPS Coordinates: 44.6988, -123.2235

Comments:

No. Data Sheets Used in Season:	
	Summary
	Tree Mapping
	Disturbance
X	Reproductive Productivity
	Arrival/Departure
	Colony Floor Search
	Climbing

Individual Nest Information				4th Visit Date: 05/30/2024			5th Visit Date: 6/28/24			6th Visit Date:			Nest Success Summary		Comments
From Where	Tree No.	Nest No.	Nest Location	Nest Status	No. Young	Age of Young	Nest Status	No. Young	Age of Young	Nest Status	No. Young	Age of Young	Y/N	No. Fledged	
OB1	A	1	70%												INACTIVE
OB1	A	2	55%												INACTIVE
OB1	B	3	65%												INACTIVE
OB1	C	4	80%												INACTIVE
OB1	C	5	55%												INACTIVE
OB1	D	6	70%												INACTIVE
OB1	E	7	60%												INACTIVE
OB1	F	8	55%												INACTIVE
OB1	G	9	45%												INACTIVE
OB1	H	10	85%												INACTIVE

Great Blue Heron Data Sheet - Colony Reproductive Productivity

Colony Name: Coffin Butte - East **Colony Code:** #2716

Date: 02/22/2024 **Visit No:** 1 **Previous Visit Date:** N/A

Arrival Time: 09:48 **Departure Time:** 11:48

Observers: Sarah McCord

Weather: Partly cloudy, dry, calm

Comments: 13 stick nests observed with no GBHE.

Nest Status Codes	Nest Activity Code eg's
STD - adult standing	**1AS/2AS -** 1 or 2 adult stand
INC - incubation	**ASN -** adult stand near
YNG - young in nest	**EX -** adult exchange
NV - birds not visible	**COP -** copulatory behaviour
FN - failed nest	**STICK** - stick brought to nest

Young Age Codes	
1 - 1 to 2 wks old	**3 -** 4 to 6 wks old
2 - 2 to 4 wks old	**4 -** 6 to 8 wks old

Observer Location	Tree No.	Nest No.	Nest Location	Nest Active? (Y/N)	Nest Status	No. Adults	No. Young	Age of Young	Nest Activities	Comments
OB2	A	1	50%	N						
OB2	B	2	45%	N						
OB2	C	3	70%	N						
OB2	D	4	65%	N						
OB2	B	5	60%	N						
OB2	E	6	60%	N						
OB2	F	7	60%	N						
OB2	F	8	0%	N						Nest missing from tree
OB2	G	9	55%	N						
OB2	G	10	50%	N						
OB2	H	11	60%	N						
OB2	I	12	55%	N						
OB2	J	13	45%	N						
OB2	K	14	60%	N						

Great Blue Heron Data Sheet - Colony Reproductive Productivity

Colony Name: Coffin Butte - East **Colony Code:** #2716

Date: 04/04/2024 **Visit No:** 2 **Previous Visit Date:** 02/22/2024

Arrival Time: 09:50 **Departure Time:** 11:50

Observers: Sarah McCord

Weather: overcast, dry, calm

Comments: Songbirds observed. No heron activity.

Nest Status Codes	Nest Activity Code eg's
STD - adult standing	**1AS/2AS -** 1 or 2 adult stand
INC - incubation	**ASN -** adult stand near
YNG - young in nest	**EX -** adult exchange
NV - birds not visible	**COP -** copulatory behaviour
FN - failed nest	**STICK** - stick brought to nest

Young Age Codes	
1 - 1 to 2 wks old	**3 -** 4 to 6 wks old
2 - 2 to 4 wks old	**4 -** 6 to 8 wks old

Observer Location	Tree No.	Nest No.	Nest Location	Nest Active? (Y/N)	Nest Status	No. Adults	No. Young	Age of Young	Nest Activities	Comments
OB2	A	1	50%	N						
OB2	B	2	45%	N						
OB2	C	3	70%	N						
OB2	D	4	65%	N						
OB2	B	5	60%	N						
OB2	E	6	60%	N						
OB2	F	7	60%	N						
OB2	F	8	0%	N						Nest missing from tree
OB2	G	9	55%	N						
OB2	G	10	50%	N						
OB2	H	11	60%	N						
OB2	I	12	55%	N						
OB2	J	13	45%	N						
OB2	K	14	60%	N						

Great Blue Heron Data Sheet - Colony Reproductive Productivity

Colony Name: Coffin Butte - East **Colony Code:** #2716

Date: 04/19/2024 **Visit No:** 3 **Previous Visit Date:** 04/04/2024

Arrival Time: 10:44 **Departure Time:** 12:44

Observers: Sarah McCord

Weather: Clear, dry, breezy

Comments: No herons, only songbirds observed.

Nest Status Codes	Nest Activity Code eg's
STD - adult standing	**1AS/2AS -** 1 or 2 adult stand
INC - incubation	**ASN -** adult stand near
YNG - young in nest	**EX -** adult exchange
NV - birds not visible	**COP -** copulatory behaviour
FN - failed nest	**STICK** - stick brought to nest

Young Age Codes	
1 - 1 to 2 wks old	**3 -** 4 to 6 wks old
2 - 2 to 4 wks old	**4 -** 6 to 8 wks old

Observer Location	Tree No.	Nest No.	Nest Location	Nest Active? (Y/N)	Nest Status	No. Adults	No. Young	Age of Young	Nest Activities	Comments
OB2	A	1	50%	N						
OB2	B	2	45%	N						
OB2	C	3	70%	N						
OB2	D	4	65%	N						
OB2	B	5	60%	N						
OB2	E	6	60%	N						
OB2	F	7	60%	N						
OB2	F	8	0%	N						Nest missing from tree
OB2	G	9	55%	N						
OB2	G	10	50%	N						
OB2	H	11	60%	N						
OB2	I	12	55%	N						
OB2	J	13	45%	N						
OB2	K	14	60%	N						

Great Blue Heron Data Sheet - Colony Reproductive Productivity

Colony Name: Coffin Butte - East **Colony Code:** #2716

Date: 05/30/2024 **Visit No:** 4 **Previous Visit Date:** 04/19/2024

Arrival Time: 10:00 **Departure Time:** 12:00

Observers: Sarah McCord

Weather: Scattered clouds, dry, breezy

Comments: No herons observed.

Nest Status Codes	Nest Activity Code eg's
STD - adult standing	**1AS/2AS -** 1 or 2 adult stand
INC - incubation	**ASN -** adult stand near
YNG - young in nest	**EX -** adult exchange
NV - birds not visible	**COP -** copulatory behaviour
FN - failed nest	**STICK** - stick brought to nest

Young Age Codes	
1 - 1 to 2 wks old	**3 -** 4 to 6 wks old
2 - 2 to 4 wks old	**4 -** 6 to 8 wks old

Observer Location	Tree No.	Nest No.	Nest Location	Nest Active? (Y/N)	Nest Status	No. Adults	No. Young	Age of Young	Nest Activities	Comments
OB2	A	1	50%	N						
OB2	B	2	45%	N						
OB2	C	3	70%	N						
OB2	D	4	65%	N						
OB2	B	5	60%	N						
OB2	E	6	60%	N						
OB2	F	7	60%	N						
OB2	F	8	0%	N						Nest missing from tree
OB2	G	9	55%	N						
OB2	G	10	50%	N						
OB2	H	11	60%	N						
OB2	I	12	55%	N						
OB2	J	13	45%	N						
OB2	K	14	60%	N						

Great Blue Heron Data Sheet - Colony Reproductive Productivity

Colony Name: Coffin Butte - East **Colony Code:** #2716

Date: 06/28/2024 **Visit No:** 5 **Previous Visit Date:** 05/30/2024

Arrival Time: 09:00 **Departure Time:** 11:00

Observers: Sarah McCord

Weather: Scattered clouds, dry, breezy

Comments: No herons observed, only songbirds

Nest Status Codes	Nest Activity Code eg's
STD - adult standing	**1AS/2AS -** 1 or 2 adult stand
INC - incubation	**ASN -** adult stand near
YNG - young in nest	**EX -** adult exchange
NV - birds not visible	**COP -** copulatory behaviour
FN - failed nest	**STICK** - stick brought to nest

Young Age Codes	
1 - 1 to 2 wks old	**3 -** 4 to 6 wks old
2 - 2 to 4 wks old	**4 -** 6 to 8 wks old

Observer Location	Tree No.	Nest No.	Nest Location	Nest Active? (Y/N)	Nest Status	No. Adults	No. Young	Age of Young	Nest Activities	Comments
OB2	A	1	50%	N						
OB2	B	2	45%	N						
OB2	C	3	70%	N						
OB2	D	4	65%	N						
OB2	B	5	60%	N						
OB2	E	6	60%	N						
OB2	F	7	60%	N						
OB2	F	8	0%	N						Nest missing from tree
OB2	G	9	55%	N						
OB2	G	10	50%	N						
OB2	H	11	60%	N						
OB2	I	12	55%	N						
OB2	J	13	45%	N						
OB2	K	14	60%	N						

Great Blue Heron - Coffin Butte Landfill Annual Colony Visits Summary

Colony Name: Coffin Butte - East **Colony Code:** #2716

Date: 7/11/2024 **No. of Visits:** 5

Observers: S. McCord

Weather: Surveys conditions were dry and calm or breezy

GPS Coordinates: 44.6959, -123.2316

Comments: No GBHE observed in the stand.. STJA, RTHA and BAEA were observed in the stand. The final 6th survey will occur between July 15 and August 15, 2024.

No. Data Sheets Used in Season:	
	Summary
	Tree Mapping
	Disturbance
X	Reproductive Productivity
	Arrival/Departure
	Colony Floor Search
	Climbing

Individual Nest Information				1st Visit Date: 02/22/2024			2nd Visit Date: 03/31/2023			3rd Visit Date: 04/19/2024					Comments
From Where	Tree No.	Nest No.	Nest Location	Nest Status	No. Young	Age of Young	Nest Status	No. Young	Age of Young	Nest Status	No. Young	Age of Young			
OB2	A	1	50%												INACTIVE
OB2	B	2	45%												INACTIVE
OB2	C	3	70%												INACTIVE
OB2	D	4	65%												INACTIVE
OB2	B	5	60%												INACTIVE
OB2	E	6	60%												INACTIVE
OB2	F	7	60%												INACTIVE
OB2	F	8	0%												Nest missing
OB2	G	9	55%												INACTIVE
OB2	G	10	50%												INACTIVE
OB2	H	11	60%												INACTIVE
OB2	I	12	55%												INACTIVE
OB2	J	13	45%												INACTIVE
OB2	E	14	60%												INACTIVE.

Great Blue Heron - Coffin Butte Landfill Annual Colony Visits Summary

Colony Name: Coffin Butte - East **Colony Code:** #2716
Date: 7/11/2024 **No. of Visits:** 5
Observers: S. McCord
Weather: Surveys conditions were dry and calm or breezy
GPS Coordinates: 44.6959, -123.2316
Comments:

No. Data Sheets Used in Season:	
	Summary
	Tree Mapping
	Disturbance
X	Reproductive Productivity
	Arrival/Departure
	Colony Floor Search
	Climbing

Individual Nest Information				4th Visit Date: 05/30/2024			5th Visit Date: 6/28/24			6th Visit Date:			Nest Success Summary		Comments
From Where	Tree No.	Nest No.	Nest Location	Nest Status	No. Young	Age of Young	Nest Status	No. Young	Age of Young	Nest Status	No. Young	Age of Young	Y/N	No. Fledged	
OB2	A	1	50%												INACTIVE
OB2	B	2	45%												INACTIVE
OB2	C	3	70%												INACTIVE
OB2	D	4	65%												INACTIVE
OB2	B	5	60%												INACTIVE
OB2	E	6	60%												INACTIVE
OB2	F	7	60%												Nest missing
OB2	F	8	0%												INACTIVE
OB2	G	9	55%												INACTIVE
OB2	G	10	50%												INACTIVE
OB2	H	11	60%												INACTIVE
OB2	I	12	55%												INACTIVE
OB2	J	13	45%												INACTIVE
OB2	E	14	60%												INACTIVE

Great Blue Heron Data Sheet - Colony Reproductive Productivity

Colony Name: Coffin Butte - West **Colony Code:** #2683

Date: 03/01/2023 **Visit No:** 1 **Previous Visit Date:**

Arrival Time: 10:25 **Departure Time:**12:25

Observers: Stephanie James, Sarah McCord

Weather: Partly cloudy, dry, calm

Comments: No GBHE observed in the rookery during survey. On separate occasions, 1 COHA, 2 RTHA adults, 1 BAEA juv, and 2 BAEA adults visited the rookery.

Nest Status Codes	Nest Activity Code eg's
STD - adult standing	**1AS/2AS -** 1 or 2 adult stand
INC - incubation	**ASN -** adult stand near
YNG - young in nest	**EX -** adult exchange
NV - birds not visible	**COP -** copulatory behaviour
FN - failed nest	**STICK** - stick brought to nest

Young Age Codes	
1 - 1 to 2 wks old	**3 -** 4 to 6 wks old
2 - 2 to 4 wks old	**4 -** 6 to 8 wks old

Observer Location	Tree No.	Nest No.	Nest Location	Nest Active? (Y/N)	Nest Status	No. Adults	No. Young	Age of Young	Nest Activities	Comments
OB1	A	1	70%	N		0	0			
OB1	A	2	55%	N		0	0			
OB1	B	3	65%	N		0	0			
OB1	C	4	80%	N		0	0			
OB1	C	5	55%	N		0	0			
OB1	D	6	70%	N		0	0			
OB1	E	7	60%	N		0	0			
OB1	F	8	55%	N		0	0			
OB1	G	9	45%	N		0	0			
OB1	H	10	85%	N		0	0			

Great Blue Heron Data Sheet - Colony Reproductive Productivity

Colony Name: Coffin Butte - West **Colony Code:** #2683

Date: 03/31/2023 **Visit No:** 2 **Previous Visit Date:** 03/01/2023

Arrival Time: 10:37 **Departure Time:** 12:37

Observers: Sarah McCord

Weather: Overcast, drizzling rain, calm

Comments: No GBHE observed in the rookery during survey. On separate occasions, 2 RTHA adults, 2 BAEA juv, and 1 BAEA adult visited the rookery.

Nest Status Codes	Nest Activity Code eg's
STD - adult standing	**1AS/2AS -** 1 or 2 adult stand
INC - incubation	**ASN -** adult stand near
YNG - young in nest	**EX -** adult exchange
NV - birds not visible	**COP -** copulatory behaviour
FN - failed nest	**STICK** - stick brought to nest

Young Age Codes	
1 - 1 to 2 wks old	**3 -** 4 to 6 wks old
2 - 2 to 4 wks old	**4 -** 6 to 8 wks old

Observer Location	Tree No.	Nest No.	Nest Location	Nest Active? (Y/N)	Nest Status	No. Adults	No. Young	Age of Young	Nest Activities	Comments
OB1	A	1	70%	N		0	0			
OB1	A	2	55%	N		0	0			
OB1	B	3	65%	N		0	0			
OB1	C	4	80%	N		0	0			
OB1	C	5	55%	N		0	0			
OB1	D	6	70%	N		0	0			
OB1	E	7	60%	N		0	0			
OB1	F	8	55%	N		0	0			
OB1	G	9	45%	N		0	0			
OB1	H	10	85%	N		0	0			

Great Blue Heron Data Sheet - Colony Reproductive Productivity

Colony Name: Coffin Butte - West **Colony Code:** #2683

Date: 05/05/2023 **Visit No:** 3 **Previous Visit Date:** 03/31/2023

Arrival Time: 11:05 **Departure Time:** 13:05

Observers: Sarah McCord

Weather: Breezy, scattered clouds, dry until last 45 mins then misty rain

Comments: Ravens. RTHA pair begging and chatting, keeping close watch on me and escorting ravens away from stand. Coopers hawk fly-over.

Nest Status Codes	Nest Activity Code eg's
STD - adult standing	**1AS/2AS -** 1 or 2 adult stand
INC - incubation	**ASN -** adult stand near
YNG - young in nest	**EX -** adult exchange
NV - birds not visible	**COP -** copulatory behaviour
FN - failed nest	**STICK** - stick brought to nest

Young Age Codes	
1 - 1 to 2 wks old	**3 -** 4 to 6 wks old
2 - 2 to 4 wks old	**4 -** 6 to 8 wks old

Observer Location	Tree No.	Nest No.	Nest Location	Nest Active? (Y/N)	Nest Status	No. Adults	No. Young	Age of Young	Nest Activities	Comments
OB1	A	1	70%	N		0	0			
OB1	A	2	55%	N		0	0			
OB1	B	3	65%	N		0	0			
OB1	C	4	80%	N		0	0			
OB1	C	5	55%	N		0	0			
OB1	D	6	70%	N		0	0			
OB1	E	7	60%	N		0	0			
OB1	F	8	55%	N		0	0			
OB1	G	9	45%	N		0	0			
OB1	H	10	85%	N		0	0			

Great Blue Heron Data Sheet - Colony Reproductive Productivity

Colony Name: Coffin Butte - West **Colony Code:** #2683

Date: 05/19/2023 **Visit No:** 4 **Previous Visit Date:** 05/05/2023

Arrival Time: 08:13 **Departure Time:** 10:13

Observers: Sarah McCord

Weather: Breezy, scattered clouds, dry

Comments: No GBHE observed in the rookery during survey. RTHA pair in stand, calling, chasing off other birds and scolding me for my presence.

Nest Status Codes	Nest Activity Code eg's
STD - adult standing	**1AS/2AS -** 1 or 2 adult stand
INC - incubation	**ASN -** adult stand near
YNG - young in nest	**EX -** adult exchange
NV - birds not visible	**COP -** copulatory behaviour
FN - failed nest	**STICK** - stick brought to nest

Young Age Codes	
1 - 1 to 2 wks old	**3 -** 4 to 6 wks old
2 - 2 to 4 wks old	**4 -** 6 to 8 wks old

Observer Location	Tree No.	Nest No.	Nest Location	Nest Active? (Y/N)	Nest Status	No. Adults	No. Young	Age of Young	Nest Activities	Comments
OB1	A	1	70%	N		0	0			
OB1	A	2	55%	N		0	0			
OB1	B	3	65%	N		0	0			
OB1	C	4	80%	N		0	0			
OB1	C	5	55%	N		0	0			
OB1	D	6	70%	N		0	0			
OB1	E	7	60%	N		0	0			
OB1	F	8	55%	N		0	0			
OB1	G	9	45%	N		0	0			
OB1	H	10	85%	N		0	0			

Great Blue Heron Data Sheet - Colony Reproductive Productivity

Colony Name: Coffin Butte - West **Colony Code:** #2683

Date: 06/16/2023 **Visit No:** 5 **Previous Visit Date:** 05/19/2023

Arrival Time: 08:47 **Departure Time:** 10:47

Observers: Sarah McCord

Weather: Breezy, scattered clouds, dry

Comments: No GBHE observed in the rookery during survey. RTHA screaming soft raspy but not a juv, pair responses, may be on nest.

Nest Status Codes	Nest Activity Code eg's
STD - adult standing	**1AS/2AS -** 1 or 2 adult stand
INC - incubation	**ASN -** adult stand near
YNG - young in nest	**EX -** adult exchange
NV - birds not visible	**COP -** copulatory behaviour
FN - failed nest	**STICK** - stick brought to nest

Young Age Codes	
1 - 1 to 2 wks old	**3 -** 4 to 6 wks old
2 - 2 to 4 wks old	**4 -** 6 to 8 wks old

Observer Location	Tree No.	Nest No.	Nest Location	Nest Active? (Y/N)	Nest Status	No. Adults	No. Young	Age of Young	Nest Activities	Comments
OB1	A	1	70%	N		0	0			
OB1	A	2	55%	N		0	0			
OB1	B	3	65%	N		0	0			
OB1	C	4	80%	N		0	0			
OB1	C	5	55%	N		0	0			
OB1	D	6	70%	N		0	0			
OB1	E	7	60%	N		0	0			
OB1	F	8	55%	N		0	0			
OB1	G	9	45%	N		0	0			
OB1	H	10	85%	N		0	0			

Great Blue Heron Data Sheet - Colony Reproductive Productivity

Colony Name: Coffin Butte - West **Colony Code:** #2683

Date: 07/21/2023 **Visit No:** 6 **Previous Visit Date:** 06/16/2023

Arrival Time: 08:35 **Departure Time:** 10:35

Observers: Sarah McCord

Weather: calm, clear, dry

Comments: No GBHE observed in the rookery during survey. RTHA present and calling in stand, vultures and small birds.

Nest Status Codes	Nest Activity Code eg's
STD - adult standing	**1AS/2AS -** 1 or 2 adult stand
INC - incubation	**ASN -** adult stand near
YNG - young in nest	**EX -** adult exchange
NV - birds not visible	**COP -** copulatory behaviour
FN - failed nest	**STICK** - stick brought to nest

Young Age Codes	
1 - 1 to 2 wks old	**3 -** 4 to 6 wks old
2 - 2 to 4 wks old	**4 -** 6 to 8 wks old

Observer Location	Tree No.	Nest No.	Nest Location	Nest Active? (Y/N)	Nest Status	No. Adults	No. Young	Age of Young	Nest Activities	Comments
OB1	A	1	70%	N		0	0			
OB1	A	2	55%	N		0	0			
OB1	B	3	65%	N		0	0			
OB1	C	4	80%	N		0	0			
OB1	C	5	55%	N		0	0			
OB1	D	6	70%	N		0	0			
OB1	E	7	60%	N		0	0			
OB1	F	8	55%	N		0	0			
OB1	G	9	45%	N		0	0			
OB1	H	10	85%	N		0	0			

Great Blue Heron - Coffin Butte Landfill Annual Colony Visits Summary

Colony Name: Coffin Butte - West **Colony Code:** #2683

Date: 3/24/2023 **No. of Visits:** 6

Observers: S. James, S. McCord

Weather: Surveys conditions were calm and dry or with light precipitation

GPS Coordinates: 44.6988, -123.2235

Comments: No GBHE observed in the rookery site. RTHA are likely nesting in an abandoned stick nest within the rookery site.

No. Data Sheets Used in Season:	
	Summary
	Tree Mapping
	Disturbance
X	Reproductive Productivity
	Arrival/Departure
	Colony Floor Search
	Climbing

Individual Nest Information				1st Visit Date: 03/01/2023			2nd Visit Date: 03/31/2023			3rd Visit Date: 05/05/2023					Comments
From Where	Tree No.	Nest No.	Nest Location	Nest Status	No. Young	Age of Young	Nest Status	No. Young	Age of Young	Nest Status	No. Young	Age of Young			
OB1	A	1	70%												INACTIVE
OB1	A	2	55%												INACTIVE
OB1	B	3	65%												INACTIVE
OB1	C	4	80%												INACTIVE
OB1	C	5	55%												INACTIVE
OB1	D	6	70%												INACTIVE
OB1	E	7	60%												INACTIVE
OB1	F	8	55%												INACTIVE
OB1	G	9	45%												INACTIVE
OB1	H	10	85%												INACTIVE

Great Blue Heron - Coffin Butte Landfill Annual Colony Visits Summary

Colony Name: Coffin Butte - West **Colony Code:** #2683

Date: 3/24/2023 **No. of Visits:** 6

Observers: S. James, S. McCord

Weather: Surveys conditions were calm and dry or with light precipitation

GPS Coordinates: 44.6988, -123.2235

Comments:

No. Data Sheets Used in Season:	
	Summary
	Tree Mapping
	Disturbance
X	Reproductive Productivity
	Arrival/Departure
	Colony Floor Search
	Climbing

Individual Nest Information				4th Visit Date: 05/19/2023			5th Visit Date: 6/16/23			6th Visit Date: 07/21/2023			Nest Success Summary		Comments
From Where	Tree No.	Nest No.	Nest Location	Nest Status	No. Young	Age of Young	Nest Status	No. Young	Age of Young	Nest Status	No. Young	Age of Young	Y/N	No. Fledged	
OB1	A	1	70%												INACTIVE
OB1	A	2	55%												INACTIVE
OB1	B	3	65%												INACTIVE
OB1	C	4	80%												INACTIVE
OB1	C	5	55%												INACTIVE
OB1	D	6	70%												INACTIVE
OB1	E	7	60%												INACTIVE
OB1	F	8	55%												INACTIVE
OB1	G	9	45%												INACTIVE
OB1	H	10	85%												INACTIVE

Great Blue Heron Data Sheet - Colony Reproductive Productivity

Colony Name: Coffin Butte - East **Colony Code:** #2716

Date: 03/01/2023 **Visit No:** 1 **Previous Visit Date:**

Arrival Time: 08:15 **Departure Time:** 10:15

Observers: Stephanie James, Sarah McCord

Weather: Partly cloudy, dry, calm

Comments: 14 stick nests observed with no GBHE. One nest is likely occupied by a breeding pair of RTHA, one of which was stilling low in Nest #6.

Nest Status Codes	Nest Activity Code eg's
STD - adult standing	**1AS/2AS -** 1 or 2 adult stand
INC - incubation	**ASN -** adult stand near
YNG - young in nest	**EX -** adult exchange
NV - birds not visible	**COP -** copulatory behaviour
FN - failed nest	**STICK** - stick brought to nest

Young Age Codes	
1 - 1 to 2 wks old	**3 -** 4 to 6 wks old
2 - 2 to 4 wks old	**4 -** 6 to 8 wks old

Observer Location	Tree No.	Nest No.	Nest Location	Nest Active? (Y/N)	Nest Status	No. Adults	No. Young	Age of Young	Nest Activities	Comments
OB2	A	1	50%	N						
OB2	B	2	45%	N						
OB2	C	3	70%	N						
OB2	D	4	65%	N						
OB2	B	5	60%	N						
OB2	E	6	60%	Y		2	0		1AS, EX, ASN	RTHA nesting, defending
OB2	F	7	60%	N						
OB2	F	8	0%	N						Nest missing from tree
OB2	G	9	55%	N						
OB2	G	10	50%	N						
OB2	H	11	60%	N						
OB2	I	12	0%	N						
OB2	J	13	0%	N						
OB2	K	14	0%	N						

Great Blue Heron Data Sheet - Colony Reproductive Productivity

Colony Name: Coffin Butte - East **Colony Code:** #2716

Date: 03/31/2023 **Visit No:** 2 **Previous Visit Date:** 03/01/2023

Arrival Time: 08:32 **Departure Time:** 10:32

Observers: Sarah McCord

Weather: Overcast, drizzling rain, calm

Comments: 14 stick nests observed with no GBHE. One nest is likely occupied by a breeding pair of RTHA

Nest Status Codes	Nest Activity Code eg's
STD - adult standing	**1AS/2AS -** 1 or 2 adult stand
INC - incubation	**ASN -** adult stand near
YNG - young in nest	**EX -** adult exchange
NV - birds not visible	**COP -** copulatory behaviour
FN - failed nest	**STICK** - stick brought to nest

Young Age Codes	
1 - 1 to 2 wks old	**3 -** 4 to 6 wks old
2 - 2 to 4 wks old	**4 -** 6 to 8 wks old

Observer Location	Tree No.	Nest No.	Nest Location	Nest Active? (Y/N)	Nest Status	No. Adults	No. Young	Age of Young	Nest Activities	Comments
OB2	A	1	50%	N						
OB2	B	2	45%	N						
OB2	C	3	70%	N						
OB2	D	4	65%	N						
OB2	B	5	60%	N						
OB2	E	6	60%	Y		2	0		ASN	RTHA nesting, defending
OB2	F	7	60%	N						
OB2	F	8	0%	N						Nest missing from tree
OB2	G	9	55%	N						
OB2	G	10	50%	N						
OB2	H	11	60%	N						
OB2	I	12	0%	N						
OB2	J	13	0%	N						
OB2	K	14	0%	N						

Great Blue Heron Data Sheet - Colony Reproductive Productivity

Colony Name: Coffin Butte - East **Colony Code:** #2716

Date: 05/05/2023 **Visit No:** 3 **Previous Visit Date:** 03/31/2023

Arrival Time: 08:20 **Departure Time:** 10:28

Observers: Sarah McCord

Weather: Breezy, scattered clouds, dry

Comments: No GBHE observed in the rookery during survey. Turkey vulture and ravens soaring above stand.

Nest Status Codes	Nest Activity Code eg's
STD - adult standing	**1AS/2AS -** 1 or 2 adult stand
INC - incubation	**ASN -** adult stand near
YNG - young in nest	**EX -** adult exchange
NV - birds not visible	**COP -** copulatory behaviour
FN - failed nest	**STICK** - stick brought to nest

Young Age Codes	
1 - 1 to 2 wks old	**3 -** 4 to 6 wks old
2 - 2 to 4 wks old	**4 -** 6 to 8 wks old

Observer Location	Tree No.	Nest No.	Nest Location	Nest Active? (Y/N)	Nest Status	No. Adults	No. Young	Age of Young	Nest Activities	Comments
OB1	A	1	70%	N		0	0			
OB1	A	2	55%	N		0	0			
OB1	B	3	65%	N		0	0			
OB1	C	4	80%	N		0	0			
OB1	C	5	55%	N		0	0			
OB1	D	6	70%	N		0	0			
OB1	E	7	60%	N		0	0			
OB1	F	8	55%	N		0	0			
OB1	G	9	45%	N		0	0			
OB1	H	10	85%	N		0	0			

Great Blue Heron Data Sheet - Colony Reproductive Productivity

Colony Name: Coffin Butte - East **Colony Code:** #2716

Date: 05/19/2023 **Visit No:** 4 **Previous Visit Date:** 05/05/2023

Arrival Time: 10:20 **Departure Time:** 12:20

Observers: Sarah McCord

Weather: Breezy, scattered clouds, dry

Comments: No GBHE observed in the rookery during survey. 1 adult BAEA chased out of stand by blackbird. 1 J BAEA perched in stand before flying back to landfill. 1 GBHE fly-over.

Nest Status Codes	Nest Activity Code eg's
STD - adult standing	**1AS/2AS -** 1 or 2 adult stand
INC - incubation	**ASN -** adult stand near
YNG - young in nest	**EX -** adult exchange
NV - birds not visible	**COP -** copulatory behaviour
FN - failed nest	**STICK** - stick brought to nest

Young Age Codes	
1 - 1 to 2 wks old	**3 -** 4 to 6 wks old
2 - 2 to 4 wks old	**4 -** 6 to 8 wks old

Observer Location	Tree No.	Nest No.	Nest Location	Nest Active? (Y/N)	Nest Status	No. Adults	No. Young	Age of Young	Nest Activities	Comments
OB1	A	1	70%	N		0	0			
OB1	A	2	55%	N		0	0			
OB1	B	3	65%	N		0	0			
OB1	C	4	80%	N		0	0			
OB1	C	5	55%	N		0	0			
OB1	D	6	70%	N		0	0			
OB1	E	7	60%	N		0	0			
OB1	F	8	55%	N		0	0			
OB1	G	9	45%	N		0	0			
OB1	H	10	85%	N		0	0			

Great Blue Heron Data Sheet - Colony Reproductive Productivity

Colony Name: Coffin Butte - East **Colony Code:** #2716

Date: 06/16/2023 **Visit No:** 5 **Previous Visit Date:** 05/19/2023

Arrival Time: 10:49 **Departure Time:** 12:49

Observers: Sarah McCord

Weather: Breezy, clear, dry

Comments: No GBHE observed in the rookery during survey. Vultures and small birds, one GBHE fly-by headed to field to the west.

Nest Status Codes	Nest Activity Code eg's
STD - adult standing	**1AS/2AS -** 1 or 2 adult stand
INC - incubation	**ASN -** adult stand near
YNG - young in nest	**EX -** adult exchange
NV - birds not visible	**COP -** copulatory behaviour
FN - failed nest	**STICK** - stick brought to nest

Young Age Codes	
1 - 1 to 2 wks old	**3 -** 4 to 6 wks old
2 - 2 to 4 wks old	**4 -** 6 to 8 wks old

Observer Location	Tree No.	Nest No.	Nest Location	Nest Active? (Y/N)	Nest Status	No. Adults	No. Young	Age of Young	Nest Activities	Comments
OB1	A	1	70%	N		0	0			
OB1	A	2	55%	N		0	0			
OB1	B	3	65%	N		0	0			
OB1	C	4	80%	N		0	0			
OB1	C	5	55%	N		0	0			
OB1	D	6	70%	N		0	0			
OB1	E	7	60%	N		0	0			
OB1	F	8	55%	N		0	0			
OB1	G	9	45%	N		0	0			
OB1	H	10	85%	N		0	0			

Great Blue Heron Data Sheet - Colony Reproductive Productivity

Colony Name: Coffin Butte - East **Colony Code:** #2716

Date: 07/21/2023 **Visit No:** 6 **Previous Visit Date:** 06/16/2023

Arrival Time: 10:40 **Departure Time:** 12:40

Observers: Sarah McCord

Weather: Breezy, clear, dry

Comments: No GBHE observed in the rookery during survey. Vultures and small birds, large group of ravens circling landfill.

Nest Status Codes	Nest Activity Code eg's
STD - adult standing	**1AS/2AS -** 1 or 2 adult stand
INC - incubation	**ASN -** adult stand near
YNG - young in nest	**EX -** adult exchange
NV - birds not visible	**COP -** copulatory behaviour
FN - failed nest	**STICK** - stick brought to nest

Young Age Codes	
1 - 1 to 2 wks old	**3 -** 4 to 6 wks old
2 - 2 to 4 wks old	**4 -** 6 to 8 wks old

Observer Location	Tree No.	Nest No.	Nest Location	Nest Active? (Y/N)	Nest Status	No. Adults	No. Young	Age of Young	Nest Activities	Comments
OB1	A	1	70%	N		0	0			
OB1	A	2	55%	N		0	0			
OB1	B	3	65%	N		0	0			
OB1	C	4	80%	N		0	0			
OB1	C	5	55%	N		0	0			
OB1	D	6	70%	N		0	0			
OB1	E	7	60%	N		0	0			
OB1	F	8	55%	N		0	0			
OB1	G	9	45%	N		0	0			
OB1	H	10	85%	N		0	0			

Great Blue Heron - Coffin Butte Landfill Annual Colony Visits Summary

Colony Name: Coffin Butte - East **Colony Code:** #2716
Date: 3/24/2023 **No. of Visits:** 6
Observers: S. James, S. McCord
Weather: Surveys conditions were calm and dry or with light precipitation
GPS Coordinates: 44.6959, -123.2316
Comments: No GBHE adults observed, RTHA defending and sitting low in Nest #6

No. Data Sheets Used in Season:	
	Summary
	Tree Mapping
	Disturbance
X	Reproductive Productivity
	Arrival/Departure
	Colony Floor Search
	Climbing

Individual Nest Information				1st Visit Date: 03/01/2023			2nd Visit Date: 03/31/2023			3rd Visit Date: 05/05/2023					Comments
From Where	Tree No.	Nest No.	Nest Location	Nest Status	No. Young	Age of Young	Nest Status	No. Young	Age of Young	Nest Status	No. Young	Age of Young			
OB2	A	1	50%												INACTIVE
OB2	B	2	45%												INACTIVE
OB2	C	3	70%												INACTIVE
OB2	D	4	65%												INACTIVE
OB2	B	5	60%												INACTIVE
OB2	E	6	60%	STD	0										RTHA nesting
OB2	F	7	60%												INACTIVE
OB2	F	8	0%												Nest missing
OB2	G	9	55%												INACTIVE
OB2	G	10	50%												INACTIVE
OB2	H	11	60%												INACTIVE
OB2	I	12	55%												INACTIVE
OB2	J	13	45%												INACTIVE
OB2	E	14	60%												INACTIVE.

Great Blue Heron - Coffin Butte Landfill Annual Colony Visits Summary

Colony Name: Coffin Butte - East **Colony Code:** #2716
Date: 3/24/2023 **No. of Visits:** 6
Observers: S. James, S. McCord
Weather: Surveys conditions were calm and dry or with light precipitation
GPS Coordinates: 44.6959, -123.2316
Comments:

No. Data Sheets Used in Season:	
	Summary
	Tree Mapping
	Disturbance
X	Reproductive Productivity
	Arrival/Departure
	Colony Floor Search
	Climbing

Individual Nest Information				4th Visit Date: 05/19/2023			5th Visit Date: 6/16/23			6th Visit Date: 07/21/2023			Nest Success Summary		Comments
From Where	Tree No.	Nest No.	Nest Location	Nest Status	No. Young	Age of Young	Nest Status	No. Young	Age of Young	Nest Status	No. Young	Age of Young	Y/N	No. Fledged	
OB2	A	1	50%												INACTIVE
OB2	B	2	45%												INACTIVE
OB2	C	3	70%												INACTIVE
OB2	D	4	65%												INACTIVE
OB2	B	5	60%												INACTIVE
OB2	E	6	60%												INACTIVE
OB2	F	7	60%												Nest missing
OB2	F	8	0%												INACTIVE
OB2	G	9	55%												INACTIVE
OB2	G	10	50%												INACTIVE
OB2	H	11	60%												INACTIVE
OB2	I	12	55%												INACTIVE
OB2	J	13	45%												INACTIVE
OB2	E	14	60%												INACTIVE

Great Blue Heron Data Sheet - Colony Reproductive Productivity

Colony Name: Coffin Butte - West **Colony Code:** #2683

Date: 02/17/2022 **Visit No:** 1 **Previous Visit Date:**

Arrival Time: 12:51 **Departure Time:** 14:51

Observers: Stephanie James

Weather: Partly cloudy, misty, calm

Comments: No GBHE observed during survey. A RTHA adult was aggravated calling, seen flying to/from the forest stand

Nest Status Codes	Nest Activity Code eg's
STD - adult standing	**1AS/2AS -** 1 or 2 adult stand
INC - incubation	**ASN -** adult stand near
YNG - young in nest	**EX -** adult exchange
NV - birds not visible	**COP -** copulatory behaviour
FN - failed nest	**STICK** - stick brought to nest

Young Age Codes	
1 - 1 to 2 wks old	**3 -** 4 to 6 wks old
2 - 2 to 4 wks old	**4 -** 6 to 8 wks old

Observer Location	Tree No.	Nest No.	Nest Location	Nest Active? (Y/N)	Nest Status	No. Adults	No. Young	Age of Young	Nest Activities	Comments
OB1	A	1	70%	N		0	0			
OB1	A	2	55%	N		0	0			
OB1	B	3	65%	N		0	0			
OB1	C	4	80%	N		0	0			
OB1	C	5	55%	N		0	0			
OB1	D	6	70%	N		0	0			
OB1	E	7	60%	N		0	0			
OB1	F	8	55%	N		0	0			
OB1	G	9	45%	N		0	0			
OB1	H	10	85%	N		0	0			

Great Blue Heron Data Sheet - Colony Reproductive Productivity

Colony Name: Coffin Butte - West **Colony Code:** #2683

Date: 03/22/2022 **Visit No:** 2 **Previous Visit Date:** 02/17/2022

Arrival Time: 09:33 **Departure Time:** 11:33

Observers: Stephanie James

Weather: Cloudy, dry, light breeze

Comments: No GBHE observed during survey. Two RTHA adults calling from the forest stand.

Nest Status Codes	Nest Activity Code eg's
STD - adult standing	**1AS/2AS -** 1 or 2 adult stand
INC - incubation	**ASN -** adult stand near
YNG - young in nest	**EX -** adult exchange
NV - birds not visible	**COP -** copulatory behaviour
FN - failed nest	**STICK** - stick brought to nest

Young Age Codes	
1 - 1 to 2 wks old	**3 -** 4 to 6 wks old
2 - 2 to 4 wks old	**4 -** 6 to 8 wks old

Observer Location	Tree No.	Nest No.	Nest Location	Nest Active? (Y/N)	Nest Status	No. Adults	No. Young	Age of Young	Nest Activities	Comments
OB1	A	1	70%	N		0	0			
OB1	A	2	55%	N		0	0			
OB1	B	3	65%	N		0	0			
OB1	C	4	80%	N		0	0			
OB1	C	5	55%	N		0	0			
OB1	D	6	70%	N		0	0			
OB1	E	7	60%	N		0	0			
OB1	F	8	55%	N		0	0			
OB1	G	9	45%	N		0	0			
OB1	H	10	85%	N		0	0			

Great Blue Heron Data Sheet - Colony Reproductive Productivity

Colony Name: Coffin Butte - West **Colony Code:** #2683

Date: 04/28/2022 **Visit No:** 3 **Previous Visit Date:** 03/22/2022

Arrival Time: 12:40 **Departure Time:** 14:40

Observers: Stephanie James

Weather: Cloudy, dry, light breeze

Comments: No GBHE observed during survey. Two RTHA adults seen and heard, likely occupying a stick nest in the rookery.

Nest Status Codes	Nest Activity Code eg's
STD - adult standing	**1AS/2AS -** 1 or 2 adult stand
INC - incubation	**ASN -** adult stand near
YNG - young in nest	**EX -** adult exchange
NV - birds not visible	**COP -** copulatory behaviour
FN - failed nest	**STICK** - stick brought to nest

Young Age Codes	
1 - 1 to 2 wks old	**3 -** 4 to 6 wks old
2 - 2 to 4 wks old	**4 -** 6 to 8 wks old

Observer Location	Tree No.	Nest No.	Nest Location	Nest Active? (Y/N)	Nest Status	No. Adults	No. Young	Age of Young	Nest Activities	Comments
OB1	A	1	70%	N		0	0			
OB1	A	2	55%	N		0	0			
OB1	B	3	65%	N		0	0			
OB1	C	4	80%	N		0	0			
OB1	C	5	55%	N		0	0			
OB1	D	6	70%	N		0	0			
OB1	E	7	60%	N		0	0			
OB1	F	8	55%	N		0	0			
OB1	G	9	45%	N		0	0			
OB1	H	10	85%	N		0	0			

Great Blue Heron Data Sheet - Colony Reproductive Productivity

Colony Name: Coffin Butte - West **Colony Code:** #2683

Date: 06/01/2022 **Visit No:** 4 **Previous Visit Date:** 04/28/2022

Arrival Time: 12:27 **Departure Time:** 14:27

Observers: Stephanie James

Weather: Clear, calm, dry

Comments: No GBHE observed during survey. Two RTHA adults seen and heard, likely occupying a stick nest in the rookery.

Nest Status Codes	Nest Activity Code eg's
STD - adult standing	**1AS/2AS -** 1 or 2 adult stand
INC - incubation	**ASN -** adult stand near
YNG - young in nest	**EX -** adult exchange
NV - birds not visible	**COP -** copulatory behaviour
FN - failed nest	**STICK** - stick brought to nest

Young Age Codes	
1 - 1 to 2 wks old	**3 -** 4 to 6 wks old
2 - 2 to 4 wks old	**4 -** 6 to 8 wks old

Observer Location	Tree No.	Nest No.	Nest Location	Nest Active? (Y/N)	Nest Status	No. Adults	No. Young	Age of Young	Nest Activities	Comments
OB1	A	1	70%	N		0	0			
OB1	A	2	55%	N		0	0			
OB1	B	3	65%	N		0	0			
OB1	C	4	80%	N		0	0			
OB1	C	5	55%	N		0	0			
OB1	D	6	70%	N		0	0			
OB1	E	7	60%	N		0	0			
OB1	F	8	55%	N		0	0			
OB1	G	9	45%	N		0	0			
OB1	H	10	85%	N		0	0			

Great Blue Heron Data Sheet - Colony Reproductive Productivity

Colony Name: Coffin Butte - West **Colony Code:** #2683

Date: 07/12/2022 **Visit No:** 5 **Previous Visit Date:** 06/01/2022

Arrival Time: 11:20 **Departure Time:** 13:20

Observers: Stephanie James

Weather: Clear, calm, dry

Comments: No GBHE observed during survey. Two RTHA adults seen and heard, likely occupying a stick nest in the rookery.

Nest Status Codes	Nest Activity Code eg's
STD - adult standing	**1AS/2AS -** 1 or 2 adult stand
INC - incubation	**ASN -** adult stand near
YNG - young in nest	**EX -** adult exchange
NV - birds not visible	**COP -** copulatory behaviour
FN - failed nest	**STICK** - stick brought to nest

Young Age Codes	
1 - 1 to 2 wks old	**3 -** 4 to 6 wks old
2 - 2 to 4 wks old	**4 -** 6 to 8 wks old

Observer Location	Tree No.	Nest No.	Nest Location	Nest Active? (Y/N)	Nest Status	No. Adults	No. Young	Age of Young	Nest Activities	Comments
OB1	A	1	70%	N		0	0			
OB1	A	2	55%	N		0	0			
OB1	B	3	65%	N		0	0			
OB1	C	4	80%	N		0	0			
OB1	C	5	55%	N		0	0			
OB1	D	6	70%	N		0	0			
OB1	E	7	60%	N		0	0			
OB1	F	8	55%	N		0	0			
OB1	G	9	45%	N		0	0			
OB1	H	10	85%	N		0	0			

Great Blue Heron Data Sheet - Colony Reproductive Productivity

Colony Name: Coffin Butte - West **Colony Code:** #2683

Date: 08/15/2022 **Visit No:** 6 **Previous Visit Date:** 07/12/2022

Arrival Time: 18:20 **Departure Time:** 20:20

Observers: Stephanie James

Weather: Clear, calm, dry

Comments: No GBHE observed. Two juv BAEA inspected some of the stick nests. Two RTHA adults seen and heard, likely occupying a stick nest in the rookery.

Nest Status Codes	Nest Activity Code eg's
STD - adult standing	**1AS/2AS -** 1 or 2 adult stand
INC - incubation	**ASN -** adult stand near
YNG - young in nest	**EX -** adult exchange
NV - birds not visible	**COP -** copulatory behaviour
FN - failed nest	**STICK** - stick brought to nest

Young Age Codes	
1 - 1 to 2 wks old	**3 -** 4 to 6 wks old
2 - 2 to 4 wks old	**4 -** 6 to 8 wks old

Observer Location	Tree No.	Nest No.	Nest Location	Nest Active? (Y/N)	Nest Status	No. Adults	No. Young	Age of Young	Nest Activities	Comments
OB1	A	1	70%	N		0	0			
OB1	A	2	55%	N		0	0			
OB1	B	3	65%	N		0	0			
OB1	C	4	80%	N		0	0			
OB1	C	5	55%	N		0	0			
OB1	D	6	70%	N		0	0			
OB1	E	7	60%	N		0	0			
OB1	F	8	55%	N		0	0			
OB1	G	9	45%	N		0	0			
OB1	H	10	85%	N		0	0			

Great Blue Heron - Coffin Butte Landfill Annual Colony Visits Summary

Colony Name: Coffin Butte - West **Colony Code:** #2683

Date: 8/20/2022 **No. of Visits:** 6

Observers: S. James

Weather: Surveys conditions were calm and dry or with light pricipitation

GPS Coordinates: 44.6988, -123.2235

Comments: No GBHE observed in the rookery site. RTHA are likely nesting in an abandoned stick nest within the rookery site.

No. Data Sheets Used in Season:	
	Summary
	Tree Mapping
	Disturbance
X	Reproductive Productivity
	Arrival/Departure
	Colony Floor Search
	Climbing

Individual Nest Information				1st Visit Date: 02/17/2022			2nd Visit Date: 03/22/2022			3rd Visit Date: 04/28/2022					Comments
From Where	Tree No.	Nest No.	Nest Location	Nest Status	No. Young	Age of Young	Nest Status	No. Young	Age of Young	Nest Status	No. Young	Age of Young			
OB1	A	1	70%												INACTIVE
OB1	A	2	55%												INACTIVE
OB1	B	3	65%												INACTIVE
OB1	C	4	80%												INACTIVE
OB1	C	5	55%												INACTIVE
OB1	D	6	70%												INACTIVE
OB1	E	7	60%												INACTIVE
OB1	F	8	55%												INACTIVE
OB1	G	9	45%												INACTIVE
OB1	H	10	85%												INACTIVE

Great Blue Heron - Coffin Butte Landfill Annual Colony Visits Summary

Colony Name: **Colony Code:**

Date: 8/20/2022 **No. of Visits:** 6

Observers: S. James

Weather: Surveys conditions were calm and dry or with light pricipitation

GPS Coordinates: 44.6988, -123.2235

Comments:

No. Data Sheets Used in Season:	
	Summary
	Tree Mapping
	Disturbance
X	Reproductive Productivity
	Arrival/Departure
	Colony Floor Search
	Climbing

Individual Nest Information				4th Visit Date: 06/01/2022			5th Visit Date: 7/12/22			6th Visit Date: 08/15/2022			Nest Success Summary		Comments
From Where	Tree No.	Nest No.	Nest Location	Nest Status	No. Young	Age of Young	Nest Status	No. Young	Age of Young	Nest Status	No. Young	Age of Young	Y/N	No. Fledged	
OB1	A	1	70%										N	0	INACTIVE
OB1	A	2	55%										N	0	INACTIVE
OB1	B	3	65%										N	0	INACTIVE
OB1	C	4	80%										N	0	INACTIVE
OB1	C	5	55%										N	0	INACTIVE
OB1	D	6	70%										N	0	INACTIVE
OB1	E	7	60%										N	0	INACTIVE
OB1	F	8	55%										N	0	INACTIVE
OB1	G	9	45%										N	0	INACTIVE
OB1	H	10	85%										N	0	INACTIVE

Great Blue Heron Data Sheet - Colony Reproductive Productivity

Colony Name: Coffin Butte - East **Colony Code:** #2716

Date: 02/17/2022 **Visit No:** 1 **Previous Visit Date:**

Arrival Time: 10:42 **Departure Time:**12:42

Observers: Stephanie James

Weather: Partly cloudy, misty, calm

Comments: Eleven stick nests observed, one active.

Nest Status Codes	Nest Activity Code eg's
STD - adult standing	**1AS/2AS -** 1 or 2 adult stand
INC - incubation	**ASN -** adult stand near
YNG - young in nest	**EX -** adult exchange
NV - birds not visible	**COP -** copulatory behaviour
FN - failed nest	**STICK** - stick brought to nest

Young Age Codes	
1 - 1 to 2 wks old	**3 -** 4 to 6 wks old
2 - 2 to 4 wks old	**4 -** 6 to 8 wks old

Observer Location	Tree No.	Nest No.	Nest Location	Nest Active? (Y/N)	Nest Status	No. Adults	No. Young	Age of Young	Nest Activities	Comments
OB2	A	1	50%	Y	STD	1	0		1AS, STICK	
OB2	B	2	45%	N						
OB2	C	3	70%	N						
OB2	D	4	65%	N						
OB2	B	5	60%	N						
OB2	E	6	60%	N						
OB2	F	7	60%	N						
OB2	F	8	50%	N						
OB2	G	9	55%	N						
OB2	G	10	50%	N						
OB2	H	11	60%	N						

Great Blue Heron Data Sheet - Colony Reproductive Productivity

Colony Name: Coffin Butte - East **Colony Code:** #2716

Date: 03/22/2022 **Visit No:** 2 **Previous Visit Date:** 02/17/2022

Arrival Time: 11:39 **Departure Time:** 13:48

Observers: Stephanie James

Weather: Partly cloudy, misty, calm

Comments: Eleven stick nests observed, eleven active.

Nest Status Codes	Nest Activity Code eg's
STD - adult standing	**1AS/2AS -** 1 or 2 adult stand
INC - incubation	**ASN -** adult stand near
YNG - young in nest	**EX -** adult exchange
NV - birds not visible	**COP -** copulatory behaviour
FN - failed nest	**STICK** - stick brought to nest

Young Age Codes	
1 - 1 to 2 wks old	**3 -** 4 to 6 wks old
2 - 2 to 4 wks old	**4 -** 6 to 8 wks old

Observer Location	Tree No.	Nest No.	Nest Location	Nest Active? (Y/N)	Nest Status	No. Adults	No. Young	Age of Young	Nest Activities	Comments
OB2	A	1	50%	Y	STD	1	0		1AS, STICK	
OB2	B	2	45%	Y	STD	2	0		2AS	
OB2	C	3	70%	Y	STD	1	0		1AS	
OB2	D	4	65%	Y	STD	1	0		1AS	
OB2	B	5	60%	Y	STD	3	0		2AS, ASN	
OB2	E	6	60%	Y	STD	1	0		1AS, STICK	
OB2	F	7	60%	Y	STD	2	0		1AS, ASN	
OB2	F	8	50%	Y	STD	1	0		ASN	
OB2	G	9	55%	Y	STD	2	0		1AS, ASN	
OB2	G	10	50%	Y	STD	2	0		1AS, ASN, STICK	
OB2	H	11	60%	Y	STD	1	0		1AS, STICK	

Great Blue Heron Data Sheet - Colony Reproductive Productivity

Colony Name: Coffin Butte - East **Colony Code:** #2716

Date: 04/28/2022 **Visit No:** 3 **Previous Visit Date:** 03/22/2022

Arrival Time: 10:02 **Departure Time:** 12:36

Observers: Stephanie James

Weather: Partly cloudy, misty, calm

Comments: Fouteen stick nests observed, all active.

Nest Status Codes	Nest Activity Code eg's
STD - adult standing	**1AS/2AS -** 1 or 2 adult stand
INC - incubation	**ASN -** adult stand near
YNG - young in nest	**EX -** adult exchange
NV - birds not visible	**COP -** copulatory behaviour
FN - failed nest	**STICK** - stick brought to nest

Young Age Codes	
1 - 1 to 2 wks old	**3 -** 4 to 6 wks old
2 - 2 to 4 wks old	**4 -** 6 to 8 wks old

Observer Location	Tree No.	Nest No.	Nest Location	Nest Active? (Y/N)	Nest Status	No. Adults	No. Young	Age of Young	Nest Activities	Comments
OB2	A	1	50%	Y	STD	1	0		1AS	
OB2	B	2	45%	Y	STD	2	0		2AS	
OB2	C	3	70%	Y	STD	1	0		1AS	
OB2	D	4	65%	Y	STD	1	0		1AS	
OB2	B	5	60%	Y	STD	3	0		2AS	
OB2	E	6	60%	Y	INC	1	0		1AS	Possibly turning eggs in nest
OB2	F	7	60%	Y	STD	2	0		1AS, ASN	
OB2	F	8	50%	Y	STD	1	0		ASN	
OB2	G	9	55%	Y	STD	2	0		1AS, ASN	
OB2	G	10	50%	Y	STD	2	0		1AS, ASN	
OB2	H	11	60%	Y	STD	1	0		1AS, STICK	
OB2	I	12	55%	Y	STD	1	0		1AS, STICK	
OB2	J	13	45%	Y	STD	1	0		1AS	
OB2	K	14	60%	Y	STD	1	0		1AS	

Great Blue Heron Data Sheet - Colony Reproductive Productivity

Colony Name: Coffin Butte - East **Colony Code:** #2716

Date: 06/01/2022 **Visit No:** 4 **Previous Visit Date:** 04/28/2022

Arrival Time: 14:33 **Departure Time:** 16:38

Observers: Stephanie James

Weather: Clear, dry, calm

Comments: Four BAEA juveniles visited most of the nests, in groups of two or four. No GBHE observed during survey.

Nest Status Codes	Nest Activity Code eg's
STD - adult standing	**1AS/2AS -** 1 or 2 adult stand
INC - incubation	**ASN -** adult stand near
YNG - young in nest	**EX -** adult exchange
NV - birds not visible	**COP -** copulatory behaviour
FN - failed nest	**STICK** - stick brought to nest

Young Age Codes	
1 - 1 to 2 wks old	**3 -** 4 to 6 wks old
2 - 2 to 4 wks old	**4 -** 6 to 8 wks old

Observer Location	Tree No.	Nest No.	Nest Location	Nest Active? (Y/N)	Nest Status	No. Adults	No. Young	Age of Young	Nest Activities	Comments
OB2	A	1	50%	N	FN	0	0			4 Juv BAEAs visited nest
OB2	B	2	45%	N	FN	0	0			2 Juv BAEAs visited nest
OB2	C	3	70%	N	FN	0	0			2 Juv BAEAs visited nest
OB2	D	4	65%	N	FN	0	0			4 Juv BAEAs visited nest
OB2	B	5	60%	N	FN	0	0			
OB2	E	6	60%	N	FN	0	0			4 Juv BAEAs visited nest
OB2	F	7	60%	N	FN	0	0			2 Juv BAEAs visited nest
OB2	F	8	50%	N	FN	0	0			
OB2	G	9	55%	N	FN	0	0			2 Juv BAEAs visited nest
OB2	G	10	50%	N	FN	0	0			2 Juv BAEAs visited nest
OB2	H	11	60%	N	FN	0	0			
OB2	I	12	55%	N	FN	0	0			2 Juv BAEAs visited nest
OB2	J	13	45%	N	FN	0	0			2 Juv BAEAs visited nest
OB2	K	14	60%	N	FN	0	0			

Great Blue Heron Data Sheet - Colony Reproductive Productivity

Colony Name: Coffin Butte - East **Colony Code:** #2716

Date: 07/12/2022 **Visit No:** 5 **Previous Visit Date:** 06/01/2022

Arrival Time: 09:08 **Departure Time:** 11:08

Observers: Stephanie James

Weather: Clear, dry, calm

Comments: No GBHE observed during survey.

Nest Status Codes	Nest Activity Code eg's
STD - adult standing	**1AS/2AS -** 1 or 2 adult stand
INC - incubation	**ASN -** adult stand near
YNG - young in nest	**EX -** adult exchange
NV - birds not visible	**COP -** copulatory behaviour
FN - failed nest	**STICK** - stick brought to nest

Young Age Codes	
1 - 1 to 2 wks old	**3 -** 4 to 6 wks old
2 - 2 to 4 wks old	**4 -** 6 to 8 wks old

Observer Location	Tree No.	Nest No.	Nest Location	Nest Active? (Y/N)	Nest Status	No. Adults	No. Young	Age of Young	Nest Activities	Comments
OB2	A	1	50%	N	FN	0	0			
OB2	B	2	45%	N	FN	0	0			
OB2	C	3	70%	N	FN	0	0			
OB2	D	4	65%	N	FN	0	0			
OB2	B	5	60%	N	FN	0	0			
OB2	E	6	60%	N	FN	0	0			
OB2	F	7	60%	N	FN	0	0			
OB2	F	8	50%	N	FN	0	0			
OB2	G	9	55%	N	FN	0	0			
OB2	G	10	50%	N	FN	0	0			
OB2	H	11	60%	N	FN	0	0			
OB2	I	12	55%	N	FN	0	0			
OB2	J	13	45%	N	FN	0	0			
OB2	K	14	60%	N	FN	0	0			

Great Blue Heron Data Sheet - Colony Reproductive Productivity

Colony Name: Coffin Butte - East **Colony Code:** #2716

Date: 08/15/2022 **Visit No:** 6 **Previous Visit Date:** 07/12/2022

Arrival Time: 16:15 **Departure Time:** 18:15

Observers: Stephanie James

Weather: Clear, dry, calm

Comments: No GBHE observed during survey.

Nest Status Codes	Nest Activity Code eg's
STD - adult standing	**1AS/2AS -** 1 or 2 adult stand
INC - incubation	**ASN -** adult stand near
YNG - young in nest	**EX -** adult exchange
NV - birds not visible	**COP -** copulatory behaviour
FN - failed nest	**STICK** - stick brought to nest

Young Age Codes	
1 - 1 to 2 wks old	**3 -** 4 to 6 wks old
2 - 2 to 4 wks old	**4 -** 6 to 8 wks old

Observer Location	Tree No.	Nest No.	Nest Location	Nest Active? (Y/N)	Nest Status	No. Adults	No. Young	Age of Young	Nest Activities	Comments
OB2	A	1	50%	N	FN	0	0			
OB2	B	2	45%	N	FN	0	0			
OB2	C	3	70%	N	FN	0	0			
OB2	D	4	65%	N	FN	0	0			
OB2	B	5	60%	N	FN	0	0			
OB2	E	6	60%	N	FN	0	0			
OB2	F	7	60%	N	FN	0	0			
OB2	F	8	50%	N	FN	0	0			
OB2	G	9	55%	N	FN	0	0			
OB2	G	10	50%	N	FN	0	0			
OB2	H	11	60%	N	FN	0	0			
OB2	I	12	55%	N	FN	0	0			
OB2	J	13	45%	N	FN	0	0			
OB2	K	14	60%	N	FN	0	0			

Great Blue Heron - Coffin Butte Landfill Annual Colony Visits Summary

Colony Name: Coffin Butte - East **Colony Code:** #2716

Date: 8/20/2022 **No. of Visits:** 6

Observers: S. James

Weather: Surveys conditions were calm and dry or with light pricipitation

GPS Coordinates: 44.6959, -123.2316

Comments: GBHE adults were observed nest building, potentially, incubating eggs during March, April. After June 1, no GBHE observed, 2-4 juvenile BAEA visited/raided most nests.

No. Data Sheets Used in Season:	
	Summary
	Tree Mapping
	Disturbance
X	Reproductive Productivity
	Arrival/Departure
	Colony Floor Search
	Climbing

Individual Nest Information				1st Visit Date: 02/17/2022			2nd Visit Date: 03/22/2022			3rd Visit Date: 04/28/2022					Comments
From Where	Tree No.	Nest No.	Nest Location	Nest Status	No. Young	Age of Young	Nest Status	No. Young	Age of Young	Nest Status	No. Young	Age of Young			
OB2	A	1	50%	STD	0		STD	0		STD	0				
OB2	B	2	45%				STD	0		STD	0				
OB2	C	3	70%				STD	0		STD	0				
OB2	D	4	65%				STD	0		STD	0				
OB2	B	5	60%				STD	0		STD	0				
OB2	E	6	60%				STD	0		INC	0				
OB2	F	7	60%				STD	0		STD	0				
OB2	F	8	50%				STD	0		STD	0				
OB2	G	9	55%				STD	0		STD	0				
OB2	G	10	50%				STD	0		STD	0				
OB2	H	11	60%				STD	0		STD	0				
OB2	I	12	55%							STD	0				New nest in Apr.
OB2	J	13	45%							STD	0				New nest in Apr.
OB2	E	14	60%							NV	0				New nest in Apr.

Great Blue Heron - Coffin Butte Landfill Annual Colony Visits Summary

Colony Name: Coffin Butte - East **Colony Code:** #2716

Date: 8/20/2022 **No. of Visits:** 6

Observers: S. James

Weather: Surveys conditions were calm and dry or with light pricipitation

GPS Coordinates: 44.6959, -123.2316

Comments:

No. Data Sheets Used in Season:	
	Summary
	Tree Mapping
	Disturbance
X	Reproductive Productivity
	Arrival/Departure
	Colony Floor Search
	Climbing

Individual Nest Information				4th Visit Date: 06/01/2022			5th Visit Date: 7/12/22			6th Visit Date: 08/15/2022			Nest Success Summary		Comments
From Where	Tree No.	Nest No.	Nest Location	Nest Status	No. Young	Age of Young	Nest Status	No. Young	Age of Young	Nest Status	No. Young	Age of Young	Y/N	No. Fledged	
OB2	A	1	50%	FN	0		FN	0		FN	0		N		Juv. BAEA
OB2	B	2	45%	FN	0		FN	0		FN	0		N		Juv. BAEA
OB2	C	3	70%	FN	0		FN	0		FN	0		N		Juv. BAEA
OB2	D	4	65%	FN	0		FN	0		FN	0		N		Juv. BAEA
OB2	B	5	60%	FN	0		FN	0		FN	0		N		
OB2	E	6	60%	FN	0		FN	0		FN	0		N		Juv. BAEA
OB2	F	7	60%	FN	0		FN	0		FN	0		N		Juv. BAEA
OB2	F	8	50%	FN	0		FN	0		FN	0		N		
OB2	G	9	55%	FN	0		FN	0		FN	0		N		Juv. BAEA
OB2	G	10	50%	FN	0		FN	0		FN	0		N		Juv. BAEA
OB2	H	11	60%	FN	0		FN	0		FN	0		N		
OB2	I	12	55%	FN	0		FN	0		FN	0		N		Juv. BAEA
OB2	J	13	45%	FN	0		FN	0		FN	0		N		Juv. BAEA
OB2	E	14	60%	FN	0		FN	0		FN	0		N		

Bald Eagle Observation Data Sheet - Coffin Butte Landfill

Date:	02/22/2024	**Visit No:**	1	**Most BAEA adults observed at one time:**	1
Observer(s):	S. McCord	**Arrival Time:**	07:45	**Most BAEA juveniles observed at one time:**	3
Weather:	Some fog, scattered clouds, calm,dry	**Departure Time:**	11:48	**Most GOEA adults observed at one time:**	1
Comments:	GOEA seen soaring over landfill. BAEA adult and 3 immature seen soaring over landfill.			**Most GOEA juveniles observed at one time:**	0

Date:	04/04/2024	**Visit No:**	2	**Most BAEA adults observed at one time:**	1
Observer(s):	S. McCord	**Arrival Time:**	07:47	**Most BAEA juveniles observed at one time:**	2
Weather:	Dry, calm, overcast	**Departure Time:**	11:50	**Most GOEA adults observed at one time:**	0
Comments:	1 adult BAEA, 2 juvenile BAEA observed over the landfill			**Most GOEA juveniles observed at one time:**	0

Date:	04/19/2024	**Visit No:**	3	**Most BAEA adults observed at one time:**	10
Observer(s):	S. McCord	**Arrival Time:**	10:44	**Most BAEA juveniles observed at one time:**	7
Weather:	Breezy, clear, dry	**Departure Time:**	14:46	**Most GOEA adults observed at one time:**	0
Comments:	10 adults and 7 juveniles (17 soaring a thermal together!) BAEA			**Most GOEA juveniles observed at one time:**	0

Date:	05/30/2024	**Visit No:**	4	**Most BAEA adults observed at one time:**	4
Observer(s):	S. McCord	**Arrival Time:**	07:56	**Most BAEA juveniles observed at one time:**	4
Weather:	Breezy, scattered clouds, dry	**Departure Time:**	12:00	**Most GOEA adults observed at one time:**	0
Comments:	4 adults and 4 juvenile BAEA observed over the landfill			**Most GOEA juveniles observed at one time:**	0

Date:	06/28/2024	**Visit No:**	5	**Most BAEA adults observed at one time:**	2
Observer(s):	S. McCord	**Arrival Time:**	06:52	**Most BAEA juveniles observed at one time:**	2
Weather:	Breezy, scattered clouds, dry	**Departure Time:**	11:00	**Most GOEA adults observed at one time:**	0
Comments:	2 adults and 2 juvenile BAEA observed over the landfill			**Most GOEA juveniles observed at one time:**	0

Date:		**Visit No:**		**Most BAEA adults observed at one time:**	
Observer(s):		**Arrival Time:**		**Most BAEA juveniles observed at one time:**	
Weather:		**Departure Time:**		**Most GOEA adults observed at one time:**	
Comments:				**Most GOEA juveniles observed at one time:**	

Bald Eagle Observation Data Sheet - Coffin Butte Landfill

Date:	03/01/2023	**Visit No:**	1	**Most BAEA adults observed at one time:**	6
Observer(s):	S. James	**Arrival Time:**	08:25	**Most BAEA juveniles observed at one time:**	5
Weather:	Partly cloudy, dry, calm	**Departure Time:**	12:30	**Most GOEA adults observed at one time:**	0
Comments:	BAEA adults and juveniles were seen soaring, perching, foraging, and commingling above and near the landfill.			**Most GOEA juveniles observed at one time:**	0

Date:	03/31/2023	**Visit No:**	2	**Most BAEA adults observed at one time:**	3
Observer(s):	S. McCord	**Arrival Time:**	08:32	**Most BAEA juveniles observed at one time:**	11
Weather:	Overcast,drizzlingrain,calm	**Departure Time:**	12:37	**Most GOEA adults observed at one time:**	0
Comments:	AEA adults and juveniles were seen soaring, perching, foraging, and commingling above and near the landfill.			**Most GOEA juveniles observed at one time:**	0

Date:	05/05/2023	**Visit No:**	3	**Most BAEA adults observed at one time:**	2
Observer(s):	S. McCord	**Arrival Time:**	08:20	**Most BAEA juveniles observed at one time:**	3
Weather:	Breezy, scattered clouds, dry	**Departure Time:**	13:05	**Most GOEA adults observed at one time:**	0
Comments:	Surprisingly few raptors visible this morning. Eagles soaring among some turkey vultures. May have been more on other side of landfill.			**Most GOEA juveniles observed at one time:**	0

Date:	05/19/2023	**Visit No:**	4	**Most BAEA adults observed at one time:**	3
Observer(s):	S. McCord	**Arrival Time:**	08:13	**Most BAEA juveniles observed at one time:**	5
Weather:	Breezy, scattered clouds, dry	**Departure Time:**	12:20	**Most GOEA adults observed at one time:**	0
Comments:	One adult BAEA perched in cottonwood rookery stand before flying back to dump. Eagles soaring and foraging above and near landfill.			**Most GOEA juveniles observed at one time:**	0

Date:	06/16/2023	**Visit No:**	5	**Most BAEA adults observed at one time:**	0
Observer(s):	S. McCord	**Arrival Time:**	08:47	**Most BAEA juveniles observed at one time:**	0
Weather:	Breezy, clear, dry	**Departure Time:**	12:49	**Most GOEA adults observed at one time:**	0
Comments:	No bald eagles observed. Vultures and corvids seen around landfill.			**Most GOEA juveniles observed at one time:**	0

Date:	07/21/2023	**Visit No:**	6	**Most BAEA adults observed at one time:**	2
Observer(s):	S. McCord	**Arrival Time:**	08:35	**Most BAEA juveniles observed at one time:**	0
Weather:	Clear, calm, dry	**Departure Time:**	12:40	**Most GOEA adults observed at one time:**	0
Comments:	2 adult bald eagles seen near landfill. No juveniles oberved. Vultures and corvids present.			**Most GOEA juveniles observed at one time:**	0

Bald Eagle Observation Data Sheet - Coffin Butte Landfill

Date:	02/22/2024	**Visit No:**	1	**Most BAEA adults observed at one time:**	1
Observer(s):	S. McCord	**Arrival Time:**	07:45	**Most BAEA juveniles observed at one time:**	3
Weather:	Some fog, scattered clouds, calm,dry	**Departure Time:**	11:48	**Most GOEA adults observed at one time:**	1
Comments:	GOEA seen soaring over landfill. BAEA adult and 3 immature seen soaring over landfill.			**Most GOEA juveniles observed at one time:**	0

Date:	04/04/2024	**Visit No:**	2	**Most BAEA adults observed at one time:**	1
Observer(s):	S. McCord	**Arrival Time:**	07:47	**Most BAEA juveniles observed at one time:**	2
Weather:	Dry, calm, overcast	**Departure Time:**	11:50	**Most GOEA adults observed at one time:**	0
Comments:	1 adult BAEA, 2 juvenile BAEA observed over the landfill			**Most GOEA juveniles observed at one time:**	0

Date:	04/19/2024	**Visit No:**	3	**Most BAEA adults observed at one time:**	10
Observer(s):	S. McCord	**Arrival Time:**	10:44	**Most BAEA juveniles observed at one time:**	7
Weather:	Breezy, clear, dry	**Departure Time:**	14:46	**Most GOEA adults observed at one time:**	0
Comments:	10 adults and 7 juveniles (17 soaring a thermal together!) BAEA			**Most GOEA juveniles observed at one time:**	0

Date:	05/30/2024	**Visit No:**	4	**Most BAEA adults observed at one time:**	4
Observer(s):	S. McCord	**Arrival Time:**	07:56	**Most BAEA juveniles observed at one time:**	4
Weather:	Breezy, scattered clouds, dry	**Departure Time:**	12:00	**Most GOEA adults observed at one time:**	0
Comments:	4 adults and 4 juvenile BAEA observed over the landfill			**Most GOEA juveniles observed at one time:**	0

Date:	06/28/2024	**Visit No:**	5	**Most BAEA adults observed at one time:**	2
Observer(s):	S. McCord	**Arrival Time:**	06:52	**Most BAEA juveniles observed at one time:**	2
Weather:	Breezy, scattered clouds, dry	**Departure Time:**	11:00	**Most GOEA adults observed at one time:**	0
Comments:	2 adults and 2 juvenile BAEA observed over the landfill			**Most GOEA juveniles observed at one time:**	0

Date:		**Visit No:**		**Most BAEA adults observed at one time:**	
Observer(s):		**Arrival Time:**		**Most BAEA juveniles observed at one time:**	
Weather:		**Departure Time:**		**Most GOEA adults observed at one time:**	
Comments:				**Most GOEA juveniles observed at one time:**	

Photo credit: S. James

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Submitted:

August 6, 2024

Addendum to the Final 2024 Report:

Wildlife Habitat Assessment and Surveys

for the Coffin Butte Landfill Expansion Project

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INTRODUCTION

Civil & Environmental Consultants, Inc. ("CEC") contracted Turnstone Environmental Consultants, Inc. ("Turnstone") to perform a wildlife study for the Coffin Butte Landfill Expansion Project Area ("Project Area"). This document is an addendum to the *Final 2024 Report: Wildlife Habitat Assessment and Surveys for the Coffin Butte Landfill Expansion Project* (Turnstone, 2024).

Great Blue Heron Rookery Monitoring

Turnstone biologists are monitoring two great blue heron rookeries located within the Coffin Butte Landfill Expansion Project Area (Figure 1). In 2022 and 2023, Turnstone biologists conducted six reproductive productivity surveys each year for nesting great blue herons in the two known rookery locations. In 2024, at the time the Final 2024 Report was finalized (July 12, 2024), Turnstone biologists had completed five out of six planned reproductive surveys for the great blue heron reproductive monitoring. The survey forms for the final sixth visit of 2024 great blue heron rookery monitoring are in Appendix A.

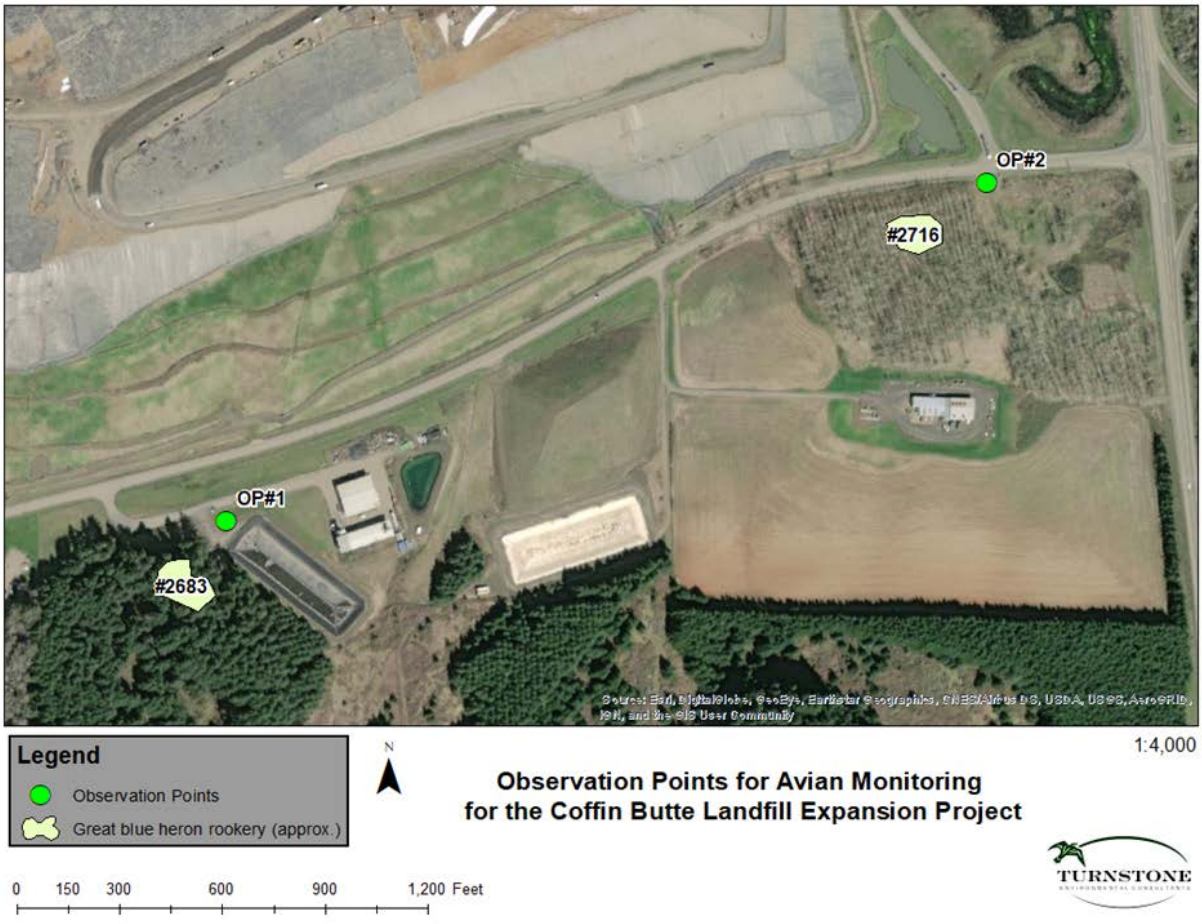

Figure 1. Great Blue Heron Rookeries in the Project Area and Observation Points

Year 3 Surveys (2024)

At the time of the finalization of this report (July 12, 2024), Turnstone biologists had conducted five of the six required daytime surveys at each rookery site from February 22 through June 28, 2024 (Turnstone, 2024). The final visit was conducted on July 18, 2024, and Turnstone biologists did not observe any great blue herons using the stick nests for nesting during any of the six visits at the two observation points. All surveys were conducted during mild weather conditions.

Table 1. 2024 Great Blue Heron Survey Results for the Western Rookery (#2683)

Observation Period	Survey Date	Surveyor	Results of Reproductive Monitoring	
			Great Blue Heron	Other Birds Observed in Nests
2/15 to 3/15	2/22	Sarah McCord	10 inactive nests	None
3/15 to 4/15	4/4	Sarah McCord	10 inactive nests	None
4/15 to 5/15	4/19	Sarah McCord	10 inactive nests	None
5/15 to 6/15	5/30	Sarah McCord	10 inactive nests	None
6/15 to 7/15	6/28	Sarah McCord	10 inactive nests	None
7/15 to 8/15	7/18	Sarah McCord	10 inactive nests	None

Table 2. 2024 Great Blue Heron Survey Results for the Eastern Rookery (#2716)

Observation Period	Survey Date	Surveyor	Results	
			Great Blue Heron	Other Birds Observed in Nests
2/15 to 3/15	2/22	Sarah McCord	13 inactive nests	None
3/15 to 4/15	4/4	Sarah McCord	13 inactive nests	None
4/15 to 5/15	4/19	Sarah McCord	13 inactive nests	None
5/15 to 6/15	5/30	Sarah McCord	13 inactive nests	None
6/15 to 7/15	6/28	Sarah McCord	13 inactive nests	None
7/15 to 8/15	7/18	Sarah McCord	13 inactive nests	None

Conclusion

Western Rookery (#2683)

During consecutive three years of protocol surveys (2022-2024), Turnstone biologists observed no active nesting by great blue herons within the western rookery (#2683). Three bird species were recorded visiting the stick nests during that time, including the common raven (*Corvus corax*), red-tailed hawk (*Buteo jamaicensis*), and bald eagle. A pair of red-tailed hawks were present during each survey, acting defensively, and are likely nesting in the in an abandoned stick nest the rookery in 2023. The western rookery is likely abandoned by great blue herons; therefore, the western rookery (#2683) is an abandoned Great Blue Heron Resource Site.

Eastern Rookery (#2716)

During Year 1 (2022) surveys, Turnstone biologists observed active nesting by great blue herons within the eastern rookery (#2716) during the first three survey periods; however, in early June the colony had failed, and juvenile bald eagles were observed visiting the majority of the nests.

A red-tailed hawk pair was observed nesting in an abandoned stick nest in the rookery in Year 2 (2023). No great blue herons were observed in the eastern rookery (#2716) during any of the six 2023 reproductive productivity surveys; therefore, the rookery is considered inactive for 2023.

As with the western rookery, the eastern rookery is likely also abandoned by great blue herons. The eastern rookery (#2716) is considered inactive for 2024. Turnstone recommends continuing surveys in 2025 to determine if the eastern rookery is inactive for a third consecutive year, which would deem this Great Blue Heron Resource Site officially abandoned.

APPENDIX A: FIELD FORMS

Great Blue Heron Data Sheet - Colony Reproductive Productivity

Colony Name: Coffin Butte - West **Colony Code:** #2683

Date: 07/18/2024 **Visit No:** 5 **Previous Visit Date:** 05/30/2024

Arrival Time: 07:22 **Departure Time:** 09:22

Observers: Sarah McCord

Weather: Breezy, scattered clouds, dry

Comments: No herons observed.

Nest Status Codes	Nest Activity Code eg's
STD - adult standing	**1AS/2AS -** 1 or 2 adult stand
INC - incubation	**ASN -** adult stand near
YNG - young in nest	**EX -** adult exchange
NV - birds not visible	**COP -** copulatory behaviour
FN - failed nest	**STICK** - stick brought to nest

Young Age Codes	
1 - 1 to 2 wks old	**3 -** 4 to 6 wks old
2 - 2 to 4 wks old	**4 -** 6 to 8 wks old

Observer Location	Tree No.	Nest No.	Nest Location	Nest Active? (Y/N)	Nest Status	No. Adults	No. Young	Age of Young	Nest Activities	Comments
OB1	A	1	70%	N		0	0			
OB1	A	2	55%	N		0	0			
OB1	B	3	65%	N		0	0			
OB1	C	4	80%	N		0	0			
OB1	C	5	55%	N		0	0			
OB1	D	6	70%	N		0	0			
OB1	E	7	60%	N		0	0			
OB1	F	8	55%	N		0	0			
OB1	G	9	45%	N		0	0			
OB1	H	10	85%	N		0	0			

Great Blue Heron - Coffin Butte Landfill Annual Colony Visits Summary

Colony Name: Coffin Butte - West **Colony Code:** #2683

Date: 8/6/2024 **No. of Visits:** 6

Observers: S. McCord

Weather: Surveys conditions were calm and dry or with light precipitation

GPS Coordinates: 44.6988, -123.2235

Comments: No GBHE observed in the rookery.

No. Data Sheets Used in Season:	
	Summary
	Tree Mapping
	Disturbance
X	Reproductive Productivity
	Arrival/Departure
	Colony Floor Search
	Climbing

Individual Nest Information				1st Visit Date: 02/22/2024			2nd Visit Date: 04/04/2024			3rd Visit Date: 04/19/2024					Comments
From Where	Tree No.	Nest No.	Nest Location	Nest Status	No. Young	Age of Young	Nest Status	No. Young	Age of Young	Nest Status	No. Young	Age of Young			
OB1	A	1	70%												INACTIVE
OB1	A	2	55%												INACTIVE
OB1	B	3	65%												INACTIVE
OB1	C	4	80%												INACTIVE
OB1	C	5	55%												INACTIVE
OB1	D	6	70%												INACTIVE
OB1	E	7	60%												INACTIVE
OB1	F	8	55%												INACTIVE
OB1	G	9	45%												INACTIVE
OB1	H	10	85%												INACTIVE

Great Blue Heron - Coffin Butte Landfill Annual Colony Visits Summary

Colony Name: Coffin Butte - West **Colony Code:** #2683

Date: 8/6/2024 **No. of Visits:** 6

Observers: S. McCord

Weather: Surveys conditions were calm and dry or with light precipitation

GPS Coordinates: 44.6988, -123.2235

Comments:

No. Data Sheets Used in Season:	
	Summary
	Tree Mapping
	Disturbance
X	Reproductive Productivity
	Arrival/Departure
	Colony Floor Search
	Climbing

Individual Nest Information				4th Visit Date: 05/30/2024			5th Visit Date: 6/28/24			6th Visit Date: 07/18/2024			Nest Success Summary		Comments
From Where	Tree No.	Nest No.	Nest Location	Nest Status	No. Young	Age of Young	Nest Status	No. Young	Age of Young	Nest Status	No. Young	Age of Young	Y/N	No. Fledged	
OB1	A	1	70%										N	0	INACTIVE
OB1	A	2	55%										N	0	INACTIVE
OB1	B	3	65%										N	0	INACTIVE
OB1	C	4	80%										N	0	INACTIVE
OB1	C	5	55%										N	0	INACTIVE
OB1	D	6	70%										N	0	INACTIVE
OB1	E	7	60%										N	0	INACTIVE
OB1	F	8	55%										N	0	INACTIVE
OB1	G	9	45%										N	0	INACTIVE
OB1	H	10	85%										N	0	INACTIVE

Great Blue Heron Data Sheet - Colony Reproductive Productivity

Colony Name: Coffin Butte - East **Colony Code:** #2716

Date: 07/18/2024 **Visit No:** 5 **Previous Visit Date:** 06/28/2024

Arrival Time: 09:29 **Departure Time:** 11:29

Observers: Sarah McCord

Weather: Scattered clouds, dry, breezy

Comments: No herons observed.

Nest Status Codes	Nest Activity Code eg's
STD - adult standing	**1AS/2AS -** 1 or 2 adult stand
INC - incubation	**ASN -** adult stand near
YNG - young in nest	**EX -** adult exchange
NV - birds not visible	**COP -** copulatory behaviour
FN - failed nest	**STICK** - stick brought to nest

Young Age Codes	
1 - 1 to 2 wks old	**3 -** 4 to 6 wks old
2 - 2 to 4 wks old	**4 -** 6 to 8 wks old

Observer Location	Tree No.	Nest No.	Nest Location	Nest Active? (Y/N)	Nest Status	No. Adults	No. Young	Age of Young	Nest Activities	Comments
OB2	A	1	50%	N						
OB2	B	2	45%	N						
OB2	C	3	70%	N						
OB2	D	4	65%	N						
OB2	B	5	60%	N						
OB2	E	6	60%	N						
OB2	F	7	60%	N						
OB2	F	8	0%	N						Nest missing from tree
OB2	G	9	55%	N						
OB2	G	10	50%	N						
OB2	H	11	60%	N						
OB2	I	12	55%	N						
OB2	J	13	45%	N						
OB2	K	14	60%	N						

Great Blue Heron - Coffin Butte Landfill Annual Colony Visits Summary

Colony Name: Coffin Butte - East **Colony Code:** #2716

Date: 8/6/2024 **No. of Visits:** 6

Observers: S. McCord

Weather: Surveys conditions were dry and calm or breezy

GPS Coordinates: 44.6959, -123.2316

Comments: No GBHE observed in the stand.. STJA, RTHA and BAEA were observed in the stand.

No. Data Sheets Used in Season:	
	Summary
	Tree Mapping
	Disturbance
X	Reproductive Productivity
	Arrival/Departure
	Colony Floor Search
	Climbing

Individual Nest Information				1st Visit Date: 02/22/2024			2nd Visit Date: 03/31/2023			3rd Visit Date: 04/19/2024					Comments
From Where	Tree No.	Nest No.	Nest Location	Nest Status	No. Young	Age of Young	Nest Status	No. Young	Age of Young	Nest Status	No. Young	Age of Young			
OB2	A	1	50%												INACTIVE
OB2	B	2	45%												INACTIVE
OB2	C	3	70%												INACTIVE
OB2	D	4	65%												INACTIVE
OB2	B	5	60%												INACTIVE
OB2	E	6	60%												INACTIVE
OB2	F	7	60%												INACTIVE
OB2	F	8	0%												Nest missing
OB2	G	9	55%												INACTIVE
OB2	G	10	50%												INACTIVE
OB2	H	11	60%												INACTIVE
OB2	I	12	55%												INACTIVE
OB2	J	13	45%												INACTIVE
OB2	E	14	60%												INACTIVE.

Great Blue Heron - Coffin Butte Landfill Annual Colony Visits Summary

Colony Name: Coffin Butte - East **Colony Code:** #2716

Date: 8/6/2024 **No. of Visits:** 6

Observers: S. McCord

Weather: Surveys conditions were dry and calm or breezy

GPS Coordinates: 44.6959, -123.2316

Comments:

No. Data Sheets Used in Season:	
	Summary
	Tree Mapping
	Disturbance
X	Reproductive Productivity
	Arrival/Departure
	Colony Floor Search
	Climbing

Individual Nest Information				4th Visit Date: 05/30/2024			5th Visit Date: 6/28/24			6th Visit Date: 07/18/2024			Nest Success Summary		Comments
From Where	Tree No.	Nest No.	Nest Location	Nest Status	No. Young	Age of Young	Nest Status	No. Young	Age of Young	Nest Status	No. Young	Age of Young	Y/N	No. Fledged	
OB2	A	1	50%										N	0	INACTIVE
OB2	B	2	45%										N	0	INACTIVE
OB2	C	3	70%										N	0	INACTIVE
OB2	D	4	65%										N	0	INACTIVE
OB2	B	5	60%										N	0	INACTIVE
OB2	E	6	60%										N	0	INACTIVE
OB2	F	7	60%										N	0	Nest missing
OB2	F	8	0%										N	0	INACTIVE
OB2	G	9	55%										N	0	INACTIVE
OB2	G	10	50%										N	0	INACTIVE
OB2	H	11	60%										N	0	INACTIVE
OB2	I	12	55%										N	0	INACTIVE
OB2	J	13	45%										N	0	INACTIVE
OB2	E	14	60%										N	0	INACTIVE

EXHIBIT 5
PHASE II GEOTECHNICAL EXPLORATION REPORT

WALLACE GROUP
NORTHWEST GEOSYSTEM EXPERTS

PHASE II GEOTECHNICAL EXPLORATION REPORT
COFFIN BUTTE LANDFILL SOUTH EXPANSION AREA
28972 COFFIN BUTTE ROAD
CORVALLIS, OREGON

July 15, 2024

Wallace Group Project No. 21129 (1)

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A Report Prepared For:

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PHASE II GEOTECHNICAL EXPLORATION REPORT
COFFIN BUTTE LANDFILL SOUTH EXPANSION AREA
28972 COFFIN BUTTE ROAD
CORVALLIS, OREGON

Wallace Group Project Number 21129 (1)

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EXECUTIVE SUMMARY

The Wallace Group, Inc., (Wallace Group) completed geotechnical-engineering explorations for the proposed Coffin Butte Landfill South Expansion Area, located in Corvallis, Oregon (**Figure 1**, *Vicinity Map*). A figure with exploration locations is shown on **Figure 2**, *Exploration Location Map*. Wallace Group performed the geotechnical explorations in two phases, beginning in September 2021. Before a Phase I geotechnical exploration report was published, Wallace Group performed additional subsurface explorations, beginning in November 2022. Thus, this exploration report is considered the Phase II geotechnical exploration report.

Coffin Butte Landfill (CBLF) is an operating municipal solid waste disposal facility owned and operated by Valley Landfills, Inc. Draft development plans were provided by Civil and Environmental Consultants, Inc. (CEC), dated April 2022. Based on the draft development plans, a new landfill cell is planned south of the existing CBLF cells and Coffin Butte Road. Construction for the expansion area will include cuts of up to 155 feet into the northern flank of Tampico Ridge. To construct the planned access roads, up to 50 feet of structural fill will be placed within the valley in the south-central portion of the site and up to 10 feet of structural fill will be placed northeast of the new cell. Two new leachate ponds will be constructed east of the new cell and cuts for pond construction will be up to 50 feet deep. Additional improvements will include the construction of a new landfill administration office, asphalt-paved parking lot, and access roads.

Subsurface explorations generally encountered 6- to 25-feet of fine-grained alluvium (Willamette Silt) underlain by weathered basalt and basalt in the lower elevations. Competent basalt was encountered in the lower elevations at depths ranging between 22- and 65-feet below ground surface (bgs). The higher elevations of the site are underlain by fine-grained to coarse-grained colluvium and volcanic saprolites, which are generally coarser with increasing elevation. These soils are underlain by brecciated and altered basalt bedrock, with the depth to rock generally decreasing with increased elevation. On the western hillside of Tampico Ridge, basalt was encountered at depths ranging between 10- and 25-feet bgs. On the eastern hillslope, surface soil was generally weaker than the western hillslope and basalt was encountered at depths ranging between 19- and 45-feet bgs. In the valley formed between the two hillsides, the depth to basalt ranged from 21- to 23-feet bgs.

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Based on this exploration, the sites appear suitable for the expected development from a geotechnical perspective, provided the recommendations contained in this report are incorporated into design and construction.

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1.0 INTRODUCTION

1.1 GENERAL

The Wallace Group performed geotechnical explorations in two phases, beginning in September 2021. Before a Phase I geotechnical exploration report was published, Wallace Group performed additional subsurface explorations, beginning in November 2022. Thus, this exploration report is considered the Phase II geotechnical exploration report.

The Wallace Group, Inc., (Wallace Group) completed a geotechnical-engineering exploration for the proposed Coffin Butte Landfill (CBLF) South Expansion Area, located at 28972 Coffin Butte Road, Corvallis, Oregon (**Figure 1**, *Vicinity Map*). CBLF is located approximately 11 miles north of downtown Corvallis. Figures with exploration locations are shown on **Figures 2a and 2b**, *Exploration Location Map*.

1.2 PROJECT DESCRIPTION

CBLF is an operating municipal solid waste disposal facility owned and operated by Valley Landfills, Inc. Development areas for the south expansion area include the following tax lots:

- Tax Lot 104180001101: 3.89-acres
- Tax Lot 104180001104: 3.80-acres
- Tax Lot 104180001107: 59.2-acres
- Tax Lot 104180001200: 82.7-acres

Draft development plans were provided by Civil and Environmental Consultants, Inc. (CEC), dated April 2022. Based on the draft development plans, a new landfill cell is proposed south of the existing CBLF cells and Coffin Butte Road. Construction for the expansion area will include cuts of up to 160-feet into the northern flank of Tampico Ridge. To facilitate the construction of new access roads, up to 50 feet of structural fill will be placed and compacted within the valley in the south-central portion of the site and up to 10 feet of structural fill will be placed northeast of the new cell. Two new leachate ponds will be constructed east of the proposed cell and cuts for pond construction will be up to 50-feet deep. Additional improvements will include the construction of a new landfill administration office, asphalt-paved parking lot, and access roads.

1.3 PURPOSE AND SCOPE OF SERVICES

The purpose of this exploration was to evaluate general subsurface conditions within the potential development areas and provide geotechnical design recommendations which will be

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incorporated into project documents for Oregon DEQ-approval prior to the start of construction. The geotechnical exploration and site characterization work performed by Wallace Group was conducted in general accordance with applicable sections of Oregon DEQ's Solid Waste Landfill Guidance and included the following tasks:

- Reviewed and evaluated available geologic, hydrogeologic, and geotechnical data for the Coffin Butte Landfill site and surrounding Benton County area.
- Notified the One-Call Utility Notification Service to identify any public or private utilities near the proposed exploration locations.
- Drilled nineteen (19) borings within the proposed landfill expansion and proposed leachate pond areas using a track-mounted drilling rig equipped with mud-rotary drilling/rock coring equipment.
- Excavated fifteen (15) backhoe test pits within the proposed landfill expansion and leachate pond areas.
- Performed nine (9) cone penetration tests (CPTs) and advanced geoprobes adjacent to the CPT locations within the proposed landfill expansion and leachate pond areas.
- Converted two borings into temporary piezometers to measure depth to groundwater.
- Supervised, sampled, and logged test pits and borings. Soil samples were retrieved, sealed, and transported to the Wallace Group's A2LA-accredited geotechnical laboratory for further evaluation and testing or distribution to other geotechnical laboratories for specialized geotechnical testing.
- Performed geotechnical laboratory testing to measure and confirm the engineering and index properties of the soil and rock materials encountered.
- Performed geotechnical engineering analyses and provided recommendations and design criteria for excavating into soil and rock, maintaining cell and pond slope stability, designing foundations for the planned office building, and performing the planned earthwork, including recommendations for fill placement and compaction, and site drainage.
- Prepared this geotechnical exploration report summarizing our findings, conclusions, and recommendations.

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2.0 FIELD EXPLORATION

2.1 SUBSURFACE EXPLORATION

Subsurface conditions were explored by advancing nineteen (19) borings (designated BH-01 through BH-19), fifteen (15) test pits (designated TP-01 through TP-05, TP-08 through TP-13, and TP-15 through TP-18), and nine (9) cone penetration tests (CPTs) with geoprobe sampling (designated GP/CPT-01 through GP/CPT-09). TP-06, TP-07, and TP-14 were not excavated due to conflicts with utilities and access or equipment failure.

Borings BH-01 through BH-14 were drilled between September 7 and 28, 2021 by Western States Soil Conservation Inc. of Hubbard, Oregon, and BH-15 through BH-19 were drilled between November 8 through 23, 2022 by HazTech Drilling of Nampa, Idaho. Test pits were excavated between August 16 and September 28, 2021, using a CAT 310 excavator operated by RL Reimers Excavation of Albany, Oregon. CPTs and geoprobes were advanced by Oregon Geotechnical Explorations of Salem, Oregon between September 21 through November 8, 2022. A Wallace Group geotechnical professional logged the test pits and borings, supervised the CPTs and geoprobe work, performed dynamic-cone penetrometer (DCP) testing at selected test pit locations, and visually classified the soil and rock materials encountered at the exploration locations. The exploration logs, located in **Appendix A**, describe the materials encountered at each location explored. The soil and bedrock types between explorations are anticipated to be similar; however, variation should be expected. The stratigraphic contacts presented on the exploration logs represent the approximate boundaries between various soil and bedrock types. The approximate locations of the exploration locations are shown in **Figures 2a and 2b**.

A more complete description of the sampling techniques and soil-classification terminology is presented in **Appendix A**.

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3.0 LABORATORY TESTING

Soil samples were transported to the Wallace Group geotechnical laboratory in Bend, Oregon, where they were visually classified, and either prepared for in-house laboratory testing or transported to Northwest Testing, Inc. of Wilsonville, Oregon, or Cooper Testing Laboratory of Mountain View, California for specialized geotechnical laboratory testing. Laboratory tests were conducted in general accordance with standard procedures and included the following tests:

- Moisture Content, ASTM D2216;
- Gradation Analyses, ASTM C117 / C136 and D422;
- Classification of Soil for Engineering Purposes, ASTM D2487;
- Atterberg Limits, ASTM D4318;
- Consolidation, ASTM D2435;
- UU Triaxial, ASTM D2850;
- CD Triaxial, ASTM D4767;
- CD Direct Shear, ASTM D3080;
- Flexible Wall Permeability, ASTM D5084 Method C; and
- Unconfined Point Load Testing, ASTM D5731.

Laboratory test results are included in **Appendix B**.

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4.0 EXISTING SITE CONDITIONS

4.1 SURFACE CONDITIONS

The subject property includes the development of an approximate 42-acre area located south of the active CBLF. The CBLF south expansion area includes the northern flank of Tampico Ridge to the south extending to Coffin Butte Road on the north. Tampico Ridge includes hilltop peaks with elevations of 510 feet mean sea level (msl) on the west and 570 feet on the east. A valley is present between the two hilltop peaks in the south-central portion of the proposed landfill cell. The development area slopes down towards the south near Coffin Butte Road where elevations range from 260 feet msl on the east to 290 feet msl on the west. Groundcover consists of dense thickets of blackberry, poison oak, and coniferous trees in the steep upland areas. The lower topography areas of the site, near existing landfill infrastructure, are generally cleared and planted with agricultural vegetation and/or grasses.

4.2 SUBSURFACE CONDITIONS

Subsurface explorations generally encountered soil over weathered bedrock which becomes competent bedrock at deeper depths. More specifically, there are differences in the types of soil and depths to bedrock at upper and lower regions of the project area.

Subsurface conditions at lower elevations generally consist of fine-grained alluvium (Willamette Silt) and is primarily underlain by weathered basalt (bedrock) which becomes more competent at deeper depths. At higher elevations of the project area, the surficial soils primarily consist of fine-grained to coarse-grained colluvium and volcanic saprolites, which are generally coarser at higher elevations. These soils are primarily underlain by weathered basalt and more competent brecciated and altered basalt bedrock at deeper depths. The colluvium/saprolite soil cover generally becomes thinner at higher elevations. On the western hillside of Tampico Ridge, competent basalt was encountered at depths ranging between 10 and 25 feet bgs. On the eastern hillslope, surface soils were generally weaker and thicker than the western hillslope and competent basalt was encountered at depths ranging between 19 and 45 feet bgs. At lower elevations in the valley, the depth to competent basalt ranged from 22 and 65 feet bgs.

4.2.1 Willamette Silt

Willamette Silt was encountered in the northeast portion of the project area at BH-2, BH-14, GP/CPT-01, and GP/CPT-02 and extended from the surface to depths ranging between 17 to 25 feet below ground surface (bgs). Gradation and index tests indicate the native soil generally classifies as sandy -silt (ML) and sandy-fat-clay (CH), according to the Unified Soil Classification

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System (USCS). The sandy silt and sandy clay were slightly moist to wet and brown, dark brown, tan, dark greenish gray, and gray with rounded to subrounded granular particles. Based on standard penetration testing, the Willamette Silt was generally medium stiff to stiff.

Where tested, the Willamette Silt samples contained 62 to 98 percent clay- and silt-sized particles and had moisture contents ranging between 30 to 36 percent. Atterberg limits testing indicates the soil is highly expansive with plasticity indices ranging from 31 to 39. Consolidated undrained (CU) triaxial testing indicates a total cohesion value of 1,000 pounds per square foot (psf) and total friction angle (phi) of 8.8 degrees at confining pressures ranging between about 2.9 and 3.7 kips per square foot (ksf). In the areas explored, the Willamette Silt was found to be underlain by weathered-in-place basalt.

4.2.2 Low Elevation Alluvium

Alluvial soil was encountered in GP/CPT-09 at the northwest portion of the development area, near the proposed new office building site. The alluvial soil layer extended from the surface to a depth of 6.5 feet bgs. Gradation and index tests indicate the native soil generally classifies as clay (CH), according to the USCS. The clay was moist and brown and dark gray in color. Based on CPT testing, the alluvial soil was generally stiff to very stiff.

Where tested, the clay contained 93 percent clay- and silt-sized particles and had a moisture content of 28 percent. Atterberg limits testing indicates the soil exhibited very high expansion potential and had plasticity index of 53. Consolidation testing on the alluvial fine-grained material indicates that it is slightly over-consolidated with over-consolidation ratios (OCRs) ranging between 2.3 and 8.4. In the areas explored, the alluvial soil was underlain by weathered-in-place basalt.

4.2.3 Volcanic Saprolite and Colluvium

Volcanic saprolite (in-place soil derived from the chemical weathering of rock) and colluvium (unconsolidated material derived from rain and gravity-driven soil movement) mantles the weathered basalt and competent basalt on the Tampico Ridge hillside. Volcanic saprolite and colluvium were encountered extending from the surface to depths ranging between 7 to 45 feet bgs. Colluvium was encountered in isolated areas and the soil mantle primarily consists of volcanic saprolite. Localized areas of thicker colluvial deposits may be encountered during construction.

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Gradation and index tests indicate the soil generally classifies as silty-sand-with-gravel (SM), silty-sand (SM), clayey-sand (SC), sandy-silt-with-gravel (ML), sandy-silt (MH), and sandy-clay (CL), according to the field classifications and USCS. The silty-sand was moist to wet, tan, black, brown, orange, red, and gray, fine to coarse grained with subangular to subrounded particles. Based on SPT testing, the volcanic soil was generally found to be medium dense to very dense and very soft to hard. In general, the volcanic soil and colluvium are weaker and less dense on the eastern knob and northeastern portion of the site than the western knob and northwestern portion of the site.

Where tested, the clay contained 22.7 to 65.9 percent clay- and silt-sized particles and had moisture contents of 33.5 to 75.6 percent. Atterberg limits testing indicates the soil exhibits very high expansion potential with plasticity indices ranging from 19 to 41. In the areas explored, the alluvial soil was underlain by weathered-in-place basalt.

4.2.4 Granular Weathered Basalt

Willamette Silt, alluvial soil, volcanic saprolite, and colluvial soil were underlain by granular weathered basalt bedrock at depths ranging between 7 to 45 feet bgs. Gradation and field classifications indicate the weathered basalt generally classifies as silty -sand-with-gravel (SM), silty-sand (SM), silty-gravel-with-sand (GM), sandy-silt (ML), and sandy-clay (CL). The granular weathered basalt was moist to wet, gray, red, orange, and brown, fine to coarse grained, angular to subangular, and contains cobbles in some areas. Based on SPT testing, the weathered basalt is generally loose to very dense or medium stiff to hard.

Where tested, the weathered basalt contains 13.2 to 48.2 percent clay- and silt-sized particles with moisture contents ranging from 4.1 to 66.3 percent. Atterberg limits testing indicates the weathered rock exhibited moderate expansion potential with a plasticity index of 21. Where exploration locations were advanced through the granular weathered rock, it was underlain by basalt bedrock.

4.2.5 Brecciated and Altered Basalt Bedrock

Competent basalt bedrock was encountered at depths ranging between 10 to 65 feet bgs. The competent basalt encountered in borings was typically unweathered to moderately weathered, slightly to moderately fractured, with varying levels of brecciation, interbedding, and schistose/phyllitic alteration. Alterations generally occurred near high angle (55° to 90°) fractures and joints that were accompanied by chloritic siltstone interbeds, pyrite, calcite, and clay infilling. The bedrock ranged from very low strength to high strength with field strength

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indices of R0 to R4. Basalt textures were waxy to smooth, and the bedrock varied from dark gray to greenish gray. Basalt bedrock was encountered in borings BH-03, BH-04, BH-05, BH-09, and BH-13. No bedrock was encountered within the depths explored in BH-01, BH-02, BH-06, BH-07, BH-08, BH-10, BH-11, BH-12, and BH-14. The test pits encountered refusal on basalt at the higher elevation areas of the site, such as at TP-01, TP-02, TP-03, TP-04, TP-05, TP-08, TP11, TP-12, and TP-13, which typically will require drilling and blasting, hydraulic hammers, or large equipment to remove competent bedrock.

4.3 GROUNDWATER

Groundwater was encountered during the exploration at depths ranging between 4.6 and 67 feet bgs with the groundwater level generally deeper towards the northeast. We expect groundwater will be present within fractures of the weathered and competent bedrock, perched above the interface between soil and bedrock, and within alluvial soils at the lower elevation areas. Fractures provide the primary transport mechanism of groundwater in the bedrock; therefore, the occurrence and amount of groundwater encountered during the excavation of the expansion cell and ponds will depend on the nature, distribution, and interconnection of the fractures.

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5.0 SEISMIC CONSIDERATIONS

5.1 REGIONAL AND SITE GEOLOGY

The Coffin Butte Landfill site is located approximately 11 miles north of downtown Corvallis, on the border of the Willamette Valley and Coast Range physiographic provinces. The Willamette Valley is a flat, riverine valley, formed by the cyclic damming and flooding of the Willamette River during the last ice age. This resulted in a broad flat valley with deep deposits of silt, clay, and organic soil, and a generally shallow water table (Orr, 1992).

The Coast Range is a volcanic complex and forearc basin which was accreted on the western edge of the North American plate between 66 and 30 million years ago (mya) (Snavely, et al, 1965). The Coast Range is locally composed of the Siletz River Volcanics, which are a Paleocene to middle Eocene aged sequence of pillow basalt flows, basalt breccias and conglomerates, and basaltic sedimentary interbeds (Walker and MacLeod, 1991). These rocks are generally altered and/or zeolitized and veined with calcite (Keith and Staples, 1985).

The site is generally divided into two zones: rocky upland areas underlain by the Siletz River Volcanics, and lowland areas composed of soft and or elastic fine-grained soils either derived from the Willamette Silt or volcanic saprolites. The Siletz River Volcanic uplands are generally composed of a thin mantle of granular soils overlying hard and competent basalt. These units have groundwater present in discontinuous layers and fracture zones of the basalt.

The lowland areas, present in the northeast and eastern portions of the site, are composed of fine-grained soils. These areas generally have shallow groundwater, and either consist of Willamette Silt, or highly weathered Siltez River volcanics that have been weathered in-place due to the influence of groundwater.

5.2 REGIONAL SEISMICITY

There are two primary earthquake source types that have been identified in the Pacific Northwest region: Cascadia Subduction Zone sources and shallow crustal sources. These sources result in three earthquake source classifications: (1) shallow crustal earthquakes, (2) deep earthquakes with a moment magnitude greater than 7.0 on the seismogenic part of the subducting plate of the Cascadia Subduction Zone, and (3) an earthquake with a possible moment magnitude of 9.0 (+/- 0.2) on the seismogenic part of the interface between the Juan de Fuca Plate and the North American Plate on the Cascadia Subduction Zone. Historic seismic

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activity in the Corvallis area has been primarily from shallow crustal sources associated with the locally mapped Corvallis Fault Zone (Personius-USGS, 2002).

For evaluating the earthquake ground motions at this site, we relied on the work of Geomatrix (1995) for the Oregon Department of Transportation (ODOT Report) and information more recently published by the United States Geological Survey (USGS). The geotechnical seismic design recommendations contained herein are provided in accordance with the Oregon Structural Special Code (OSSC), based on ASCE 7-22. The approach used for evaluating seismic conditions is based on the following:

- Earthquake sources in Oregon are identified primarily from published geologic records rather than recorded seismic data. Of the three source mechanisms considered in OSSC Section 1803.3.2, recorded seismic data are available only for shallow crustal events. The potential for periodic, large-magnitude subduction zone events along the Oregon Coast is based primarily on geologic evidence, as large, subduction zone events are believed to occur at intervals of 300 to 500 years. The most recent significant subduction zone earthquake occurred in the year 1700, based on a tsunami recorded in Japan. As a result, there are significant uncertainties associated with evaluating many of the key parameters required to assess earthquake hazards.
- To prepare the ODOT Report, Geomatrix assessed the seismic hazard in Oregon using probabilistic seismic hazard analysis techniques. The analyses performed included quantitatively addressing the uncertainties associated with the required input parameters for each of the identified potential earthquake sources. Based on the results of the analyses conducted, earthquake ground motion maps were generated for the State of Oregon for 500-year, 1,000-year and 2,500-year return periods for peak ground acceleration and 5-percent-damped spectral accelerations at spectral periods of 0.3 and 1.0 seconds. Generalized elastic response spectra were also developed for various regions of Oregon based on the relative influence of subduction zone seismic sources and shallow crustal sources to the overall seismic hazard.
- We also reviewed the 2023 USGS fault maps for the State of Oregon. Information provided by the USGS is consistent with the Geomatrix report, for seismic events with return intervals of 2,500 years (approximately equivalent to the two percent probability of exceedance in 50 years), specified in the OSSC.

The following sections include more detailed descriptions of the potential seismic sources, the methods used to evaluate peak ground accelerations, the methods used to develop the site-specific response spectra, and a discussion of the specific seismic concerns.

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5.2.1 Subduction Zone Sources

An active subduction zone is located where the Juan de Fuca Plate is subducting beneath the North American Plate approximately 50 miles off the Oregon Coast. Earthquake types associated with the subduction zone include interface events at the boundary where two plates intersect and intra-slab events within the subducting Juan de Fuca Plate. Potential ground shaking and accelerations at the project site are expected to be significant. The northeastern portion of the site will be at risk of ground shaking amplification where soft, river plain sediments are present.

5.2.2 Crustal Sources

In the analyses associated with the Geomatrix ODOT Report, crustal sources incorporated into the analyses modeled both regional source zones and specific identified geologic faults.

Regional Zone: In this model, earthquakes are assumed to occur randomly within a general region. The advantage of this approach is that it allows provision for the possibility of unidentified or unknown fault sources. Maximum earthquake magnitudes are estimated for each source zone based on historic seismicity, maximum seismogenic depth and threshold of surface faulting. The project site is located in the southern Willamette Valley. Maximum earthquake magnitudes associated with crustal sources in the southern Willamette Valley and return interval of 2,500 years is Moment Magnitude (M_w) 5.75.

Specific Faults: The following discrete faults or fault zones are classified in the ODOT Report as "probable Quaternary Age" or later faults and are located within about 25 miles of the site. The ODOT Report and United States Geological Survey (USGS) identified two, isolated, northeast trending faults that displace late Quaternary deposits or geomorphic surfaces (less than 780,000 years old) in the southern Willamette Valley. These faults are located on the western and eastern borders of Corvallis. The Corvallis fault (west) and Owl Creek fault (east) are generally characterized as "inactive" and are up to approximately 40 km long.

The Corvallis fault, which forms the western boundary of the Willamette Valley near Corvallis, is mapped as close as four miles to the south of the site. The Corvallis fault is interpreted as northeast-trending, southwest-dipping Tertiary thrust fault, that thrusts the Eocene aged Siletz River Volcanics over the Eocene Tyee formation (Personius-USGS, 2002). The fault may also have been reactivated as a steeply dipping left lateral strike slip fault. Although there is no evidence that the fault is active due to late Pleistocene or Holocene displacement, USGS data suggests that the fault may be active with a long recurrence interval. Two alternative maximum

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rupture lengths are possible; 23 km length with a probability of 0.4 or 35 km length with a probability of 0.4. The calculated movement of the fault is approximately 0.2 mm/year, and it is classified as Class B.

The Owl Creek fault, in southern Willamette Valley, is located six miles to the southeast of the site. The steeply east-dipping Owl Creek fault is a reverse fault associated with an anticline in the Eocene Spencer Formation mapped in the subsurface east of Corvallis on the floor of the southern Willamette Valley. The fault, which has no geomorphic expression, apparently offsets the middle to late Pleistocene Rowland Formation, but does not offset the latest Pleistocene Willamette Formation. The most recent movement on the Owl Creek fault is defined as middle and late Quaternary, less than 750,000 years old. The Owl Creek fault is interpreted as northeast striking and approximately 12 km long (USGS, 2022). The calculated movement of the fault is approximately 0.2 mm/year.

5.3 EARTHQUAKE GROUND MOTIONS

5.3.1 Ground Response Spectra

Local geologic deposits can significantly amplify the ground response and the response of structures (represented by a response spectrum) as earthquake motions are propagated from bedrock to the soil surface.

Based on the conditions encountered during our field exploration program and shear wave velocity measurements collected in CPT-08, 2022 ASCE 7 Site Class D (Stiff Soil) is recommended for use in design. Based on the site's latitude, longitude, and subsurface conditions, site-specific response spectra were developed. The spectra shown in Appendix C includes the criteria for Site Class D (Stiff Soil) from the 2022 OSSC, with a return interval of 2,500 years (approximately equivalent to a two percent probability of exceedance in 50 years). For Site Class D, the resulting short period spectral response acceleration (0.2 second) for the site (S_s) is 1.05g, and the 1.0 second (S_1) spectral response acceleration is 0.44g. The five percent damped design spectral response acceleration at short periods (S_{DS}) is 0.9g. The seismic curve is presented in **Appendix C**.

5.3.2 Peak Ground Acceleration

The peak ground accelerations developed in the ODOT report were estimated by combining the earthquake sources discussed above with published attenuation relationships (Sadigh et. al, 1993; Idriss, 1991; Boore et. al., 1993). Peak ground accelerations and spectral accelerations

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incorporated into the 2022 OSSC have been periodically modified based on more recent USGS studies.

Based on the USGS Seismic Design Maps using the 2022 ASCE 7, the risk-based peak ground acceleration recommended for this site is 0.61g for Site Class D (Stiff Soil). Based on our understanding of previous geotechnical studies performed for landfill cells constructed on the north side of Coffin Butte Road, the site-specific PGA was 0.33g. Subsurface conditions in the southern expansion area include deeper soil over brecciated and altered basalt bedrock than encountered in the landfill cells to the north. We anticipate that a risk-based PGA of 0.61g is appropriate for the southern expansion area and will be more conservative than using a site-specific PGA.

5.4 SEISMIC HAZARDS SUMMARY

The OSSC specifically requires that certain geologic hazards be addressed in a site-specific seismic study. These are summarized in this section.

Ground Motion: Discussed in Section 5.3, Earthquake Ground Motions.

Liquefaction/Settlement: The potential for seismically induced liquefaction to develop within the profile was evaluated using the procedure outlined by Youd et. al. (2001). The procedure uses standard penetration test (SPT) blow counts and other soil data to estimate the cyclic resistance ratio (CRR) profile with depth (ratio of the cyclic shear stress required to cause liquefaction to the initial vertical effective stress). The cyclic stress ratio (CSR) profile with depth (ratio of cyclic shear stress to initial vertical effective stress) resulting from the design level earthquake is estimated from the total and effective stresses, the peak ground surface acceleration value, the magnitude of the design level earthquake, and a depth dependent stress reduction factor.

Based on the results of our geotechnical exploration, and lack of loose, saturated soils with a plasticity index of less than 12, the liquefaction potential at the site is low.

Landslide/Lateral Spreading: There is a risk from earthquake-induced landslides and the landslide potential analyses are presented in Section 6. The risk for lateral spreading is low due to the lack of significant potentially liquefiable zones.

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Fault Rupture: The trace of the nearest mapped fault is associated with the Corvallis fault. This northeast trending fault is approximately four miles south of the project site (USGS, 2023). Based on our geologic research and local experience, the fault is reasonably mapped, and while in relatively close proximity to the project, it does not appear likely for fault rupture to occur at the proposed landfill site.

Tsunami or Seiche: There is no risk, based on the inland location of the site and lack of significant bodies of water in the immediate vicinity of the project.

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6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the results of field exploration, laboratory testing, engineering analyses, and our local experience, it is our opinion that the site is suitable for the anticipated development from a geotechnical perspective. The primary geotechnical concerns are the highly expansive silts and clays in the lowland areas, potential settlement of new fills, and static and seismic slope stability of the new landfill cell and leachate pond excavations.

6.1 ROADWAY EMBANKMENT FILLS

Embankment fills for access roads will be constructed in the northeast portion of the site and in the south-central portion of the site. Fill placed for embankment roads in the northeast and south-central will be approximately 10 and 50 feet thick, respectively. Subsurface conditions vary from soft alluvial deposits in the northeast to dense volcanic soil in the south-central area. Based on the subsurface explorations, we expect that the 10-foot-tall roadway embankment constructed in the northeast will be underlain by approximately 13 to 28 feet of alluvial deposits, consisting of soft to very stiff silt and clay, underlain by very loose to very dense weathered basalt. The 50-foot-tall south-central embankment will be underlain by 10 to 25 feet of medium dense to very dense sand and gravel and hard clay, over basalt bedrock. In general, the upper five feet of soil in the south-central area is medium dense and the density increases with depth.

6.1.1 Roadway Embankment Site Preparation

We recommend that all development areas are stripped of organic soil to expose native soil. The development areas should be considered to extend five feet beyond the perimeter of the embankment fill areas. We anticipate deeper stripping depth will be required where mature trees are removed or were previously removed. All roots larger than 0.5-inch diameter should be removed. Once the organic soil and roots are removed, the subgrade should be scarified to a depth of at least eight (8) inches, moisture-conditioned at least three (3) percent above the optimum moisture content and compacted to at least 95 percent of the maximum Standard Proctor dry density as determined by ASTM D698 using suitable compaction equipment. The exposed soil subgrade should be kept moist until covered by new structural fill and/or pavement.

In the lowland area, soil exposed after stripping may be weak, saturated, and/or incapable of supporting the weight of construction equipment or achieving proper compaction; therefore, subgrade stabilization may be required prior to adding new fill. We first recommend that a

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Wallace Group representative evaluate the exposed subgrade and determine the most appropriate procedure for subgrade stabilization. Acceptable subgrade stabilization approaches include: 1) over-excavating and removing weak material to expose firm subgrade, and subsequently backfilling the excavation with compacted select fill, as described in a subsequent section of this report, and 2) over-excavating and removing weak material to a depth of at least two feet, and subsequently placing geogrid across the base of the excavation, placing a poorly graded, ¾-inch drain rock or crushed rock material over the geogrid in horizontal uncompacted lift of 12 inches or less, and compacting the granular material to the satisfaction of the Wallace Group representative; the process should be repeated until the over-excavated area has been fully backfilled.

In the south-central embankment area, the upper five (5) feet of medium dense sand should be removed to expose very dense sand and gravel or hard clay. The exposed subgrade should be scarified to a depth of at least eight (8) inches, moisture conditioned to above the optimum moisture content, and compacted to at least 95 percent of the maximum Standard Proctor dry density, as determined by ASTM D698 using suitable equipment. The exposed soil subgrade should be kept moist until covered by new structural fill and/or pavement. Embankment slopes should be no steeper than 2.5 to 1 (H to V).

6.1.2 Roadway Embankment Structural Fill and Placement

Where structural fill is needed to construct roadway embankments, we recommend it consist of appropriately graded sand and gravel having 100 percent passing a two-inch sieve, less than 30 percent retained on the ¾-inch sieve, and less than 20 percent passing a No. 200 sieve. On-site, non-organic, native soil, will not likely be suitable for reuse as structural fill due to the high content of silt and clay-sized particles and highly expansive properties. We recommend the structural fill have a maximum dry density (ASTM D698) of at least 90 pounds per cubic foot (pcf).

In addition, we recommend:

- Structural fill be placed in horizontal lifts not exceeding 8 inches in uncompacted thickness, moisture-conditioned to within a range of +/- 2 percent of optimum moisture content, and compacted as recommended in **Table 6.1.2**, *Engineered Fill Specifications Summary.*
- Structural fill should be placed in level lifts and benched into slopes. During the benching process, a Wallace Group representative should determine if subsurface

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drainage should be installed to collect water that seeps from the existing hillslope and redirect the water to a suitable outlet.

- Structural fill should not be placed during freezing weather or on frozen subgrade to avoid potential thaw settlement.
- Compaction of fill should be performed to achieve the minimum relative compaction shown in **Table 6.1.2**. Relative compaction refers to the in-place dry density of soil expressed as a percentage of the maximum dry density of the same material, as determined by the ASTM D698 laboratory compaction procedure.
- A Wallace Group representative should periodically observe the fill placement and test the fill for grain-size, fines content, plasticity, and compaction.

The southern slope of the roadway embankment fill placed in the Tampico Ridge valley, in the south-central portion of the site, should be constructed with drainage elements to prevent potential erosion and piping of the embankment fill. Wallace Group recommends that the embankment is constructed with concrete lined v-ditches near the southern base of the embankment to direct surface water away from the embankment. The embankment should be graded such that the crest directs water away and reduces the potential for surface water flow over the crest. The potential for erosion should be reduced by constructing benches into the southern slope every 15 vertical feet. The benches should be wide enough to allow maintenance and should be sloped towards the embankment and constructed with concrete lined v-ditches which direct water away from the slope. In addition, the soil slope face should be hydroseeded to reduce surface erosion. Concrete lined v-ditches should be monitored and maintained.

As an alternative to the construction of benches and intermediate concrete lined v-ditches includes covering the soil slope surface with an erosion mat which is hydroseeded. The erosion control mat should be constructed with an anchor trench at the top of slope in accordance with the manufacturer's recommendations and be secured using high load anchors. The concrete lined v-ditch at the base of the southern slope should also be included to direct surface water away from the embankment.

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Table 6.1.2, below, summarizes the placement and compaction specifications for anticipated uses of structural fill for this project.

Table 6.1.2
Engineered Fill Specifications Summary
Coffin Butte Landfill Southern Expansion Area
28972 Coffin Butte Road
Corvallis, Oregon

Material Type & Specifications	Placement Location	Placement Specifications
Base Course – Crushed Aggregate, ¾-inch minus, <8% passing #200 sieve.	Base Course Beneath Slabs on Grade, Pavement, and Footings	Maximum 6" lifts; compacted to minimum 95% of Standard Proctor density (ASTM D698) for floor slabs, footings, 92% for pavement, exterior slabs and sidewalks.
Structural Fill - Granular, Inorganic soil, 2-inch minus, <30% retained on ¾-inch sieve, <20% passing #200 sieve. Non-plastic. Maximum dry density of at least 90 pcf.	Beneath Slabs on Grade, Exterior Slabs, Pavement, Sidewalks, Utility Trench Backfill, and Footings	Maximum 8" lifts; compacted to minimum 95% of Standard Proctor density (ASTM D698) for floor slabs, footings, all fill exceeding 5 feet vertical, 92% for pavement, exterior slabs and sidewalks.
Granular Landscape Fill – Inorganic soil, 3-inch minus.	Landscaped Areas	Fill depth less than 4 feet, compaction not required. Fill depths greater than 4 feet, compact to a minimum of 90% of Standard Proctor (ASTM D698).

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6.2 LANDFILL CELL SITE PREPARATION

We recommend that all development areas are stripped of organic soil to expose native soil. Based on the depths of proposed excavation, softer volcanic soil, alluvial deposits, and Willamette Silt will be removed. However, there is potential for some softer soil to remain along the northern and eastern perimeter and in the valley between the east and west knob. If subgrade stabilization measures are needed, the process described in Section 6.1.1 should be utilized.

6.3 EXCAVATIONS

To construct the CBLF southern expansion area, cuts will be up to 155-feet at the western knob of Tampico Ridge, up to 110-feet at the eastern knob, and up to 50-feet for the construction of the leachate ponds (**Figure 2b**, *Exploration Location Map*). Cuts to remove the native silt, clay, and gravel soil can generally be excavated with conventional earth-moving equipment such as excavators and small dozers.

Competent basalt bedrock will likely require rock hammers or drilling and blasting to excavate. The western hillside may be excavatable mechanically; however, it will result in a ragged final slope which may be problematic over time. The eastern hillside is more competent and mechanical excavation methods will not be appropriate. We recommend that drilling and blasting is used during rock excavation. The rock excavation method should be performed in a manner that limits as much as practical blasting disturbance beyond the rock cut. We recommend the project documents incorporate the latest Oregon Department of Transportation (ODOT) Standard Specifications, Section 00335, for blasting and that a qualified blasting consultant is used. Groundwater will be encountered during the expected earthwork operations and dewatering operations are recommended during the construction of the leachate ponds.

The excavation areas have been divided into three areas based on the subsurface conditions: the western hillside slope, eastern hillside slope, and leachate ponds. In general, the western hillslope was underlain by volcanic soil consisting of medium dense to very dense sand and gravel and hard clay which was up to approximately 35-feet thick and underlain by weathered basalt and fresh basalt. The basalt in the western hillslope was intensely brecciated with infilling of siltstone.

The volcanic soil overlying bedrock in the eastern slope and within the valley was generally weaker than encountered in the west. The eastern slope was generally underlain by up to 27-

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feet of very soft to hard silt and clay underlain by weathered basalt and basalt. The bedrock encountered in the eastern hillslope was generally intact basalt with only isolated intervals of brecciation and was primarily composed of basalt with minor siltstone matrix. The subsurface conditions near the leachate ponds consisted of up to 28-feet of soft to very stiff fine-grained alluvial deposits underlain by weathered basalt and basalt bedrock.

Based on current plans, excavations in the landfill cell below the access road will be sloped at 2 to 1 horizontal to vertical (H to V) to accommodate the landfill liner. The access road loops around the cell to the south and the slope above the road is sloped at 1.5 to 1 (H to V). The two leachate ponds will be constructed with bottom of pond elevations of 257 feet and 272 feet msl on the north and south, respectively. The slope from the ponds will continue to the south at 2.5 to 1 (H to V) where it meets Tampico Ridge near elevation 400 feet msl.

6.4.1 Slope Stability Model Soil and Rock Design Values

The proposed excavations were evaluated using the SLIDE2 program, developed by Rocscience. Wallace Group teamed with Delve Underground to complete the excavation recommendations for the southern expansion. Subsurface conditions and engineering properties were selected based upon applicable Wallace Group borings, CPTs, and test pits and laboratory test results. Strength of the alluvial and volcanic soil was represented using the Mohr-Coulomb criteria for both short-term (after construction) and long-term conditions. Acceptable factors of safety were considered to be greater than or equal to 1.3 for short and long-term conditions and 1.0 for seismic analysis.

Strength of the volcanic breccia of the west slope and the basalt of the east slope were modeled using the Generalized Hoek-Brown relationships. The following tables summarize the soil and rock strengths used in the slope stability models.

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Table 6.4.1-1
Assumed Engineering Properties
West Slope

Geologic Unit	Unit Weight (pcf)	Strength Model	Friction Angle (degrees)	Cohesion (psf)	UCS (psf)	GSI
Soil (Colluvium)	125	Mohr-Coulomb	34	100	-	-
Weathered Rock	165	Generalized Hoek-Brown	-	-	30,000	30
Volcanic Breccia	170	Generalized Hoek-Brown	-	-	200,000	45

Table 6.4.1-2
Assumed Engineering Properties
East Slope

Geologic Unit	Unit Weight (pcf)	Strength Model	Friction Angle (degrees)	Cohesion (psf)	UCS (psf)	GSI
Soil (Colluvium)	125	Mohr-Coulomb	30	150	-	-
Weathered Rock	165	Generalized Hoek-Brown	-	-	30,000	30
Basalt	175	Generalized Hoek-Brown	-	-	480,000	55

Table 6.4.1-3
Assumed Engineering Properties
South Central Embankment

Geologic Unit	Unit Weight (pcf)	Strength Model	Friction Angle (degrees)	Cohesion (psf)	UCS (psf)	GSI
Embankment Fill	120	Mohr-Coulomb	38	0	-	-
Hard Clay	95	Mohr-Coulomb	0	2,000	-	-
Shale	120	Generalized Hoek-Brown	-	-	500,000	10
Basalt	175	Generalized Hoek-Brown	-	-	480,000	55

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Table 6.4.1-4
Assumed Short-Term Engineering Properties
Leachate Ponds

Geologic Unit	Unit Weight (pcf)	Strength Model	Friction Angle (degrees)	Cohesion (psf)	UCS (psf)	GSI
Willamette Silt	95	Mohr-Coulomb	9	1000	-	-
Soil (Volcanic/ Colluvium)	95	Mohr-Coulomb	0	1039	-	-
Weak Weathered Rock	120	Mohr-Coulomb	14	750	-	-
Dense Weathered Rock	165	Generalized Hoek-Brown	-	-	30,000	30
Basalt	175	Generalized Hoek-Brown	-	-	480,000	55

Table 6.4.1-5
Assumed Long-Term Engineering Properties
Leachate Ponds

Geologic Unit	Unit Weight (pcf)	Strength Model	Friction Angle (degrees)	Cohesion (psf)	UCS (psf)	GSI
Willamette Silt	95	Mohr-Coulomb	9	1000	-	-
Soil (Volcanic/ Colluvium)	95	Mohr-Coulomb	33	0	-	-
Weak Weathered Rock	120	Mohr-Coulomb	22	400	-	-
Dense Weathered Rock	165	Generalized Hoek-Brown	-	-	30,000	30
Basalt	175	Generalized Hoek-Brown	-	-	480,000	55

6.4.2 Eastern and Western Hillside Excavations

Delve utilized the Markland Analysis technique with mapped joint orientations and an estimated rock mass peak friction angle to study the kinematic stability of the overall rock mass with respect to the proposed cut slope orientation. Delve concluded that the rock slope should not be cut an at angle steeper than 53 degrees (approximately 0.75 to 1, H to V). Limited rock reinforcement, scaling, and rockfall mitigation (ditch or mesh) may still be required for a 53-degree cut slope). Rockfall mitigation techniques are discussed in detail in **Appendix E**.

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Global stability of the eastern and western hillside cut was evaluated using a 2D limit equilibrium analysis. The analysis was performed using the Rocscience SLIDE2 computer program and the material strength properties presented in **Section 6.3.1**. The selected subsurface conditions were based on cross-sections B-B' at the western slope and Section D-D' at the eastern slope. Configuration of the models assumed the following cut inclinations:

- Slope of 2H:1V below the access road
- Slope of 0.75H:1V in rock and weathered rock above the access road
- Slope of 1.5H:1V at the brow of the slope where colluvium is encountered on the west slope.
- Slope of 2.5H:1V at the brow of the slope where colluvium is encountered on the east slope.

As discussed in **Appendix E**, the limit equilibrium analysis suggests stable conditions provided the west and east slopes are cut at the following inclinations or shallower:

- Volcanic Breccia and Basalt: 0.75H:1V
- Weathered Rock: 0.75H:1V
- Colluvium soil: 1.5H:1V at the west slope
- Colluvium soil: 2H:1V at the east slope below the access road and 2.5H:1V above the access road

The interpreted boundary between soil and weathered rock will dictate where the cut-slope transitions from 0.75H:1V to 1.5H:1V or 2H:1V to 2.5H:1V. Because of the assumptions made and variation in subsurface conditions, representation of subsurface geometry along the height of the cut should be considered approximate. Transition in the cut slope angle from colluvium to rock should be confirmed and modified as necessary during construction. See **Appendix E** for further discussion on the rock cut analysis and conclusions. Acceptable excavation slopes are presented on **Figure 12**.

6.4.3 Leachate Pond Excavations

Wallace Group evaluated the global stability of the leachate pond cut using a 2D limit equilibrium analysis for short-term (during construction), long-term, and seismic conditions. The analysis was performed using the Rocscience SLIDE2 computer program and the material strength properties are presented in **Section 6.3.1**. The selected subsurface conditions were based on cross-section E-E.' Configuration of the model assumed the cut slope is 2.5H:1V from the base of the leachate pond cut to the intersection with the slope to the south at an approximate elevation of 400 feet msl. Based on the available groundwater data, the models

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were evaluated assuming that the groundwater is approximately 17-feet bgs at the south and 5-feet bgs at the north. Seismic loading conditions were assumed to be 40 percent of the PGA, a seismic load of approximately 0.25g.

Based on the results of the slope stability modeling, the following table summarizes the minimum factors of safety for the three conditions:

Table 6.4.3-1
Modeling Factor of Safety Summary
Leachate Ponds

Slope Stability Condition	Estimated Factor of Safety
Short-Term	1.3
Long-Term	1.3
Seismic	1.0

The global factors of safety for the planned 2.5H:1V cut slope will be acceptable for the short-term, long-term, and seismic conditions. Some localized slope failures of the leachate pond edges are possible; therefore, Wallace Group recommends that the leachate pond slopes are constructed using compacted structural fill which extends from the bottom of pond to a lateral distance of at least 25-feet. Structural fill should be placed in level lifts and bear on dense soil or hard weathered basalt. Cuts into native soil for the construction of the ponds should not be steeper than 2.5H:1V. We recommend the slope is cut, then benches are constructed during fill placement. Benches in the native soil should be approximately 5 feet deep and 5 feet high. A keyway should be constructed at the base of the fill that is at least 8-feet wide and 6-feet deep. If a long-term slope stability factor of 1.5 is preferred, horizontal drains should be constructed upslope of the leachate pond to lower the groundwater elevation to below the very dense weathered basalt. Output slope models are presented in **Appendix F**.

The safety of the workers and equipment in or near excavations is the responsibility of the contractor. During construction, Wallace Group should observe cut slopes to confirm the inclinations are appropriate for the conditions encountered. It is the responsibility of the contractor to maintain safe and stable slopes during construction. The slope stability analyses did not include surcharge loading from construction equipment or stockpiled material.

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6.5 SETTLEMENT ESTIMATES

The laboratory consolidation test results indicate that the Willamette Silt and volcanic/colluvial soil is overconsolidated with overconsolidation ratios (OCRs) ranging from 2.3 to 8.4. Dependent on the landfill cell thickness, new loads added to the base of the landfill could result in recompression and a new cycle of primary consolidation. Considering the variable thickness of new fill and the amount of Willamette Silt and volcanic/colluvial soil which will remain after excavation, the amount of settlement will differ across the site. Based on an assumed landfill material unit weight of 80 pounds per square foot, we estimate up to 24 inches of consolidation settlement will occur within 50-years. Settlement estimates were computed using the computer modeling program Settle3 by Rocscience and the settlement contours are illustrated on **Figure 13**.

Roadway embankment fill placed in the lowland area will be underlain by weak fine-grained silt and clay. Where new fill is placed, total settlement is expected to be up to 8- to 10-inches within 50 years. It should be expected that some repairs to the embankment fill will be needed over time.

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7.0 ADDITIONAL SERVICES

7.1 DESIGN AND CONSTRUCTION PERIOD ENGINEERING SERVICES

Wallace Group will review the geotechnical and civil aspects of the project design plans and specifications, when completed, to confirm that our recommendations are incorporated into the project documents, and to make appropriate modifications, if necessary. We currently anticipate performing design review of foundation, grading, and drainage plans to document that our recommendations are incorporated into design. This review will reduce misinterpretation of our recommendations and reduce the potential for costly design changes and construction delays.

7.2 CONSTRUCTION INSPECTION AND TESTING

To maintain our role as the geotechnical engineer of record, Wallace Group will also observe and monitor earthwork construction including site preparation, placement, and compaction of engineered fill in building pad areas, utility trench backfill, foundation, and slab preparation. The purpose of these services will be to help document that site grading and development-area-subgrade preparation complies with the recommendations of this geotechnical report and the approved project plans and specifications. If subsurface conditions are encountered during construction that differ from the conditions described herein, we will review our recommendations considering these different conditions and recommend changes in design or construction procedures.

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8.0 LIMITATIONS

Exploratory test pits, borings, CPTs, and geoprobes performed for this study were placed to obtain an understanding of underground conditions for evaluation and design purposes. The exploration was performed using a mutually-agreed-upon scope of services. Variations from these conditions, not indicated by the test pits, are possible. These variations are sometimes enough to necessitate design modifications. CEC (Client) must recognize that it is impossible to predict every physical condition that will be encountered. If unexpected conditions are observed during construction, or if the size, type, elevation, or location of the proposed structures should differ significantly from the preliminary plans, we should be notified to review the recommendations contained in this report. The professional judgments expressed in this report meet the standard of care of our profession; however, no warranty is expressed or implied.

This report may be used only by the Client and only for the intended site and for the purposes stated within a reasonable time from its issuance, but in no event, later than five (5) years from the date of the report. Land or facility use, on- and off-site conditions, regulations, or other factors may change over time, and additional work may be required with the passage of time. Any party other than the Client or their design team who wishes to use this report shall notify the Wallace Group of such intended use. Based on the intended use of the report, the Wallace Group may require that additional work be performed and that an updated report be issued. Non-compliance with any of these requirements by the Client or anyone else will release Wallace Group from any liability resulting from the use of this report by any unauthorized party.

The contractor selected for this project is responsible for supervision and direction of the actual work performed by his employees, subcontractors, and agents. Wallace Group will use accepted geotechnical engineering and testing procedures; however, our testing and observations will not relieve the contractor of his primary responsibility to produce a completed project conforming to the project plans and specifications.

This firm does not practice or consult in the field of safety engineering. We do not direct the contractor's operations, and we cannot be responsible for the safety of personnel other than our own on the site. The safety of others is the responsibility of the contractor. The contractor should notify the owner if he considers any of the recommended actions presented herein unsafe.

62915 NE 18th St, Ste 1, Bend, OR 97701 **p |** 541.382.4707 **f |** 541.383.8118 wallacegroup-inc.com

9.0 REFERENCES

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10.0 PROFESSIONAL AUTHENTICITY

This report has been authored and reviewed by the undersigned, respectively. This report is void if the original seal(s) and signature(s) are not included.

Lisa M. Splitter, P.E., G.E.
Senior Geotechnical Engineer

Adam Larson, P.E.
Project Geotechnical Engineer

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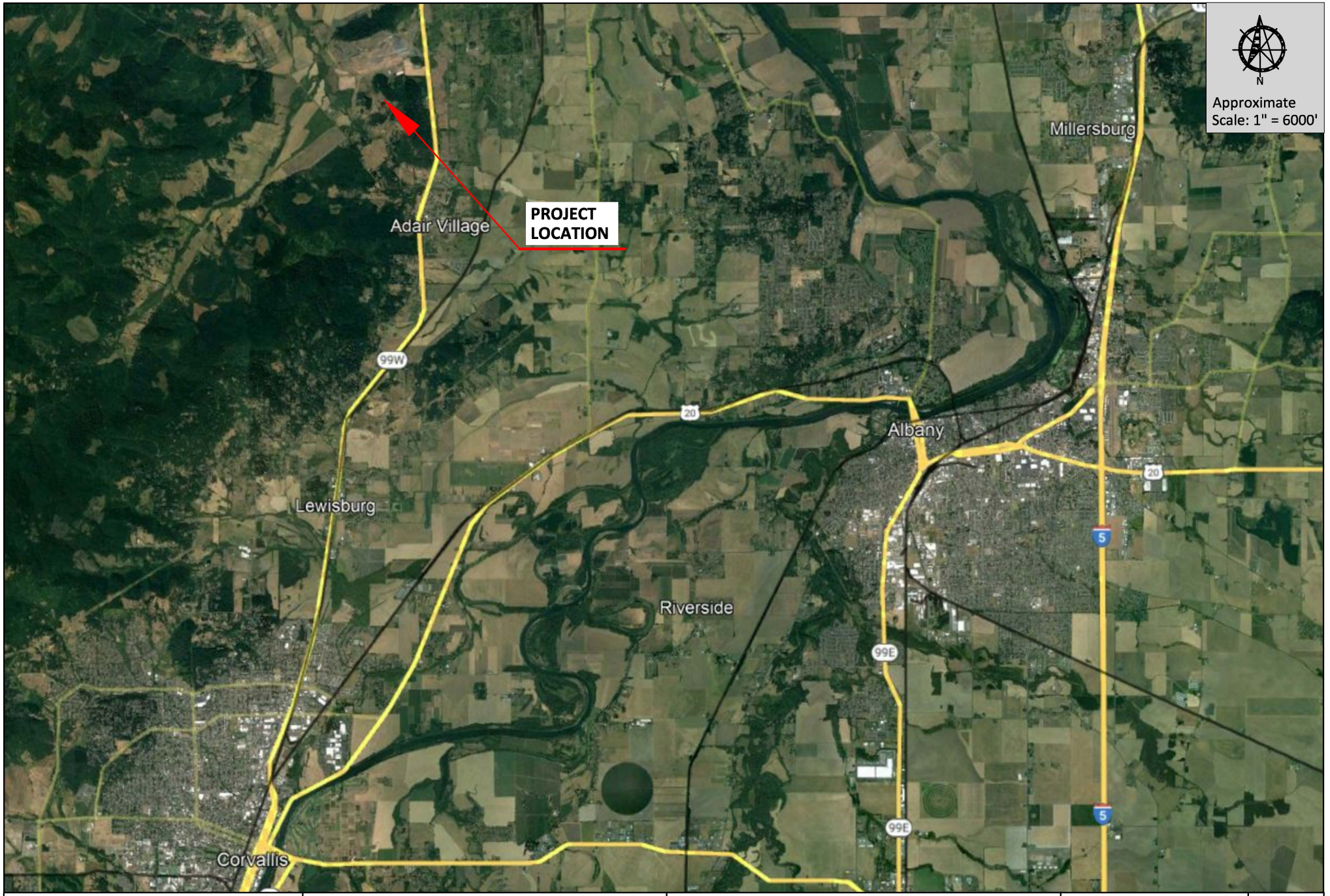
WALLACE GROUP
NORTHWEST GEOSYSTEM EXPERTS

FIGURES



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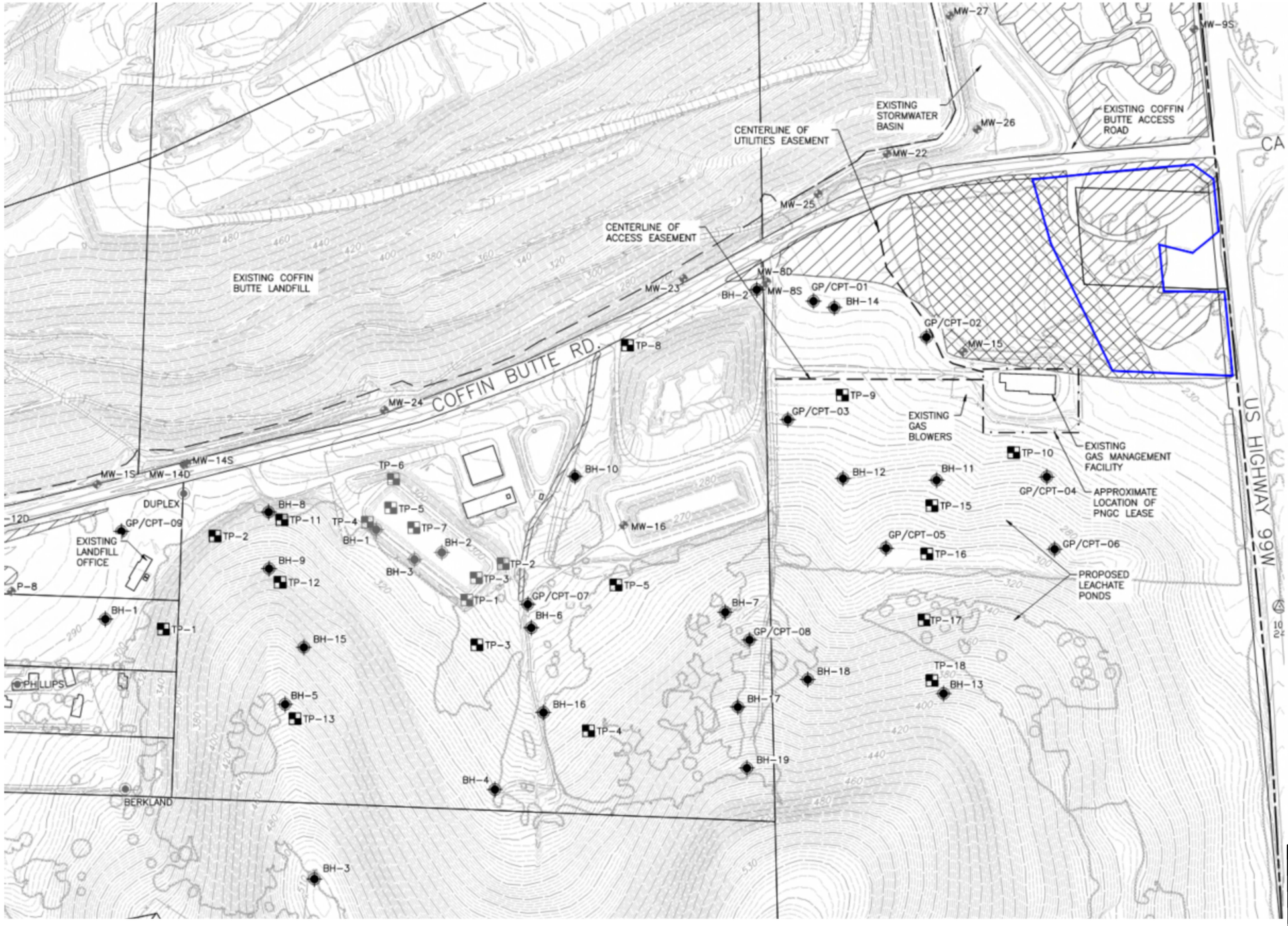
WALLACE GROUP
NORTHWEST GEOSYSTEM EXPERTS

VICINITY MAP
COFFIN BUTTE LANDFILL
CORVALLIS, OREGON

PROJECT No:	21129 (1)
DRAWN:	January 31, 2022
DRAWN BY:	KAK
CHECKED BY:	LMS
FILE NAME:	21129 (1) Figure 1

FIGURE
1



LEGEND

- PROPERTY BOUNDARY
- EXISTING LANDFILL BOUNDARY
- TAX LOT BOUNDARY
- 300 EXISTING 10-FT CONTOUR
- EXISTING 2-FT CONTOUR
- EXISTING PALUSTRINE FORESTED WETLAND
- EXISTING PALUSTRINE EMERGENT WETLAND
- EXISTING GROUNDWATER MONITORING WELLS/PIEZOMETER
- DECOMMISSIONED MONITORING WELLS
- EXISTING WATER SUPPLY WELLS
- EXISTING BORE HOLE
- PROPOSED BORE HOLE
- EXISTING TEST PIT
- PROPOSED TEST PIT

PROPOSED BOREHOLE/TEST PIT TABLE

POINT #	DESCRIPTION	EXISTING GROUND ELEVATION	DESIGN GROUND ELEVATION	ELEVATION DIFFERENCE (FT)	NORTHING	EASTING
1	BH	291.73	314.31	+22.58	386993.30	7491228.00
2	BH	240.75	247.73	+6.98	388028.01	7493274.15
3	BH	510.00	500.01	−9.99	386177.39	7491884.63
4	BH	343.89	362.49	+18.60	386458.65	7492451.61
5	BH	443.43	313.86	−129.57	386726.13	7491792.60
6	BH	291.19	293.82	+2.63	386966.17	7492565.95
7	BH	338.92	321.62	−17.30	387015.13	7493175.46
8	BH	309.25	292.60	−16.65	387329.59	7491740.75
9	BH	359.05	295.02	−64.03	387151.79	7491742.28
10	BH	263.11	271.53	+8.42	387441.49	7492703.58
11	BH	274.77	265.00	−9.77	387429.86	7493839.53
12	BH	270.70	278.46	+7.76	387429.86	7493839.53
13	BH	390.17	376.93	−13.24	386760.08	7493861.25
14	BH	239.03	253.00	+13.97	387972.34	7493517.97
1	TP	323.66	331.61	+7.95	386961.84	7491410.53
2	TP	301.95	293.05	−8.90	387254.49	7491572.23
3	TP	308.29	297.30	−10.99	386912.70	7492395.46
4	TP	334.16	345.53	+11.37	386643.02	7492745.75
5	TP	297.77	286.17	−11.60	387100.73	7492831.97
8	TP	251.57	252.52	+0.95	387853.25	7492868.49
9	TP	253.18	265.38	+12.20	387697.22	7493543.05

N

APPROXIMATE SCALE
1" = 350'

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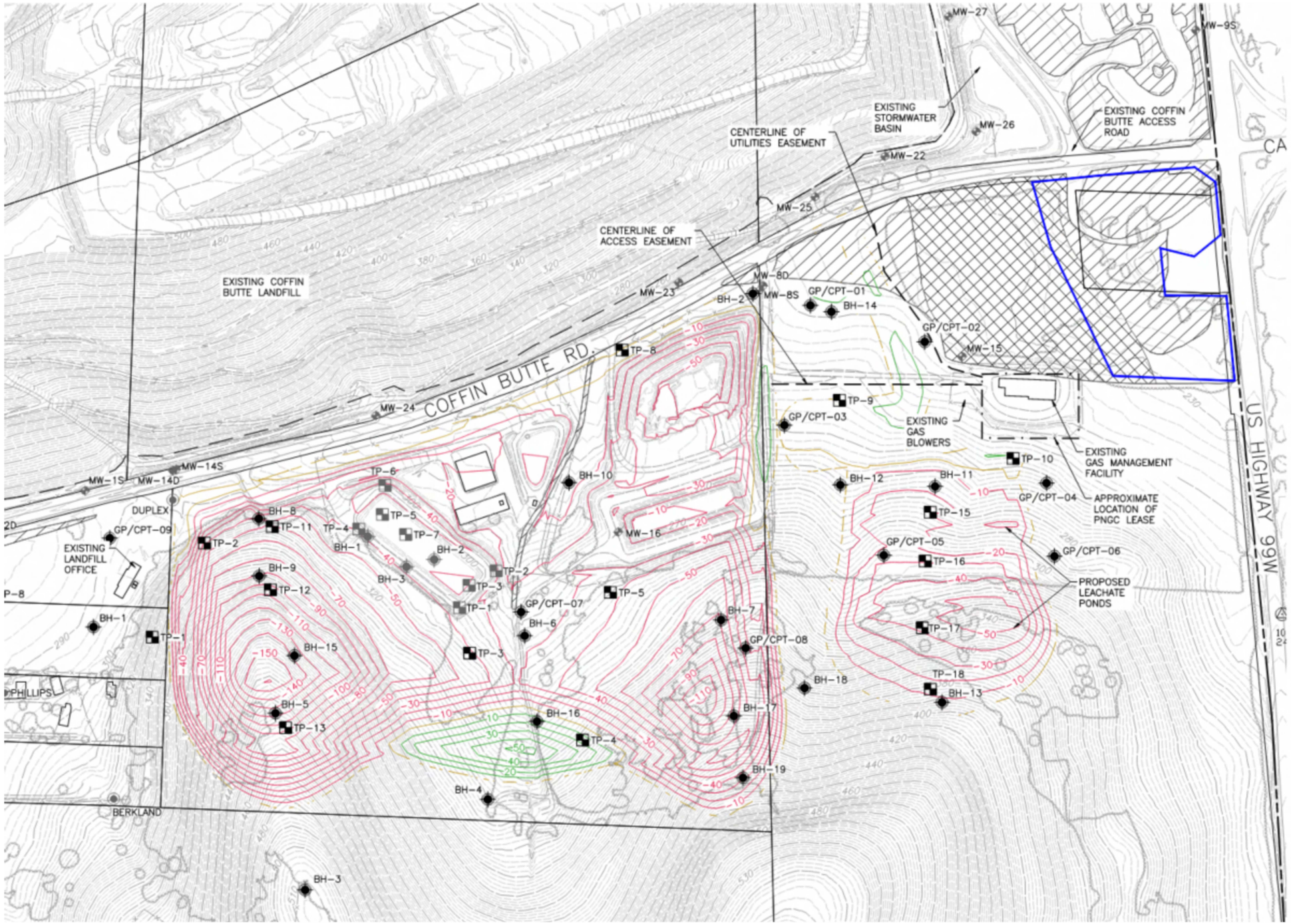
WALLACE GROUP
NORTHWEST GEOSYSTEM EXPERTS

EXPLORATION LOCATION MAP
COFFIN BUTTE LANDFILL
CORVALLIS, OREGON

PROJECT No:	21129 (1)
DRAWN:	January 31, 2022
DRAWN BY:	KAK
CHECKED BY:	LMS
FILE NAME:	21129 (1) Figure 2a

FIGURE: 2a



LEGEND

- PROPERTY BOUNDARY
- EXISTING LANDFILL BOUNDARY
- TAX LOT BOUNDARY
- EXISTING 10-FT CONTOUR
- EXISTING 2-FT CONTOUR
- EXISTING PALUSTRINE FORESTED WETLAND
- EXISTING PALUSTRINE EMERGENT WETLAND
- EXISTING GROUNDWATER MONITORING WELLS/PIEZOMETER
- DECOMMISSIONED MONITORING WELLS
- EXISTING WATER SUPPLY WELLS
- EXISTING BORE HOLE
- PROPOSED BORE HOLE
- EXISTING TEST PIT
- PROPOSED TEST PIT

PROPOSED BOREHOLE/TEST PIT TABLE

POINT #	DESCRIPTION	EXISTING GROUND ELEVATION	DESIGN GROUND ELEVATION	ELEVATION DIFFERENCE (FT)	NORTHING	EASTI
1	GP/CPT	238.82	247.90	-9.08	387992.07	749345
2	GP/CPT	237.06	237.06	0.00	387878.79	749380
3	GP/CPT	258.82	263.12	-4.30	387619.91	749337
4	GP/CPT	263.42	263.42	0.00	387440.30	749418
5	GP/CPT	302.68	280.00	22.68	387216.21	749368
6	GP/CPT	290.84	290.84	0.00	387213.16	749420
7	GP/CPT	287.77	264.57	23.20	387040.06	749255
8	GP/CPT	360.17	315.26	44.91	386928.09	749325
9	GP/CPT	288.85	288.85	0.00	387269.13	749127

N

APPROXIMATE SCALE
1" = 350'

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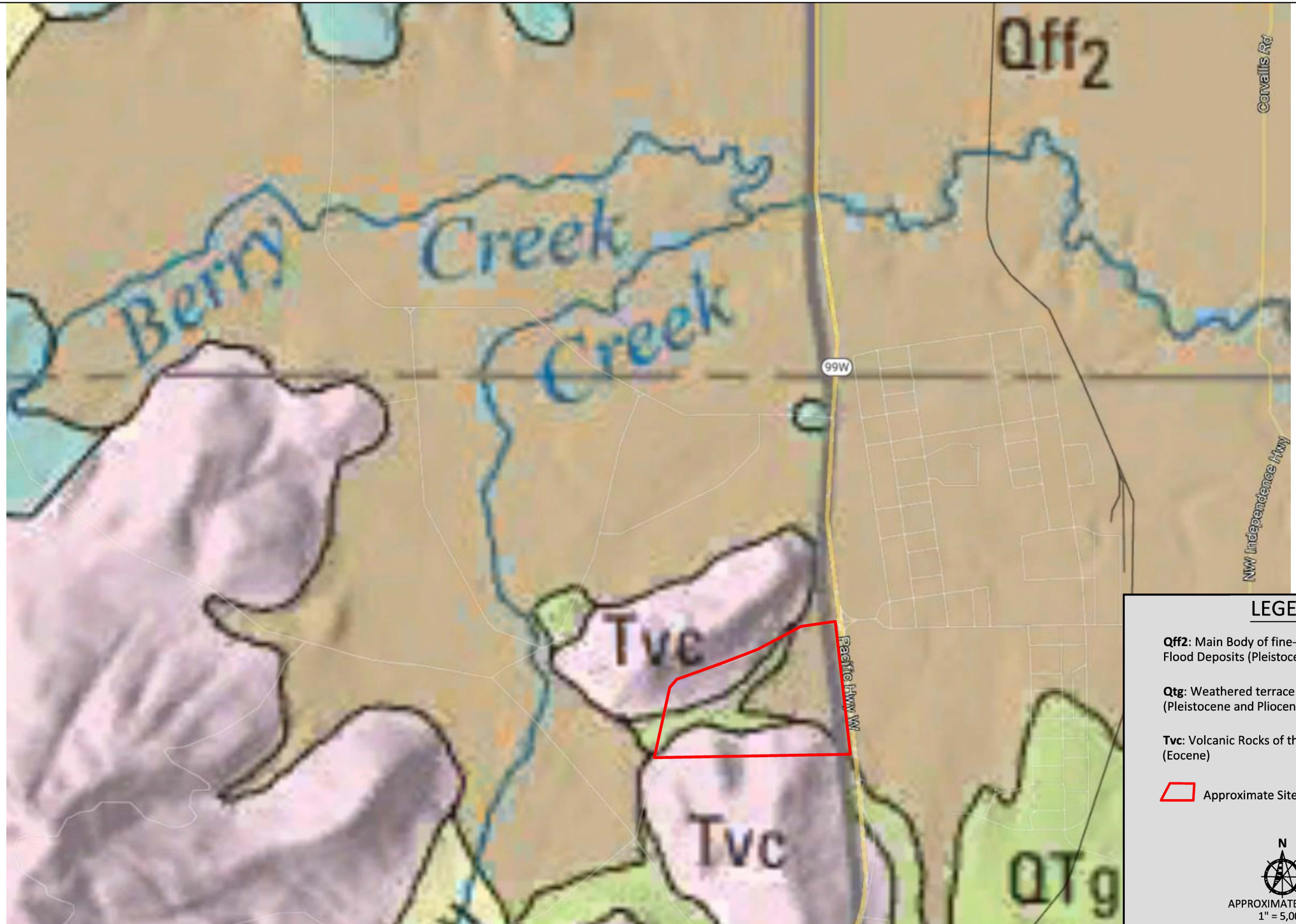
WALLACE GROUP
NORTHWEST GEOSYSTEM EXPERTS

EXPLORATION LOCATION MAP
COFFIN BUTTE LANDFILL
CORVALLIS, OREGON

PROJECT No:	21129 (1)
DRAWN:	January 31, 2022
DRAWN BY:	KAK
CHECKED BY:	LMS
FILE NAME:	21129 (1) Figure 2b

FIGURE: 2b



LEGEND

Qff2: Main Body of fine-grained Missoula Flood Deposits (Pleistocene)

Qtg: Weathered terrace deposits (Pleistocene and Pliocene?)

Tvc: Volcanic Rocks of the Coastal Range (Eocene)

Approximate Site Border

N

APPROXIMATE SCALE
1" = 5,000'

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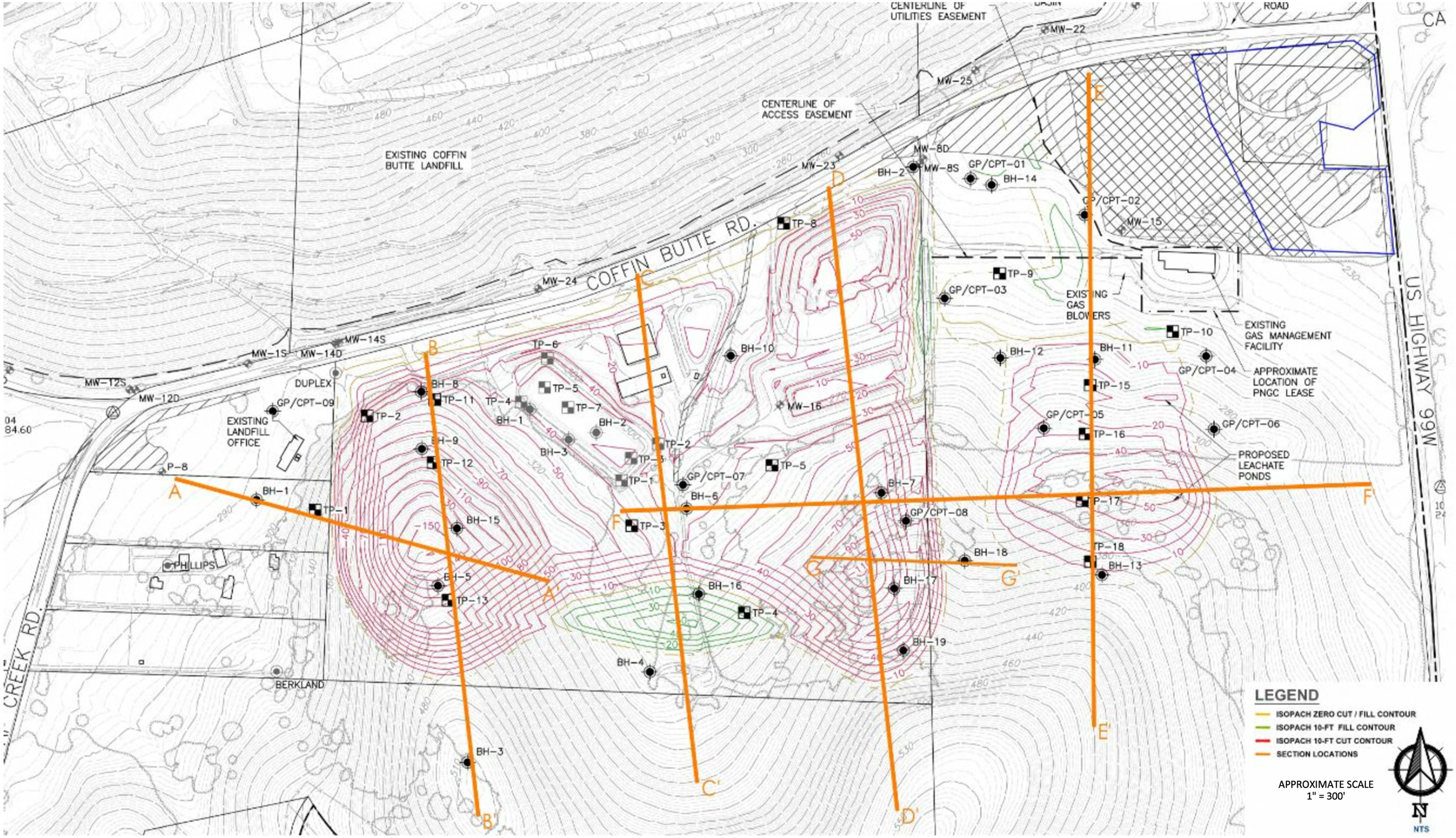
WALLACE GROUP
NORTHWEST GEOSYSTEM EXPERTS

SURFACE GEOLOGY MAP
COFFIN BUTTE LANDFILL
CORVALLIS, OREGON

PROJECT No:	21129 (1)
DRAWN:	January 31, 2022
DRAWN BY:	KAK
CHECKED BY:	LMS
FILE NAME:	21129 (1) Figure 3

FIGURE: 3



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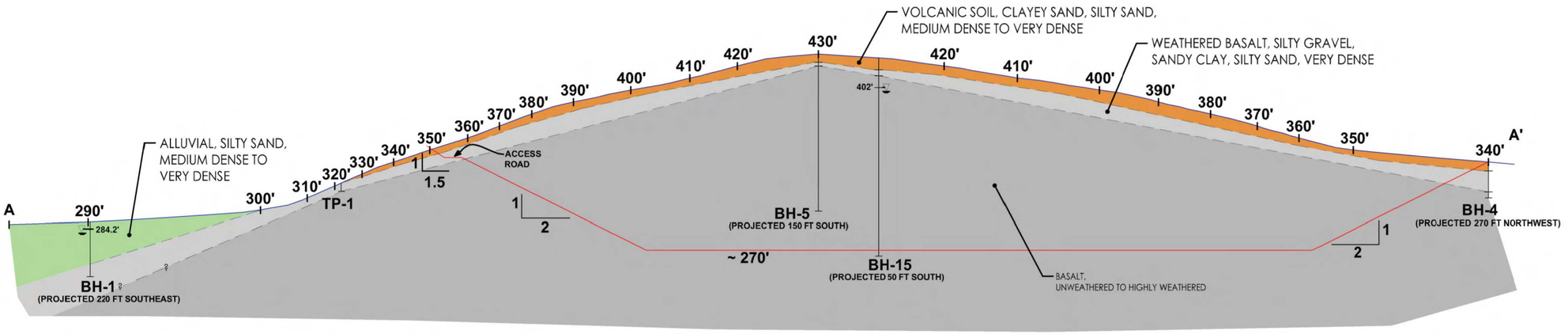
NORTHWEST GEOSYSTEM EXPERTS

CROSS SECTION LOCATION MAP
COFFIN BUTTE LANDFILL
CORVALLIS, OREGON

PROJECT No:	21129 (1)
DRAWN:	January 31, 2022
DRAWN BY:	KAK
CHECKED BY:	LMS
FILE NAME:	21129 (1) Figure 4

FIGURE: 4



LEGEND

- EXISTING 10-FT CONTOUR
- ISOPACH 10-FT CUT LINE
- GROUNDWATER
- VOLCANIC SOIL
- WEATHERED BASALT
- BASALT
- ALLUVIAL

GRAPHIC SCALE

0 25 42.5 100 200

(IN FEET)

1 inch = 100 ft.

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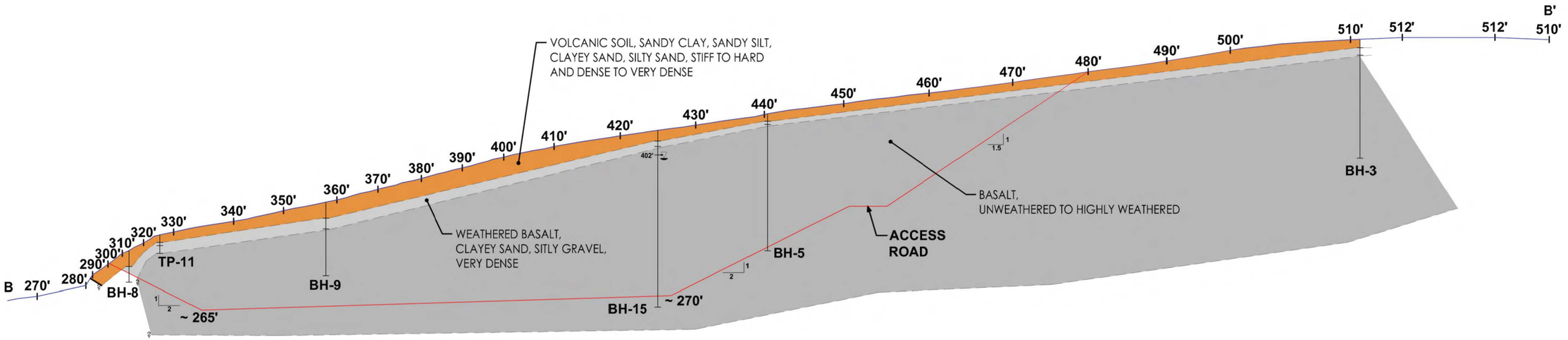
WALLACE GROUP
NORTHWEST GEOSYSTEM EXPERTS

CROSS-SECTION A-A'
VALLEY LANDFILL INC.
COFFIN BUTTE LANDFILL
CORVALLIS, OREGON

PROJECT No.:	23050 (1)
DRAWN:	October 24, 2023
DRAWN BY:	DTJ
CHECKED BY:	LS
FILE NAME:	23050 (1)_FIGURE_5.DWG

FIGURE 5



LEGEND

- EXISTING 10-FT CONTOUR
- ISOPACH 10-FT CUT LINE
- GROUNDWATER
- VOLCANIC SOIL
- WEATHERED BASALT
- BASALT

GRAPHIC SCALE

0 25 50 100 200

(IN FEET)

1 inch = 100 ft.

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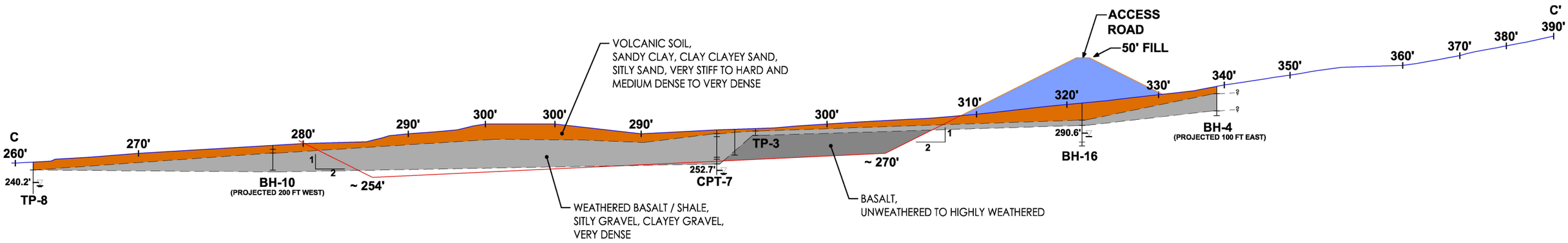
WALLACE GROUP
NORTHWEST GEOSYSTEM EXPERTS

CROSS-SECTION B-B'
VALLEY LANDFILL INC.
COFFIN BUTTE LANDFILL
CORVALLIS, OREGON

PROJECT No.:	23050 (1)
DRAWN:	October 24, 2023
DRAWN BY:	DTJ
CHECKED BY:	LS
FILE NAME:	23050 (1)_FIGURE_6.DWG

FIGURE 6



LEGEND

- EXISTING 10-FT CONTOUR
- ISOPACH 10-FT CUT LINE
- ISOPACH ZERO CUT/ FILL LINE
- GROUNDWATER
- VOLCANIC SOIL
- WEATHERED BASALT
- BASALT
- FILL

GRAPHIC SCALE

0 25 50 100 200

(IN FEET)

1 inch = 100 ft.

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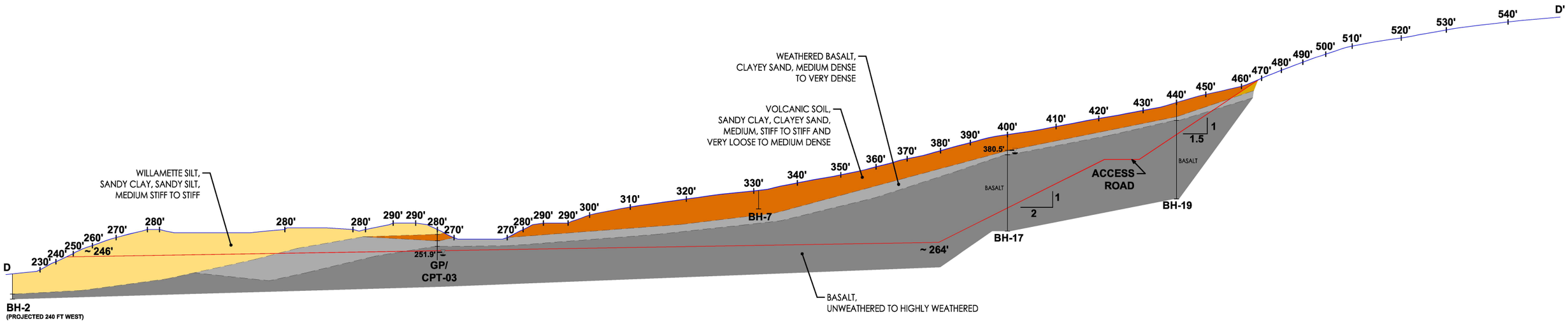
WALLACE GROUP
NORTHWEST GEOSYSTEM EXPERTS

CROSS-SECTION C-C'
VALLEY LANDFILL INC.
COFFIN BUTTE LANDFILL
CORVALLIS, OREGON

PROJECT No.:	23050 (1)
DRAWN:	October 24, 2023
DRAWN BY:	DTJ
CHECKED BY:	LS
FILE NAME:	23050 (1)_FIGURE_7.DWG

FIGURE 7



LEGEND

- EXISTING 10-FT CONTOUR
- ISOPACH 10-FT CUT LINE
- GROUNDWATER
- WILLAMETTE SILT
- VOLCANIC SOIL
- WEATHERED BASALT
- BASALT

GRAPHIC SCALE

0 30 60 120 240

(IN FEET)

1 inch = 120 ft.

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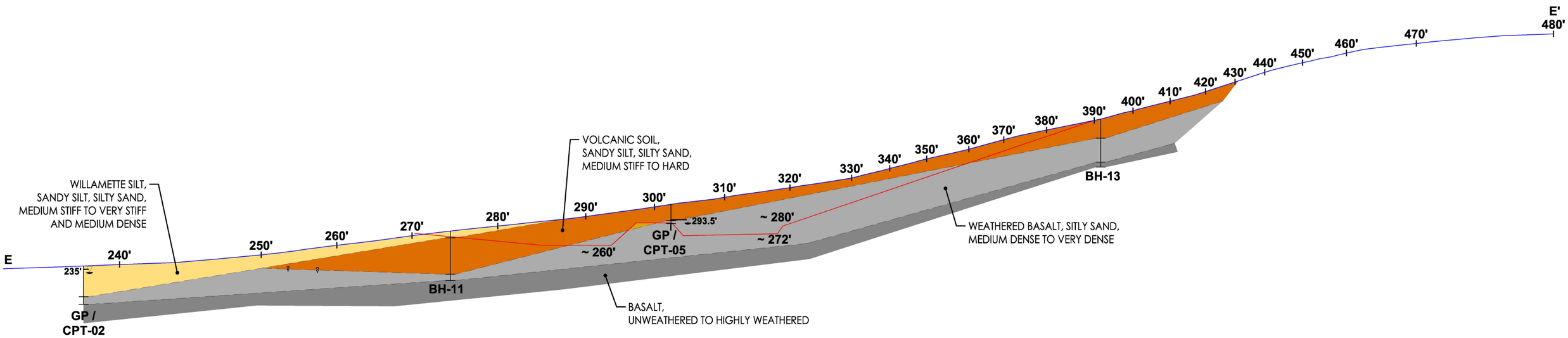
WALLACE GROUP
NORTHWEST GEOSYSTEM EXPERTS

CROSS-SECTION D-D'
VALLEY LANDFILL INC.
COFFIN BUTTE LANDFILL
CORVALLIS, OREGON

PROJECT No.:	23050 (1)
DRAWN:	October 24, 2023
DRAWN BY:	DTJ
CHECKED BY:	LS
FILE NAME:	23050 (1)_FIGURE_8.DWG

FIGURE 8



LEGEND

- EXISTING 10-FT CONTOUR
- ISOPACH 10-FT CUT LINE
- GROUNDWATER
- WILLAMETTE SILT
- VOLCANIC SOIL
- WEATHERED BASALT
- BASALT

GRAPHIC SCALE

0 25 50 100 200

(IN FEET)

1 inch = 100 ft.

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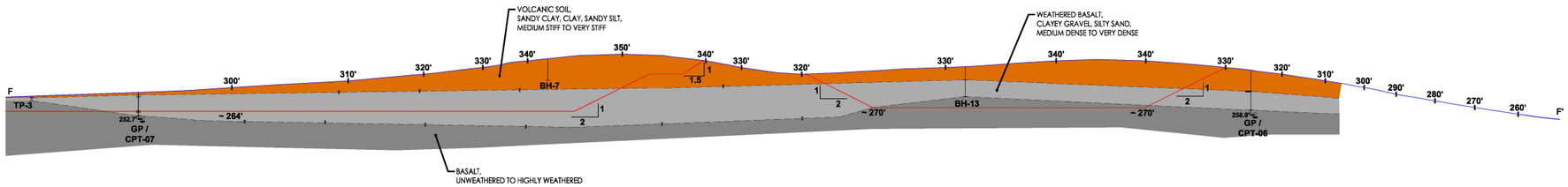
WALLACE GROUP
NORTHWEST GEOSYSTEM EXPERTS

CROSS-SECTION E-E'
VALLEY LANDFILL INC.
COFFIN BUTTE LANDFILL
CORVALLIS, OREGON

PROJECT No.:	23050 (1)
DRAWN:	October 24, 2023
DRAWN BY:	DTJ
CHECKED BY:	LS
FILE NAME:	23050 (1)_FIGURE_9.DWG

FIGURE 9



LEGEND

- EXISTING 10-FT CONTOUR
- ISOPACH 10-FT CUT LINE
- GROUNDWATER
- VOLCANIC SOIL
- WEATHERED BASALT
- BASALT

GRAPHIC SCALE

0 50 100 200 400

(IN FEET)

1 inch = 200ft.

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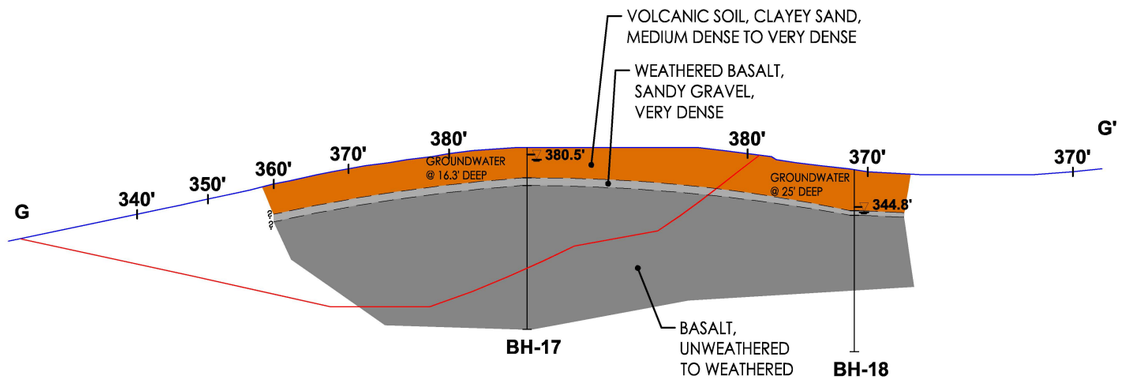
WALLACE GROUP
NORTHWEST GEOSYSTEM EXPERTS

CROSS-SECTION F-F'
VALLEY LANDFILL INC.
COFFIN BUTTE LANDFILL
CORVALLIS, OREGON

PROJECT No.:	23050 (1)
DRAWN:	October 24, 2023
DRAWN BY:	DTJ
CHECKED BY:	LS
FILE NAME:	23050 (1)_FIGURE_10.DWG

FIGURE 10



LEGEND

- EXISTING 10-FT CONTOUR
- ISOPACH 10-FT CUT LINE
- GROUNDWATER
- VOLCANIC SOIL
- WEATHERED BASALT
- BASALT

GRAPHIC SCALE

0 25 50 100 200

(IN FEET)

1 inch = 100 ft.

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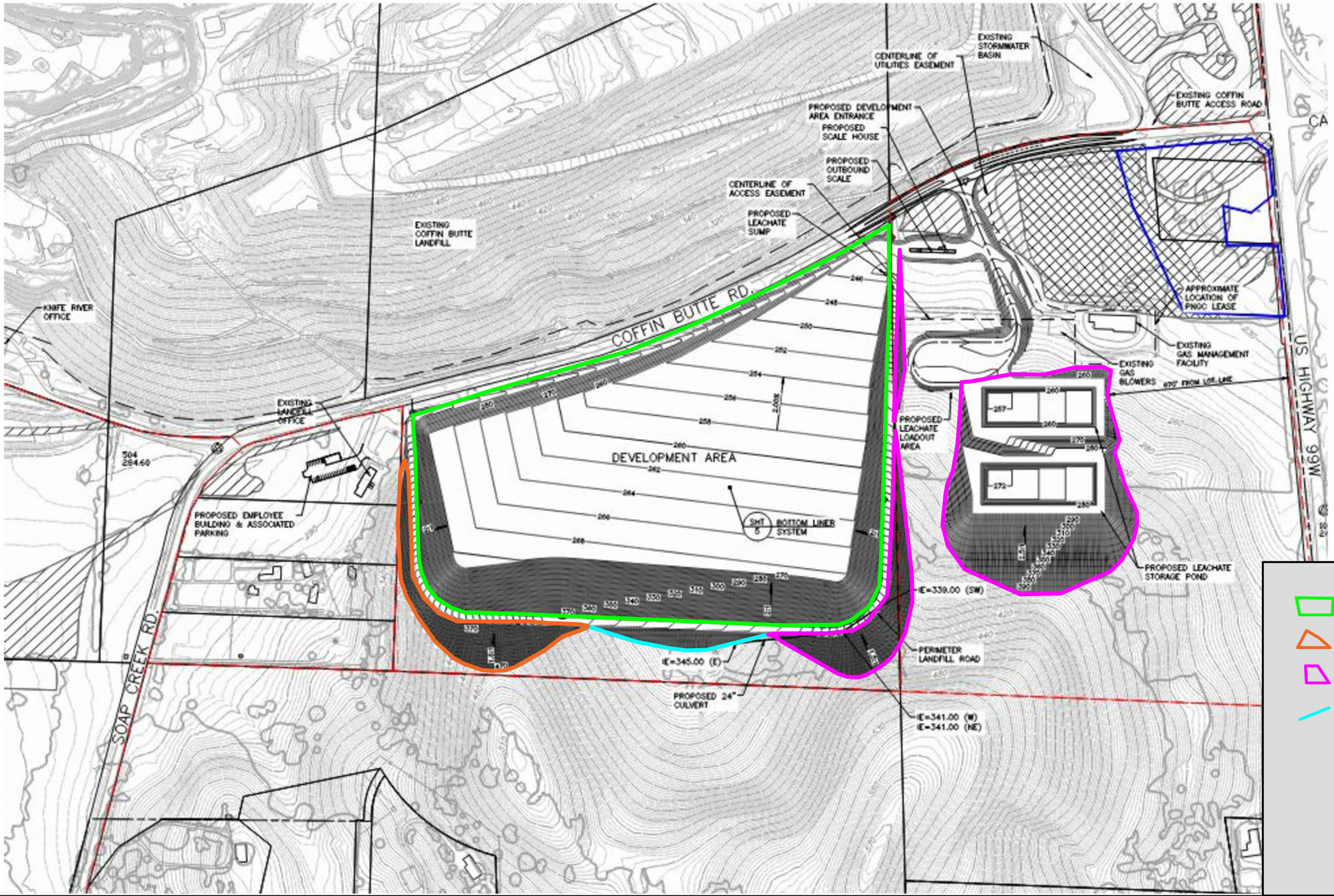
WALLACE GROUP
NORTHWEST GEOSYSTEM EXPERTS

CROSS-SECTION G-G'
VALLEY LANDFILL INC.
COFFIN BUTTE LANDFILL
CORVALLIS, OREGON

PROJECT No.:	23050 (1)
DRAWN:	October 24, 2023
DRAWN BY:	DTJ
CHECKED BY:	LS
FILE NAME:	23050 (1)_FIGURE_11.DWG

FIGURE 11



LEGEND

- PROPERTY BOUNDARY
- EXISTING LANDFILL BOUNDARY
- TAX LOT BOUNDARY
- ZONING BOUNDARY
- WETLAND MITIGATION BOUNDARY
- 300 EXISTING 10-FT CONTOUR
- EXISTING 2-FT CONTOUR
- EXISTING PALUSTRINE FORESTED WETLAND
- EXISTING PALUSTRINE EMERGENT WETLAND
- 250 PROPOSED 10-FT CONTOUR
- 254 PROPOSD 2-FT CONTOUR

NOTES

1. TAX LOT BOUNDARIES FROM BENTON COUNTY ZONING MAP PANEL 41047C0975G, DATED 01/19/2000 (TAX LOT BOUNDARIES MAY DIFFER FROM ZONING DATED 2021).
2. PERIMETER LANDFILL ROAD WILL ONLY BE FOR PICKUP TRUCKS OR SMALLER VEHICLES.

LEGEND

- 0.75 to 1 (H to V) in rock
  2 to 1 (H to V) in soil
- 0.75 to 1 (H to V) in rock
  1.5 to 1 (H to V) in soil
- 2.5 to 1 (H to V)
- Concrete v - ditch

N

APPROXIMATE SCALE
1" = 5,000'

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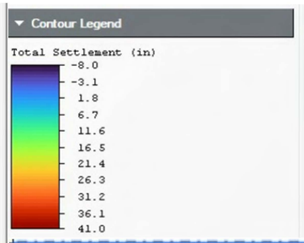
WALLACE GROUP
NORTHWEST GEOSYSTEM EXPERTS

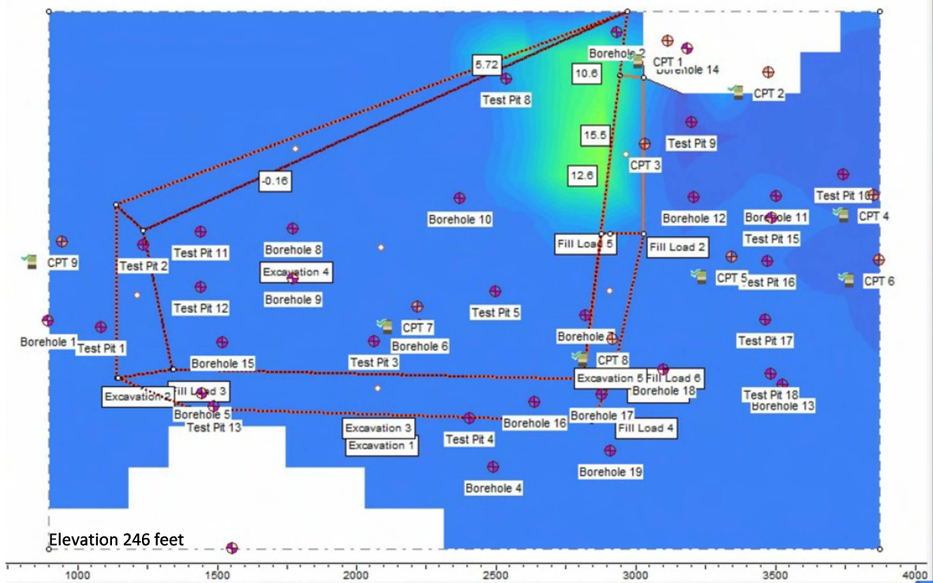
EXCAVATION PLAN
COFFIN BUTTE LANDFILL
CORVALLIS, OREGON

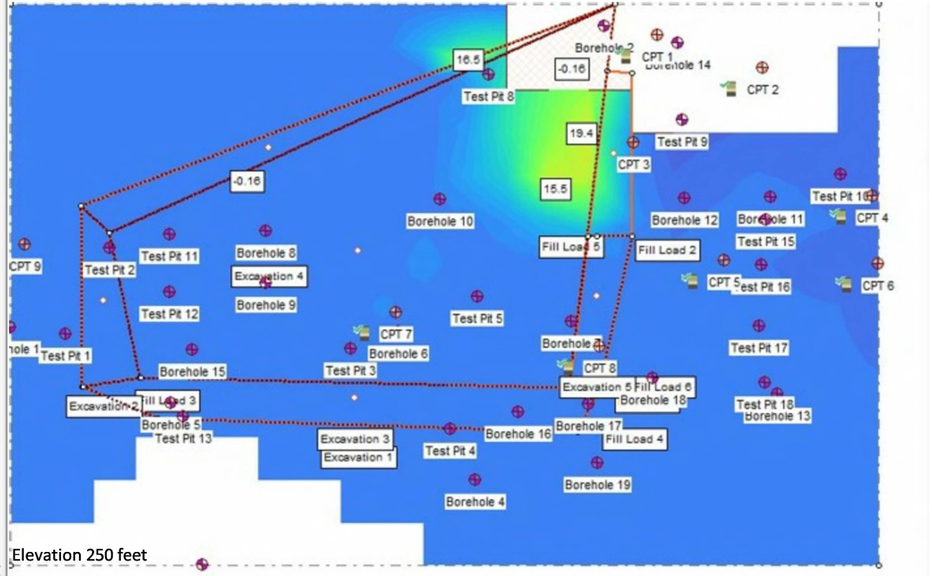
PROJECT No:	21129 (1)
DRAWN:	June 4, 2024
DRAWN BY:	KAK
CHECKED BY:	LMS
FILE NAME:	21129 (1) Figure 12

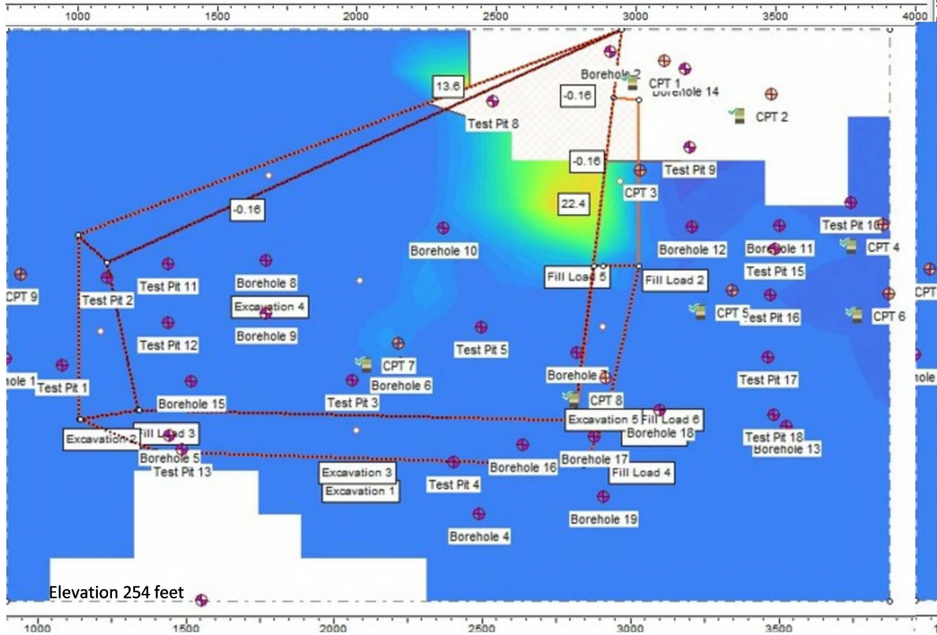
FIGURE: 12

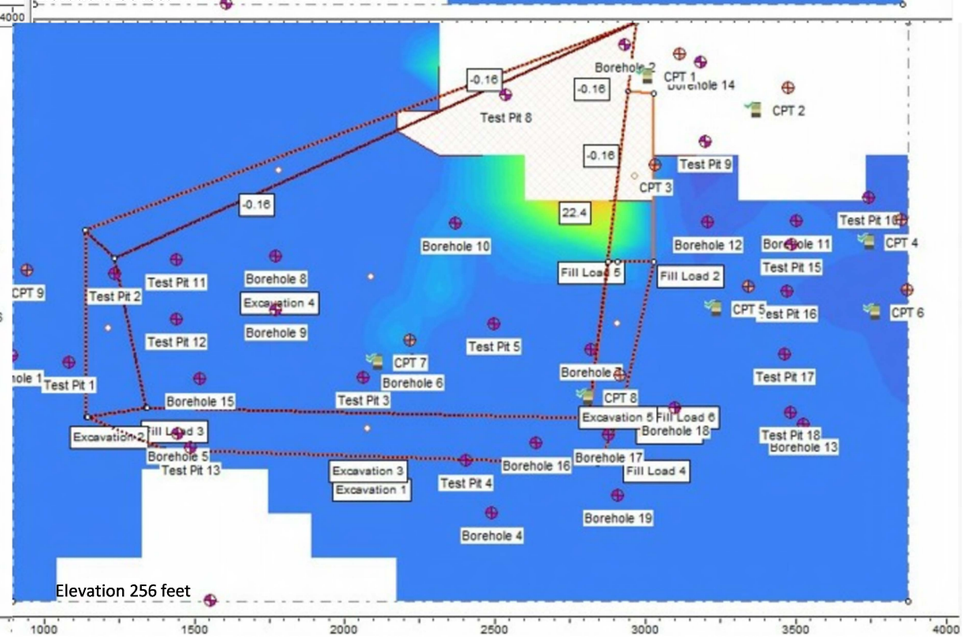
Material Name	Color	Unit Weight (kips/ft3)	Sat. Unit Weight (kips/ft3)	Es (ksf)	Eur (ksf)	Poisson Ratio	Material Type	Cc/Cce	Cr/Cre	Pc (ksf)	Ca	Car	Secondary Consol. Method
Weak Volcanic Soil		0.099	0.095	220	220	0.3	Non-Linear	0.3	0.04	5.3	0.0165	0.0165	Standard
Dense Volcanic Soil		0.105	0.11	250	250	0.35	Non-Linear	0.17	0.02	15	-	-	-
Basalt Rock		0.137	0.137	-	-	0.35	-	-	-	-	-	-	-
Dessicated Weak Volcanic		0.09	0.09	220	220	0.2	Non-Linear	0.3	0.1	7.5	0.0165	0.0165	Standard











N

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WALLACE GROUP
NORTHWEST GEOSYSTEM EXPERTS

SETTLEMENT ESTIMATES VS. GROUND SURFACE ELEVATION
COFFIN BUTTE LANDFILL
CORVALLIS, OREGON

PROJECT No:	21129 (1)
DRAWN:	June 7, 2024
DRAWN BY:	KAK
CHECKED BY:	LMS
FILE NAME:	21129 (1) Figure 13

FIGURE: 13

WALLACE GROUP
NORTHWEST GEOSYSTEM EXPERTS

APPENDIX A

APPENDIX A
FIELD EXPLORATION SUMMARY

GENERAL

Subsurface conditions for the proposed Coffin Butte Landfill South Expansion Area, located in Corvallis, Oregon, were explored by advancing nineteen (19) borings (designated BH-01 through BH-19), fifteen (15) test pits (designated TP-01 through TP-05, TP-08 through TP-13, and TP-15 through TP-18), and nine (9) cone penetration tests with geoprobe sampling (designated GP/CPT-01 through GP/CPT-09) at the approximate locations shown on **Figures 2a and 2b**, *Exploration Location Map*. TP-06, TP-07, and TP-14 were not excavated due to conflicts with utilities, access restrictions, and a mechanical breakdown. Boring, test pit, CPT, and geoprobe logs are included in this appendix. The procedures used to advance the borings and test pits, collect soil samples, and other field techniques are described in detail in this appendix. Unless otherwise noted, all soil sampling and classification procedures followed local engineering practices which are in general conformance with relevant ASTM procedures and the Unified Soil Classification System (USCS). "General conformance" means that certain local and common excavation and descriptive practices and methodologies have been followed.

TEST PITS

Fifteen (15) test pits were advanced with a CAT 310 trackhoe, operated by RL Reimers Excavation of Albany, Oregon between August 16 and September 23, 2021. The test pits were observed by a Wallace Group geotechnical professional who maintained a detailed log of subsurface conditions and materials encountered, collected soil samples, and documented backfilling. The test pits were advanced to depths ranging from 7- to 12-feet below ground surface (bgs). Grab samples were retrieved for laboratory testing. Test pits were backfilled using spoils from the excavations.

Dynamic Cone Penetration (DCP) testing was conducted to evaluate the relative density of the soil. DCP procedures are generally described in ASTM Special Technical Publication 399, which have been modified by Wallace Group to provide better representation of soil relative density or stiffness. During the DCP test, a 1.5-inch diameter steel cone is driven up to 18 inches into the soil using a 15-pound hammer dropped from a height of 18 inches. The number of blows is recorded and can be roughly correlated to the Standard Penetration Test. The number of blows required to drive the cone 12 inches into the soil provides a measure of the relative density of granular soils such as sand and gravel, and the strength of fine-grained soils such as silt and clay.

BORINGS

Nineteen (19) borings, advanced with a combination of hollow-stem augers (HSA), mud rotary, and HQ rock coring techniques. Borings BH-01 through BH-14 were drilled by using a track-mounted CME drilling rig, operated by Western States Drilling of Hubbard, Oregon on September 7 through 28, 2021. Borings BH-15 through BH-19 were drilled using a track-mounted CME drilling rig, operated by HazTech Drilling of Nampa, Idaho on November 8 through 16, 2022. The borings were observed by a Wallace Group geotechnical professional who maintained a detailed log of subsurface conditions and materials encountered, collected soil samples, and documented backfilling. The borings were advanced to depths ranging from 25.1- to 165-feet below ground surface (bgs). Disturbed (SPT), relatively undisturbed (Shelby tube), and rock core (HQ wireline) samples were retrieved for laboratory testing. Borings were abandoned using bentonite backfill.

BH-16 and BH-17 were converted into temporary piezometers (designated MW-16 and MW-17, respectively) by Oregon Geotechnical Explorations on November 21 and 22, 2022. Piezometers were installed to depths of 20-feet bgs in MW-16 and 100-feet bgs in MW-17.

CONE PENETRATION TESTING

Nine (9) CPTs were advanced by Oregon Geotechnical Explorations of Salem, Oregon between September 21 through November 8, 2022. The CPTs were performed by hydraulically-pushing a 1.4-inch-diameter, cone-tipped probe, with a projected area of 10 square centimeters, into the ground. The cone tip measures tip resistance, and a friction sleeve behind the cone tip measures frictional resistance. Electrical strain gauges or load cells within the cone continuously measured cone tip resistance and frictional resistance during the entire depth of each probing. Accumulated data was processed to provide engineering information, such as the types and approximate strength characteristics of the soil encountered. CPT's were advanced to depths between 10- to 65-feet bgs. Pore pressure dissipation testing was performed at all CPT locations to evaluate the depth to groundwater. Shear wave velocity measurements were collected in CPT-08.

Nine geoprobes (GP) were advanced adjacent to CPT locations to collect soil samples for laboratory testing. Geoprobes were advanced adjacent to CPT-01 through CPT-09 and were designated GP-01 through GP-09, as shown on Figure 2. Geoprobes were advanced by vibrating a 1.25-inch-diameter casing to depths ranging between 10- and 30-feet bgs. CPT and GP holes were abandoned with bentonite.

MATERIAL DESCRIPTIONS

Soil samples were visually classified in the field as they were collected. Consistency, color, and other distinguishing characteristics of the samples were noted. Afterwards, the soil samples were re-examined in the laboratory and the field descriptions were modified where necessary. The terminology used in the rock descriptions are defined in the following sections.

SAMPLING AND LABORATORY TESTING

Disturbed and relatively undisturbed soil samples were retrieved from the borings. The samples were classified and capped, sealed in plastic bags, or placed into core boxes for further examination and physical testing in our laboratory for gradation, moisture content, rock specimen point load testing, Atterberg limits, triaxial, and permeability.

BORING, TEST PIT, AND GP/CPT LOGS

Figure A is a Legend explaining the information and symbols presented on the test pit and boring logs. The logs are presented on Figures A-1 through A-15 (Test Pits), A-16 through A-36 (Borings and Piezometers), A-37 through A-45 (Geoprobes), and A-46 through A-54 (CPTs). The logs describe the materials encountered and the depths where materials and/or characteristics of these materials changed, although the changes may be gradual. Where material types and descriptions changed between samples, the contacts were interpreted. On each boring log, the types of samples collected (including their identification number) are reported, including laboratory test results and blow counts. Corrected N-values, as presented on the boring logs, represent sampler blow counts that have been corrected for sampler type and hammer energy.

GROUNDWATER

Groundwater was encountered during subsurface exploration for this project and groundwater elevations during drilling are presented on the logs in Appendix A.

TERMINOLOGY USED TO DESCRIBE SOIL AND ROCK

Soils exist in mixtures with varying proportions of components. The predominant soil, i.e., greater than 50 percent based upon total dry weight, is the primary soil type and is capitalized in our log descriptions, e.g., SAND, GRAVEL, SILT or CLAY. "General Accordance" means that certain local and common descriptive practices have been followed. In accordance with ASTM D2488, group symbols (such as GP or CH) are applied on that portion of the soil passing the 3-inch (75mm) sieve based upon visual examination. The following describes the use of soil names and modifying terms used to describe fine- and coarse-grained soils.

Fine - Grained SOILS (More than 50% fines passing 0.074 mm, #200 sieve)

The primary soil type i.e. SILT or CLAY is designated through visual – manual procedures to evaluate soil toughness, dilatancy, dry strength, and plasticity. The following describes the terminology used to describe fine - grained soils and varies from ASTM 2488 terminology in the use of some common terms.

Primary Soil Name and Symbols		
SILT (ML & MH)	CLAY (CL & CH)	ORGANIC SILT & CLAY (OL & OH)

Descriptions of plasticity are described based on the plasticity index results of Atterberg limits testing, as follows:

Plasticity Description	**Plasticity Index (PI)**
Non-Plastic	0 - 3
Low Plasticity	4 - 10
Medium Plasticity	>10 – 20
High Plasticity	>20 – 40
Very High Plasticity	>40

Modifying terms describing secondary constituents, estimated to 5 percent increments, are applied as follows:

Description	% Composition
Trace sand, trace gravel	5% - 10%
With sand; with gravel	15% - 25%
Sandy, or gravelly	30% - 45%

Borderline Symbols, for example CH/MH, are used where soils are not distinctly in one category or where variable soil units contain more than one soil type. Dual Symbols, for example CL-ML, are used where two symbols are required in accordance with ASTM D2488.

Soil Consistency. Consistency terms are applied to fine-grained soils (fines content > 50 percent). Descriptive terms are based on direct measure or correlation to the Standard Penetration Test N-value as determined by ASTM D1586-84, as follows.

Consistency Term	SPT N-value	Unconfined Compressive Strength	
		Tons/sq.ft.	kPa
Very soft	Less than 2	Less than 0.25	Less than 24
Soft	2 - 4	0.25 - 0.5	24 - 48
Medium stiff	5 - 8	0.5 - 1.0	48 – 96
Stiff	9 - 15	1.0 - 2.0	96 – 192
Very stiff	16 - 30	2.0 - 4.0	192 – 383
Hard	Over 30	Over 4.0	Over 383

Coarse-Grained Soils (less than 50% fines)

Coarse-grained soil descriptions, i.e., SAND or GRAVEL, are based on that portion of materials passing a 3-inch (75mm) sieve. Coarse-grained soil group symbols are applied in accordance with ASTM D2488 based upon the degree of grading, or distribution of grain sizes of the soil. For example, well graded sand containing a wide range of grain sizes is designated SW; poorly graded gravel, GP, contains high percentages of only certain grain sizes. Terms applied to grain sizes follow.

	Particle Diameter	
	Inches	**Millimeters**
Sand	0.003 - 0.19	0.075 - 4.8
Gravel	0.19 - 3.0	4.8 - 75
	Additional Constituents	
Cobble	3.0 - 12	75 - 300
Boulder	12 - 120	300 - 3050
Rock Block	>120	>3050

The amount of 'fines' in the soil are described as indicated by the following examples. Other soil mixtures will provide similar descriptive names.

Example: Coarse-Grained Soil Descriptions with Fines

Less than 5% fines	5 to 12% fines (Dual Symbols)	Greater than 12% to Less than 50% fines
GRAVEL: GW or GP	GRAVEL WITH SILT, GW-GM	SILTY GRAVEL: GM
SAND: SW or SP	SAND WITH CLAY, SP-SC	SILTY SAND: SM

Cohesionless Soil Structure terms are applied to granular, non-plastic soils based on direct measure or correlation to the Standard Penetration Test N-value as determined by ASTM D1586.

Cohesionless Soil Structure Term	***SPT N-value***
Very loose	0 - 4
Loose	4 - 10
Medium dense	10 - 30
Dense	30 - 50
Very dense	> 50

Terminology Used to Describe Rock

The descriptions of rock strength, joint space or bedding, vesicularity, and quality are as follows:

Scale of Rock Strength

Description	Designation	Unconfined Compressive Strength, psi	Unconfined Compressive Strength, MP	Field Identification
Very low strength	R1	100 – 1000	0.7 – 7	Crumbles under firm blows with point of geology pick; can be peeled by a pocketknife.
Low strength	R2	1,000 – 4,000	7 – 28	Can be peeled by a pocketknife with difficulty; shallow indentation made by firm blows of geology pick.
Moderate strength	R3	4,000 – 8,000	28 – 55	Cannot by scraped or peeled with a pocketknife; specimen can be fractured with a single firm blow of geology hammer.
Medium high strength	R4	8,000 – 16,000	55 – 110	Specimen requires more than one blow with a geology hammer to fracture it.
High strength	R5	16,000 – 32,000	110 – 120	Specimen requires many blows of geology hammer to fracture it.
Very high strength	R6	> 32,000	> 220	Specimen can only be chipped with geology pick.

Descriptive Terminology for Joint Spacing or Bedding

Descriptive Term	*Spacing of Joints*	
Very close	Less than 2 inches	< 50 mm
Close	2 inches - 1 foot	50 mm – 300 mm
Moderately close	1 foot - 3 feet	300 mm – 1 m
Wide	3 feet -10 feet	1 m – 3 m
Very wide	Greater than 10 feet	> 3 m

Descriptive Terminology for Vesicularity

Descriptive Term	*Percent voids by volume*
Dense	< 1%
Slightly vesicular	1 – 10%
Moderately vesicular	10 – 30%
Highly vesicular	30 – 50%
Scoriaceous	> 50%

Correlation of RQD and Rock Quality

Rock Quality Descriptor	RQD Value
Very poor	0 – 25
Poor	25 - 50
Fair	50 - 75
Good	75 - 90

Scale of Rock Weathering

Stage	*Description*	*Quality Distinction*
Fresh	Rock is fresh, crystals are bright, a few joints may show slight staining because of ground water.	Discoloration
Very Slight	Rock is generally fresh, joints are stained, some joints may have thin clay coatings, crystals in broken faces show bright.	Discoloration only on major discontinuity surfaces [i]
Slight	Rock is generally fresh, joints are stained, and discoloration extends into rock up to 1 in. Joints may contain clay. In granitoid rocks some feldspar crystals are dull and discolored. Rocks ring under hammer if crystalline.	Discoloration on all discontinuity surfaces and on rock
Moderate	Significant portions of rock show discoloration and weathering effects. In granitoid rocks, most feldspars are dull and discolored; some are clayey. Rock has dull sound under hammer and shows significant loss of strength as compared with fresh rock.	Decomposition and/or disintegration < 50% of rock [ii]
Moderately Severe	All rock, except quartz discolored or stained. In granitoid rocks, all feldspars dull and discolored and majority show kaolinization. Rock shows severe loss of strength and can be excavated with geologist's pick. Rock goes "clunk" when struck.	Decomposition and/or disintegration > 50%, but not complete
Severe	All rock, except quartz, discolored or stained. Rock "fabric" is clear and evident but reduced in strength to strong soil. In granitoid rocks, all feldspars kaolinized to some extent. Some fragments of harder rock usually left, such as corestones in basalt.	Decomposition and/or disintegration > 75%, nearly complete
Very Severe	All rock, except quartz, discolored or stained. Rock "fabric" is discernible, but mass effectively reduced to "soil" with only fragments of harder rock remaining.	Decomposition and/or disintegration 100% with structure/fabric intact
Complete	Rock is reduced to "soil". Rock "fabric" is not discernible, or only in small scattered locations. Quartz may be present as dikes or stringers.	Decomposition and/or disintegration 100% with structure/fabric destroyed

NOTES: [i] Discontinuities consist of any natural break (joint, fracture or fault) or plane of weakness (shear or gouge zone, bedding plane) in a rock mass

[ii] Decomposition refers to chemical alteration of mineral grains; disintegration refers to mechanical breakdown

[iii] Stage and description from ASCE Manual No. 56 (1976), quality distinction from Murray (1981)

KEY TO SYMBOLS

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

CLIENT CEC, Inc. **PROJECT NAME** Coffin Butte Landfill

PROJECT NUMBER 21129-1 **PROJECT LOCATION** Corvallis, OR

LITHOLOGIC SYMBOLS
(Unified Soil Classification System)

BASALT: Basalt

CH: USCS High Plasticity Clay

CL: USCS Low Plasticity Clay

CL-ML: USCS Low Plasticity Silty Clay

FILL: Fill (artificial fill)

GC: USCS Clayey Gravel

GM: USCS Silty Gravel

MH: USCS Elastic Silt

ML: USCS Silt

SANDSTONE: Sandstone

SC: USCS Clayey Sand

SC-SM: USCS Clayey Sand

SHALE: Shale

SM: USCS Silty Sand

SAMPLER SYMBOLS

Grab Sample

Rock Core (RC)

Standard Penetration Test

Shelby Tube

WELL CONSTRUCTION SYMBOLS

Bentonite Seal

Filter Pack

Slotted Pipe

Top Cap: 1 pipe group, 1st pipe

ABBREVIATIONS

LL - LIQUID LIMIT (%)
PI - PLASTIC INDEX (%)
MC - MOISTURE CONTENT (%)
DD - DRY DENSITY (PCF)
NP - NON PLASTIC
FINES - PERCENT PASSING NO. 200 SIEVE
PP - POCKET PENETROMETER (TSF)
OC - ORGANIC CONTENT (%)

TV - TORVANE
PID - PHOTOIONIZATION DETECTOR
UCCS - UNCONFINED COMPRESSION
ppm - PARTS PER MILLION

Water Level at Time of Drilling, or as Shown

Water Level at End of Drilling, or as Shown

Water Level After 24 Hours, or as Shown

KEY TO SYMBOLS - WALLACE GROUP DATA TEMPLATE.GDT - 10/10/23 09:21 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A

TEST PIT NUMBER TP-01

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 8/17/21 **COMPLETED** 8/17/21
GROUND ELEVATION 323.7 ft
EXCAVATION CONTRACTOR RL Reimers
GROUND WATER LEVELS:
EXCAVATION METHOD CAT 310 Excavator
AT TIME OF EXCAVATION ---
LOGGED BY SMW **CHECKED BY** LMS
24HRS AFTER EXCAVATION ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0.0	GB S-1	CL		SANDY LEAN CLAY WITH GRAVEL, moist, reddish brown, fine to coarse grained, angular to subangular, organics to 1', more gravel with depth	316.7
2.5					
5.0					
7.0				Refusal at 7.0 feet on basalt. Bottom of test pit at 7.0 feet.	

TWG-TEST PITS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 12:47 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 1

TEST PIT NUMBER TP-02

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 8/17/21 **COMPLETED** 8/17/21
GROUND ELEVATION 302 ft
EXCAVATION CONTRACTOR RL Reimers
GROUND WATER LEVELS:
EXCAVATION METHOD CAT 310 Excavator
AT TIME OF EXCAVATION ---
LOGGED BY SMW **CHECKED BY** LMS
24HRS AFTER EXCAVATION ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	DCP BLOW COUNTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0.0		19 18 35	CL		SANDY LEAN CLAY WITH GRAVEL, stiff, moist, dark brown, fine to coarse grained, subangular, organic soil	
					2.0	300.0
2.5			CL		LEAN CLAY WITH SAND, stiff, moist, reddish brown, fine grained, subangular	
5.0					5.0	297.0
	GB S-1		GC		CLAYEY GRAVEL WITH SAND, stiff, moist, red with gray, fine to coarse grained, angular, friable	
7.5						
10.0					10.0	292.0

Refusal at 10.0 feet on basalt.
Bottom of test pit at 10.0 feet.

TWG-TEST PITS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 12:47 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 2

TEST PIT NUMBER TP-03

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 8/16/21 **COMPLETED** 8/16/21
GROUND ELEVATION 308.3 ft
EXCAVATION CONTRACTOR RL Reimers
GROUND WATER LEVELS:
EXCAVATION METHOD CAT 310 Excavator
AT TIME OF EXCAVATION ---
LOGGED BY SMW **CHECKED BY** LMS
24HRS AFTER EXCAVATION ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0.0					
		CL		SANDY LEAN CLAY, stiff, moist, dark brown to black, fine grained, organic	
2.5				2.5	305.8
	GB S-1	GC		CLAYEY GRAVEL WITH SAND, moist, tan with reddish brown, fine to coarse grained, subangular, with cobbles and weathered in-place pillow basalt	
5.0					
				7.0	301.3

Refusal at 7.0 feet on basalt.
Bottom of test pit at 7.0 feet.

TWG-TEST PITS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 12:47 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 3

TEST PIT NUMBER TP-04

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 8/16/21 **COMPLETED** 8/16/21
GROUND ELEVATION 334.2 ft
EXCAVATION CONTRACTOR RL Reimers
GROUND WATER LEVELS:
EXCAVATION METHOD CAT 310 Excavator
AT TIME OF EXCAVATION ---
LOGGED BY SMW **CHECKED BY** LMS
24HRS AFTER EXCAVATION ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	DCP BLOW COUNTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0.0					SANDY LEAN CLAY, stiff, moist, reddish brown, fine grained	
2.5	GB S-1	54 68 75	CL			
5.0						
6.0						328.2
					SANDY LEAN CLAY WITH GRAVEL, stiff, moist, dark reddish brown	
7.5			CL			
10.0						324.2
10.0					Refusal at 10.0 feet on basalt. Bottom of test pit at 10.0 feet.	

TWG-TEST PITS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 12:47 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 4

TEST PIT NUMBER TP-05

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 8/16/21 **COMPLETED** 8/16/21
GROUND ELEVATION 297.8 ft
EXCAVATION CONTRACTOR RL Reimers
GROUND WATER LEVELS:
EXCAVATION METHOD CAT 310 Excavator
AT TIME OF EXCAVATION ---
LOGGED BY SMW **CHECKED BY** LMS
24HRS AFTER EXCAVATION ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	DCP BLOW COUNTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0.0		45 67 78			SANDY LEAN CLAY, stiff, moist, reddish brown, fine grained	
	GB S-1					
2.5			CL			
5.0					5.0	292.8
	GB S-2				SANDY LEAN CLAY WITH GRAVEL, stiff, moist, dark reddish brown	
7.5			CL			
					9.0	288.8
			GM		SILTY GRAVEL WITH SAND, moist, dark gray, fine to coarse grained, angular, weathered in-place basalt	
10.0					10.0	287.8

Refusal at 10.0 feet on basalt.
Bottom of test pit at 10.0 feet.

TWG-TEST PITS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 12:48 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 5

TEST PIT NUMBER TP-08

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 9/28/21 **COMPLETED** 9/28/21
GROUND ELEVATION 247.7 ft
EXCAVATION CONTRACTOR Sure Flow INC
GROUND WATER LEVELS:
EXCAVATION METHOD Hydro Excavation
AT TIME OF EXCAVATION 7.50 ft / Elev 240.20 ft
LOGGED BY SMW **CHECKED BY** LMS
24HRS AFTER EXCAVATION ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0.0				SANDY LEAN CLAY, moist, dark brown, fine grained	
2.5	GB S-1	CL			
5.0					
7.5					
8.0					239.7

Refusal at 8.0 feet on basalt.
Bottom of test pit at 8.0 feet.

TWG-TEST PITS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 12:48 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 6

TEST PIT NUMBER TP-09

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 8/16/21 **COMPLETED** 8/16/21
GROUND ELEVATION 253.2 ft
EXCAVATION CONTRACTOR RL Reimers
GROUND WATER LEVELS:
EXCAVATION METHOD CAT 310 Excavator
AT TIME OF EXCAVATION ---
LOGGED BY SMW **CHECKED BY** LMS
24HRS AFTER EXCAVATION ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	DCP BLOW COUNTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0.0		29 35 41			SILT WITH SAND, stiff, moist, gray to reddish brown, fine grained	
2.5	GB S-1		ML			
5.0						
7.5						
10.0	GB S-2					
12.0						241.2

Refusal at 12.0 feet on limit of excavator.
Bottom of test pit at 12.0 feet.

TWG-TEST PITS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 12:48 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 7

TEST PIT NUMBER TP-10

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 8/16/21 **COMPLETED** 8/16/21
GROUND ELEVATION 256.3 ft
EXCAVATION CONTRACTOR RL Reimers
GROUND WATER LEVELS:
EXCAVATION METHOD CAT 310 Excavator
AT TIME OF EXCAVATION ---
LOGGED BY SMW **CHECKED BY** LMS
24HRS AFTER EXCAVATION ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0.0				LEAN CLAY WITH SAND, stiff, moist, gray, fine grained	
2.5		CL			
4.0					252.3
				SANDY LEAN CLAY, stiff, moist, red with gray	
5.0	GB S-1				
7.5		CL			
10.0					
11.0					245.3

Refusal at 11.0 feet on limit of excavator.
Bottom of test pit at 11.0 feet.

TWG-TEST PITS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 12:48 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 8

TEST PIT NUMBER TP-11

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 8/17/21 **COMPLETED** 8/17/21
GROUND ELEVATION 310 ft
EXCAVATION CONTRACTOR RL Reimers
GROUND WATER LEVELS:
EXCAVATION METHOD CAT 310 Excavator
AT TIME OF EXCAVATION ---
LOGGED BY SMW **CHECKED BY** LMS
24HRS AFTER EXCAVATION ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	DCP BLOW COUNTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0.0					SANDY LEAN CLAY, stiff, moist, dark brown, fine grained, with organics	
			CL			
2.5						
					3.0	307.0
		61			CLAYEY SAND, moist, yellowish brown, fine grained, trace cobbles	
	GB S-1	68				
		74				
5.0			SC			
					7.0	303.0
7.5					CLAYEY GRAVEL WITH SAND, moist, dark red, fine to coarse grained, angular to subangular, weathered basalt	
			GC			
10.0					10.0	300.0

Refusal at 10.0 feet on basalt.
Bottom of test pit at 10.0 feet.

TWG-TEST PITS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 12:48 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 9

TEST PIT NUMBER TP-12

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 8/17/21 **COMPLETED** 8/17/21
GROUND ELEVATION 360 ft
EXCAVATION CONTRACTOR RL Reimers
GROUND WATER LEVELS:
EXCAVATION METHOD CAT 310 Excavator
AT TIME OF EXCAVATION ---
LOGGED BY SMW **CHECKED BY** LMS
24HRS AFTER EXCAVATION ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	DCP BLOW COUNTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0.0		35 19 24	CL		SANDY LEAN CLAY WITH GRAVEL, stiff, moist, reddish brown, fine to coarse grained, organic to 1'	
2.5						
						356.0
4.0			GC		CLAYEY GRAVEL, moist, dark reddish brown, fine to coarse grained, angular, gravel increases with depth	
5.0	GB S-1					
7.5						
						351.0
9.0					Refusal at 9.0 feet on basalt. Bottom of test pit at 9.0 feet.	

TWG-TEST PITS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 12:48 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 10

TEST PIT NUMBER TP-13

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 8/17/21 **COMPLETED** 8/17/21
GROUND ELEVATION 445 ft
EXCAVATION CONTRACTOR RL Reimers
GROUND WATER LEVELS:
EXCAVATION METHOD CAT 310 Excavator
AT TIME OF EXCAVATION ---
LOGGED BY SMW **CHECKED BY** LMS
24HRS AFTER EXCAVATION ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0.0		ML		SANDY SILT, stiff, moist, dark brown, fine grained, low plasticity, roots and organics	
2.0					443.0
2.5	GB S-1	GC		CLAYEY GRAVEL WITH SAND, stiff, moist, dark reddish tan, fine to coarse grained, angular to subangular, increasing gravel with depth	
5.0					
7.0					438.0

Refusal at 7.0 feet on basalt.
Bottom of test pit at 7.0 feet.

TWG-TEST PITS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 12:48 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 11

TEST PIT NUMBER TP-15

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 8/16/21 **COMPLETED** 8/16/21
GROUND ELEVATION 288 ft
EXCAVATION CONTRACTOR RL Reimers
GROUND WATER LEVELS:
EXCAVATION METHOD CAT 310 Excavator
AT TIME OF EXCAVATION ---
LOGGED BY SMW **CHECKED BY** LMS
24HRS AFTER EXCAVATION ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0.0				SANDY LEAN CLAY, stiff, moist, red with gray, fine grained, medium plasticity	
2.5					
5.0	GB S-1	CL			
7.5					
10.0					
				11.0	277.0

Refusal at 11.0 feet on limit of excavator.
Bottom of test pit at 11.0 feet.

TWG-TEST PITS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 12:48 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 12

TEST PIT NUMBER TP-16

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 8/16/21 **COMPLETED** 8/16/21
GROUND ELEVATION 309 ft
EXCAVATION CONTRACTOR RL Reimers
GROUND WATER LEVELS:
EXCAVATION METHOD CAT 310 Excavator
AT TIME OF EXCAVATION ---
LOGGED BY SMW **CHECKED BY** LMS
24HRS AFTER EXCAVATION ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0.0				SANDY LEAN CLAY, stiff, moist, red with gray, fine grained	
2.5	GB S-1				
5.0		CL			
7.5					
10.0	GB S-2				
12.0					297.0

Refusal at 12.0 feet on limit of excavator.
Bottom of test pit at 12.0 feet.

TWG-TEST PITS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 12:48 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 13

TEST PIT NUMBER TP-17

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 8/16/21 **COMPLETED** 8/16/21
GROUND ELEVATION
EXCAVATION CONTRACTOR RL Reimers
GROUND WATER LEVELS:
EXCAVATION METHOD CAT 310 Excavator
AT TIME OF EXCAVATION ---
LOGGED BY SMW **CHECKED BY** LMS
24HRS AFTER EXCAVATION ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				SANDY LEAN CLAY, stiff, moist, red with gray, fine grained
2.5	GB S-1			
5.0		CL		
7.5				
10.0				
11.0				Refusal at 11.0 feet on limit of excavator. Bottom of test pit at 11.0 feet.

TWG-TEST PITS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 12:48 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 14

TEST PIT NUMBER TP-18

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 8/16/21 **COMPLETED** 8/16/21
GROUND ELEVATION 390 ft
EXCAVATION CONTRACTOR RL Reimers
GROUND WATER LEVELS:
EXCAVATION METHOD CAT 310 Excavator
AT TIME OF EXCAVATION ---
LOGGED BY SMW **CHECKED BY** LMS
24HRS AFTER EXCAVATION ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	DCP BLOW COUNTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0.0					SANDY LEAN CLAY, stiff, moist, red with gray, fine grained	
2.5		50 64 78				
5.0			CL			
7.5						
10.0	GB S-1				10.0	380.0

Refusal at 10.0 feet on limit of excavator.
Bottom of test pit at 10.0 feet.

TWG-TEST PITS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 12:48 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 15

BORING NUMBER BH-01

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 9/9/21 **COMPLETED** 9/24/21
GROUND ELEVATION 291.7 ft
DRILLING CONTRACTOR Western States Soil Conservation Inc.
GROUND WATER LEVELS:
DRILLING METHOD CME Track Rig
AT TIME OF DRILLING 7.50 ft / Elev 284.20 ft
LOGGED BY SMW **CHECKED BY** LMS
24HRS AFTER DRILLING ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS	Corrected N-Value	TESTS AND REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0								SILTY SAND WITH GRAVEL, medium dense, moist, brown with grayish white, fine to coarse grained, subangular to subrounded, medium plasticity	
5	SPT S-1	93	8 8 8	19	-				
	SPT S-2	87	10 11 13	29	-				
10	SPT S-3	93	9 10 8	22	LL: 52 PI: 19 Fines: 33.3% MC: 33.7%				
	SPT S-4	93	10 20 25	54	very dense wet	SM			
15	SPT S-5	87	13 17 21	46	dense				
20								20.0	271.7
	SPT S-6	100	11 23 43	55				SILTY SAND, clayey sand, very dense, wet, tan with black, fine to coarse grained, subangular to subrounded, low plasticity	
25	SPT S-7	100	29 47 50	116					
30	SPT S-8	100	16 23 30	64	MC: 39.1% Fines: 36.0%	SC-SM			
35								35.0	256.7

TWG-BORING LOGS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 15:02 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 16.1

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER BH-01

CLIENT CEC, Inc. **PROJECT NAME** Coffin Butte Landfill

PROJECT NUMBER 21129-1 **PROJECT LOCATION** Corvallis, OR

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS	Corrected N-Value	TESTS AND REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
35	SPT S-9	100	50/4"	60/4"		SM		SILTY SAND WITH GRAVEL, very dense, wet, dark gray, fine to coarse grained, angular to subangular, weathered basalt	
40	SPT S-10	100	42 50/3"	50/5"					
45	SPT S-11	100	50/5"	60/5"				45.4 Bottom of borehole at 45.4 feet.	246.3

TWG-BORING LOGS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 15:02 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 16.2

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER BH-02

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 9/28/21 **COMPLETED** 9/28/21
GROUND ELEVATION 244 ft
DRILLING CONTRACTOR Western States Soil Conservation Inc.
GROUND WATER LEVELS:
DRILLING METHOD CME Track Rig
AT TIME OF DRILLING 4.90 ft / Elev 239.10 ft
LOGGED BY SMW **CHECKED BY** LMS
24HRS AFTER DRILLING ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS	Corrected N-Value	TESTS AND REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0								SANDY LEAN CLAY, moist, dark brown, fine grained, medium plasticity	
5						CL			
10								10.0	234.0
	SPT S-1	100	1 2 2	5	-	CL		LEAN CLAY, medium stiff, wet, olive brown, fine grained, subrounded to rounded, medium plasticity	
15	ST ST-1	100			MC: 36.1% DD: 83 / 85 / 86 pcf c: 1000 psf phi: 8.8 degrees			15.0	229.0
	SPT S-2	100	3 3 5	10		CL		SANDY LEAN CLAY, stiff, wet, dark greenish gray, fine grained, subrounded to rounded, high plasticity	
20	SPT S-3	100	2 2 3	6	medium stiff				
25								25.0	219.0
	SPT S-4	100	4 6 7	16		ML		SANDY SILT, very stiff, wet, tan with gray, fine to coarse grained, angular to subangular, weathered in-place basalt, trace gravel	
30	SPT S-5	100	6 19 22	49	hard				
35									

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Figure: A - 17.1

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER BH-02

CLIENT CEC, Inc. **PROJECT NAME** Coffin Butte Landfill

PROJECT NUMBER 21129-1 **PROJECT LOCATION** Corvallis, OR

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS	Corrected N-Value	TESTS AND REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
35	SPT S-6	100	17 25 24	59		ML		SANDY SILT, very stiff, wet, tan with gray, fine to coarse grained, angular to subangular, weathered in-place basalt, trace gravel *(continued)*	
40	SPT S-7	100	7 10 18	34					
45	SPT S-8	100	8 12 14	31					
50	SPT S-9	100	50	60/6"				50.5 Bottom of borehole at 50.5 feet.	193.5

TWG-BORING LOGS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 15:02 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 17.2

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER BH-03

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 9/10/21 **COMPLETED** 9/16/21
GROUND ELEVATION 510 ft
DRILLING CONTRACTOR Western States Soil Conservation Inc.
GROUND WATER LEVELS:
DRILLING METHOD CME Track Rig
AT TIME OF DRILLING ---
LOGGED BY SMW **CHECKED BY** LMS
24HRS AFTER DRILLING ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS	Corrected N-Value	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0								SANDY SILT WITH GRAVEL, hard, moist, reddish brown with gray, fine to coarse grained, angular to subangular, medium plasticity, with cobbles	
	SPT S-1	87	10 13 14	32	-	ML			
5	SPT S-2	86	14 33 50/5"	106/11"					
8.0									502.0
								SILTY GRAVEL WITH SAND, very dense, moist, grayish red with brown, fine to coarse grained, angular to subangular, low plasticity, with cobbles, weathered basalt	
10	SPT S-3	67	43 50/1"	60/1"	MC: 20.0% Fines: 13.2%	GM			
15									
15.0									495.0
	SPT S-4	100	50/1"	60/1"				BASALT, unweathered to highly weathered, greenish gray, low strength to medium high strength, R1 - R3/R4, fractures are filled with siltstone, chlorite alteration in places, basalt is brecciated	
	RC C-1	58 (0)							
	RC C-2	97 (68)							
20									
	RC C-3	85 (52)			21.5': UCS: 624 psi				
25									
	RC C-4	67 (45)			28.5': UCS: 5377 psi				
30									
	RC C-5	97 (75)			32.5': UCS: 2297 psi				
35									

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Figure: A - 18.1

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER BH-03

CLIENT CEC, Inc. **PROJECT NAME** Coffin Butte Landfill

PROJECT NUMBER 21129-1 **PROJECT LOCATION** Corvallis, OR

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS	Corrected N-Value	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
35								BASALT, unweathered to highly weathered, greenish gray, low strength to medium high strength, R1 - R3/R4, fractures are filled with siltstone, chlorite alteration in places, basalt is brecciated *(continued)*	
40	RC C-6	100 (70)			36.5': UCS: 264 psi				
45	RC C-7	100 (58)							
50	RC C-8	80 (48)			47.5': UCS: 439 psi				
55	RC C-9	97 (57)							
60	RC C-10	78 (43)			60': UCS: 248 psi				
65	RC C-11	73 (18)							
70	RC C-12	100 (62)			67': UCS: 2460 psi				
75	RC C-13	90 (33)			73': UCS: 473 psi				

TWG-BORING LOGS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 15:02 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 18.2

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER BH-03

CLIENT CEC, Inc. **PROJECT NAME** Coffin Butte Landfill

PROJECT NUMBER 21129-1 **PROJECT LOCATION** Corvallis, OR

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS	Corrected N-Value	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
75								BASALT, unweathered to highly weathered, greenish gray, low strength to medium high strength, R1 - R3/R4, fractures are filled with siltstone, chlorite alteration in places, basalt is brecciated *(continued)*	
80	RC C-14	93 (68)			79': UCS: 473 psi				
85	RC C-15	100 (53)			85': UCS: 677 psi				
90	RC C-16	100 (27)			87': UCS: 979 psi				
95	RC C-17	85 (40)							
100	RC C-18	48 (0)							
105	RC C-19	100 (65)			103': UCS: 223 psi 105': UCS: 3242 psi				
110	RC C-20	65 (18)			108': UCS: 640 psi				
								111.0	399.0

Bottom of borehole at 111.0 feet.

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Figure: A - 18.3

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER BH-04

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 9/27/21 **COMPLETED** 9/27/21
GROUND ELEVATION 343.9 ft
DRILLING CONTRACTOR Western States Soil Conservation Inc.
GROUND WATER LEVELS:
DRILLING METHOD CME Track Rig
AT TIME OF DRILLING ---
LOGGED BY SMW **CHECKED BY** LMS
24HRS AFTER DRILLING ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS	Corrected N-Value	TESTS AND REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0								SILTY SAND, clayey sand, stiff, moist, brownish gray, fine to coarse grained, angular to subangular, medium plasticity	
	SPT S-1	100	3 6 10	19	MC: 36.9% Fines: 41.2%	SC-SM			
5	SPT S-2	100	10 50/5"	60/5"	medium dense				
7.5									336.4
	SPT S-3	100	50/3"	60/3"				SILTY GRAVEL WITH SAND, very dense, moist, gray, fine to coarse grained, angular to subangular, low plasticity, highly weathered and fractured in-place basalt	
10	SPT S-4	100	50/3"	60/3"					
15	SPT S-5	100	50/2"	60/2"		GM			
20	SPT S-6	100	50/2"	60/2"					
25	SPT S-7	100	50/2"	60/2"					
	RC C-1	97 (60)							
25.0									318.9
								BASALT, slightly weathered, slightly fractured, greenish gray, low strength to medium high strength, brecciated, palagonite/chlorite infilling, R3/R1	
30									
30.0									313.9

Bottom of borehole at 30.0 feet.

TWG-BORING LOGS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 15:02 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 19

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER BH-05

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 9/17/21 **COMPLETED** 9/20/21
GROUND ELEVATION 443.4 ft
DRILLING CONTRACTOR Western States Soil Conservation Inc.
GROUND WATER LEVELS:
DRILLING METHOD CME Track Rig
AT TIME OF DRILLING ---
LOGGED BY SMW **CHECKED BY** LMS
24HRS AFTER DRILLING ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS	Corrected N-Value	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0								SILTY SAND WITH GRAVEL, dense, moist, reddish brown with gray, fine to coarse grained, angular to subangular, medium plasticity, with cobbles	
	SPT S-1	20	12 17 21	46	LL: 67 PI: 30 MC: 37.2% Fines: 22.7%	SM			
5	SPT S-2	60	10 14 18	38					
7.0									436.4
	SPT S-3	96	47 50/4"	60/4"		GM		SILTY GRAVEL WITH SAND, very dense, moist, gray with reddish brown, fine to coarse grained, angular to subangular, low plasticity, with cobbles	
10									433.4
10.0	SPT S-4	0	50/3"	60/3"				BASALT, slightly weathered to moderately weathered, moderately fractured, greenish gray, very low strength to high strength, R0 - R3/R4, fractures are filled with siltstone, chlorite alteration in places, basalt is brecciated	
	RC C-1	89 (0)							
	RC C-2	40 (0)			11': UCS: 929 psi				
15									
	RC C-3	65 (10)							
20									
	RC C-4	40 (0)							
25									
25.0								BASALT, highly weathered to weathered, intensely fractured, greenish gray, very low strength to medium high strength, R0 - R3, basalt is brecciated with a siltstone matrix	418.4
	RC C-5	80 (15)			30': UCS: 1022 psi				
30									
	RC C-6	40 (7)							
35									

TWG-BORING LOGS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 15:02 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 20.1

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER BH-05

CLIENT CEC, Inc. **PROJECT NAME** Coffin Butte Landfill

PROJECT NUMBER 21129-1 **PROJECT LOCATION** Corvallis, OR

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS	Corrected N-Value	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
35								BASALT, highly weathered to weathered, intensely fractured, greenish gray, very low strength to medium high strength, R0 - R3, basalt is brecciated with a siltstone matrix *(continued)*	
40	RC C-7	38 (0)							
45	RC C-8	50 (0)							
50	RC C-9	40 (0)			47': UCS: 5332 psi				
55	RC C-10	43 (0)							
60	RC C-11	33 (0)							
65	RC C-12	55 (0)			61': UCS: 324 psi				
70	RC C-13	32 (0)							
75	RC C-14	33 (0)							

TWG-BORING LOGS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 15:02 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 20.2

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER BH-05

CLIENT CEC, Inc. **PROJECT NAME** Coffin Butte Landfill

PROJECT NUMBER 21129-1 **PROJECT LOCATION** Corvallis, OR

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS	Corrected N-Value	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
75								BASALT, highly weathered to weathered, intensely fractured, greenish gray, very low strength to medium high strength, R0 - R3, basalt is brecciated with a siltstone matrix *(continued)*	
80	RC C-15	47 (0)							
85	RC C-16	60 (0)							
90	RC C-17	33 (0)			90': UCS: 18061 psi				
95	RC C-18	37 (0)							
100	RC C-19	40 (0)							
105	RC C-20	93 (45)			105': UCS: 374 psi				
110	RC C-21	40 (0)							
115	RC C-22	60 (25)							

TWG-BORING LOGS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 15:02 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 20.3

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER BH-05

CLIENT CEC, Inc. **PROJECT NAME** Coffin Butte Landfill

PROJECT NUMBER 21129-1 **PROJECT LOCATION** Corvallis, OR

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS	Corrected N-Value	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
115								BASALT, highly weathered to weathered, intensely fractured, greenish gray, very low strength to medium high strength, R0 - R3, basalt is brecciated with a siltstone matrix *(continued)*	
120	RC C-23	72 (45)			119.5': UCS: 1059 psi				
125	RC C-24	67 (0)			125': UCS: 1529 psi				
130	RC C-25	80 (50)			127': UCS: 1204 psi				
								131.0	312.4

Bottom of borehole at 131.0 feet.

TWG-BORING LOGS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 15:02 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 20.4

BORING NUMBER BH-06

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 9/27/21 **COMPLETED** 9/27/21
GROUND ELEVATION 291.2 ft
DRILLING CONTRACTOR Western States Soil Conservation Inc.
GROUND WATER LEVELS:
DRILLING METHOD CME Track Rig
AT TIME OF DRILLING ---
LOGGED BY SMW **CHECKED BY** LMS
24HRS AFTER DRILLING ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS	Corrected N-Value	TESTS AND REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0						CL		SANDY LEAN CLAY, medium stiff to very stiff, moist, brown with gray, fine grained, high plasticity	
	SPT S-1	67	4 5 5	12	-				
5	SPT S-2 ST ST-1	100 100	0 2 5	8	200 - 250 psi				
	SPT S-3	100	2 2 3	6	medium stiff				
10	SPT S-4	100	3 3 6	11	stiff				
15	SPT S-5	100	6 7 12	23	very stiff				
20	SPT S-6	93	3 5 5	12	stiff				
25	SPT S-7	100	5 4 6	12					
								26.5	264.7

Bottom of borehole at 26.5 feet.

TWG-BORING LOGS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 15:02 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 21

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER BH-07

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 9/28/21 **COMPLETED** 9/28/21
GROUND ELEVATION 338.9 ft
DRILLING CONTRACTOR Western States Soil Conservation Inc.
GROUND WATER LEVELS:
DRILLING METHOD CME Track Rig
AT TIME OF DRILLING ---
LOGGED BY SMW **CHECKED BY** LMS
24HRS AFTER DRILLING ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS	Corrected N-Value	TESTS AND REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0								SANDY LEAN CLAY, stiff, moist, reddish brown with black, fine to coarse grained, angular to subangular, high plasticity, weathered and decomposed basalt	
	SPT S-1	100	5 4 5	11	-				
5	SPT S-2	100	2 3 5	10					
	SPT S-3	100	1 3 4	8					
10	SPT S-4 ST ST-1	100 100	1 1 3	5	medium stiff MC: 65.0% DD: 54 pcf c: 350 psf phi: 37 degrees consol test - see App B				
15	SPT S-5	100	2 3 4	8	stiff	CL			
20	SPT S-6	100	2 3 5	10					
25	SPT S-7	100	1 1 4	6	medium stiff				
30	SPT S-8	100	2 3 6	11	stiff				
								31.5	307.4

Bottom of borehole at 31.5 feet.

TWG-BORING LOGS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 15:02 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 22

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER BH-08

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 9/24/21 **COMPLETED** 9/24/21
GROUND ELEVATION 309.3 ft
DRILLING CONTRACTOR Western States Soil Conservation Inc.
GROUND WATER LEVELS:
DRILLING METHOD CME Track Rig
AT TIME OF DRILLING ---
LOGGED BY SMW **CHECKED BY** LMS
24HRS AFTER DRILLING ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS	Corrected N-Value	TESTS AND REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0						CL		SANDY LEAN CLAY, very stiff, moist, orangeish brown with gray, fine to coarse grained, medium plasticity, weathered in-place basalt	
	SPT S-1	93	6 7 6	16	-				
5	SPT S-2	80	14 17 17	41	hard				
	SPT S-3	93	12 19 14	40					
10	SPT S-4	100	10 10 13	28	very stiff				
15								15.0	294.3
	SPT S-5	100	18 22 37	71		SC		CLAYEY SAND WITH GRAVEL, very dense, moist, orangeish brown with gray, fine to coarse grained, angular to subangular, medium plasticity, basalt texture, weathered basalt	
20	SPT S-6	100	30 23 46	83	MC: 23.2% Fines: 21.3%				
25	SPT S-7	100	17 39 50/4"	107/10"				26.3	283.0

Bottom of borehole at 26.3 feet.

TWG-BORING LOGS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 15:02 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 23

BORING NUMBER BH-09

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 9/22/21 **COMPLETED** 9/23/21
GROUND ELEVATION 359.1 ft
DRILLING CONTRACTOR Western States Soil Conservation Inc.
GROUND WATER LEVELS:
DRILLING METHOD CME Track Rig
AT TIME OF DRILLING ---
LOGGED BY SMW **CHECKED BY** LMS
24HRS AFTER DRILLING ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS	Corrected N-Value	TESTS AND REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0								SANDY SILT WITH GRAVEL, stiff, moist, reddish brown with gray, fine to coarse grained, angular to subangular, medium plasticity	
	SPT S-1	93	4 5 6	13	-				
5	SPT S-2	87	3 7 10	20	very stiff				
	SPT S-3	80	9 13 23	43	hard	ML			
10	SPT S-4	93	29 37 21	70					
15									344.1
	SPT S-5	100	50/2"	60/2"				SILTY GRAVEL WITH SAND, very dense, moist, gray with reddish brown, fine to coarse grained, angular to subangular, weathered in-place basalt, with cobbles	
20	SPT S-6	25	50/4"	60/4"		GM			
25									334.1
	SPT S-7	100	50/2"	60/2"				BASALT, highly weathered to weathered, intensely fractured, greenish gray, very low strength to medium high strength, R0 - R3, fractures are filled with siltstone, chlorite/palagonite alteration in places, basalt is brecciated	
	RC C-1	0 (0)							
	RC C-2	33 (10)			26': UCS: 350 psi				
30									
	RC C-3	87 (15)			35': UCS: 481 psi				
35									

TWG-BORING LOGS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 15:02 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 24.1

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER BH-09

CLIENT CEC, Inc. **PROJECT NAME** Coffin Butte Landfill

PROJECT NUMBER 21129-1 **PROJECT LOCATION** Corvallis, OR

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS	Corrected N-Value	TESTS AND REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
35								BASALT, highly weathered to weathered, intensely fractured, greenish gray, very low strength to medium high strength, R0 - R3, fractures are filled with siltstone, chlorite/palagonite alteration in places, basalt is brecciated *(continued)*	
40	RC C-4	40 (0)							
45	RC C-5	97 (60)			43.5': UCS: 631 psi 45.5': UCS: 1410 psi				
50	RC C-6	48 (0)							
55	RC C-7	55 (0)							
60	RC C-8	68 (17)			57': UCS: 14194 psi 57': UCS: 7636 psi				
65	RC C-9	32 (0)							
70	RC C-10	85 (54)			69': UCS: 1059 psi			70.0	289.1

Bottom of borehole at 70.0 feet.

TWG-BORING LOGS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 15:02 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 24.2

BORING NUMBER BH-10

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 9/28/21 **COMPLETED** 9/28/21
GROUND ELEVATION 263.1 ft
DRILLING CONTRACTOR Western States Soil Conservation Inc.
GROUND WATER LEVELS:
DRILLING METHOD CME Track Rig
AT TIME OF DRILLING ---
LOGGED BY SMW **CHECKED BY** LMS
24HRS AFTER DRILLING ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS	Corrected N-Value	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0	SPT S-1	100	5 4 4	10	-	CL		SANDY LEAN CLAY, stiff, moist, dark brown, fine to coarse grained, subangular to subrounded, medium plasticity, [FILL]	259.1
								4.0	
5	SPT S-2	100	3 6 9	18	LL: 60 PI: 35 MC: 32.0% Fines: 74.6%	CH		SANDY FAT CLAY WITH GRAVEL, very stiff, moist, reddish brown, fine to coarse grained, angular to subangular, high plasticity	255.1
								8.0	
	SPT S-3	100	18 33 34	80				SILTY GRAVEL WITH SAND, very dense, moist, gray, fine to coarse grained, angular to subangular, low plasticity	
10	SPT S-4	100	50	60/6"					
15	SPT S-5	67	50/3"	60/3"		GM			
20	SPT S-6	100	50/2"	60/2"	MC: 20.5% Fines: 27.0%				
25	SPT S-7	100	50/2"	60/2"					237.9
								25.2	

Bottom of borehole at 25.2 feet.

TWG-BORING LOGS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 15:02 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 25

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER BH-11

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 9/8/21 **COMPLETED** 9/9/21
GROUND ELEVATION 274.8 ft
DRILLING CONTRACTOR Western States Soil Conservation Inc.
GROUND WATER LEVELS:
DRILLING METHOD CME Track Rig
AT TIME OF DRILLING ---
LOGGED BY SMW **CHECKED BY** LMS
24HRS AFTER DRILLING ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS	Corrected N-Value	TESTS AND REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0								SILTY SAND, medium dense, moist, dark reddish brown with gray, fine grained, high plasticity	
5	SPT S-1	87	3 4 5	11	-	SM			
	SPT S-2	93	3 4 5	11	MC: 49.7% Fines: 33.5%				
								7.0	267.8
10	SPT S-3	100	1 2 3	6				SANDY SILT, medium stiff, moist, dark reddish brown with gray, fine grained, high plasticity	
	SPT S-4	100	1 2 3	6					
15	ST ST-1	100			MC: 69.8% DD: 52 / 57pcf Su: 1039 psf k: 0.00000411 cm/s consol test - see App B				
	SPT S-5	93	1 2 2	5	LL: 85 PI: 41 MC: 80.7% Fines: 65.9%				
20	SPT S-6	93	2 3 5	10	stiff	MH			
25	SPT S-7	100	1 2 3	6	medium stiff				
30	SPT S-8	100	1 2 3	6	MC: 72.2% Fines: 54.9%				
35									

TWG-BORING LOGS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 15:02 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 26.1

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER BH-11

CLIENT CEC, Inc. **PROJECT NAME** Coffin Butte Landfill

PROJECT NUMBER 21129-1 **PROJECT LOCATION** Corvallis, OR

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS	Corrected N-Value	TESTS AND REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
35								SANDY SILT, medium stiff, moist, dark reddish brown with gray, fine grained, high plasticity *(continued)*	
40	SPT S-9	100	4 8 10	22	very stiff	MH			
45								45.0	229.8
								SILTY SAND, very dense, moist, greenish gray, fine grained, angular to subangular, low plasticity, weathered basalt	
50	SPT S-10	100	14 21 30	61		SM		51.5	223.3

Bottom of borehole at 51.5 feet.

TWG-BORING LOGS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 15:02 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 26.2

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER BH-12

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 9/7/21 **COMPLETED** 9/7/21
GROUND ELEVATION 270.7 ft
DRILLING CONTRACTOR Western States Soil Conservation Inc.
GROUND WATER LEVELS:
DRILLING METHOD CME Track Rig
AT TIME OF DRILLING ---
LOGGED BY SMW **CHECKED BY** LMS
24HRS AFTER DRILLING ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS	Corrected N-Value	TESTS AND REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0								SANDY ELASTIC SILT, stiff, moist, orangeish brown, fine grained, high plasticity, saprolitic basalt	
5	SPT S-1	93	2 6 6	14	-				
	SPT S-2	100	2 2 4	7	medium stiff				
10	SPT S-3	100	1 1 3	5	LL: 78 PI: 36 MC: 61.1% Fines: 50.7%				
	SPT S-4 ST ST-2	93 100	0 1 1	2	MC: 63.9% DD: 58 pcf Su: 1159 psf consol test - see App B				
15	SPT S-5	100	1 1 1	2	soft	MH			
	SPT S-6	100	0 2 1	4	medium stiff				
20	SPT S-7 ST ST-3	100 100	1 2 4	7	MC: 64.9% c: 200 psf phi: 41 degrees consol test - see App B				
25	SPT S-8	100	1 2 5	8					
28.0									242.7
30								SILTY SAND, loose, moist, orangeish brown, fine grained, angular to subangular, saprolitic basalt, weathered basalt	
	SPT S-9	100	1 1 2	4	LL: 67 PI: 21 MC: 66.3% Fines: 48.2%	SM			
35									

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Figure: A - 27.1

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER BH-12

CLIENT CEC, Inc. **PROJECT NAME** Coffin Butte Landfill

PROJECT NUMBER 21129-1 **PROJECT LOCATION** Corvallis, OR

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS	Corrected N-Value	TESTS AND REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
35	SPT S-10	100	2 2 3	6		SM		SILTY SAND, loose, moist, orangeish brown, fine grained, angular to subangular, saprolitic basalt, weathered basalt *(continued)*	
40	ST ST-1	80							
45	SPT S-11	100	5 10 18	34	MC: 44.2% Fines: 38.0% dense			46.5	224.2

Bottom of borehole at 46.5 feet.

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Figure: A - 27.2

BORING NUMBER BH-13

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 9/9/21 **COMPLETED** 9/9/21
GROUND ELEVATION 390.2 ft
DRILLING CONTRACTOR Western States Soil Conservation Inc.
GROUND WATER LEVELS:
DRILLING METHOD CME Track Rig
AT TIME OF DRILLING ---
LOGGED BY SMW **CHECKED BY** LMS
24HRS AFTER DRILLING ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS	Corrected N-Value	TESTS AND REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0								SANDY SILT, very stiff, moist, dark red with gray, fine grained, medium plasticity, weathered saprolitic basalt	
	SPT S-1	67	5 10 12	26	-				
5									
	SPT S-2	73	5 7 6	16					
	SPT S-3	80	2 3 5	6	medium stiff				
10									
	SPT S-4	73	2 4 4	10	stiff	ML			
15									
	SPT S-5	80	1 1 2	4	medium stiff				
20								20.0	370.2
	SPT S-6	93	5 11 21	38				SILTY SAND WITH GRAVEL, dense, moist, dark red with gray, fine to coarse grained, angular to subangular, weathered basalt	
25									
	SPT S-7	93	3 6 10	19	MC: 47.7% Fines: 27.1% medium dense	SM			
30								30.0	360.2
	SPT S-8	87	18 13 34	56	MC: 25.2% Fines: 18.8%			SILTY SAND WITH GRAVEL, very dense, moist, greenish gray, fine to coarse grained, angular to subangular, weathered basalt	
35						SM			

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Figure: A - 28.1

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER BH-13

CLIENT CEC, Inc. **PROJECT NAME** Coffin Butte Landfill

PROJECT NUMBER 21129-1 **PROJECT LOCATION** Corvallis, OR

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS	Corrected N-Value	TESTS AND REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
35	SPT S-9	100	50/3"	60/3"				SILTY SAND WITH GRAVEL, very dense, moist, greenish gray, fine to coarse grained, angular to subangular, weathered basalt *(continued)*	
40	SPT S-10	0	50/1"	60/1"		SM			
45	SPT S-11	100	50/1"	60/1"				45.0	345.2
	RC C-1	52 (26)						BASALT, highly weathered to slightly weathered, moderately fractured, greenish gray, low strength to medium high strength, R1 - R3	
50								50.0	340.2

Bottom of borehole at 50.0 feet.

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Figure: A - 28.2

BORING NUMBER BH-14

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 9/7/21 **COMPLETED** 9/7/21
GROUND ELEVATION 239 ft
DRILLING CONTRACTOR Western States Soil Conservation Inc.
GROUND WATER LEVELS:
DRILLING METHOD CME Track Rig
AT TIME OF DRILLING ---
LOGGED BY SMW **CHECKED BY** LMS
24HRS AFTER DRILLING ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS	Corrected N-Value	TESTS AND REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0								SANDY FAT CLAY, stiff, moist, brown to gray, high plasticity	
	SPT S-1	80	3 3 7	12	-				
5									
	SPT S-2	100	2 3 3	7	LL: 56 PI: 31 MC: 32.6% Fines: 77.8% medium stiff	CH			
	SPT S-3	100	1 3 3	5					
10									
	ST ST-1	0							
	ST ST-2	0							
12.0									227.0
15						CH		SANDY FAT CLAY WITH GRAVEL, stiff, moist, greenish gray, fine grained, rounded, high plasticity	
	SPT S-4	100	2 3 6	11	LL: 62 PI: 39 MC: 32.4% Fines: 62.2%				
17.0									222.0
	SPT S-5	100	17 37 42	95				SILTY SAND WITH GRAVEL, very dense, moist, greenish gray with brown, fine to coarse grained, angular to subangular, medium plasticity, weathered-in-place basalt	
20									
	SPT S-6	100	10 27 50/5"	92/11"	MC: 15.0% Fines: 21.0%	SM			
25									
25.1									213.9
	SPT S-7	100	50/1"	60/1"	MC: 4.1% Fines: 18.1%			Bottom of borehole at 25.1 feet.	

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Figure: A - 29

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER BH-15

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 11/8/22 **COMPLETED** 11/12/22
GROUND ELEVATION 408 ft
DRILLING CONTRACTOR Haz-Tech Drilling, Inc.
GROUND WATER LEVELS:
DRILLING METHOD CME Track Rig
AT TIME OF DRILLING 6.00 ft / Elev 402.00 ft
LOGGED BY KAK **CHECKED BY** LMS
24HRS AFTER DRILLING ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS	Corrected N-Value	REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0								CLAYEY SAND, very dense, moist, red and gray, fine to coarse grained	
5	SPT S-1		17 20 25	54		SC			
10	SPT S-2		37 50/5"	60/5"				10.0	398.0
15						GM		SILTY GRAVEL WITH SAND, wet, gray, fine to coarse grained, angular, weathered basalt at 10.5'	
20	RC C-1	87 (0)						15.0	393.0
25	RC C-2	67 (0)						BASALT, slightly weathered, highly fractured, interbedded, gray to greenish gray, very low strength to moderate strength, clay infilling, discontinuites are high angle (55 - 90 degrees) with chloritic siltstone, pyrite, and calcite infilling, joints and discontinuities are wavey to smooth with schistose/phyllitic faces, R0 - R2	
30	RC C-3	75 (0)							
35	RC C-4	77 (10)							

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Figure: A - 30.1

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER BH-15

CLIENT CEC, Inc. **PROJECT NAME** Coffin Butte Landfill

PROJECT NUMBER 21129-1 **PROJECT LOCATION** Corvallis, OR

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS	Corrected N-Value	REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
35	RC C-5	50 (17)						BASALT, slightly weathered, highly fractured, interbedded, gray to greenish gray, very low strength to moderate strength, clay infilling, discontinuites are high angle (55 - 90 degrees) with chloritic siltstone, pyrite, and calcite infilling, joints and discontinuities are wavey to smooth with schistose/phyllitic faces, R0 - R2 *(continued)*	
40	RC C-6	100 (0)							
45	RC C-7	83 (19)							
50	RC C-8	92 (60)							
55	RC C-9	73 (20)							
	RC C-10	97 (13)							
60	RC C-11	75 (0)							
	RC C-12	92 (28)							
65	RC C-13	100 (65)							
	RC C-14	73 (0)							
70	RC C-15	60 (0)			69' - 70' clayey soft highly weathered				
	RC C-16	83 (17)							
75									

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Figure: A - 30.2

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER BH-15

CLIENT CEC, Inc. **PROJECT NAME** Coffin Butte Landfill

PROJECT NUMBER 21129-1 **PROJECT LOCATION** Corvallis, OR

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS	Corrected N-Value	REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
75	RC C-17	120 (37)			75' - 77.5' clayey soft			BASALT, slightly weathered, highly fractured, interbedded, gray to greenish gray, very low strength to moderate strength, clay infilling, discontinuites are high angle (55 - 90 degrees) with chloritic siltstone, pyrite, and calcite infilling, joints and discontinuities are wavey to smooth with schistose/phyllitic faces, R0 - R2 *(continued)*	
80	RC C-18	97 (88)							
85	RC C-19	97 (77)							
90	RC C-20	95 (14)							
95	RC C-21	70 (0)							
	RC C-22	86 (0)							
100	RC C-23	90 (20)							
	RC C-24	100 (0)							
	RC C-25	100 (58)							
105	RC C-26	20 (7)			106' - 110' highly weathered topsoil no returns washed out				
110	RC C-27	100 (57)							
115									

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Figure: A - 30.3

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER BH-15

CLIENT CEC, Inc. **PROJECT NAME** Coffin Butte Landfill

PROJECT NUMBER 21129-1 **PROJECT LOCATION** Corvallis, OR

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS	Corrected N-Value	REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
115	RC C-28	100 (73)						BASALT, slightly weathered, highly fractured, interbedded, gray to greenish gray, very low strength to moderate strength, clay infilling, discontinuites are high angle (55 - 90 degrees) with chloritic siltstone, pyrite, and calcite infilling, joints and discontinuities are wavey to smooth with schistose/phyllitic faces, R0 - R2 *(continued)*	
	RC C-29	100 (80)							
120	RC C-30	100 (60)							
125	RC C-31	100 (35)							
130	RC C-32	100 (50)			132' - 133' fast advance softer				
135	RC C-33	100 (87)							
140	RC C-34	100 (40)							
145	RC C-35	100 (32)							
150	RC C-36	63 (0)							
155									

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Figure: A - 30.4

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER BH-15

CLIENT CEC, Inc. **PROJECT NAME** Coffin Butte Landfill

PROJECT NUMBER 21129-1 **PROJECT LOCATION** Corvallis, OR

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS	Corrected N-Value	REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
155	RC C-37	100 (0)						BASALT, slightly weathered, highly fractured, interbedded, gray to greenish gray, very low strength to moderate strength, clay infilling, discontinuites are high angle (55 - 90 degrees) with chloritic siltstone, pyrite, and calcite infilling, joints and discontinuities are wavey to smooth with schistose/phyllitic faces, R0 - R2 *(continued)*	
	RC C-38	100 (64)							
160	RC C-39	43 (0)							
	RC C-40	100 (37)							
165								165.0	243.0

Bottom of borehole at 165.0 feet.

TWG-BORING LOGS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 15:02 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 30.5

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER BH-16

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 11/16/22 **COMPLETED** 11/16/22
GROUND ELEVATION 310 ft
DRILLING CONTRACTOR Haz-Tech Drilling, Inc.
GROUND WATER LEVELS:
DRILLING METHOD CME Track Rig
AT TIME OF DRILLING 19.40 ft / Elev 290.60 ft
LOGGED BY KAK **CHECKED BY** LMS
24HRS AFTER DRILLING 4.60 ft / Elev 305.40 ft
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS	Corrected N-Value	REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0								FAT CLAY, hard, moist, brown to light brown, fine grained	
5	SPT S-1		3 10 18	34	wet	CH			
10	SPT S-2		18 25 35	72					
15	SPT S-3		22 29 29	70					
								17.5	292.5
20	SPT S-4	0 (0)	50/5"	60/5"				SHALE, slightly weathered, blueish green, fine, very low strength to low strength, basaltic rip-up clasts at contact, R0 - R1	
	RC C-1	100 (0)							
	RC C-2	75 (13)							
25	RC C-3								
	RC C-4	100 (63)							
30	RC C-5	100 (67)							
	RC C-6	100 (63)							
35								23.0	287.0
								BASALT, unweathered to slightly weathered, slightly fractured, interbedded, gray to greenish gray, moderate strength, clay infilling, moderately weathered zones, highly fractured zones, discontinuites are high angle (55 - 90 degrees) with chloritic siltstone, pyrite, and calcite infilling, joints and discontinuities are wavey to smooth with schistose/phyllitic faces, R2	

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Figure: A - 31.1

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER BH-16

CLIENT CEC, Inc. **PROJECT NAME** Coffin Butte Landfill

PROJECT NUMBER 21129-1 **PROJECT LOCATION** Corvallis, OR

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS	Corrected N-Value	REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
35									
40	RC C-7	100 (63)						BASALT, unweathered to slightly weathered, slightly fractured, interbedded, gray to greenish gray, moderate strength, clay infilling, moderately weathered zones, highly fractured zones, discontinuites are high angle (55 - 90 degrees) with chloritic siltstone, pyrite, and calcite infilling, joints and discontinuities are wavey to smooth with schistose/phyllitic faces, R2 *(continued)*	270.0
								40.0 Bottom of borehole at 40.0 feet.	

TWG-BORING LOGS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 15:02 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 31.2

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER BH-17

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 11/13/22 **COMPLETED** 11/14/22
GROUND ELEVATION 400 ft
DRILLING CONTRACTOR Haz-Tech Drilling, Inc.
GROUND WATER LEVELS:
DRILLING METHOD CME Track Rig
AT TIME OF DRILLING 20.50 ft / Elev 379.50 ft
LOGGED BY KAK **CHECKED BY** LMS
24HRS AFTER DRILLING 19.50 ft / Elev 380.50 ft
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS	Corrected N-Value	REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0								SANDY LEAN CLAY, stiff, moist, yellowish red to blackish gray, fine to medium grained, subangular to subrounded, medium plasticity, gravelly weak cementation, iron oxide staining	
5	SPT S-1		3 4 5	11					
10	SPT S-2		7 10 14	29	very stiff				
15	SPT S-3		2 5 7	14	organic/peat lenses at 15-16.5' stiff 17' - 19' weakly cemented sand organic stringers	CL			
20	SPT S-4		14 50/5"	60/5"	20' - 25' weathered top of rock augered to core point at 25'				
25								25.0	375.0
	RC C-1	86 (29)			26.5' - 27.5' soil-filled fracture (clay)			BASALT, unweathered to slightly weathered, moderately fractured, interbedded, blackish gray to greenish gray, very low strength to high strength, clay infilling, moderately weathered zones, highly fractured zones, discontinuites are high angle (55 - 90 degrees) with chloritic siltstone, pyrite, and calcite infilling, joints and discontinuities are wavey to smooth with schistose/phyllitic faces, R0 - R4	
30	RC C-2	80 (0)							
	RC C-3	100 (6)							
35	RC	100							

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Figure: A - 32.1

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

CLIENT CEC, Inc. **PROJECT NAME** Coffin Butte Landfill

PROJECT NUMBER 21129-1 **PROJECT LOCATION** Corvallis, OR

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS	Corrected N-Value	REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
35	C-4	(33)						BASALT, unweathered to slightly weathered, moderately fractured, interbedded, blackish gray to greenish gray, very low strength to high strength, clay infilling, moderately weathered zones, highly fractured zones, discontinuites are high angle (55 - 90 degrees) with chloritic siltstone, pyrite, and calcite infilling, joints and discontinuities are wavey to smooth with schistose/phyllitic faces, R0 - R4 *(continued)*	
	RC C-5	100 (23)			38' - 38.5 soil-filled fracture (clay/organics)				
40									
	RC C-6	100 (78)							
45									
	RC C-7	100 (63)							
50									
	RC C-8	100 (23)							
	RC C-9	100 (30)							
55									
	RC C-10	67 (0)							
	RC C-11	100 (23)							
60									
	RC C-12	100 (27)							
	RC C-13	100 (88)							
65									
	RC C-14	80 (50)							
70									
	RC C-15	100 (67)							
	RC C-16	100 (60)							
75									

TWG-BORING LOGS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 15:02 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 32.2

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER BH-17

CLIENT CEC, Inc. **PROJECT NAME** Coffin Butte Landfill

PROJECT NUMBER 21129-1 **PROJECT LOCATION** Corvallis, OR

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS	Corrected N-Value	REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
75	RC C-17	100 (24)						BASALT, unweathered to slightly weathered, moderately fractured, interbedded, blackish gray to greenish gray, very low strength to high strength, clay infilling, moderately weathered zones, highly fractured zones, discontinuites are high angle (55 - 90 degrees) with chloritic siltstone, pyrite, and calcite infilling, joints and discontinuities are wavey to smooth with schistose/phyllitic faces, R0 - R4 *(continued)*	
80	RC C-18	100 (50)							
	RC C-19	100 (60)							
85	RC C-20	100 (63)							
90	RC C-21	100 (27)							
	RC C-22	100 (73)							
95	RC C-23	100 (54)							
100	RC C-24	100 (62)							
	RC C-25	100 (50)							
105	RC C-26	100 (23)							
	RC C-27	100 (0)							
110	RC C-28	100 (17)							
	RC C-29	100 (17)							
115									

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Figure: A - 32.3

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER BH-17

CLIENT CEC, Inc. **PROJECT NAME** Coffin Butte Landfill

PROJECT NUMBER 21129-1 **PROJECT LOCATION** Corvallis, OR

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS	Corrected N-Value	REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
115	RC C-30	100 (90)						BASALT, unweathered to slightly weathered, moderately fractured, interbedded, blackish gray to greenish gray, very low strength to high strength, clay infilling, moderately weathered zones, highly fractured zones, discontinuites are high angle (55 - 90 degrees) with chloritic siltstone, pyrite, and calcite infilling, joints and discontinuities are wavey to smooth with schistose/phyllitic faces, R0 - R4 *(continued)*	
120	RC C-31	100 (73)						120.0	280.0

Bottom of borehole at 120.0 feet.

TWG-BORING LOGS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 15:02 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER BH-18

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 11/12/22 **COMPLETED** 11/13/22
GROUND ELEVATION 370 ft
DRILLING CONTRACTOR Haz-Tech Drilling, Inc.
GROUND WATER LEVELS:
DRILLING METHOD CME Track Rig
AT TIME OF DRILLING 25.20 ft / Elev 344.80 ft Conclusion of HSA , cor
LOGGED BY KAK **CHECKED BY** LMS
24HRS AFTER DRILLING ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS	Corrected N-Value	REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0								SANDY LEAN CLAY, very stiff, moist, reddish brown with blackish gray, fine grained, subangular to subrounded, medium plasticity, laminated, weak cementation, iron oxide staining	
5	SPT S-1		5 7 8	18					
10	SPT S-2		24 14 13	32	10' - 10.5' weakly cemented sand stringer hard				
15	SPT S-3		50/5"	60/5"		CL			
20	SPT S-4		8 4 5	11	stiff				
25	SPT S-5		3 12 48	72	25' - 26' wet elastic/plastic tan clay interbed atop rock weathered rock 27' - 30' weathered top of bedrock augered to core point at 30'			27.0	343.0
30	RC C-1	100 (53)						BASALT, slightly weathered to unweathered, moderately fractured, interbedded, greenish gray to blackish gray, very low strength to medium high strength, clastic infilling, clay infilling, moderately weathered zones, highly fractured zones, discontinuites are high angle (55 - 90 degrees) with chloritic siltstone, pyrite, and calcite infilling, joints and discontinuities are wavey to smooth with schistose/phyllitic faces, R0 - R3	
35	RC C-2	100 (62)							

TWG-BORING LOGS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 15:02 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 33.1

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER BH-18

CLIENT CEC, Inc. **PROJECT NAME** Coffin Butte Landfill

PROJECT NUMBER 21129-1 **PROJECT LOCATION** Corvallis, OR

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS	Corrected N-Value	REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
35								BASALT, slightly weathered to unweathered, moderately fractured, interbedded, greenish gray to blackish gray, very low strength to medium high strength, clastic infilling, clay infilling, moderately weathered zones, highly fractured zones, discontinuites are high angle (55 - 90 degrees) with chloritic siltstone, pyrite, and calcite infilling, joints and discontinuities are wavey to smooth with schistose/phyllitic faces, R0 - R3 *(continued)*	
40	RC C-3	100 (63)							
45	RC C-4	100 (67)							
50	RC C-5	100 (55)							
55	RC C-6	100 (58)							
60	RC C-7	100 (65)			57' - 58.5' greenish gray drilling fluids changed to brown then back to gray				
65	RC C-8	100 (77)							
70	RC C-9	100 (80)							
75	RC C-10	100 (67)							

TWG-BORING LOGS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 15:02 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 33.2

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER BH-18

CLIENT CEC, Inc. **PROJECT NAME** Coffin Butte Landfill

PROJECT NUMBER 21129-1 **PROJECT LOCATION** Corvallis, OR

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS	Corrected N-Value	REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
75								BASALT, slightly weathered to unweathered, moderately fractured, interbedded, greenish gray to blackish gray, very low strength to medium high strength, clastic infilling, clay infilling, moderately weathered zones, highly fractured zones, discontinuites are high angle (55 - 90 degrees) with chloritic siltstone, pyrite, and calcite infilling, joints and discontinuities are wavey to smooth with schistose/phyllitic faces, R0 - R3 *(continued)*	
80	RC C-11	100 (55)			80' - 81.5' volcaniclastic poorly-graded sand interbed (S-6)				
	GB S-6								
	RC C-12	100 (62)							
85	RC C-13	100 (67)			C-13 and C-14 contained sloughing sand atop core from wash out at 80'				
	RC C-14	100 (67)							
	RC C-15	100 (50)							
90	RC C-16	100 (71)							
95	RC C-17	100 (90)							
	RC C-18	100 (50)							
100	RC C-19	88 (29)							
	RC C-20	100 (71)							
105	RC C-21	100 (33)							
110	RC C-22	100 (58)							
115									

TWG-BORING LOGS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 15:02 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 33.3

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER BH-18

CLIENT CEC, Inc. **PROJECT NAME** Coffin Butte Landfill

PROJECT NUMBER 21129-1 **PROJECT LOCATION** Corvallis, OR

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS	Corrected N-Value	REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
115									
	RC C-23	100 (30)						BASALT, slightly weathered to unweathered, moderately fractured, interbedded, greenish gray to blackish gray, very low strength to medium high strength, clastic infilling, clay infilling, moderately weathered zones, highly fractured zones, discontinuites are high angle (55 - 90 degrees) with chloritic siltstone, pyrite, and calcite infilling, joints and discontinuities are wavey to smooth with schistose/phyllitic faces, R0 - R3 *(continued)*	
120	RC C-24	100 (30)							250.0
								120.0 Bottom of borehole at 120.0 feet.	

TWG-BORING LOGS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 15:02 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 33.4

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER BH-19

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 11/15/22 **COMPLETED** 11/16/22
GROUND ELEVATION 438 ft
DRILLING CONTRACTOR Haz-Tech Drilling, Inc.
GROUND WATER LEVELS:
DRILLING METHOD CME Track Rig
AT TIME OF DRILLING 17.83 ft / Elev 420.17 ft
LOGGED BY KAK **CHECKED BY** LMS
24HRS AFTER DRILLING ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS	Corrected N-Value	REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0						GM		0.5 SILTY GRAVEL WITH SAND, slightly moist, blackish gray, fine to coarse grained, angular to subangular, road base, [FILL]	437.5
								FAT CLAY, stiff, moist, yellowish red to orangeish black, fine grained	
5	SPT S-1		3 4 4	10					
10	SPT S-2		0 0 0	0	very soft	CH			
15	SPT S-3		1 1 3	5	medium stiff				
20	SPT S-4		8 7 7	17	very stiff wet				
25	RC C-1	100 (28)			22.5' - 25' top of rock augered to core point at 25'			22.5 BASALT, slightly weathered to unweathered, moderately fractured, interbedded, greenish gray to blackish gray, very low strength to medium high strength, clay infilling, moderately weathered zones, highly fractured zones, discontinuites are high angle (55 - 90 degrees) with chloritic siltstone, pyrite, and calcite infilling, joints and discontinuities are wavey to smooth with schistose/phyllitic faces, R0 - R3	415.5
30	RC C-2	100 (58)							
35	RC C-3	100 (73)							

TWG-BORING LOGS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 15:02 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 34.1

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER BH-19

CLIENT CEC, Inc. **PROJECT NAME** Coffin Butte Landfill

PROJECT NUMBER 21129-1 **PROJECT LOCATION** Corvallis, OR

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS	Corrected N-Value	REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
35									
	RC C-4	100 (33)						BASALT, slightly weathered to unweathered, moderately fractured, interbedded, greenish gray to blackish gray, very low strength to medium high strength, clay infilling, moderately weathered zones, highly fractured zones, discontinuites are high angle (55 - 90 degrees) with chloritic siltstone, pyrite, and calcite infilling, joints and discontinuities are wavey to smooth with schistose/phyllitic faces, R0 - R3 *(continued)*	
	RC C-5	100 (0)							
40	RC C-6	100 (86)							
	RC C-7	100 (20)							
45	RC C-8	67 (0)							
	RC C-9	100 (70)							
50	RC C-10	100 (33)							
	RC C-11	100 (0)							
55	RC C-12	61 (19)							
	RC C-13	80 (0)							
60	RC C-14	100 (8)			63.5' - 64' highly weathered rock with clay infilling				
	RC C-15	76 (12)							
65	RC C-16	100 (33)							
	RC C-17	100 (13)							
70	RC C-18	100 (47)							
75									

TWG-BORING LOGS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 15:02 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 34.2

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER BH-19

CLIENT CEC, Inc. **PROJECT NAME** Coffin Butte Landfill

PROJECT NUMBER 21129-1 **PROJECT LOCATION** Corvallis, OR

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS	Corrected N-Value	REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
75								BASALT, slightly weathered to unweathered, moderately fractured, interbedded, greenish gray to blackish gray, very low strength to medium high strength, clay infilling, moderately weathered zones, highly fractured zones, discontinuites are high angle (55 - 90 degrees) with chloritic siltstone, pyrite, and calcite infilling, joints and discontinuities are wavey to smooth with schistose/phyllitic faces, R0 - R3 *(continued)*	
	RC C-19	100 (13)							
	RC C-20	100 (33)							
80									
	RC C-21	100 (35)							
85					86' - 87' greenish gray drilling fluids changed to brown gray again at 87'				
	RC C-22	100 (8)							
	RC C-23	80 (30)							
90									
	RC C-24	87 (13)							
	RC C-25	100 (0)							
95									
	RC C-26	100 (50)							
	RC C-27	100 (20)			100' - 100.5' bit jammed trip out of hole to inspect				
100									
	RC C-28	100 (0)							
	RC C-29	100 (50)							
105									
	RC C-30	100 (50)							
110									
	RC C-31	100 (63)							
115									

TWG-BORING LOGS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 15:02 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 34.3

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER BH-19

CLIENT CEC, Inc. **PROJECT NAME** Coffin Butte Landfill

PROJECT NUMBER 21129-1 **PROJECT LOCATION** Corvallis, OR

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS	Corrected N-Value	REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
115									
120	RC C-32	100 (33)						BASALT, slightly weathered to unweathered, moderately fractured, interbedded, greenish gray to blackish gray, very low strength to medium high strength, clay infilling, moderately weathered zones, highly fractured zones, discontinuites are high angle (55 - 90 degrees) with chloritic siltstone, pyrite, and calcite infilling, joints and discontinuities are wavey to smooth with schistose/phyllitic faces, R0 - R3 *(continued)*	
								120.0	318.0

Bottom of borehole at 120.0 feet.

TWG-BORING LOGS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 15:02 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER GP-01

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 9/21/22 **COMPLETED** 9/22/22
GROUND ELEVATION 238.82 ft
DRILLING CONTRACTOR Oregon Geotechnical Explorations
GROUND WATER LEVELS:
DRILLING METHOD geoprobe 6622
AT TIME OF DRILLING 1.97 ft / Elev 236.85 ft
LOGGED BY SMW **CHECKED BY** LMS
24HRS AFTER DRILLING ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0					SANDY FAT CLAY, stiff to very stiff, wet, brown to gray	
5	GB S-1	MC: 29.9% Fines: 98.1% LL: 58 PI: 32	CH			
	ST ST-1					
10	GB S-2	MC: 35.6% Fines: 97.4% LL: 54 PI: 31				
	ST ST-2					
15					15.0	223.8
	ST ST-3		CH		SANDY FAT CLAY WITH GRAVEL, stiff to very stiff, wet, greenish gray	
20					20.0	218.8
			CL		SANDY LEAN CLAY WITH GRAVEL, stiff to very stiff, wet, greenish gray with brown, weathered in-place basalt	
					22.5	216.3

Bottom of borehole at 22.5 feet.

TWG-BORING LOGS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 12:47 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER GP-02

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 9/22/22 **COMPLETED** 9/22/22
GROUND ELEVATION 237.06 ft
DRILLING CONTRACTOR Oregon Geotechnical Explorations
GROUND WATER LEVELS:
DRILLING METHOD geoprobe 6622
AT TIME OF DRILLING 2.02 ft / Elev 235.04 ft
LOGGED BY SMW **CHECKED BY** LMS
24HRS AFTER DRILLING ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0				SANDY LEAN CLAY, stiff to very stiff, wet, brown to gray	
	GB S-1	CL			
5					
	GB S-2				
10	ST ST-1				
12.0					225.1
	GB S-3	CL		SANDY LEAN CLAY WITH GRAVEL, stiff to very stiff, wet, reddish brown to reddish black, weathered in-place basalt	
15	ST ST-2				
17.0					220.1
				Bottom of borehole at 17.0 feet.	

TWG-BORING LOGS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 12:47 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER GP-03

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 9/22/22 **COMPLETED** 9/22/22
GROUND ELEVATION 258.82 ft
DRILLING CONTRACTOR Oregon Geotechnical Explorations
GROUND WATER LEVELS:
DRILLING METHOD geoprobe 6622
AT TIME OF DRILLING 12.00 ft / Elev 246.82 ft
LOGGED BY SMW **CHECKED BY** LMS
24HRS AFTER DRILLING 19.00 ft / Elev 239.82 ft
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0					SANDY LEAN CLAY, stiff, moist, brown to gray	
	GB S-1		CL			
5					6.0	252.8
	GB S-2		ML		SANDY SILT, stiff, moist, red with gray, fine grained, weathered in-place basalt	
10	ST ST-1					
	GB S-3	wet			14.0	244.8
15			SM		SILTY SAND WITH GRAVEL, dense to very dense, wet, greenish gray with red, fine to coarse grained, angular to subangular, weathered in-place basalt	
	GB S-4				19.0	239.8

Bottom of borehole at 19.0 feet.

TWG-BORING LOGS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 12:47 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

BORING NUMBER GP-04

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 9/22/22 **COMPLETED** 9/22/22
GROUND ELEVATION 263.42 ft
DRILLING CONTRACTOR Oregon Geotechnical Explorations
GROUND WATER LEVELS:
DRILLING METHOD geoprobe 6622
AT TIME OF DRILLING 20.82 ft / Elev 242.60 ft
LOGGED BY SMW **CHECKED BY** LMS
24HRS AFTER DRILLING ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0					SANDY FAT CLAY, very stiff to hard, moist, red with gray, fine grained, weathered in-place basalt	
5	GB S-1	MC: 22.6% LL: 63 PI: 38	CH			
	GB S-2	MC: 37.3%				
10	ST ST-1					
15	GB S-3	MC: 40.1% LL: 75 PI: 38				
					17.0	246.4
20	ST ST-2	MC: 70.0% C': 0 psf phi: 33.3°	MH		ELASTIC SILT WITH SAND, medium stiff to very stiff, wet, red with gray, weathered in-place basalt	
					22.0	241.4
25	GB S-4	MC: 75.6%	MH		ELASTIC SILT WITH SAND, medium stiff to very stiff, wet, red with gray, weathered in-place basalt	
	GB S-5	MC: 69.7% LL: 78 PI: 30				
	GB S-6	MC: 70.3%				
30	ST ST-3	MC: 65.4 / 62.9 / 69.6% DD: 61 / 63 / 59 pcf C': 0 psf phi: 35.5°				
					30.5	232.9
					Bottom of borehole at 30.5 feet.	

TWG-BORING LOGS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 12:47 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 40

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER GP-05

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 9/22/22 **COMPLETED** 9/22/22
GROUND ELEVATION 302.68 ft
DRILLING CONTRACTOR Oregon Geotechnical Explorations
GROUND WATER LEVELS:
DRILLING METHOD geoprobe 6622
AT TIME OF DRILLING 15.70 ft / Elev 286.98 ft
LOGGED BY SMW **CHECKED BY** LMS
24HRS AFTER DRILLING ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0					ELASTIC SILT, stiff to very stiff, moist, dark brown, fine grained, weathered in-place basalt, with sand	
5	GB S-1	-	MH			
	GB S-2	MC: 42.6% LL: 73 PI: 34				
					9.0	293.7
10	ST ST-1	MC: 41.2 / 48.2 / 41.2% DD: 79 / 71 / 79 pcf C': 150 psf phi: 39°	SC		CLAYEY SAND, medium dense, moist, red with gray, weathered in-place basalt	
					14.0	288.7
15	GB S-3	MC: 45.1% Fines: 28.9%	SC-SM		SILTY SAND, clayey sand, wet, dark gray brown, fine to coarse grained, angular to subangular, weathered in-place basalt	
					17.5	285.2
					Bottom of borehole at 17.5 feet.	

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Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER GP-06

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 9/22/22 **COMPLETED** 9/22/22
GROUND ELEVATION 290.84 ft
DRILLING CONTRACTOR Oregon Geotechnical Explorations
GROUND WATER LEVELS:
DRILLING METHOD geoprobe 6622
AT TIME OF DRILLING 31.90 ft / Elev 258.94 ft
LOGGED BY SMW **CHECKED BY** LMS
24HRS AFTER DRILLING ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0					ELASTIC SILT, stiff to hard, moist, red with gray, fine grained, weathered in-place volcanics	
5	GB S-1	-	MH			
10	GB S-2	MC: 39.0% LL: 80 PI: 36				
	ST ST-1					
14.0						276.8
15	GB S-3		ML		SILT, stiff, moist, dark brown and yellow, with fine grained sand	
20	GB S-4	MC: 71.9%				
20.0						270.8
	ST ST-2		MH		ELASTIC SILT, stiff, moist, light tan with reddish gray	
25	GB S-5	MC: 75.0% LL: 84 PI: 30				
26.0						264.8
	GB S-6	MC: 80.6%	ML		SILT, stiff to very stiff, brownish yellow and yellowish brown	
30	ST ST-3					
31.0						259.8
					Bottom of borehole at 31.0 feet.	

TWG-BORING LOGS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 12:47 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 42

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER GP-07

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 9/23/22 **COMPLETED** 9/23/22
GROUND ELEVATION 287.77 ft
DRILLING CONTRACTOR Oregon Geotechnical Explorations
GROUND WATER LEVELS:
DRILLING METHOD geoprobe 6622
AT TIME OF DRILLING ---
LOGGED BY SMW **CHECKED BY** LMS
24HRS AFTER DRILLING 4.50 ft / Elev 283.27 ft
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0					SANDY LEAN CLAY, moist, brown to gray, fine to coarse grained, angular to subangular, [FILL]	
	GB S-1	MC: 26.9% Fines: 53.1%	CL			
4.0						283.8
5					SANDY LEAN CLAY, medium stiff, wet, dark gray to greenish gray, fine grained, organics	
	ST ST-1		CL			
7.0						280.8
	ST ST-2				SILT, medium dense, wet, brown and very light brown, fine to coarse grained, angular, trace sand and weathered in-place basalt	
10			ML			
	GB S-2	MC: 38.3%				
15						
15.0						272.8
	GB S-3	MC: 25.5% Fines: 45.9%	SC		CLAYEY SAND, medium dense to dense, tannish brown, fine to coarse grained, angular, weathered in-place basalt	
20						
	GB S-4					
25						
25.0						262.8

Bottom of borehole at 25.0 feet.

TWG-BORING LOGS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 12:47 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 43

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER GP-08

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 11/8/22 **COMPLETED** 11/8/22
GROUND ELEVATION 360.17 ft
DRILLING CONTRACTOR Oregon Geotechnical Explorations
GROUND WATER LEVELS:
DRILLING METHOD geoprobe 6622
AT TIME OF DRILLING ---
LOGGED BY SMW **CHECKED BY** LMS
24HRS AFTER DRILLING ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0		CL		SANDY LEAN CLAY WITH GRAVEL, stiff to hard, moist, reddish brown with dark gray, fine to coarse grained, subangular to subrounded, with cobbles, weathered in-place basalt	
	GB S-1				
5					
	GB S-2				
10					
	GB S-3				
15					
	GB S-4				
				19.0	341.2
20				BASALT, dark gray	
				21.0	339.2

Bottom of borehole at 21.0 feet.

TWG-BORING LOGS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 12:47 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 44

Wallace Group Inc.
62915 NE 18th Street, Suite 1
Bend, OR 97701

BORING NUMBER GP-09

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED 9/23/22 **COMPLETED** 9/23/22
GROUND ELEVATION 288.85 ft
DRILLING CONTRACTOR Oregon Geotechnical Explorations
GROUND WATER LEVELS:
DRILLING METHOD geoprobe 6622
AT TIME OF DRILLING 7.28 ft / Elev 281.57 ft
LOGGED BY SMW **CHECKED BY** LMS
24HRS AFTER DRILLING ---
NOTES

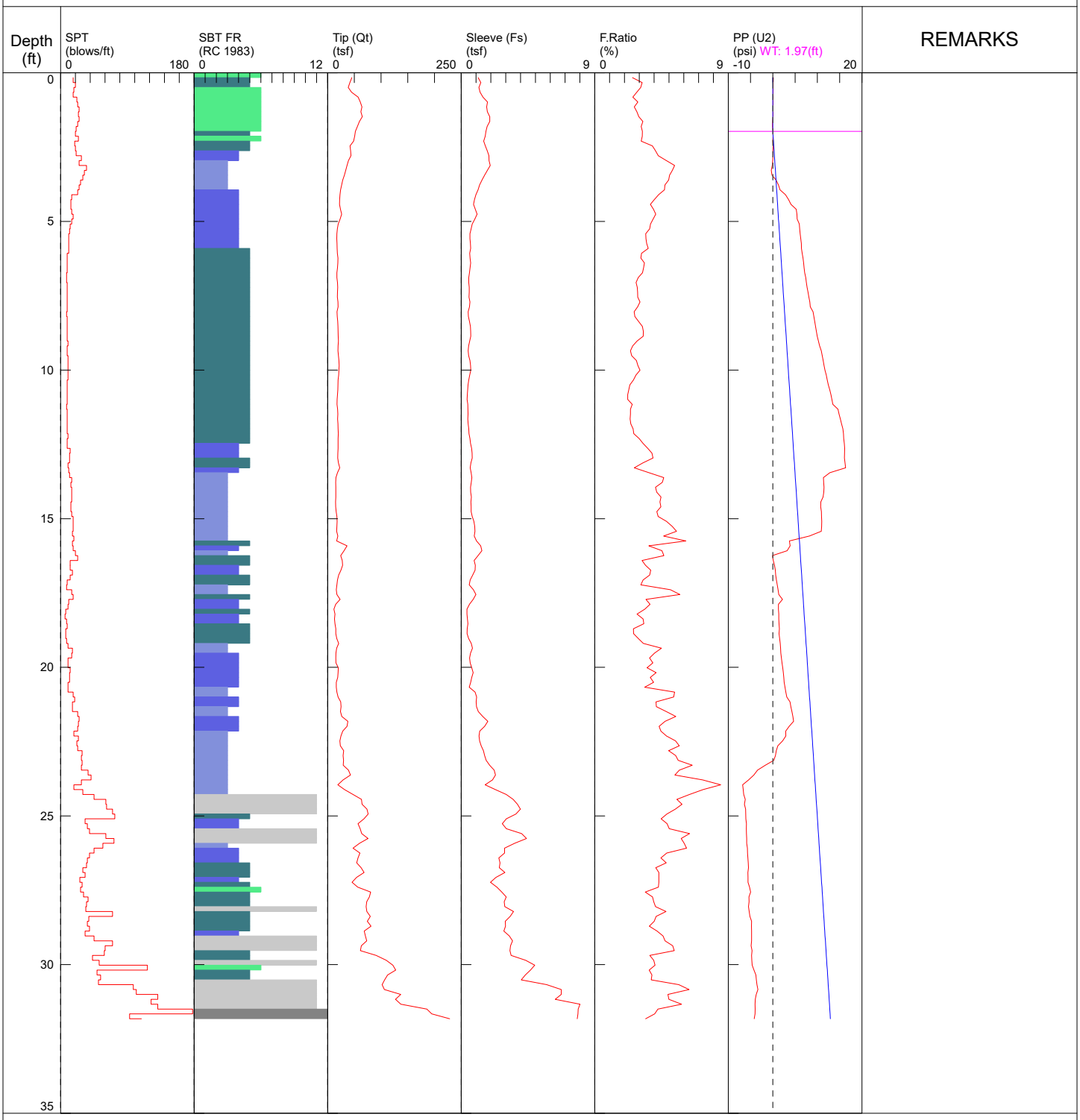
DEPTH (ft)	SAMPLE TYPE NUMBER	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Approximate Elevation
0					FAT CLAY, stiff to very stiff, moist, dark gray, fine grained, roots and organics	
	GB S-1	MC: 28.3% Fines: 92.9% LL: 73 PI: 53	CH			
5	ST ST-1					
					6.5	282.4
	GB S-2		SM		SILTY SAND WITH GRAVEL, very dense, wet, tan with blackish brown, fine to coarse grained, angular to subangular, weathered basalt	
10					10.0	278.9

Bottom of borehole at 10.0 feet.

TWG-BORING LOGS - WALLACE GROUP DATA TEMPLATE.GDT - 12/15/23 12:47 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

The Wallace Group / CPT-1 / 29160 Coffin Butte Rd

OPERATOR: OGE DMM
CONE ID: DDG1532
TEST DATE: 9/21/2022 4:21:43 PM
TOTAL DEPTH: 31.824 ft

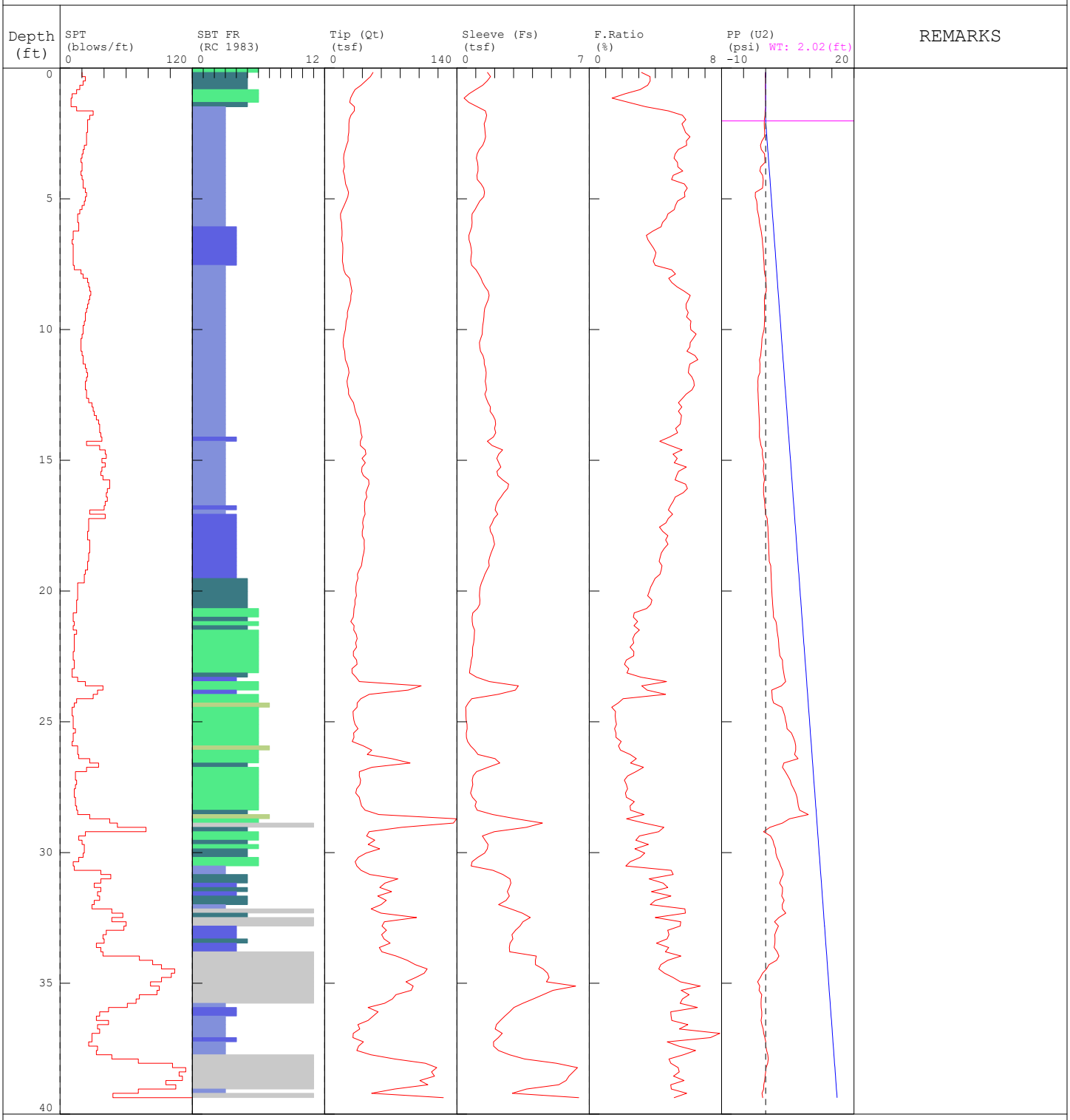


1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

*SBT/SPT CORRELATION: UBC-1983

The Wallace Group / CPT-2 / 29160 Coffin Butte Rd

OPERATOR: OGE DMM
CONE ID: DDG1532
TEST DATE: 9/21/2022 3:15:49 PM
TOTAL DEPTH: 39.370 ft

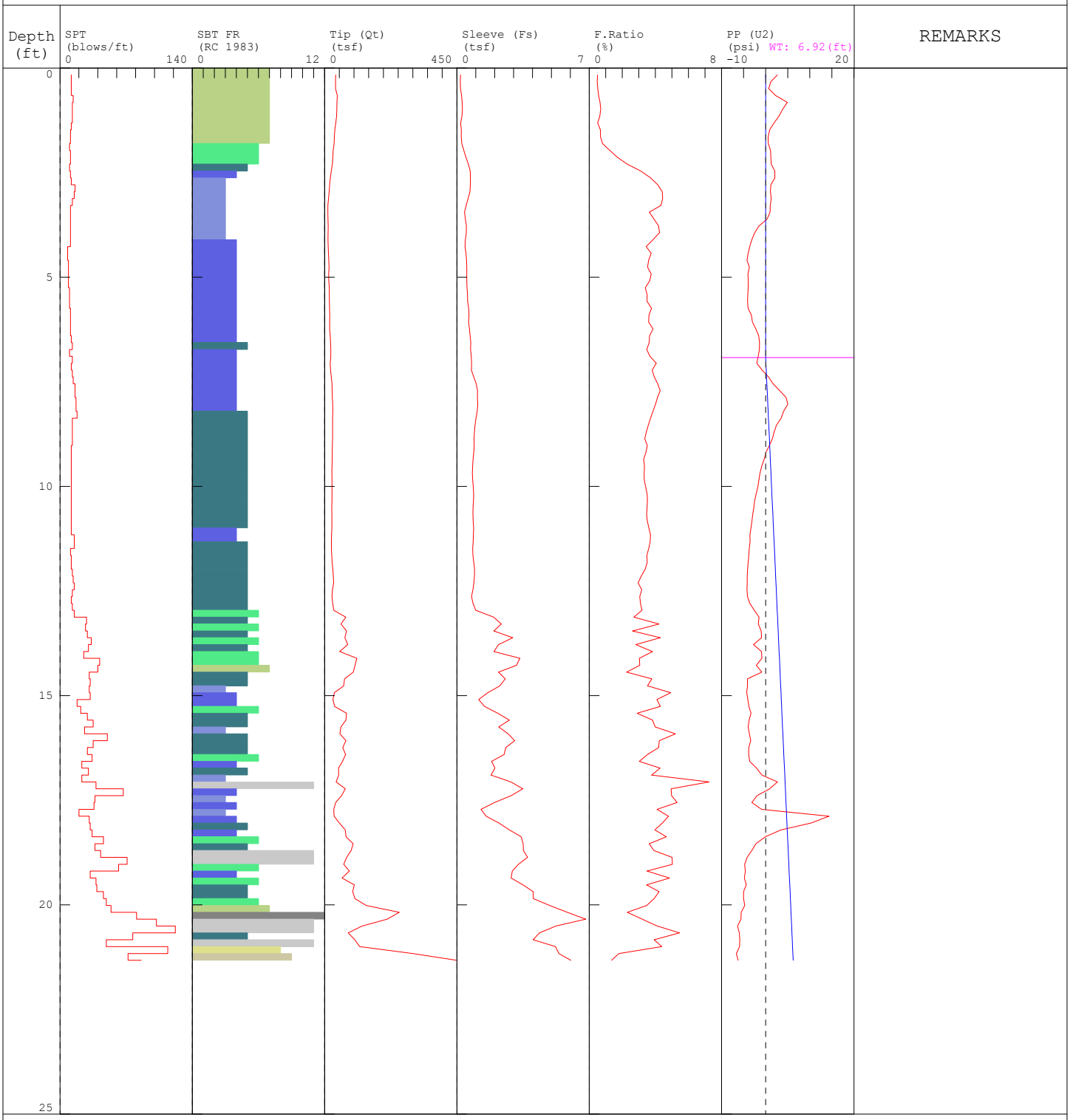


1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty cl
6 sandy silt to clayey si
7 silty sand to sandy si
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

*SBT/SPT CORRELATION: UBC-1983

The Wallace Group / CPT-3 / 29160 Coffin Butte Rd

OPERATOR: OGE DMM
CONE ID: DDG1532
TEST DATE: 9/21/2022 10:38:43 AM
TOTAL DEPTH: 21.325 ft

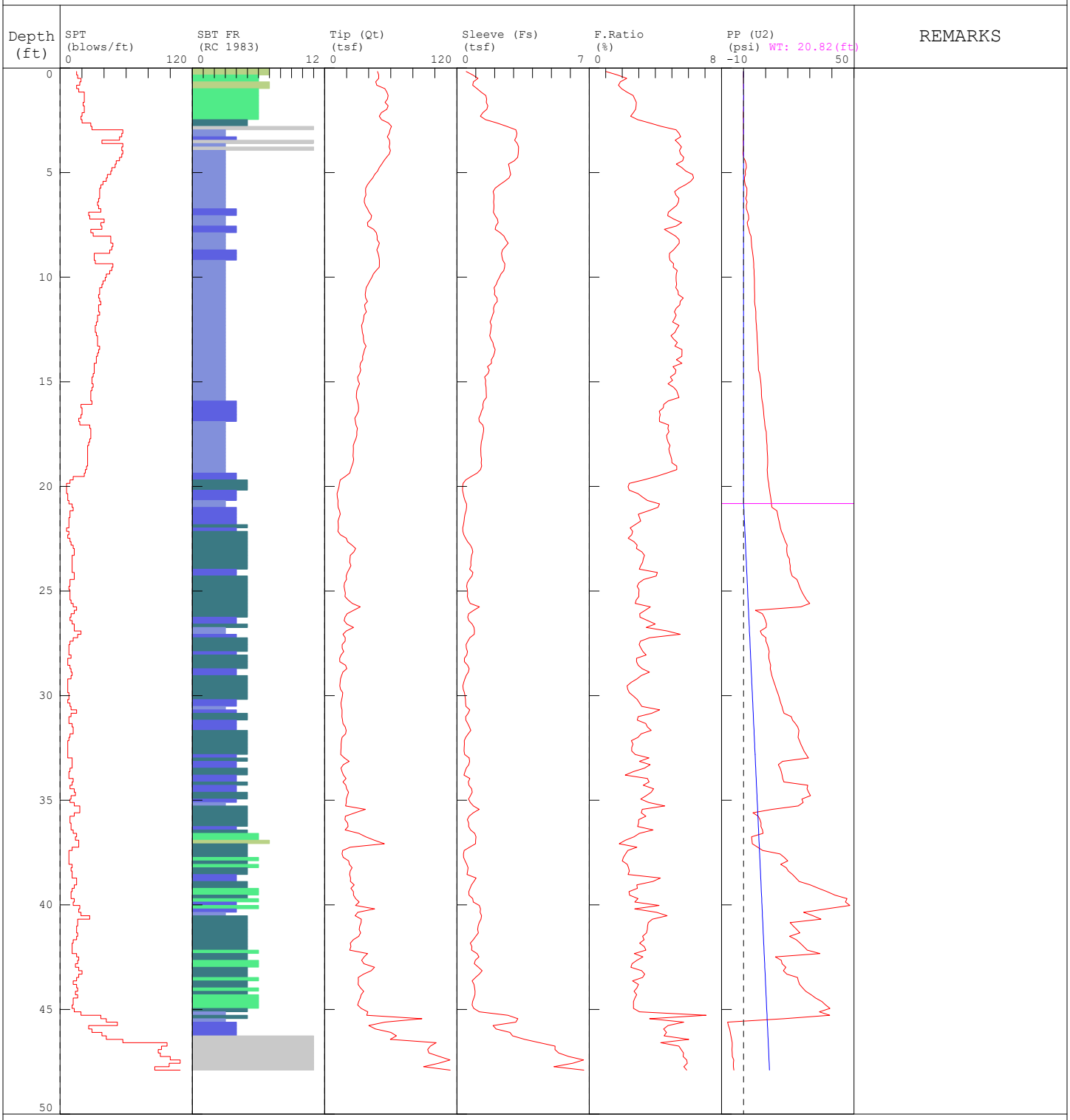


1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty cl
6 sandy silt to clayey si
7 silty sand to sandy si
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

*SBT/SPT CORRELATION: UBC-1983

The Wallace Group / CPT-4 / 29160 Coffin Butte Rd

OPERATOR: OGE DMM
CONE ID: DDG1532
TEST DATE: 9/21/2022 2:02:24 PM
TOTAL DEPTH: 47.900 ft

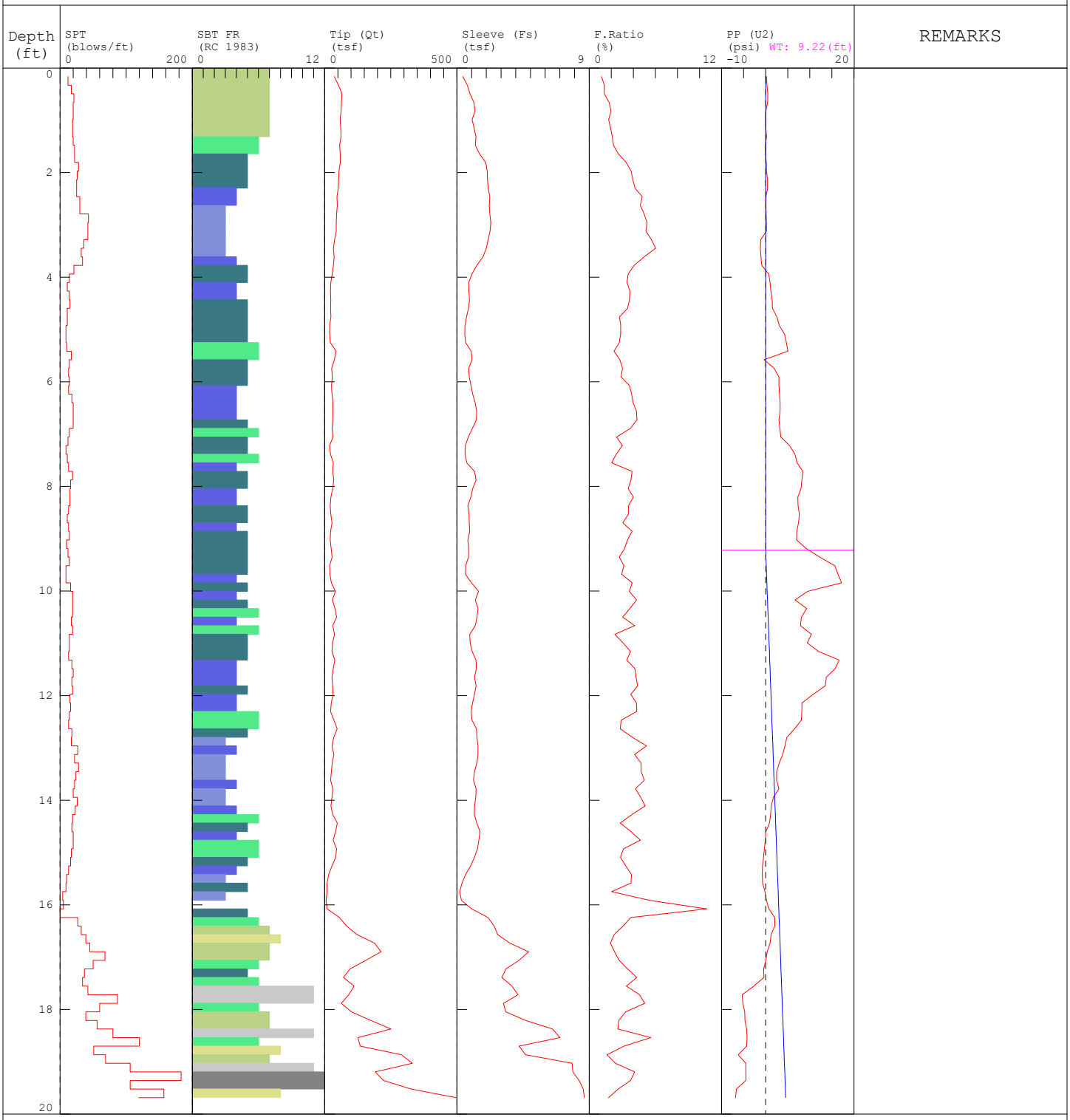


1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty cl
6 sandy silt to clayey si
7 silty sand to sandy si
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

*SBT/SPT CORRELATION: UBC-1983

The Wallace Group / CPT-5 / 29160 Coffin Butte Rd

OPERATOR: OGE DMM
CONE ID: DDG1532
TEST DATE: 9/21/2022 11:37:33 AM
TOTAL DEPTH: 19.685 ft

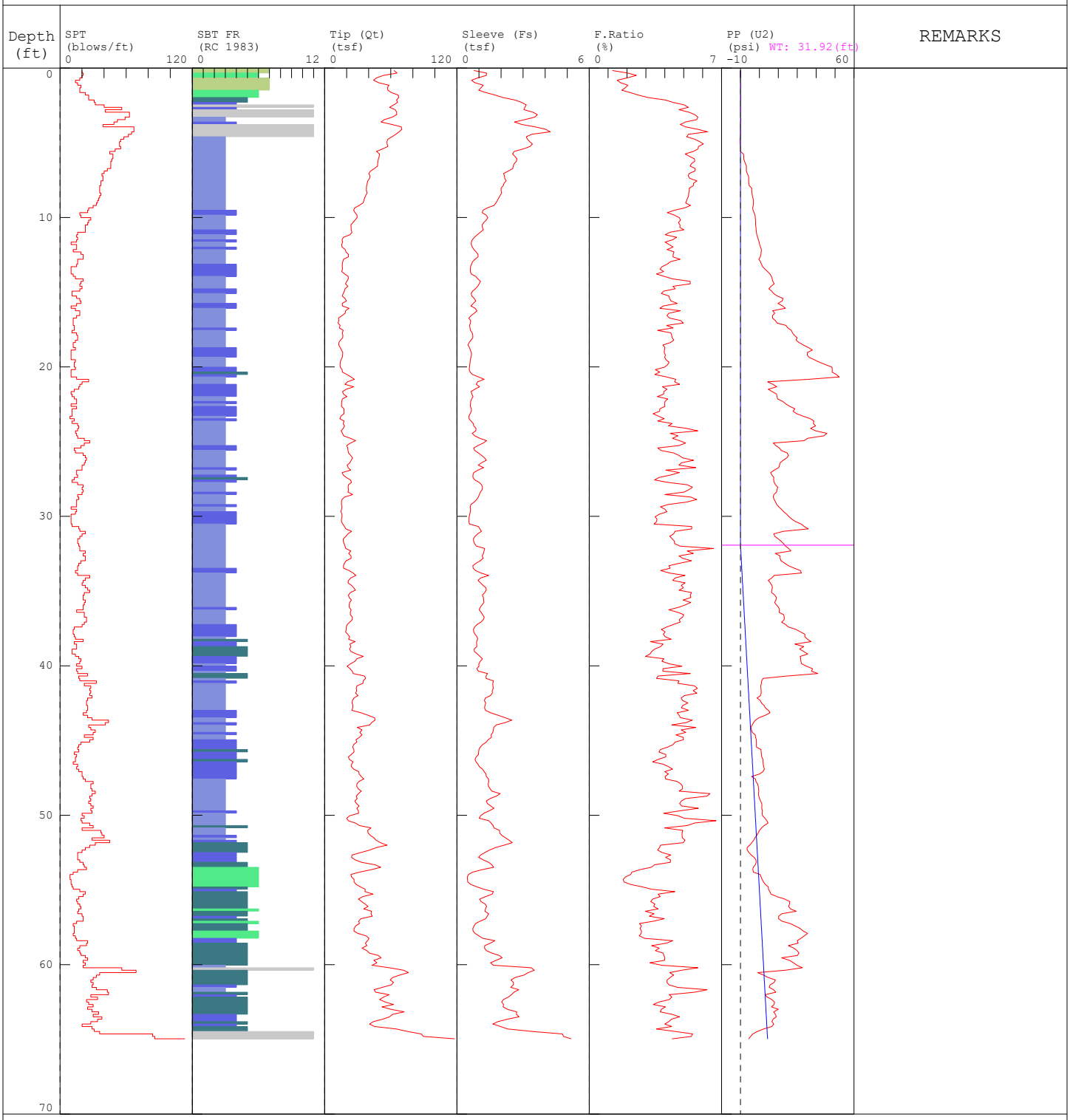


1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty cl
6 sandy silt to clayey si
7 silty sand to sandy si
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

*SBT/SPT CORRELATION: UBC-1983

The Wallace Group / CPT-6 / 29160 Coffin Butte Rd

OPERATOR: OGE DMM
CONE ID: DDG1532
TEST DATE: 9/21/2022 12:36:51 PM
TOTAL DEPTH: 64.961 ft

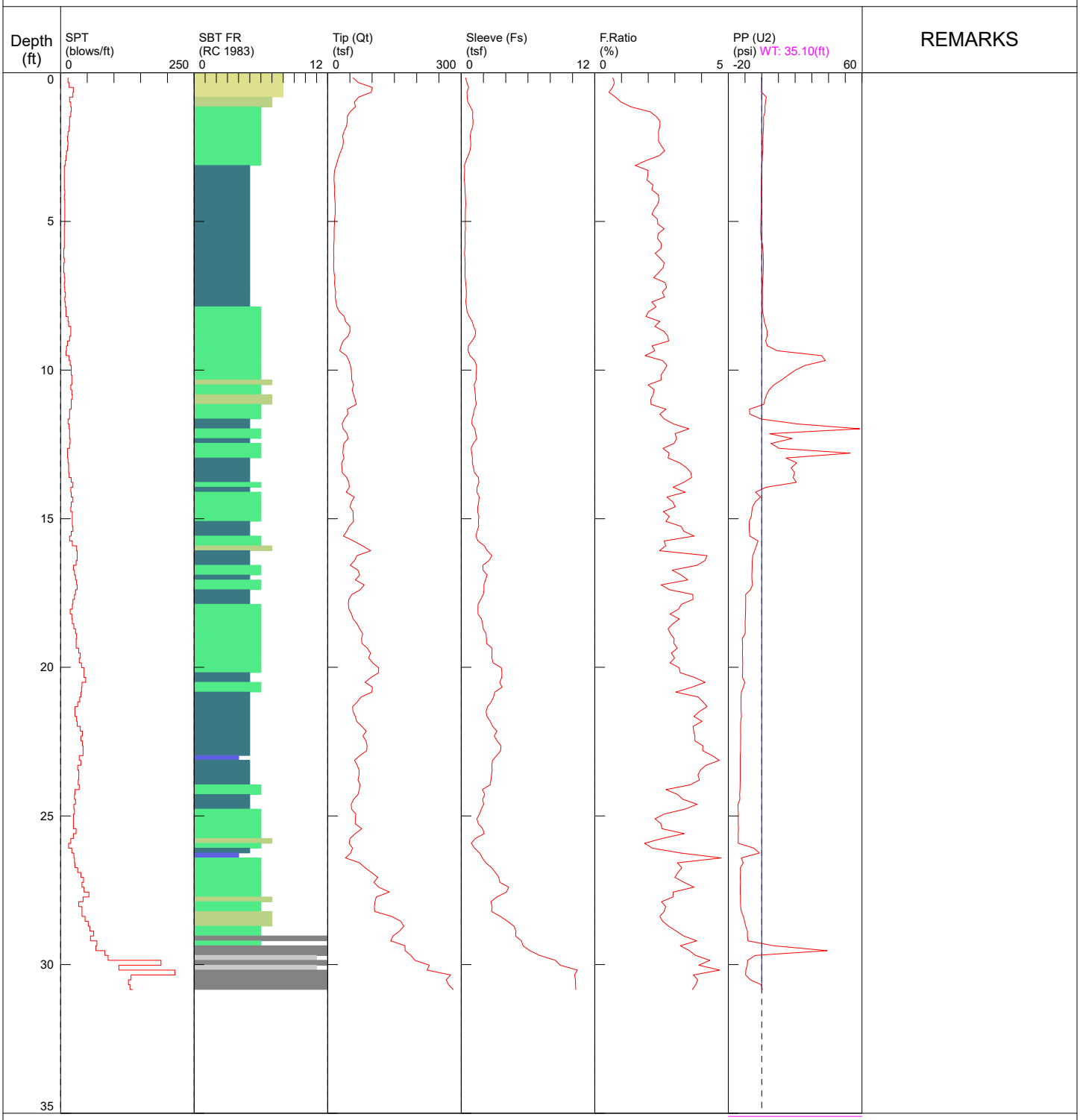


1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty cl
6 sandy silt to clayey si
7 silty sand to sandy si
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

*SBT/SPT CORRELATION: UBC-1983

The Wallace Group / CPT-7 / 29160 Coffin Butte Rd

OPERATOR: OGE DMM
CONE ID: DDG1532
TEST DATE: 9/23/2022 8:28:45 AM
TOTAL DEPTH: 30.840 ft

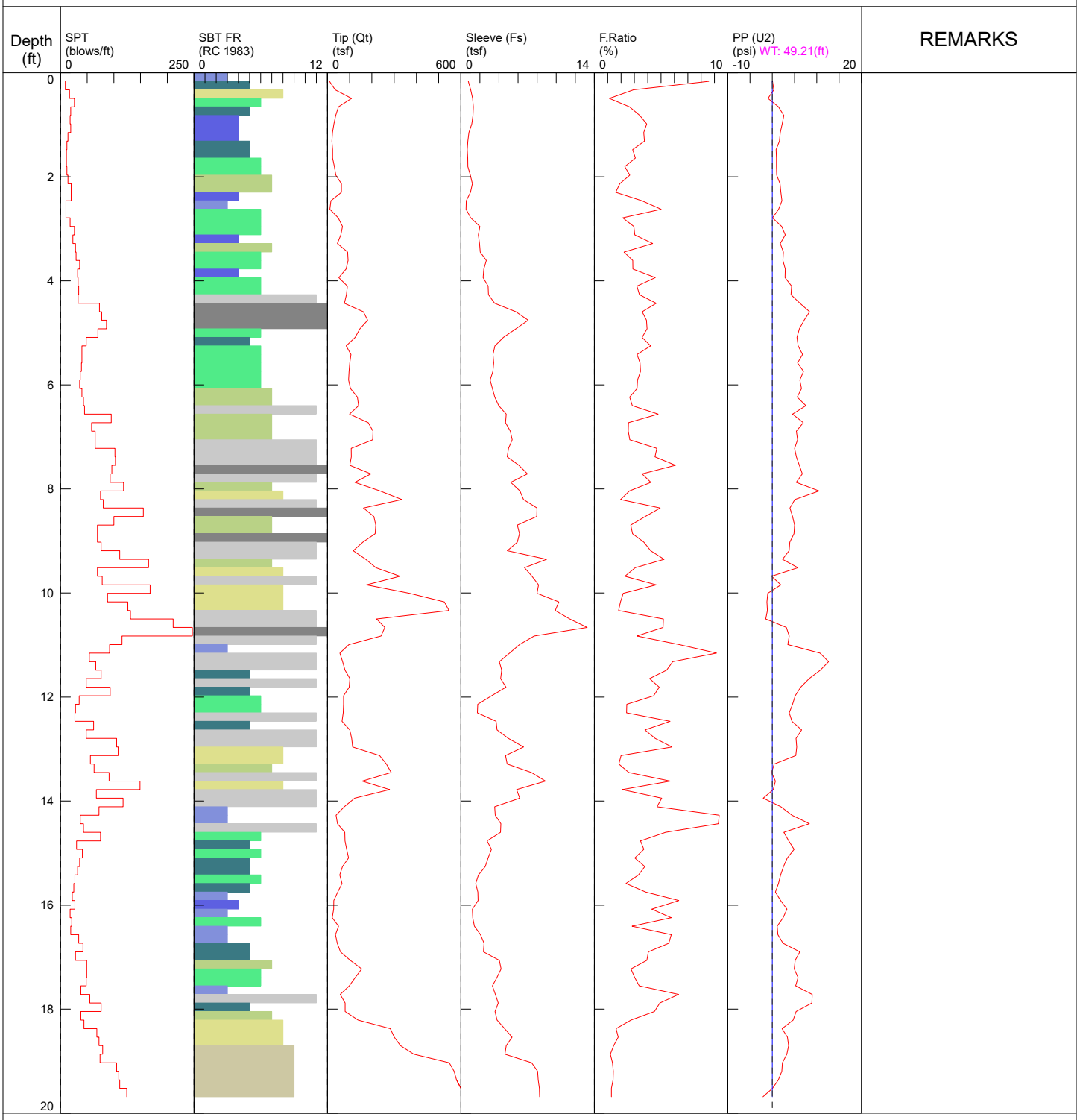


1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

*SBT/SPT CORRELATION: UBC-1983

The Wallace Group / CPT-8 / 29160 Coffin Butte Rd Corvallis

OPERATOR: OGE BAK
CONE ID: DDG1296
TEST DATE: 11/8/2022 12:20:14 PM
TOTAL DEPTH: 19.685 ft

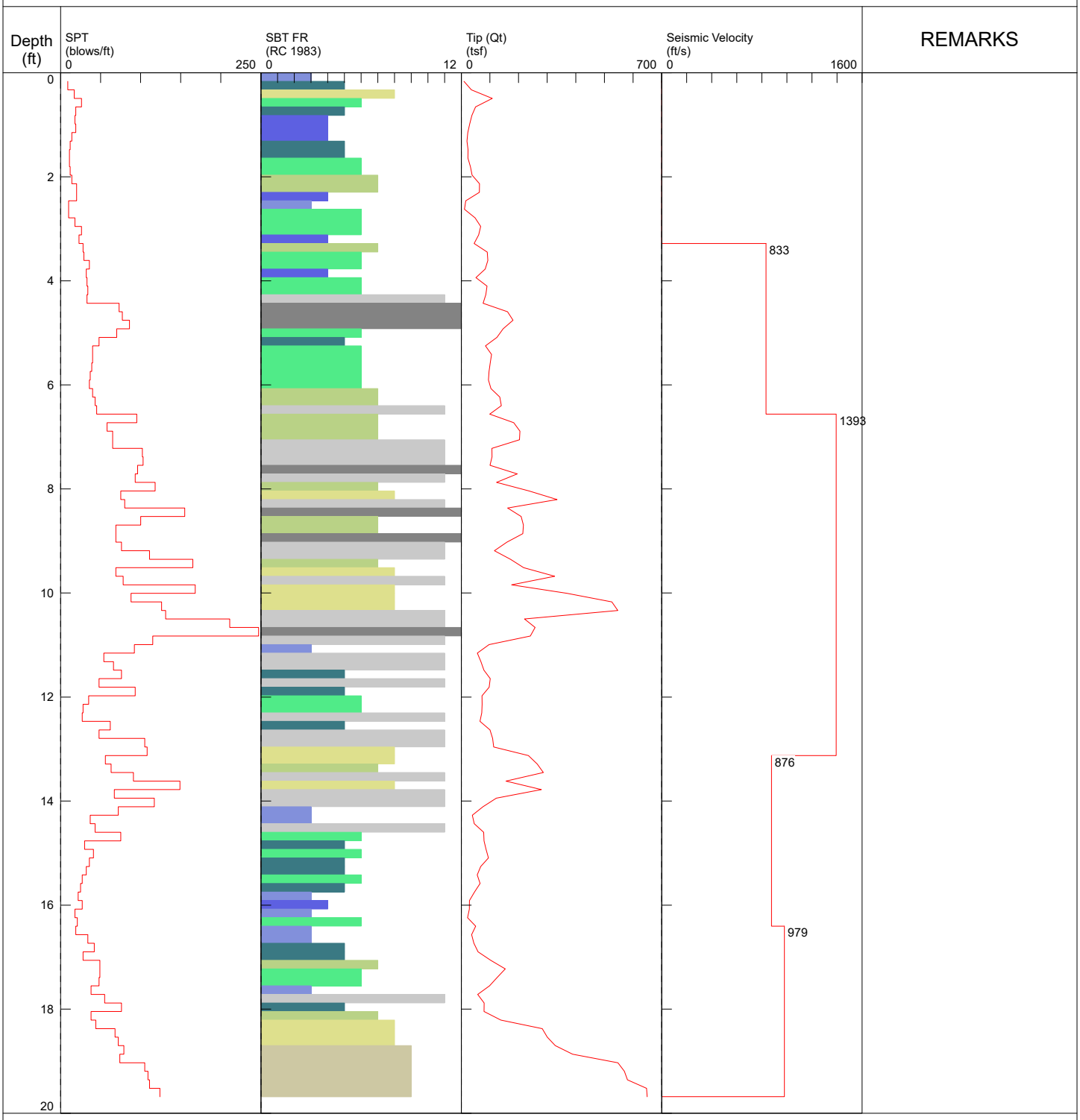


1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

*SBT/SPT CORRELATION: UBC-1983

The Wallace Group / CPT-8 / 29160 Coffin Butte Rd Corvallis

OPERATOR: OGE BAK
CONE ID: DDG1296
TEST DATE: 11/8/2022 12:20:14 PM
TOTAL DEPTH: 19.685 ft

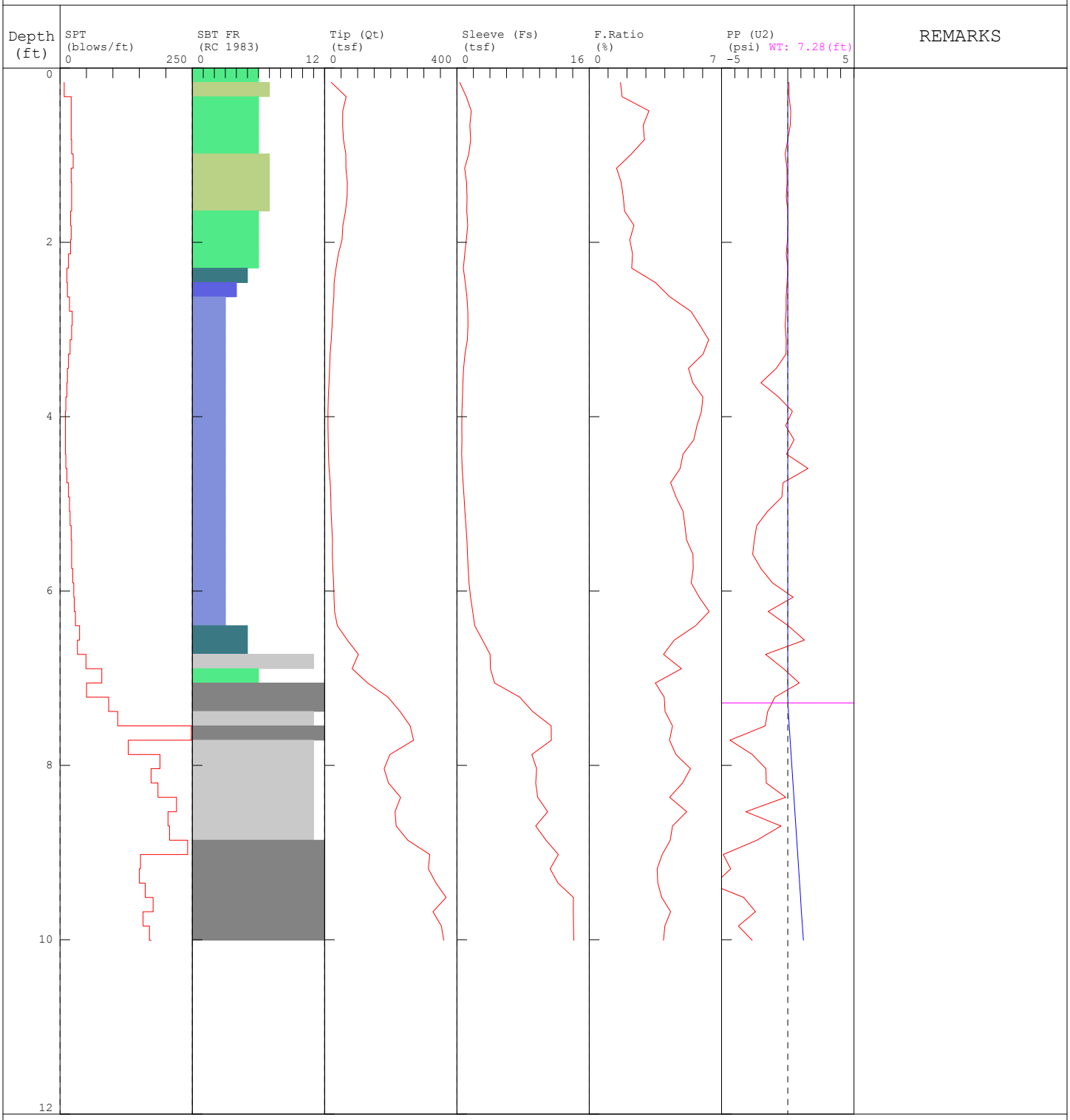


1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

*SBT/SPT CORRELATION: UBC-1983

The Wallace Group / CPT-9 / 29160 Coffin Butte Rd

OPERATOR: OGE DMM
CONE ID: DDG1532
TEST DATE: 9/23/2022 11:14:11 AM
TOTAL DEPTH: 10.007 ft



1 sensitive fine grained
2 organic material
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6 sandy silt to clayey si
7 silty sand to sandy si
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

*SBT/SPT CORRELATION: UBC-1983

WALLACE GROUP
NORTHWEST GEOSYSTEM EXPERTS

APPENDIX B

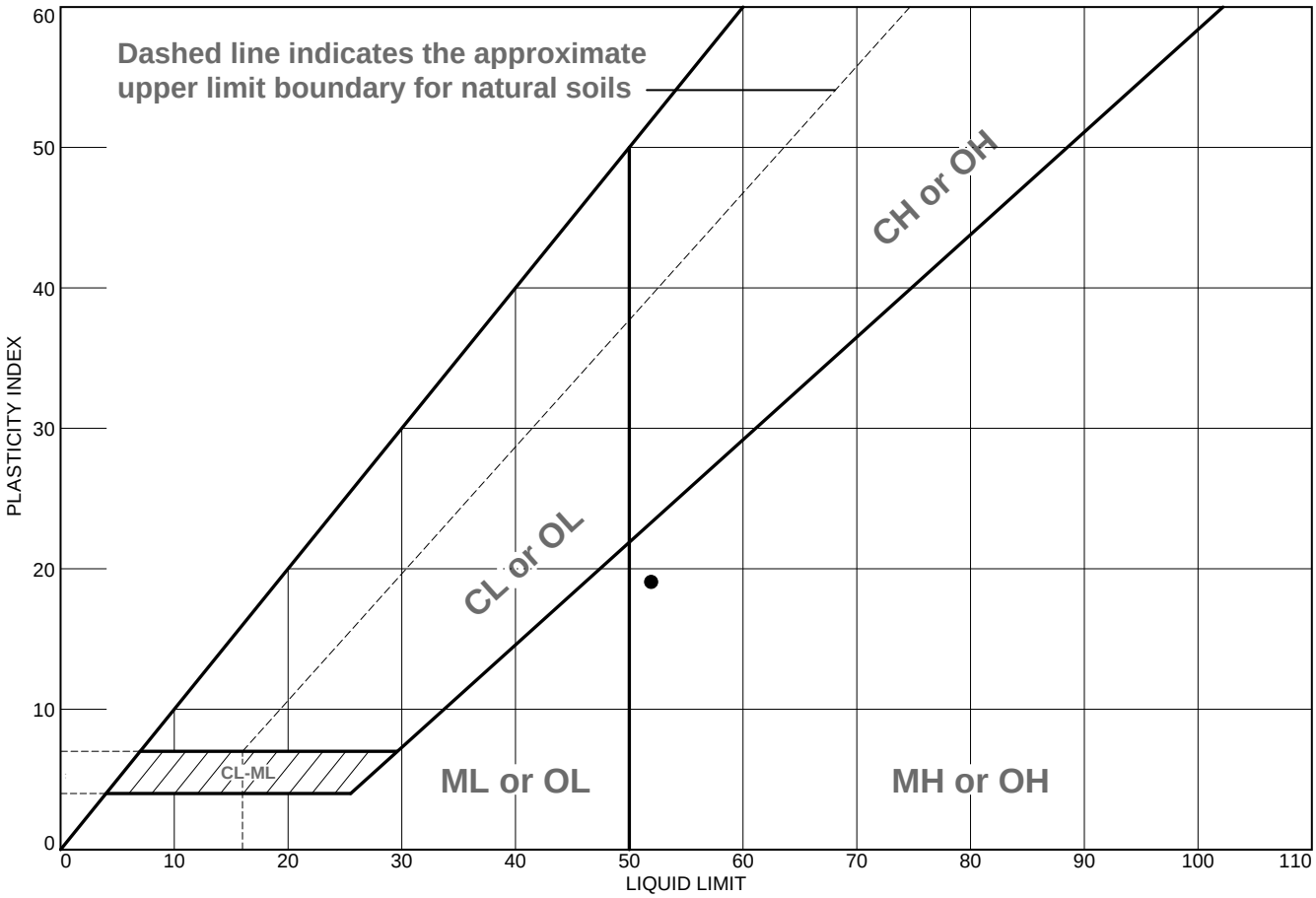
TABLE B - LABORATORY TESTING SUMMARY
Coffin Butte Landfill Expansion

Boring Number	Sample Type	Top Depth (feet, bgs)	Corrected SPT N-Value (blows per foot)	Material Description	Moisture Content, ASTM D2216 (percent)	Point Load Testing, ASTM D5731 UCS (PSI)	Atterberg Limits, ASTM D4318 Liquid Limit	Plastic Limit	Plasticity Index	Grain Size, ASTM D422 Percent <#40	Percent <200	Consolidation, ASTM D2435 C_{EC}	C_{ER}	OCR	UU Triaxial, ASTM D2850 Cell Pressure (psf)	Deviator Stress (psf)	CU Triaxial, ASTM D4767 Total c (psf)	Total phi (degrees)	CD Triaxial, ASTM D7181 Effective c (psf)	Effective phi (degrees)	CD Direct Shear, ASTM D3080 Effective c (psf)	Effective phi (degrees)	Flexible Wall Permeability, ASTM D5084 Saturation (percent)	Average k (cm/sec)
BH-01	SPT	7.5	22	SILTY SAND WITH GRAVEL (SM)	33.7	-	52	33	19	-	33.3	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-01	SPT	30.0	64	CLAYEY AND SILTY SAND (SC-SM)	39.1	-	-	-	-	-	36.0	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-02	Shelby	13	-	SANDY SILT (ML)	36.1	-	-	-	-	-	-	-	-	-	-	-	1000	8.8	-	-	-	-	-	-
BH-03	SPT	10	60/1"	SILTY GRAVEL WITH SAND (GM)	20.0	-	-	-	-	-	13.2	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-03	HQ Core	21.5	-	BRECCIATED BASALT WITH SILTSTONE	-	624	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-03	HQ Core	28.5	-	BRECCIATED BASALT WITH SILTSTONE	-	5377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-03	HQ Core	32.5	-	BRECCIATED BASALT WITH SILTSTONE	-	2297	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-03	HQ Core	36.5	-	BRECCIATED BASALT WITH SILTSTONE	-	264	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-03	HQ Core	47.5	-	BRECCIATED BASALT WITH SILTSTONE	-	439	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-03	HQ Core	60	-	BRECCIATED BASALT WITH SILTSTONE	-	248	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-03	HQ Core	67	-	BRECCIATED BASALT WITH SILTSTONE	-	2460	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-03	HQ Core	73	-	BRECCIATED BASALT WITH SILTSTONE	-	473	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-03	HQ Core	79	-	BRECCIATED BASALT WITH SILTSTONE	-	473	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-03	HQ Core	85	-	BRECCIATED BASALT WITH SILTSTONE	-	677	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-03	HQ Core	87	-	BRECCIATED BASALT WITH SILTSTONE	-	979	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-03	HQ Core	103	-	BRECCIATED BASALT WITH SILTSTONE	-	223	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-03	HQ Core	105	-	BRECCIATED BASALT WITH SILTSTONE	-	3242	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-03	HQ Core	108	-	BRECCIATED BASALT WITH SILTSTONE	-	640	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-04	SPT	2.5	19	CLAYEY AND SILTY SAND (SC-SM)	36.9	-	-	-	-	-	41.2	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-05	SPT	3.0	46	SILTY SAND WITH GRAVEL (SM)	37.2	-	67	37	30	-	22.7	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-05	HQ Core	11	-	BRECCIATED BASALT WITH SILTSTONE	-	929	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-05	HQ Core	30	-	BRECCIATED BASALT WITH SILTSTONE	-	1022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-05	HQ Core	47	-	BRECCIATED BASALT WITH SILTSTONE	-	5332	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-05	HQ Core	61	-	BRECCIATED BASALT WITH SILTSTONE	-	324	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-05	HQ Core	90	-	BRECCIATED BASALT WITH SILTSTONE	-	18061	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-05	HQ Core	105	-	BRECCIATED BASALT WITH SILTSTONE	-	374	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-05	HQ Core	120	-	BRECCIATED BASALT WITH SILTSTONE	-	1059	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-05	HQ Core	125	-	BRECCIATED BASALT WITH SILTSTONE	-	1529	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-05	HQ Core	127	-	BRECCIATED BASALT WITH SILTSTONE	-	1204	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-06	Shelby	5.0	-	SANDY LEAN CLAY (CL)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-07	Shelby	10	-	SANDY LEAN CLAY WITH GRAVEL (CL)	65.0	-	-	-	-	-	-	0.32	0.025	4.8	-	-	-	-	-	-	350	37	-	-
BH-08	SPT	20	83	CLAYEY SAND WITH GRAVEL (SC)	23.2	-	-	-	-	-	21.3	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-09	HQ Core	26	-	BRECCIATED BASALT WITH SILTSTONE	-	350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-09	HQ Core	35	-	BRECCIATED BASALT WITH SILTSTONE	-	481	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-09	HQ Core	44	-	BRECCIATED BASALT WITH SILTSTONE	-	631	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-09	HQ Core	46	-	BRECCIATED BASALT WITH SILTSTONE	-	1410	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-09	HQ Core	57	-	BRECCIATED BASALT WITH SILTSTONE	-	14194	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-09	HQ Core	57	-	BRECCIATED BASALT WITH SILTSTONE	-	7636	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-09	HQ Core	69	-	BRECCIATED BASALT WITH SILTSTONE	-	1059	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-10	SPT	5.0	18	SANDY FAT CLAY WITH GRAVEL (CH)	32.0	-	60	25	35	-	74.6	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-10	SPT	20	60/2"	SILTY GRAVEL WITH SAND (GM)	20.5	-	-	-	-	-	27.0	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-11	SPT	5.0	11	SILTY SAND (SM)	49.7	-	-	-	-	-	33.5	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-11	Shelby	12	-	SANDY SILT (ML)	80.7	-	-	-	-	-	-	0.31	0.04	4.7	880	1039	-	-	-	-	-	-	-	-
					69.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	97	$4.11x10^{-6}$
BH-11	SPT	15	5	SANDY ELASTIC SILT (MH)	65.9	-	85	44	41	-	65.9	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-11	SPT	30	6	SANDY SILT (ML)	72.2	-	-	-	-	-	54.9	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-12	SPT	7.5	5	SANDY ELASTIC SILT (MH)	61.1	-	78	42	36	-	50.7	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-12	Shelby	10	2	SANDY ELASTIC SILT (MH)	63.9	-	-	-	-	-	-	0.33	0.03	8.4	770	1154	-	-	-	-	-	-	-	-
BH-12	Shelby	20	7	SANDY ELASTIC SILT (MH)	64.9	-	-	-	-	-	-	0.17	0.025	2.3	-	-	-	-	-	-	200	41	-	-
BH-12	SPT	30	4	SILTY SAND (SM)	66.3	-	67	46	21	-	48.2	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-12	SPT	45	34	SILTY SAND (SM)	44.2	-	-	-	-	-	38.0	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-13	SPT	25	19	SILTY SAND WITH GRAVEL (SM)	47.7	-	-	-	-	-	27.1	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE B - LABORATORY TESTING SUMMARY
Coffin Butte Landfill Expansion

Boring Number	Sample Type	Top Depth (feet, bgs)	Corrected SPT N-Value (blows per foot)	Material Description	Moisture Content, ASTM D2216 (percent)	Point Load Testing, ASTM D5731 UCS (PSI)	Atterberg Limits, ASTM D4318 Liquid Limit	Atterberg Limits, ASTM D4318 Plastic Limit	Atterberg Limits, ASTM D4318 Plasticity Index	Grain Size, ASTM D422 Percent <#40	Grain Size, ASTM D422 Percent <200	Consolidation, ASTM D2435 C_{EC}	Consolidation, ASTM D2435 C_{ER}	Consolidation, ASTM D2435 OCR	UU Triaxial, ASTM D2850 Cell Pressure (psf)	UU Triaxial, ASTM D2850 Deviator Stress (psf)	CU Triaxial, ASTM D4767 Total c (psf)	CU Triaxial, ASTM D4767 Total phi (degrees)	CD Triaxial, ASTM D7181 Effective c (psf)	CD Triaxial, ASTM D7181 Effective phi (degrees)	CD Direct Shear, ASTM D3080 Effective c (psf)	CD Direct Shear, ASTM D3080 Effective phi (degrees)	Flexible Wall Permeability, ASTM D5084 Saturation (percent)	Flexible Wall Permeability, ASTM D5084 Average k (cm/sec)
BH-13	SPT	30	56	SILTY SAND WITH GRAVEL (SM)	25.2						18.8	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-14	SPT	5.0	7	SANDY FAT CLAY (CH)	32.6	-	56	25	31	-	77.8	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-14	SPT	15	11	SANDY FAT CLAY WITH GRAVEL (CH)	32.4	-	62	23	39	-	62.2	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-14	SPT	20	92/11"	SILTY SAND WITH GRAVEL (SM)	15.0	-	-	-	-	-	21.0	-	-	-	-	-	-	-	-	-	-	-	-	-
BH-14	SPT	25	60/1"	SILTY SAND WITH GRAVEL (SM)	4.1	-	-	-	-	-	18.1	-	-	-	-	-	-	-	-	-	-	-	-	-
GP/CPT-01	Grab	3.0	-	SANDY CLAY (CH)	29.9	-	58	26	32	99.2	98.1	-	-	-	-	-	-	-	-	-	-	-	-	-
GP/CPT-01	Grab	8.5	-	SANDY CLAY (CH)	35.6	-	54	23	31	99.0	97.4	-	-	-	-	-	-	-	-	-	-	-	-	-
GP/CPT-04	Grab	3.0	-	SANDY CLAY (CH)	22.6	-	63	25	38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GP/CPT-04	Grab	7.0	-	SANDY CLAY (CL)	37.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GP/CPT-04	Grab	13.5	-	SANDY CLAY (CL)	40.1	-	75	37	38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GP/CPT-04	Shelby	18.5	-	SANDY CLAY (CL)	69.8	-	-	-	-	-	-	-	-	-	-	-	-	-	0	33.3	-	-	-	-
GP/CPT-04	Grab	22.0	-	SANDY SILT (ML)	75.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GP/CPT-04	Grab	25.0	-	ELASTIC SILT WITH SAND (MH)	69.7	-	78	48	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GP/CPT-04	Grab	27.0	-	SANDY SILT (ML)	70.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GP/CPT-04	Shelby	28.0	-	SANDY SILT (ML)	65.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	35.5	-	-
GP/CPT-05	Grab	6.5	-	ELASTIC SILT WITH SAND (MH)	42.6	-	73	39	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GP/CPT-05	Shelby	10.0	-	SANDY CLAY (CL)	41.2, 48.2, 41.2	-	-	-	-	-	-	-	-	-	-	-	-	-	150	39	-	-	-	-
GP/CPT-05	Grab	14.0	-	SILTY SAND WITH GRAVEL (SM)	45.1, 28.9	-	-	-	-	72	36.4	-	-	-	-	-	-	-	-	-	-	-	-	-
GP/CPT-06	Grab	7.0	-	ELASTIC SILT (MH)	39.0	-	80	44	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GP/CPT-06	Grab	18.0	-	SANDY SILT (ML)	71.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GP/CPT-06	Grab	24.0	-	ELASTIC SILT (MH)	75.0	-	84	54	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GP/CPT-06	Grab	27.0	-	SANDY SILT (ML)	80.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GP/CPT-07	Grab	2.0	-	SANDY CLAY (CL)	26.9	-	-	-	-	81	53.1	-	-	-	-	-	-	-	-	-	-	-	-	-
GP/CPT-07	Grab	12.0	-	CLAYEY SAND WITH GRAVEL (SC)	38.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GP/CPT-07	Grab	16.0	-	CLAYEY SAND (SC)	25.5	-	-	-	-	82	45.9	-	-	-	-	-	-	-	-	-	-	-	-	-
GP/CPT-09	Grab	2.0	-	CLAY (CH)	28.3	-	73	20	53	97.3	92.9	-	-	-	-	-	-	-	-	-	-	-	-	-

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Silty Sand with Gravel	52	33	19	Not Tested	33.3	SM

Project No. 21129 **Client:** Civil & Environmental Consultants, Inc.

Project: Coffin Butte Landfill

●**Source of Sample:** BH-01 **Depth:** 7.5-9' **Sample Number:** S-1

Remarks:

●Sampled By: SMW
Sample Date: Week of 08-16-21
ASTM D4318 - Multipoint Method
Wet Prepped, Liquid Limit Device, Hand Rolled

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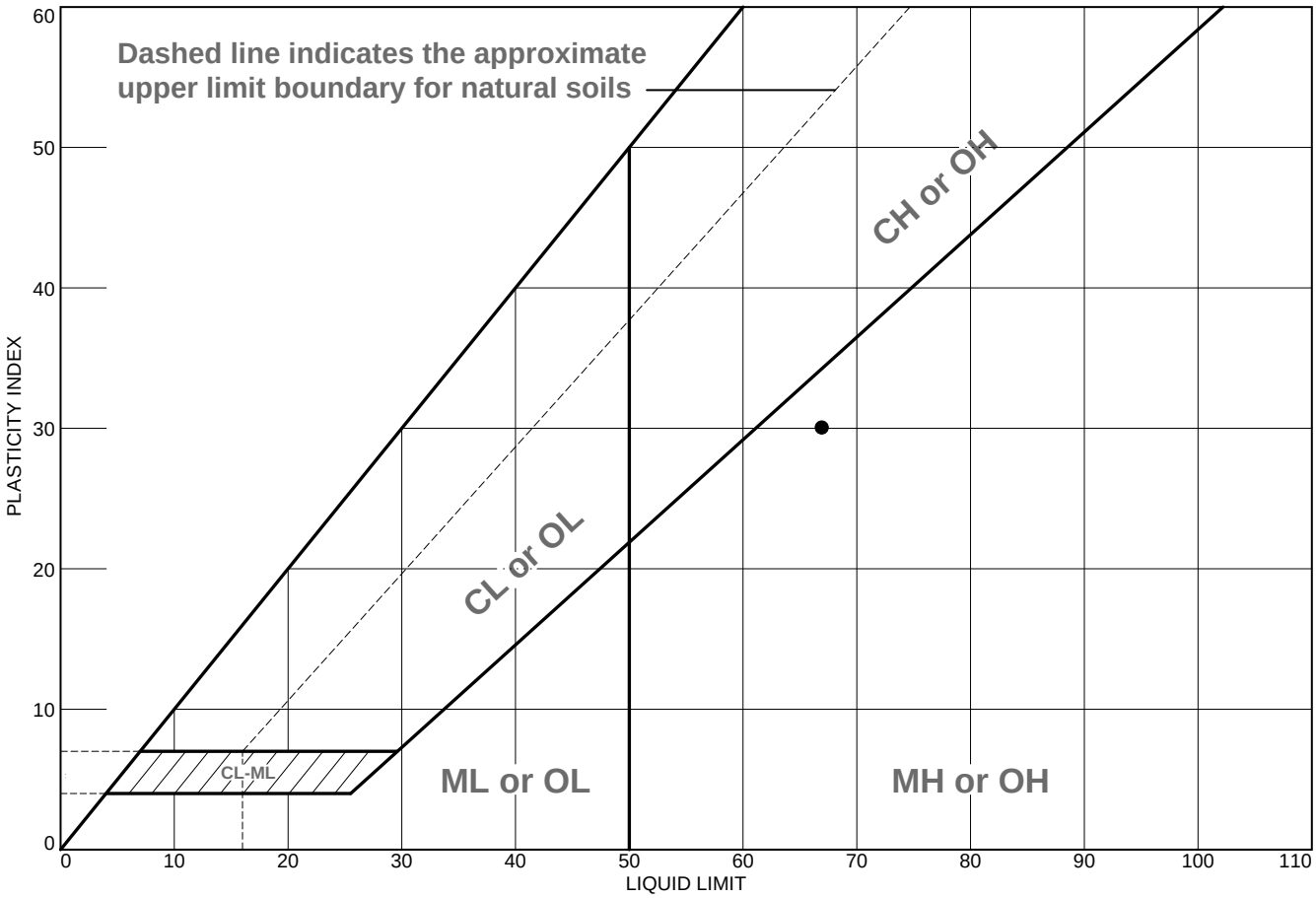
Figure B-1

Tested By: PJH **Checked By:** LMS

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Silty Sand with Gravel	67	37	30	Not Tested	22.7	SM

Project No. 21129 **Client:** Civil & Environmental Consultants, Inc.

Project: Coffin Butte Landfill

●**Source of Sample:** BH-05 **Depth:** 3' **Sample Number:** S-2

Remarks:

●Sampled By: SMW
Sample Date: Week of 08-16-21
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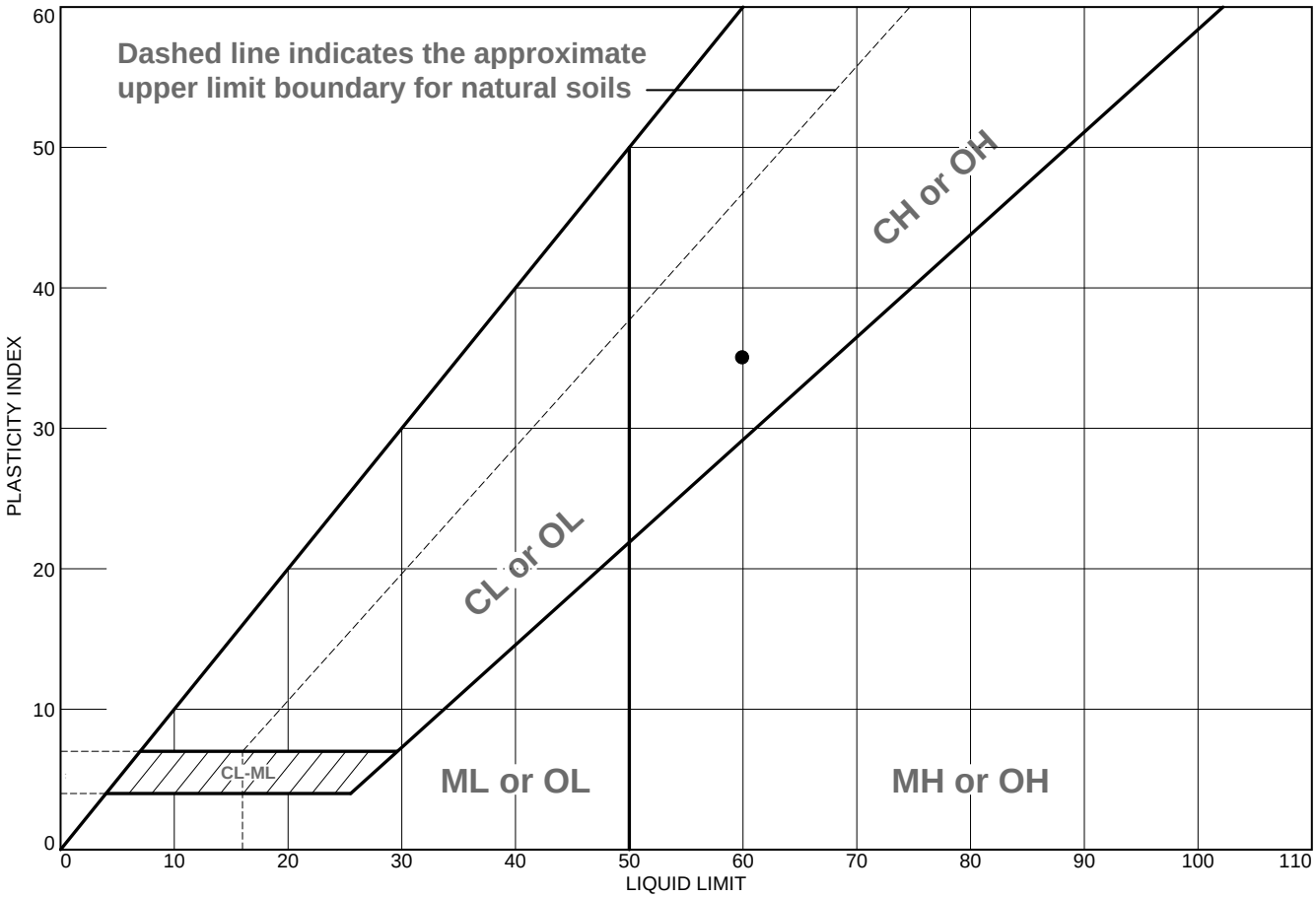
Figure B-2

Tested By: PJH **Checked By:** LMS

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Sandy Fat Clay with Gravel	60	25	35	Not Tested	74.6	CH

Project No. 21129 **Client:** Civil & Environmental Consultants, Inc.

Project: Coffin Butte Landfill

●**Source of Sample:** BH-10 **Depth:** 5-6.5' **Sample Number:** S-2

Remarks:

●Sampled By: SMW
Sample Date: Week of 08-16-21
ASTM D4318 - Multipoint Method
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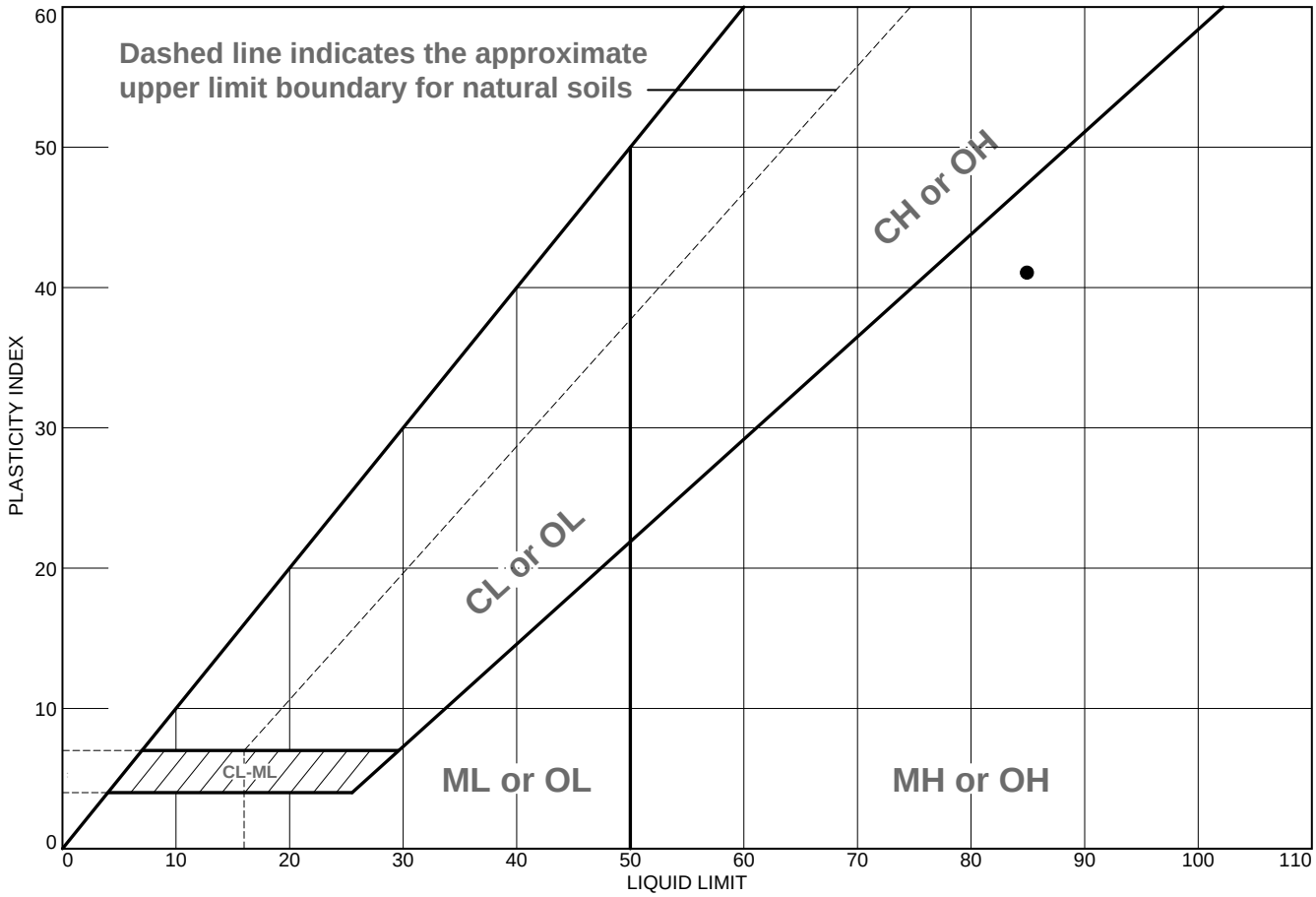
Figure B-3

Tested By: PJH **Checked By:** LMS

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Sandy Silt	85	44	41	Not Tested	65.9	MH

Project No. 21129 **Client:** Civil & Environmental Consultants, Inc.

Project: Coffin Butte Landfill

●**Source of Sample:** BH-11 **Depth:** 15-16.5' **Sample Number:** S-7

Remarks:

●Sampled By: SMW
Sample Date: Week of 08-16-21
ASTM D4318 - Multipoint Method
Wet Prepped, Liquid Limit Device, Hand Rolled

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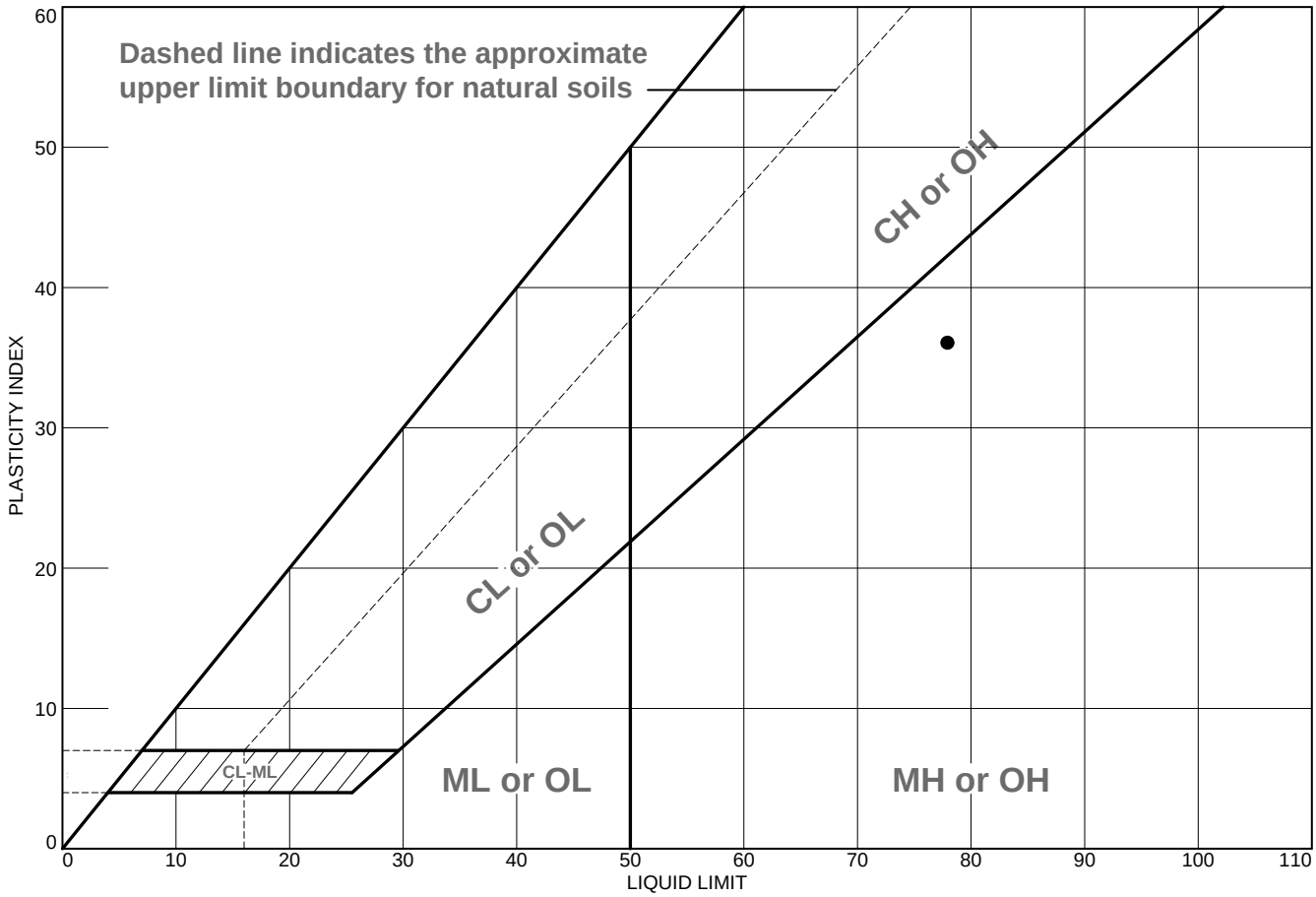
Figure B-4

Tested By: PJH **Checked By:** LMS

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Sandy Elastic Silt	78	42	36	Not Tested	50.7	MH

Project No. 21129 **Client:** Civil & Environmental Consultants, Inc.

Project: Coffin Butte Landfill

●**Source of Sample:** BH-12 **Depth:** 7.5-9' **Sample Number:** S-3

Remarks:

●Sampled By: SMW
Sample Date: Week of 08-16-21
ASTM D4318 - Multipoint Method
Wet Prepped, Liquid Limit Device, Hand Rolled

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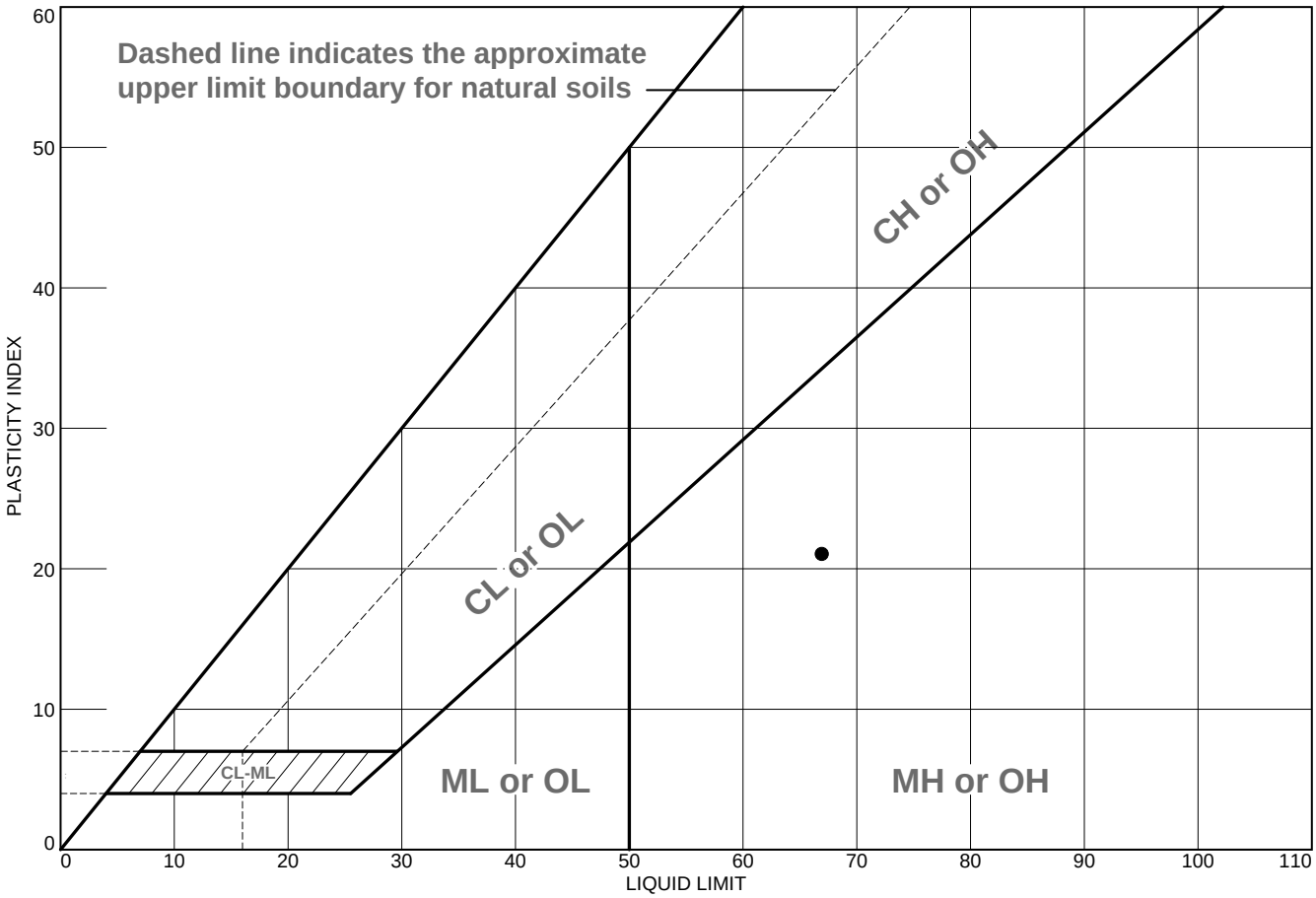
Figure B-5

Tested By: PJH **Checked By:** LMS

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Silty Sand	67	46	21	Not Tested	48.2	SM

Project No. 21129 **Client:** Civil & Environmental Consultants, Inc.

Project: Coffin Butte Landfill

●**Source of Sample:** BH-12 **Depth:** 30-31.5' **Sample Number:** S-9

Remarks:

●Sampled By: SMW
Sample Date: Week of 08-16-21
ASTM D4318 - Multipoint Method
Wet Prepped, Liquid Limit Device, Hand Rolled

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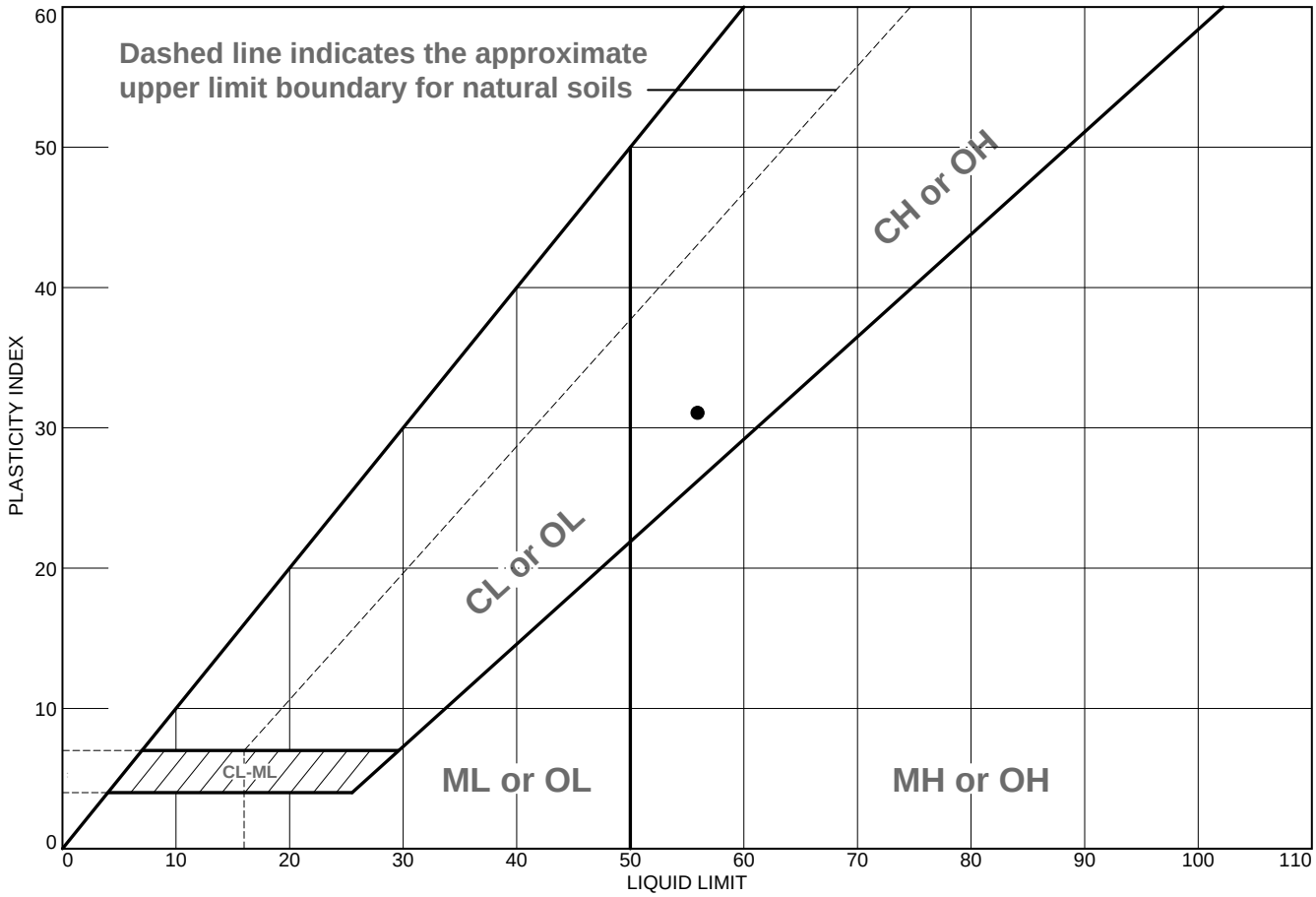
Figure B-6

Tested By: PJH **Checked By:** LMS

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Sandy Fat Clay	56	25	31	Not Tested	77.8	CH

Project No. 21129 **Client:** Civil & Environmental Consultants, Inc.

Project: Coffin Butte Landfill

●**Source of Sample:** BH-14 **Depth:** 5-6.5' **Sample Number:** S-2

Remarks:

●Sampled By: SMW
Sample Date: Week of 08-16-21
ASTM D4318 - Multipoint Method
Wet Prepped, Liquid Limit Device, Hand Rolled

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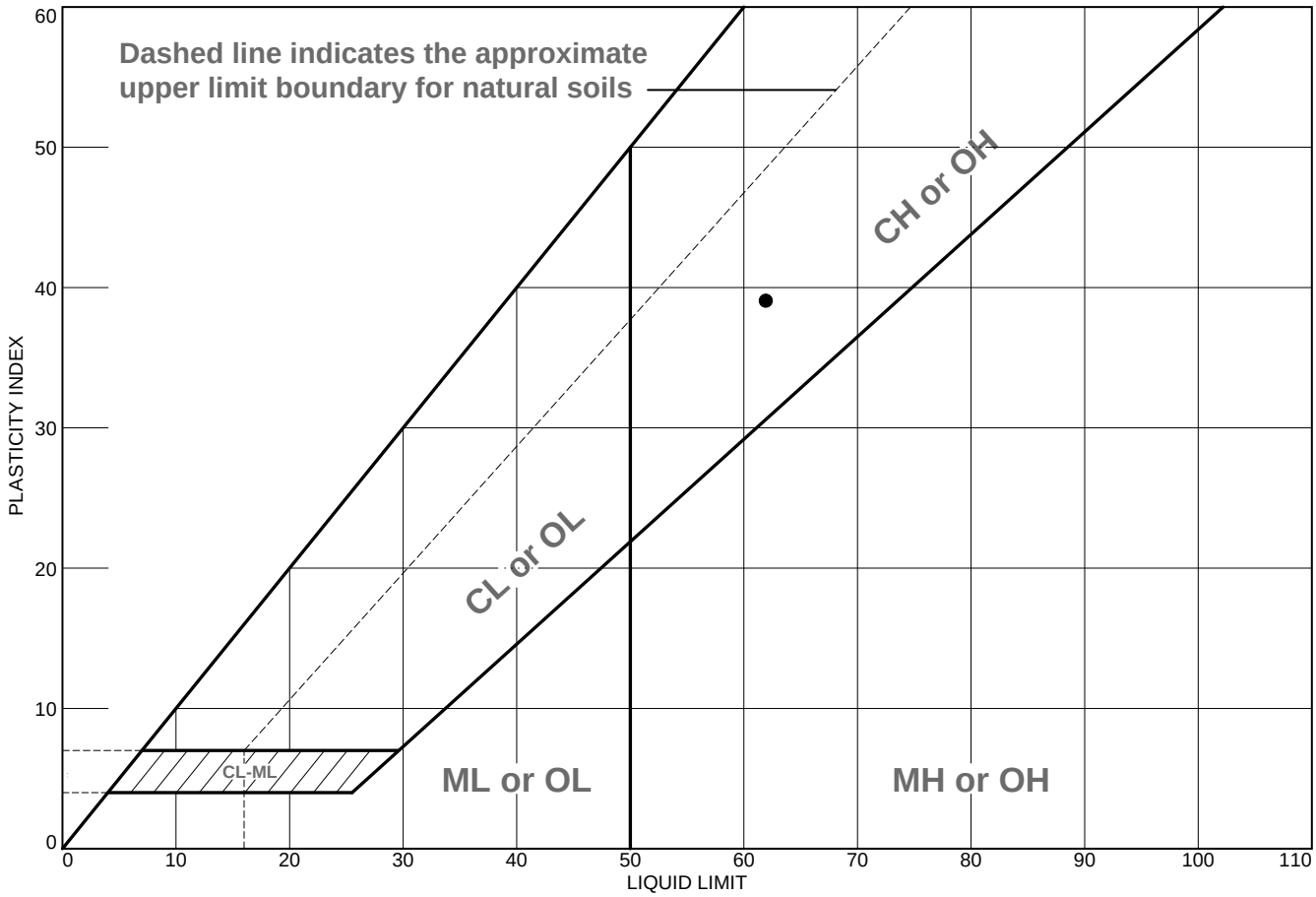
Figure B-7

Tested By: PJH **Checked By:** LMS

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Sandy Fat Clay	62	23	39	Not Tested	62.2	CH

Project No. 21129 **Client:** Civil & Environmental Consultants, Inc.

Project: Coffin Butte Landfill

●**Source of Sample:** BH-14 **Depth:** 15-16.5' **Sample Number:** S-4

Remarks:

●Sampled By: SMW
Sample Date: Week of 08-16-21
ASTM D4318 - Multipoint Method
Wet Prepped, Liquid Limit Device, Hand Rolled

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Figure B-8

Tested By: PJH **Checked By:** LMS

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No. 200 Sieve Wash

(Material Finer than No. 200 Sieve)

ASTM C117 / D-1140

Client: Civil & Env. Consultants, Inc.
Project Coffin Butte Landfill
Location: Corvallis, OR
Sample Location: Borings
Date Sampled: 8/17/2021

Project Number: 21129 - 1
Lab Number: WGG0233
Technician: PJH
Date Received: 9/17/2021
Date Analyzed: 11/29/2021

Location	BH-01	BH-03	BH-11
Depth	7.5'	10'	15'
Wet Weight	340.6	510	360.1
Dry Weight	254.8	425	199.3
Moisture %	33.7%	20.0%	80.7%
Weight After Wash	170.0	369.1	67.9
Weight Passing #200	84.8	55.9	131.4
% Passing #200	33.3%	13.2%	65.9%

Location	BH-11	BH-12	BH-12
Depth	30'	7.5'	30'
Wet Weight	455.4	417.2	400.1
Dry Weight	264.4	259	240.6
Moisture %	72.2%	61.1%	66.3%
Weight After Wash	119.3	127.6	124.7
Weight Passing #200	145.1	131.4	115.9
% Passing #200	54.9%	50.7%	48.2%

REVIEWED BY: L. Splitter
DATE: 1/24/2022

Note: Data and results shown above include ASTM Test Methods C117 and D1140. This report pertains only to the material tested and/or inspected and is not to be reproduced without prior authorization of Wallace Group. If part of a larger document, this report is not to be removed or reproduced separately. This report is the property of the Client and shall not be distributed to other parties without Client's permission.

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No. 200 Sieve Wash

(Material Finer than No. 200 Sieve)

ASTM C117 / D-1140

Client: Civil & Env. Consultants, Inc.
Project Coffin Butte Landfill
Location: Corvallis, OR
Sample Location: Borings
Date Sampled: 8/17/2021

Project Number: 21129 - 1
Lab Number: WGG0233
Technician: PJH
Date Received: 9/17/2021
Date Analyzed: 11/29/2021

Location	BH-12	BH-13	BH-13
Depth	45'	25'	30'
Wet Weight	284.7	464.7	443.2
Dry Weight	197.4	314.6	353.9
Moisture %	44.2%	47.7%	25.2%
Weight After Wash	122.4	230.5	287.3
Weight Passing #200	75	85.1	66.6
% Passing #200	38.0%	27.1%	18.8%

Location	BH-14	BH-14	BH-14
Depth	5'	20'	15'
Wet Weight	452.7	664.6	443.5
Dry Weight	341.5	577.8	335
Moisture %	32.6%	15.0%	32.4%
Weight After Wash	75.8	456.3	126.5
Weight Passing #200	265.7	121.5	208.5
% Passing #200	77.8%	21.0%	62.2%

REVIEWED BY: L. Splitter
DATE: 1/24/2022

Note: Data and results shown above include ASTM Test Methods C117 and D1140. This report pertains only to the material tested and/or inspected and is not to be reproduced without prior authorization of Wallace Group. If part of a larger document, this report is not to be removed or reproduced separately. This report is the property of the Client and shall not be distributed to other parties without Client's permission.

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No. 200 Sieve Wash

(Material Finer than No. 200 Sieve)

ASTM C117 / D-1140

Client: Civil & Env. Consultants, Inc.
Project Coffin Butte Landfill
Location: Corvallis, OR
Sample Location: Borings
Date Sampled: 8/17/2021

Project Number: 21129 - 1
Lab Number: WGG0233
Technician: PJH
Date Received: 9/17/2021
Date Analyzed: 11/30/2021

Location	BH-01	BH-04	BH-05
Depth	30'	2.5'	3'
Wet Weight	499.8	491.6	291.2
Dry Weight	359.3	359.1	212.2
Moisture %	39.1%	36.9%	37.2%
Weight After Wash	229.9	211.1	164.0
Weight Passing #200	129.4	148.0	48.2
% Passing #200	36.0%	41.2%	22.7%

Location	BH-08	BH-10	BH-10
Depth	20'	5'	20'
Wet Weight	510.6	389.5	104.6
Dry Weight	414.5	295	86.8
Moisture %	23.2%	32.0%	20.5%
Weight After Wash	326.4	74.8	63.4
Weight Passing #200	88.1	220.2	23.4
% Passing #200	21.3%	74.6%	27.0%

REVIEWED BY: L. Splitter
DATE: 1/24/2022

Note: Data and results shown above include ASTM Test Methods C117 and D1140. This report pertains only to the material tested and/or inspected and is not to be reproduced without prior authorization of Wallace Group. If part of a larger document, this report is not to be removed or reproduced separately. This report is the property of the Client and shall not be distributed to other parties without Client's permission.

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No. 200 Sieve Wash

(Material Finer than No. 200 Sieve)

ASTM C117 / D-1140

Client: Civil & Env. Consultants, Inc.
Project Coffin Butte Landfill
Location: Corvallis, OR
Sample Location: Borings
Date Sampled: 8/17/2021

Project Number: 21129 - 1
Lab Number: WGG0233
Technician: PJH
Date Received: 9/17/2021
Date Analyzed: 11/30/2021

Location	BH-11	BH-14
Depth	5'	25'
Wet Weight	371.2	48.4
Dry Weight	247.9	46.5
Moisture %	49.7%	4.1%
Weight After Wash	164.9	38.1
Weight Passing #200	83	8.4
% Passing #200	33.5%	18.1%

REVIEWED BY: L. Splitter
DATE: 1/24/2022

Note: Data and results shown above include ASTM Test Methods C117 and D1140. This report pertains only to the material tested and/or inspected and is not to be reproduced without prior authorization of Wallace Group. If part of a larger document, this report is not to be removed or reproduced separately. This report is the property of the Client and shall not be distributed to other parties without Client's permission.

Northwest Testing, Inc.
A Division of Northwest Geotech, Inc.

9120 SW Pioneer Court, Suite B, Wilsonville, Oregon 97070 | ph: 503.682.1880 fax: 503.682.2753 | www.nwgeotech.com

TECHNICAL REPORT

Report To:	Lisa Splitter, P.E., G.E. Wallace Group, Inc. 62915 NE 18th St, Ste. 1 Bend, Oregon 97701	**Date:** **Lab No.:**	12/16/2021 21-430
Project:	Coffin Butte (Project #21129-1)	**Project No.:**	3691.1.1

Report of: One-dimensional consolidation, direct shear, unconsolidated undrained triaxial compression and flexible wall permeability testing.

Sample Identification

As requested, NTI completed one-dimensional consolidation testing, direct shear testing, unconsolidated undrained triaxial compression testing and flexible wall permeability testing on samples delivered to our laboratory on 9/15/21 and 10/22/21. Testing was performed in accordance with the standards indicated. Our laboratory test results are summarized on the following table and page.

Laboratory Testing

Sample ID: BH-7 ST-1 @ 10.0-12.0 Ft.

One Dimensional Consolidation of Soil (ASTM D2435)			
Test	**Initial Conditions**		**Final Conditions**
Moisture Content, (%)	65.0		56.9
Dry Unit Weight, (pcf)	54.4		70.3
Height of Specimen, (inches)	0.75		0.57
Load (ksf)	**Dial Reading (inches)**	**Load (ksf)**	**Dial Reading (inches)**
Initial	0.0006	16.0	0.1365
0.5	0.0032	32.0	0.2099
1.0	0.0056	8.0	0.1993
2.0	0.0095	2.0	0.1857
4.0	0.0192	0.5	0.1751
8.0	0.0662		

Attachments: Laboratory Test Results
Consolidation Test Results

Copies: (1) Addressee

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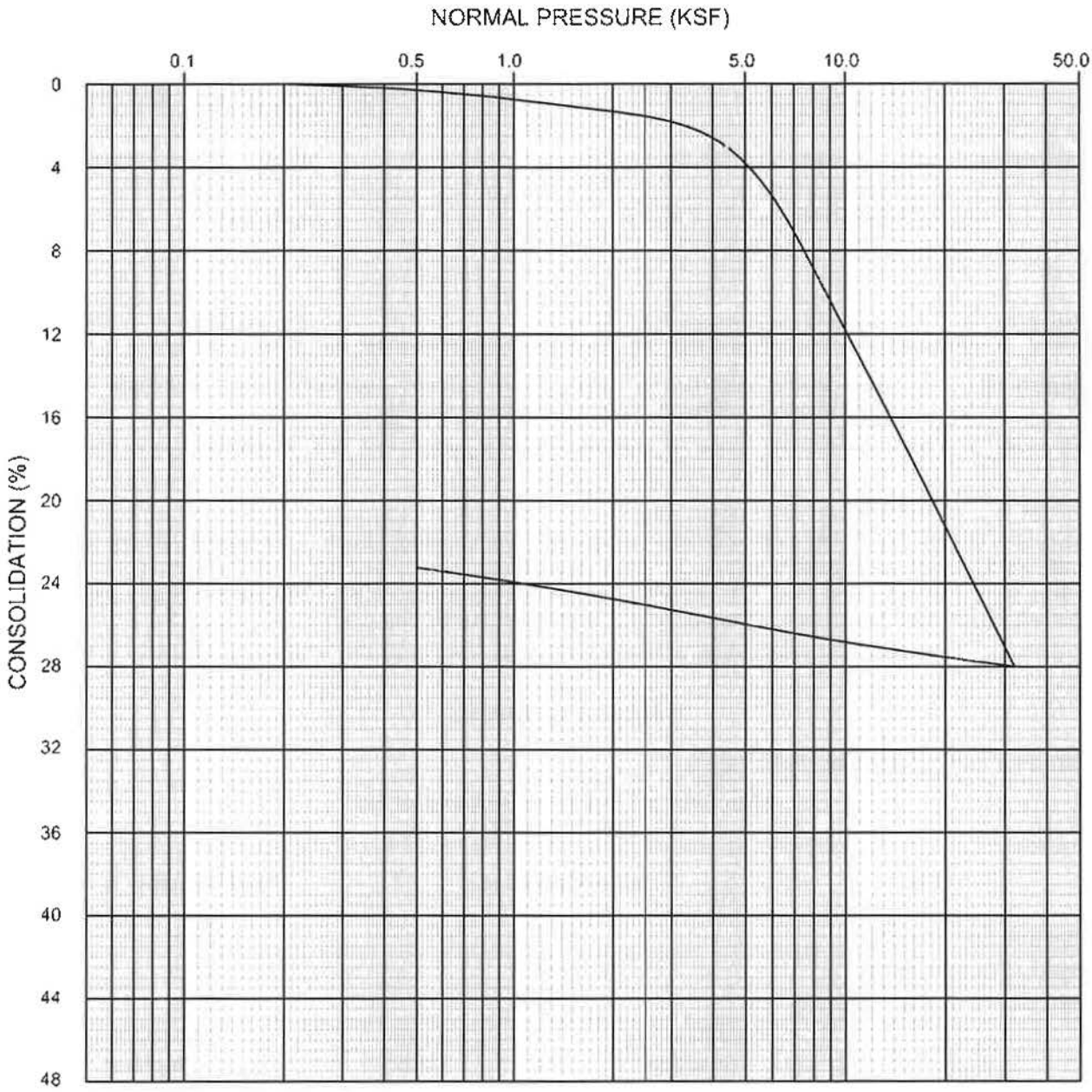

SYMBOL	SAMPLE LOCATION	NORMAL PRESSURE AT SATURATION (KSF)
———	BH-7 ST-1 @ 10.0 - 12.0 FT.	0.50

CONSOLIDATION TEST RESULTS - ASTM D2435

PROJECT NO. 3691.1.1	WALLACE GROUP, INC. COFFIN BUTTE	LAB NO. 21-430

Northwest Testing, Inc.
A Division of Northwest Geotech, Inc.
9120 SW Pioneer Court, Suite B, Wilsonville, Oregon 97070 | ph: 503.682.1880 fax: 503.682.2753 | www.nwgeotech.com

TECHNICAL REPORT

Report To: Lisa Splitter, P.E., G.E.
Wallace Group, Inc.
62915 NE 18th St, Ste. 1
Bend, Oregon 97701

Date: 12/16/2021

Lab No.: 21-430

Project: Coffin Butte (Project #21129-1)

Project No.: 3691.1.1

Sample ID: BH-11 ST1-S6 @ 12.0-14.0 Ft.

One Dimensional Consolidation of Soil (ASTM D2435)			
Test	**Initial Conditions**		**Final Conditions**
Moisture Content, (%)	75.6		60.1
Dry Unit Weight, (pcf)	52.3		65.7
Height of Specimen, (inches)	0.75		0.58
Load (ksf)	**Dial Reading (inches)**	**Load (ksf)**	**Dial Reading (inches)**
Initial	0.0008	16.0	0.1571
0.5	0.0094	32.0	0.2177
1.0	0.0199	8.0	0.2026
2.0	0.0401	2.0	0.1829
4.0	0.0694	0.5	0.1700
8.0	0.1076		

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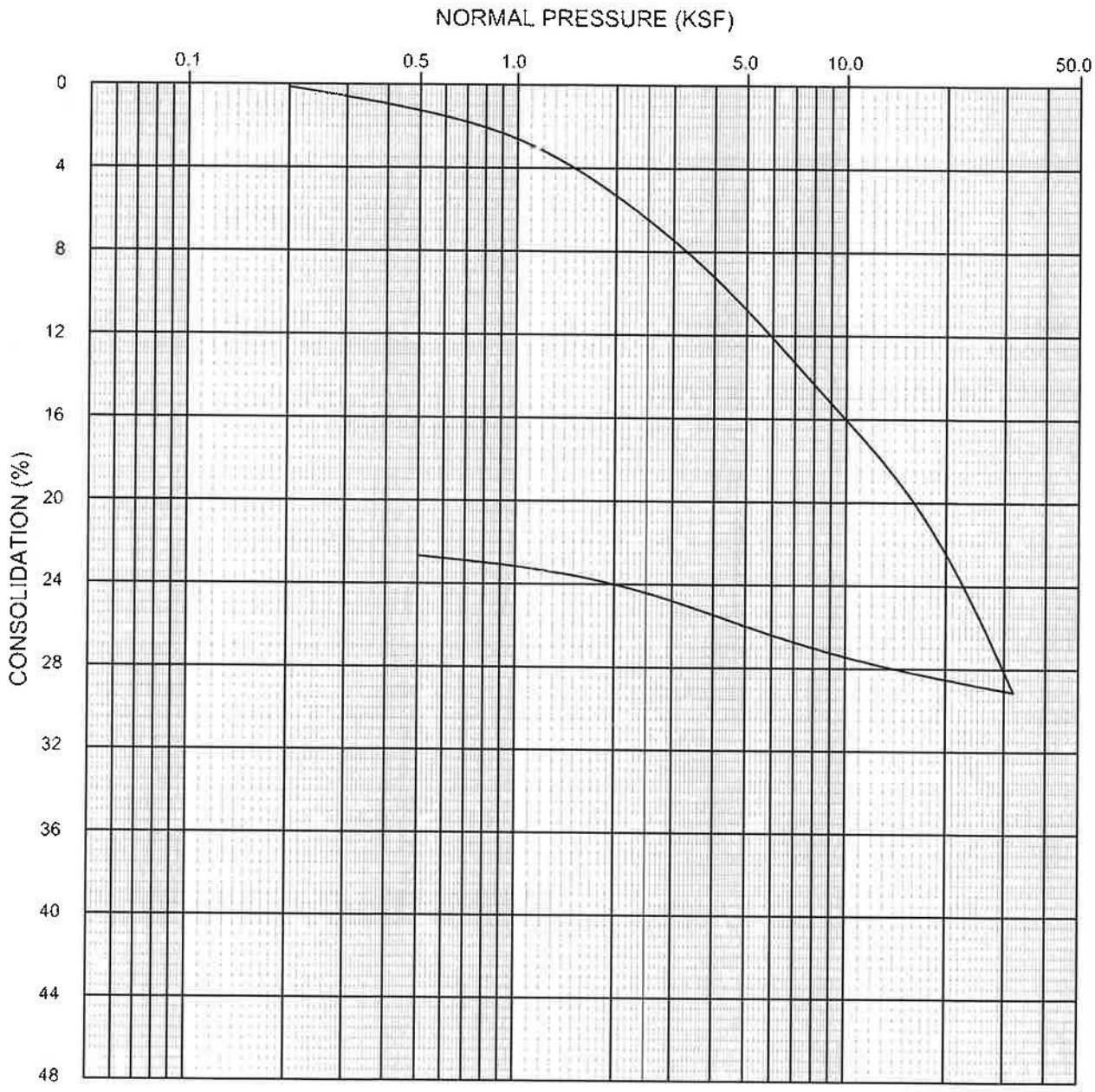

SYMBOL	SAMPLE LOCATION	NORMAL PRESSURE AT SATURATION (KSF)
———	BH-11 ST-1 S-6 @ 12.0 - 14.0 FT.	0.50

CONSOLIDATION TEST RESULTS - ASTM D2435

PROJECT NO. 3691.1.1	WALLACE GROUP, INC. COFFIN BUTTE	LAB NO. 21-430

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62915 NE 18th St, Ste. 1
Bend, Oregon 97701

Date: 12/16/2021

Lab No.: 21-430

Project: Coffin Butte (Project #21129-1)

Project No.: 3691.1.1

Sample ID: BH-12A ST-2 @ 10.0-12.0 Ft.

One Dimensional Consolidation of Soil (ASTM D2435)			
Test	**Initial Conditions**		**Final Conditions**
Moisture Content, (%)	63.9		56.9
Dry Unit Weight, (pcf)	58.1		69.4
Height of Specimen, (inches)	0.75		0.60
Load (ksf)	**Dial Reading (inches)**	**Load (ksf)**	**Dial Reading (inches)**
Initial	0.0000	16.0	0.1235
0.5	0.0075	32.0	0.1920
1.0	0.0140	8.0	0.1815
2.0	0.0245	2.0	0.1680
4.0	0.0435	0.5	0.1535
8.0	0.0760		

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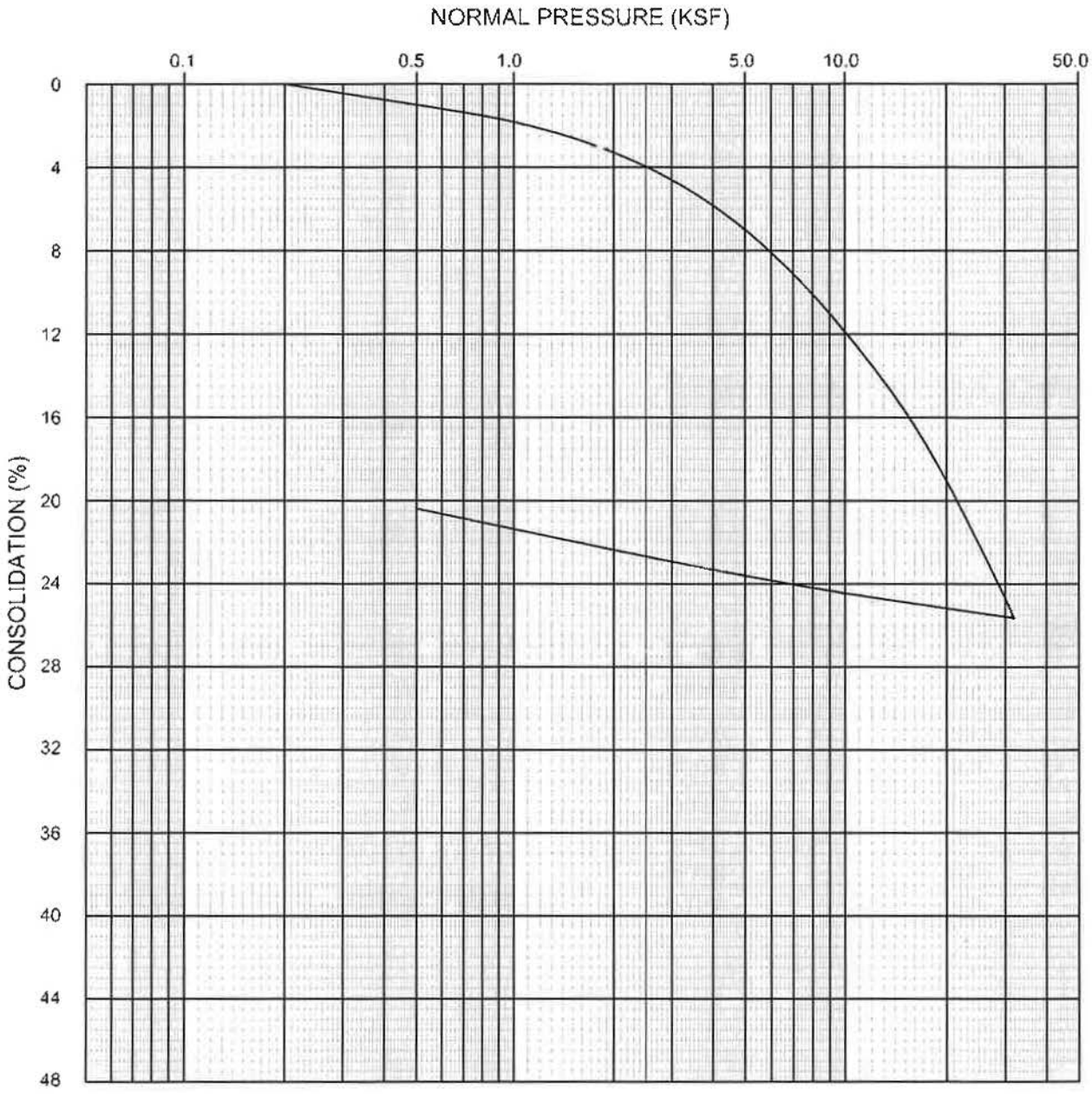

SYMBOL	SAMPLE LOCATION	NORMAL PRESSURE AT SATURATION (KSF)
———	BH-12A ST-2 @ 10.0 - 12.0 FT.	0.50

CONSOLIDATION TEST RESULTS - ASTM D2435

PROJECT NO. 3691.1.1	WALLACE GROUP, INC. COFFIN BUTTE	LAB NO. 21-430

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TECHNICAL REPORT

Report To: Lisa Splitter, P.E., G.E.
Wallace Group, Inc.
62915 NE 18th St, Ste. 1
Bend, Oregon 97701

Date: 12/16/2021

Lab No.: 21-430

Project: Coffin Butte (Project #21129-1)

Project No.: 3691.1.1

Sample ID: BH-12A ST-3 @ 20.0-22.0 Ft.

One Dimensional Consolidation of Soil (ASTM D2435)

Test	Initial Conditions	Final Conditions
Moisture Content, (%)	64.9	47.7
Dry Unit Weight, (pcf)	62.5	74.9
Height of Specimen, (inches)	1.0	0.85

Load (ksf)	Dial Reading (inches)	Load (ksf)	Dial Reading (inches)
Initial	-0.0010	16.0	0.1354
0.5	0.0107	32.0	0.1880
1.0	0.0207	8.0	0.1753
2.0	0.0380	2.0	0.1509
4.0	0.0623	0.5	0.1464
8.0	0.0944		

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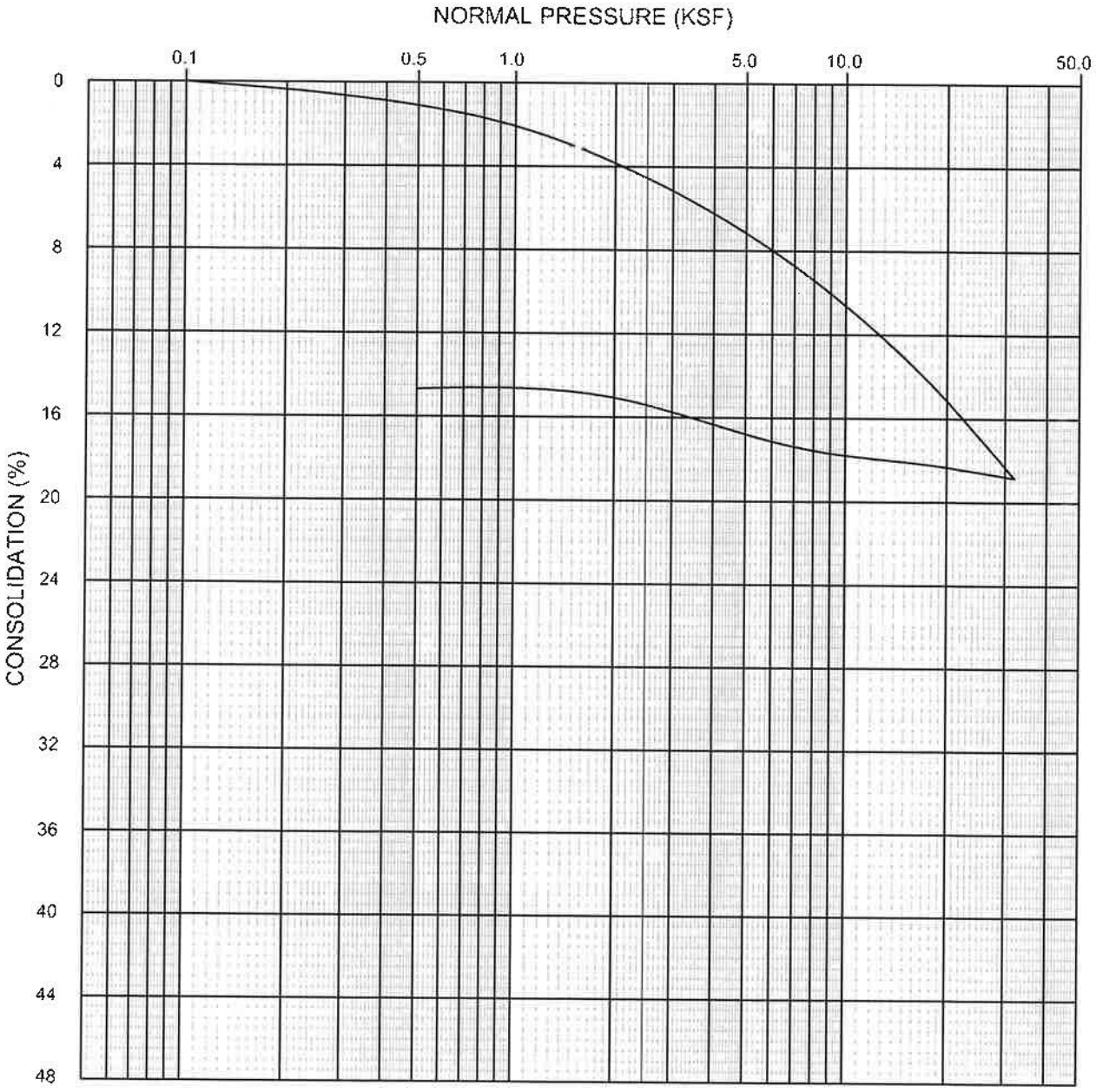

SYMBOL	SAMPLE LOCATION	NORMAL PRESSURE AT SATURATION (KSF)
———	BH-12A ST-3 @ 20.0 - 22.0 FT.	0.50

CONSOLIDATION TEST RESULTS - ASTM D2435

PROJECT NO. 3691.1.1	WALLACE GROUP, INC. COFFIN BUTTE	LAB NO. 21-430

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Wallace Group, Inc.
62915 NE 18th St, Ste. 1
Bend, Oregon 97701

Date: 12/16/2021

Lab No.: 21-430

Project: Coffin Butte (Project #21129-1)

Project No.: 3691.1.1

Sample ID: BH-11 ST1-S6 @ 12.0-14.0 Ft.

Unconsolidated-Undrained Triaxial Compression Test on Cohesive Soils – Sample Data (ASTM D2850)				
Mass (grams)	Length (inches)	Diameter (inches)	Moisture Content (percent)	Dry Density (pcf)
993.4	6.103	2.846	69.8	57.4

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TECHNICAL REPORT

Report To: Lisa Splitter, P.E., G.E.
Wallace Group, Inc.
62915 NE 18th St, Ste. 1
Bend, Oregon 97701

Date: 12/18/2021

Lab No.: 21-430

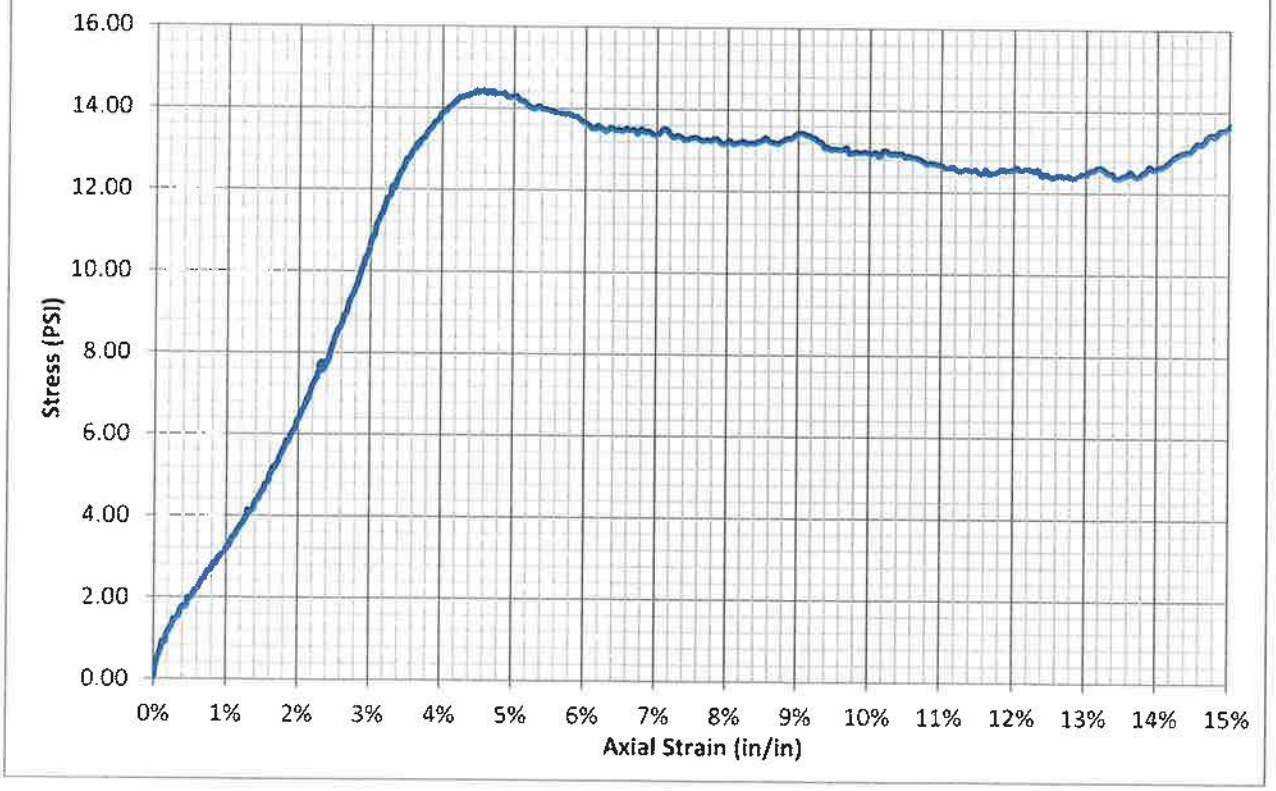
Project: Coffin Butte (Project #21129-1)

Project No.: 3691.1.1

Sample ID: BH-11 ST-1-S6 @ 13.5-14.0 Ft.

Unconsolidated-Undrained Triaxial Compression Test on Cohesive Soils – Test Data (ASTM D2850)			
Strain Rate (%/min)	**Peak Strength (psi)**	**Confining Pressure (psf)**	**Notes**
0.01831	14.435	880	Shear at base, blocky.

Stress Strain Figure



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TECHNICAL REPORT

Report To:	Lisa Splitter, P.E., G.E. Wallace Group, Inc. 62915 NE 18th St, Ste. 1 Bend, Oregon 97701	**Date:**	12/16/2021
		Lab No.:	21-430
Project:	Coffin Butte (Project #21129-1)	**Project No.:**	3691.1.1

Sample ID: BH-12A ST-2 @ 10.0-12.0 Ft.

Unconsolidated-Undrained Triaxial Compression Test on Cohesive Soils – Sample Data (ASTM D2850)				
Mass (grams)	**Length (inches)**	**Diameter (inches)**	**Moisture Content (percent)**	**Dry Density (pcf)**
1031.1	6.110	2.853	56.8	64.2

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Wallace Group, Inc.
62915 NE 18th St, Ste. 1
Bend, Oregon 97701

Date: 12/16/2021

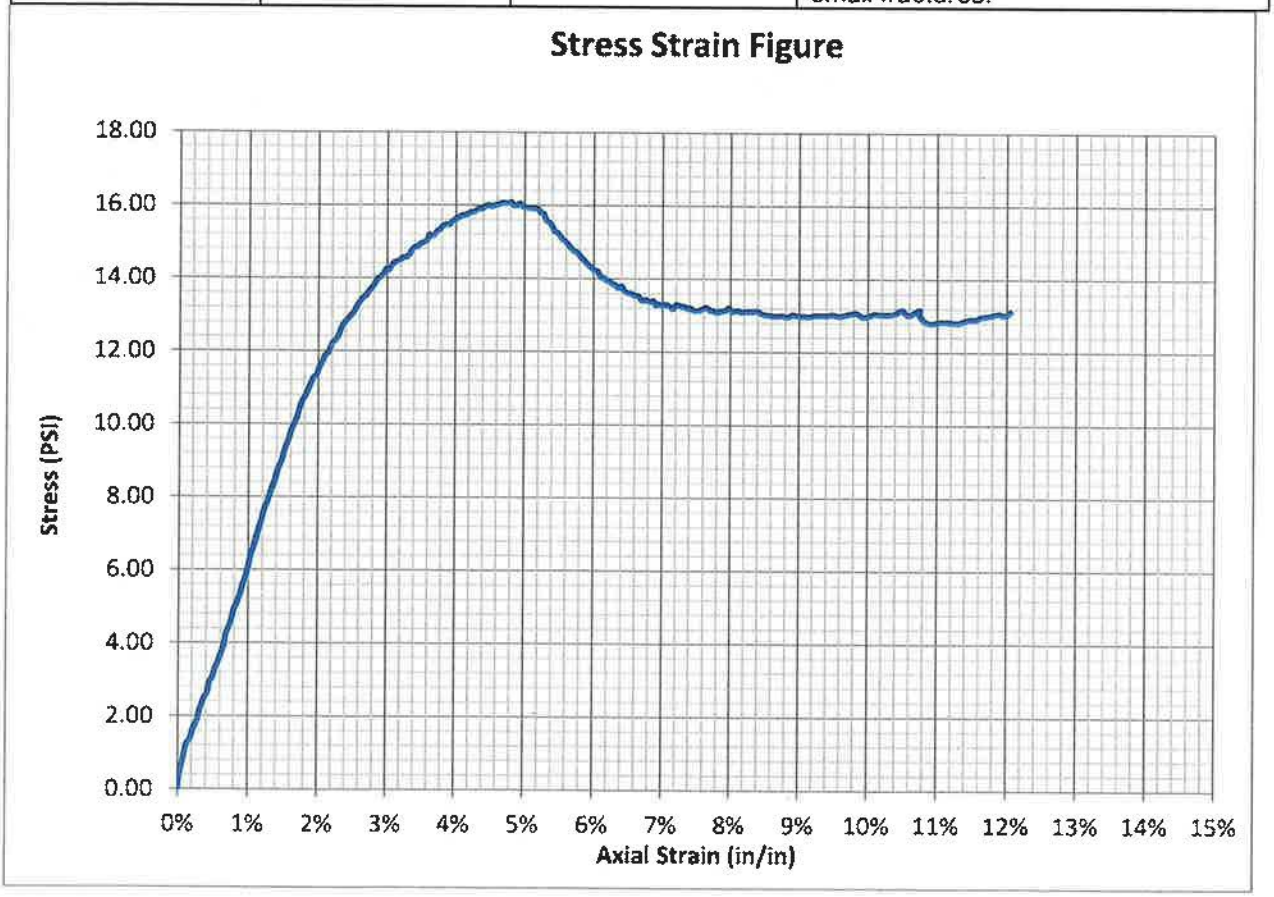
Lab No.: 21-430

Project: Coffin Butte (Project #21129-1)

Project No.: 3691.1.1

Sample ID: BH-12A ST-2 @ 10.0-12.0 Ft.

Unconsolidated-Undrained Triaxial Compression Test on Cohesive Soils – Test Data (ASTM D2850)			
Strain Rate (%/min)	**Peak Strength (psi)**	**Confining Pressure (psf)**	**Notes**
0.03055	16.093	770	Decomposed rock. Contains many small fractures.



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62915 NE 18th St, Ste. 1
Bend, Oregon 97701

Date: 12/16/2021

Lab No.: 21-430

Project: Coffin Butte (Project #21129-1)

Project No.: 3691.1.1

Sample ID: BH-11 ST-S6@12.0-14.0 Ft.

Flexible Wall Permeability – Sample Data (ASTM D5084 – Method C)					
Mass (grams)	Length (inches)	Diameter (inches)	Area (sq. inches)	Moisture Content (percent)	Dry Density (pcf)
351.6	2.172	2.861	6.427	69.8	56.5

Flexible Wall Permeability – Test Data (ASTM D5084 – Method C)			
Sample Condition	Saturation at Time of Testing (percent)	Head (psi)	Hydraulic Gradient (in/in)
undisturbed	97	0.5	6.80

Flexible Wall Permeability – Test Results (ASTM D5084 – Method C)				
Test 1 k (cm/sec)	Test 2 k (cm/sec)	Test 3 k (cm/sec)	Test 4 k (cm/sec)	Average k (cm/sec)
4.17×10^{-6}	4.01×10^{-6}	4.11×10^{-6}	4.15×10^{-6}	4.11×10^{-6}

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Wallace Group, Inc.
62915 NE 18th St, Ste. 1
Bend, Oregon 97701

Date: 12/16/2021

Lab No.: 21-430

Project: Coffin Butte (Project #21129-1)

Project No.: 3691.1.1

Sample ID: BH-7 ST-1 @ 10.0-12.0 Ft.

Direct Shear Test of Soils Under Consolidated Drained Conditions – Sample Data (ASTM D3080)			
Test	**500psf Normal Load Initial Conditions**	**1500psf Normal Load Initial Conditions**	**2500psf Normal Load Initial Conditions**
Moisture Content, (%)	53.8	57.3	61.8
Dry Unit Weight, (pcf)	62.1	58.7	55.9
Peak Shear Strength, (psf)	701	1497	2196

Note: Displacement rate used during testing, 0.00017 inches/minute

Sample ID: BH-12A ST-3 @ 20.0-22.0 Ft.

Direct Shear Test of Soils Under Consolidated Drained Conditions – Sample Data (ASTM D3080)			
Test	**500psf Normal Load Initial Conditions**	**1500psf Normal Load Initial Conditions**	**2500psf Normal Load Initial Conditions**
Moisture Content, (%)	55.9	57.7	63.1
Dry Unit Weight, (pcf)	62.2	59.9	59.6
Peak Shear Strength, (psf)	567	1340	2164

Note: Displacement rate used during testing, 0.00013 inches/minute

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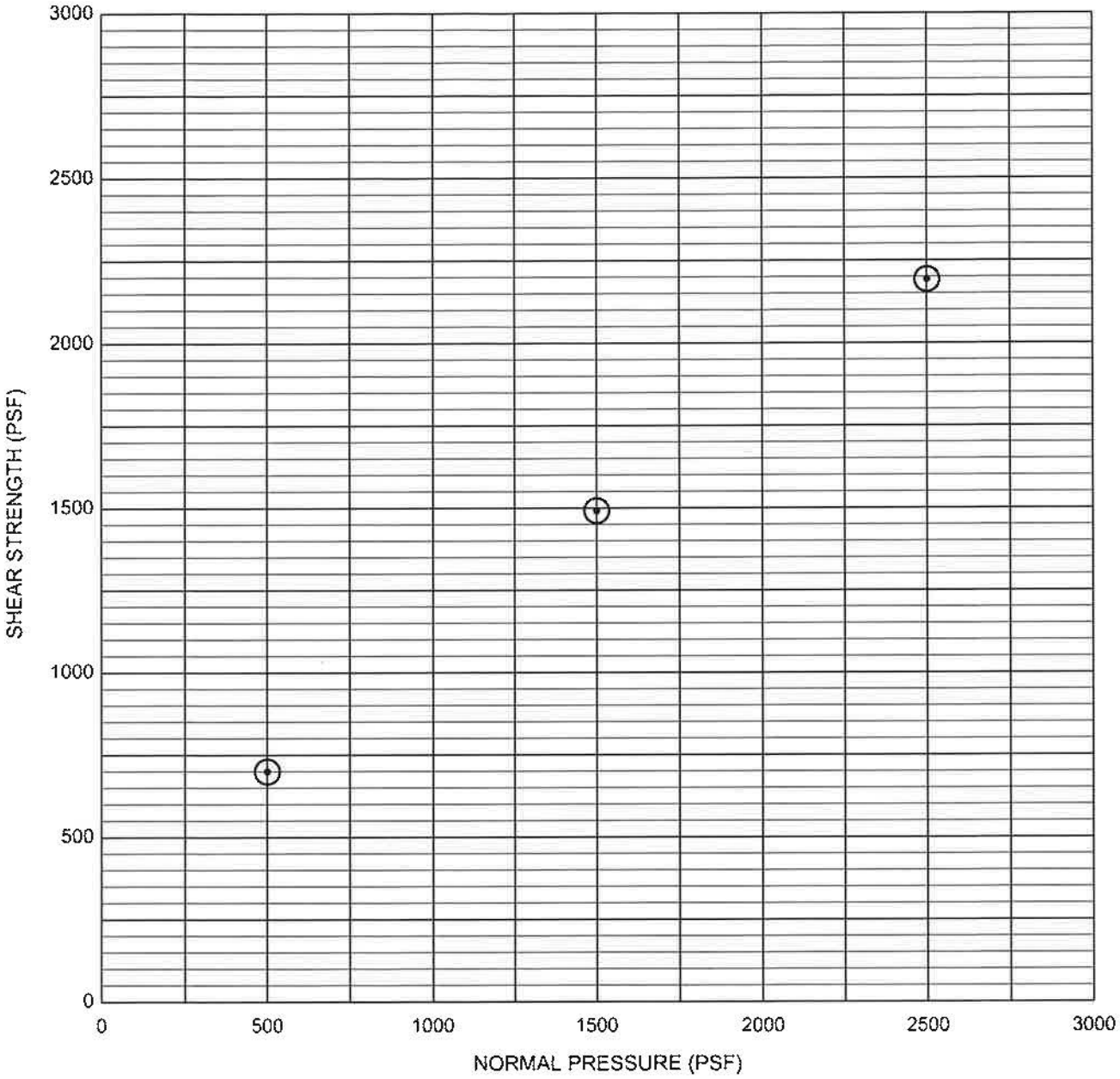
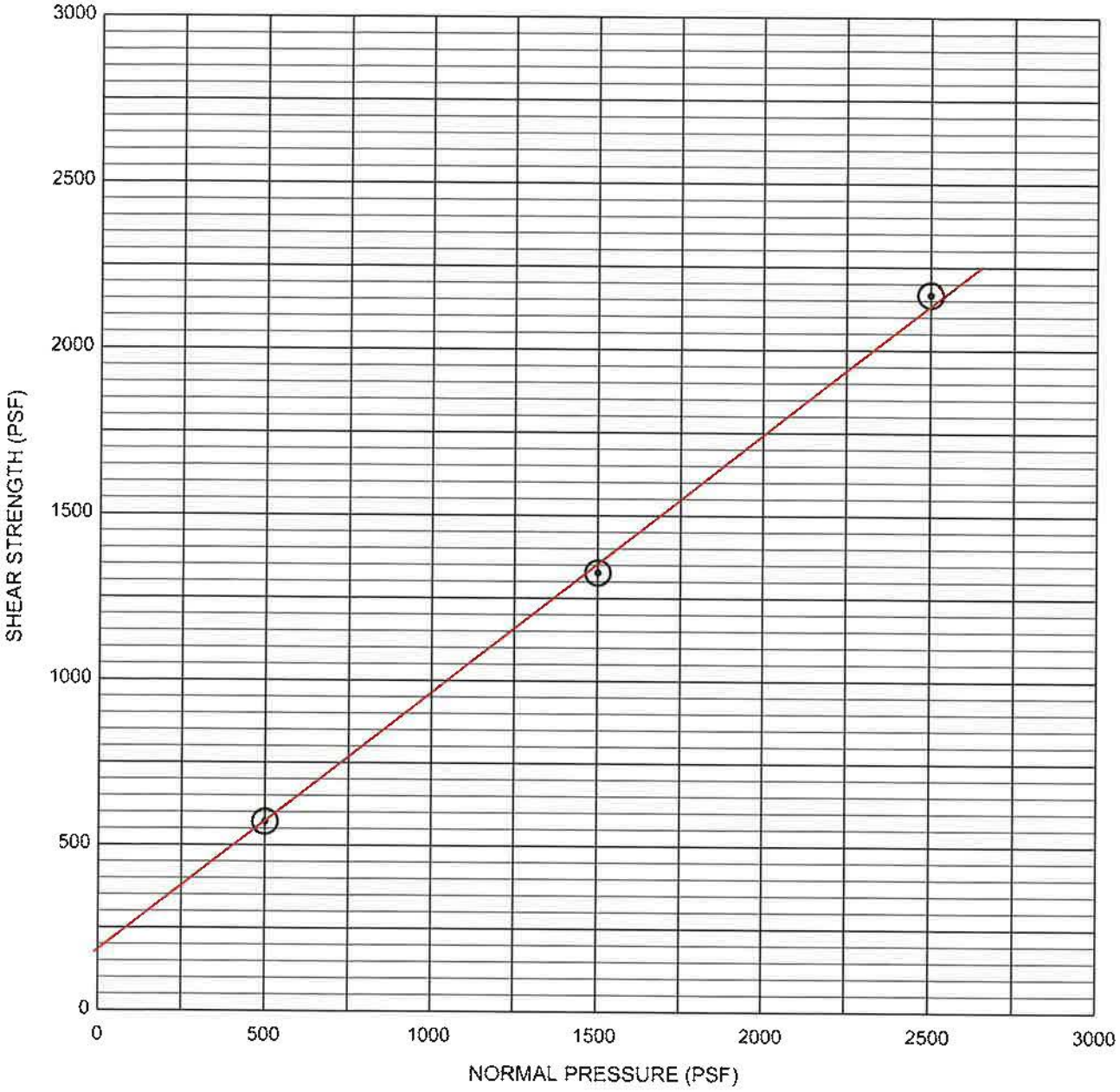


SYMBOL	SAMPLE LOCATION	COHESION (psf)	FRICTION ANGLE	REMARKS
⊙	BH-7, ST-1 @ 10.0 - 12.0 FT.	--		SATURATED; UNDISTURBED

DIRECT SHEAR TEST RESULTS - ASTM D3080

PROJECT NO. 3691.1.1	WALLACE GROUP, INC. COFFIN BUTTE	LAB NO. 21-430

Northwest Testing, Inc.



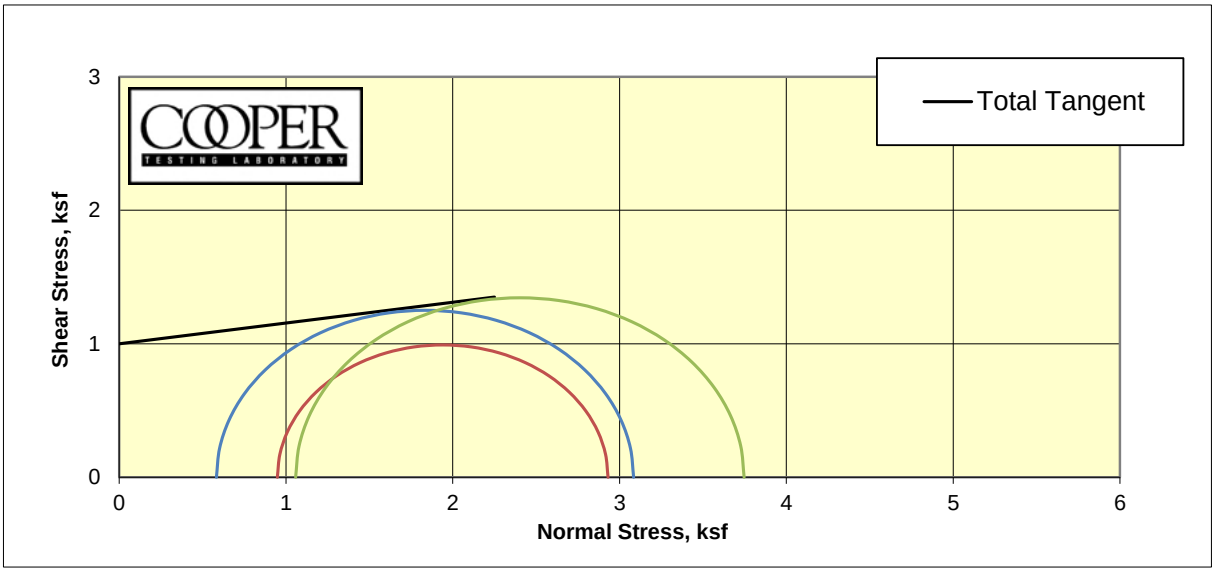
SYMBOL	SAMPLE LOCATION	COHESION (psf)	FRICTION ANGLE	REMARKS
⊙	BH-12A, ST-3 @ 20.0 - 22.0 FT.			SATURATED; UNDISTURBED

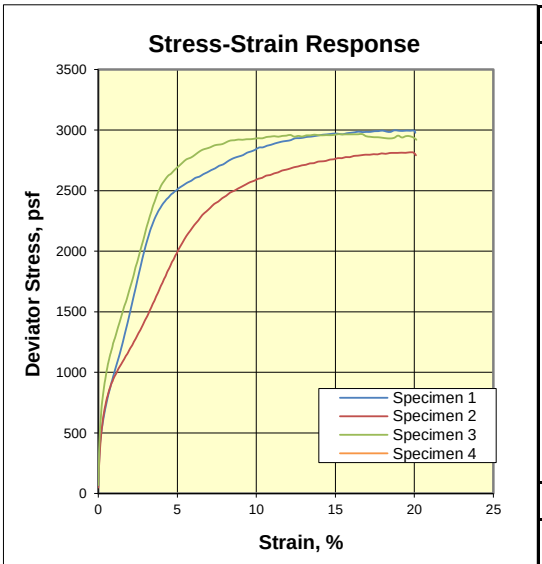
DIRECT SHEAR TEST RESULTS - ASTM D3080

PROJECT NO. 3691.1.1	WALLACE GROUP, INC. COFFIN BUTTE	LAB NO. 21-430

Northwest Testing, Inc.

Consolidated Undrained Triaxial Compression
ASTM D4767m





CTL Number:	1152-001
Client Name:	The Wallace Group
Project Name:	Coffin Butte Landfill
Project Number:	21129-1
Date:	12/23/2021 By: MD/DC
Total C	1.000 ksf
Total phi	8.8 degrees
Eff. C	N/A ksf
Eff. Phi	N/A degrees ©

Remarks: Engineering judgement is required to determine phi and cohesion, no phi or cohesion is reported. To add phi and cohesion to the report go to the “Report” tab and in cells M18 through P19 enter end points for a line through the Mohr’s circles. The points plotted can be changed on the "Shear Values" tab using cells B3, F3, and J3.

Specimen	1	2	3	4
Boring	BH-2	BH-2	BH-2	
Sample	ST-1	ST-1	ST-1	
Depth	13(Tip-13.5")	13(Tip-6.5")	13(Tip-1/2")	
Visual Description	Olive Brown CLAY	Olive Brown CLAY	Olive Brown CLAY	
MC (%)	36.1	35.7	36.3	
Dry Density (pcf)	85.6	83.4	85.3	
Saturation (%)	98.7	92.6	98.6	
Void Ratio	1.007	1.059	1.012	
Diameter (in)	2.87	2.87	2.87	
Height (in)	5.99	5.75	5.98	
	Final			
MC (%)	36.2	36.0	36.3	
Dry Density (pcf)	86.0	86.3	85.9	
Saturation (%)	100.0	100.0	100.0	
Void Ratio	0.996	0.990	0.998	
Diameter (in)	2.87	2.83	2.87	
Height (in)	5.97	5.73	5.94	
Cell Pressure (psi)	63.6	66.4	67.6	
Back Pressure (psi)	59.6	59.8	60.3	
	Total Stresses At:			
Strain (%)	5.0	5.0	5.0	
Deviator (ksf)	2.501	1.983	2.689	
Excess PP (psi)				
Sigma 1 (ksf)	3.084	2.931	3.747	
Sigma 3 (ksf)	0.583	0.948	1.058	
P (ksf)	1.834	1.940	2.402	
Q (ksf)	1.251	0.991	1.345	
Stress Ratio	5.292	3.091	3.542	
Rate (in/min)	0.0300	0.0287	0.0299	

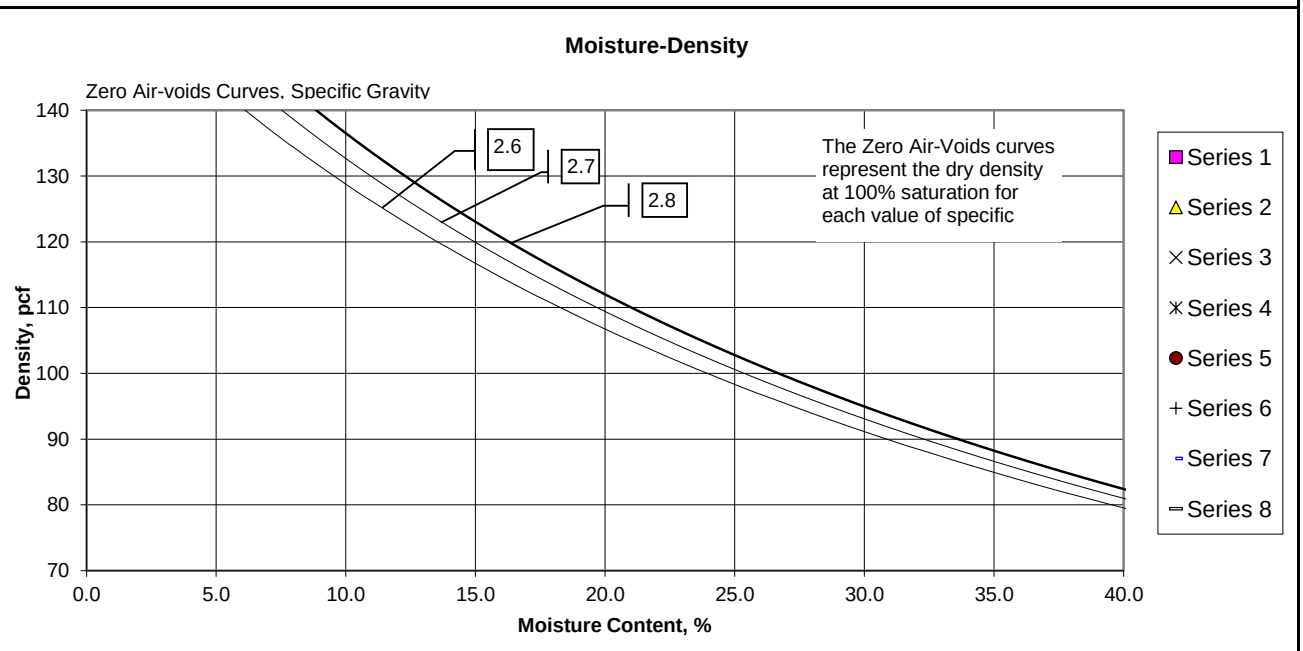
BENCHMARK GEOTECHNICAL LABS

Moisture-Density-Porosity Report
(ASTM D7263b)

BGL Job No:	026-029	**Project No.**	21129	**By:**	PJ
Client:	The Wallace Group	**Date:**	10/13/22		
Project Name:	Coffin Butte Landfill	**Remarks:**			

Boring:	GP-04	GP-04	GP-04	GP-04	GP-04	GP-04	GP-05	GP-05
Sample:	S-1	S-2	S-3	S-4	S-5	S-6	S-2	S-3
Depth, ft:	3	7	13.5	22	25	27	6.5-8	14-17
Visual Description:	Reddish Brown CLAY	Red CLAY	Red CLAY	Yellow & Brown SILT	Yellow & Brown SILT	Yellow & Brown SILT	Brown & Dark Brown SILT	Mottled Dark Grayish Brown Sandy SILT
Actual G_s								
Assumed G_s								
Moisture, %	22.6	37.3	40.1	75.6	69.7	70.3	42.6	45.1
Wet Unit wt, pcf								
Dry Unit wt, pcf								
Dry Bulk Dens.ρb, (g/cc)								
Saturation, %								
Total Porosity, %								
Volumetric Water Cont,Θw,%								
Volumetric Air Cont., Θa,%								
Void Ratio								
Series	1	2	3	4	5	6	7	8

Note: All reported parameters are from the as-received sample condition unless otherwise noted. If an assumed specific gravity (Gs) was used then the saturation, porosities, and void ratio should be considered to be approximate.



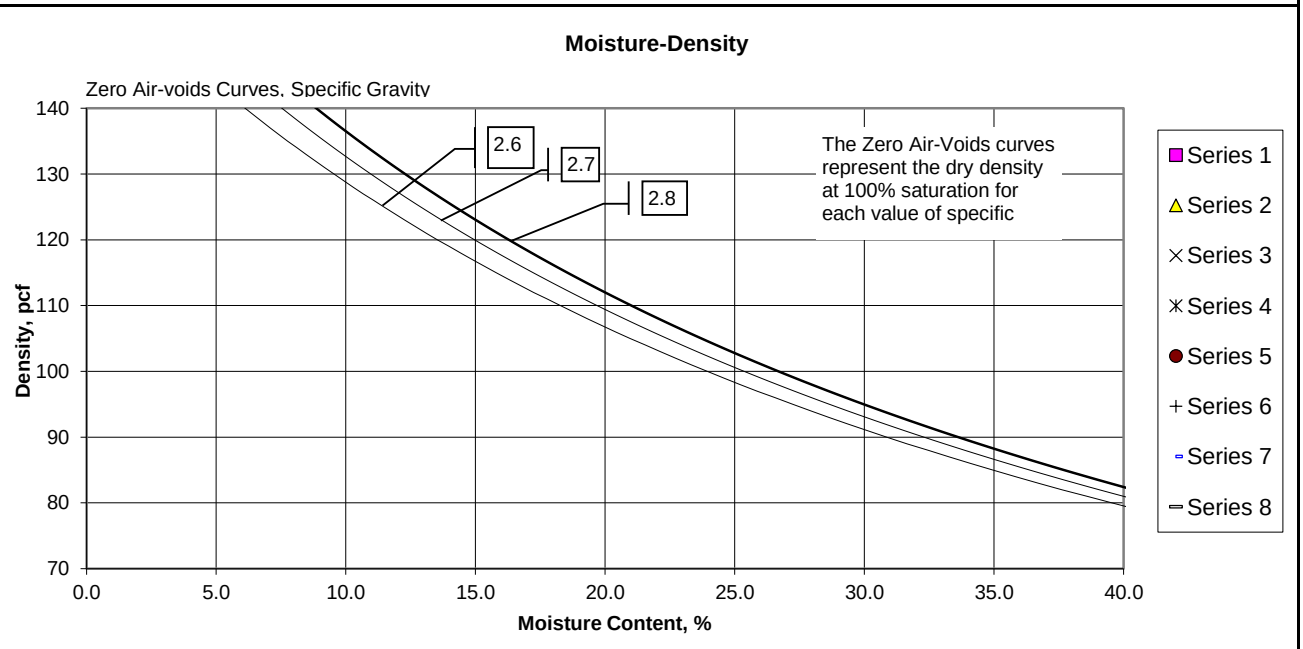
BENCHMARK GEOTECHNICAL LABS

Moisture-Density-Porosity Report
(ASTM D7263b)

BGL Job No:	026-029	**Project No.**	21129	**By:**	PJ
Client:	The Wallace Group	**Date:**	10/13/22		
Project Name:	Coffin Butte Landfill	**Remarks:**			

Boring:	GP-06	GP-06	GP-07					
Sample:	S-4	S-6	-					
Depth, ft:	18	27	12-14					
Visual Description:	Mottled Dark Brown & Yellow SILT	Brownish Yellow & Yellowish Brown SILT	Brown & Very Pale Brown SILT, trace Sand					
Actual G_s								
Assumed G_s								
Moisture, %	71.9	80.6	38.3					
Wet Unit wt, pcf								
Dry Unit wt, pcf								
Dry Bulk Dens.ρb, (g/cc)								
Saturation, %								
Total Porosity, %								
Volumetric Water Cont,Θw,%								
Volumetric Air Cont., Θa,%								
Void Ratio								
Series	1	2	3	4	5	6	7	8

Note: All reported parameters are from the as-received sample condition unless otherwise noted. If an assumed specific gravity (Gs) was used then the saturation, porosities, and void ratio should be considered to be approximate.

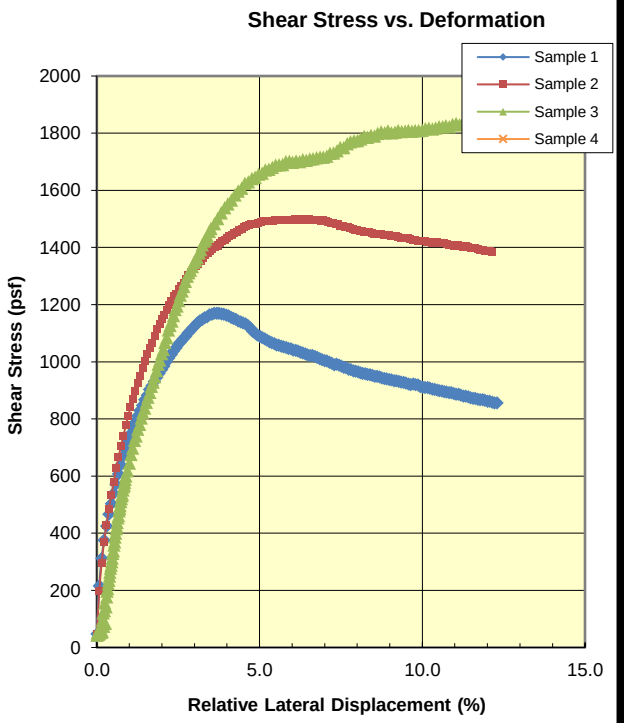


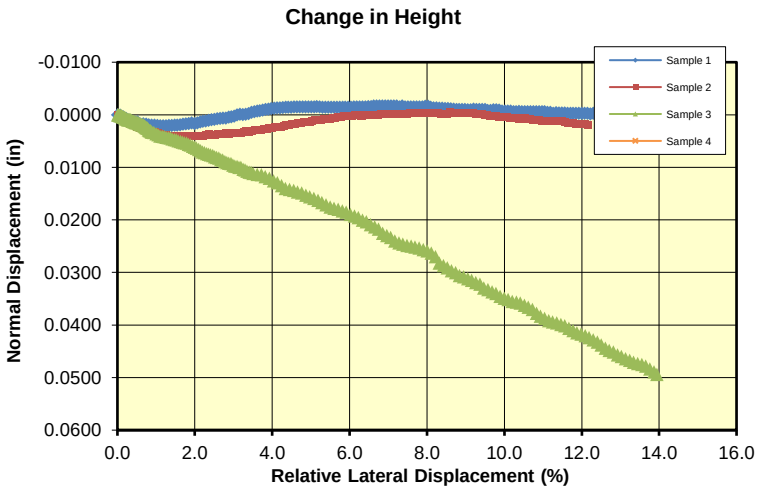
Consolidated Drained Direct Shear (ASTM D3080)

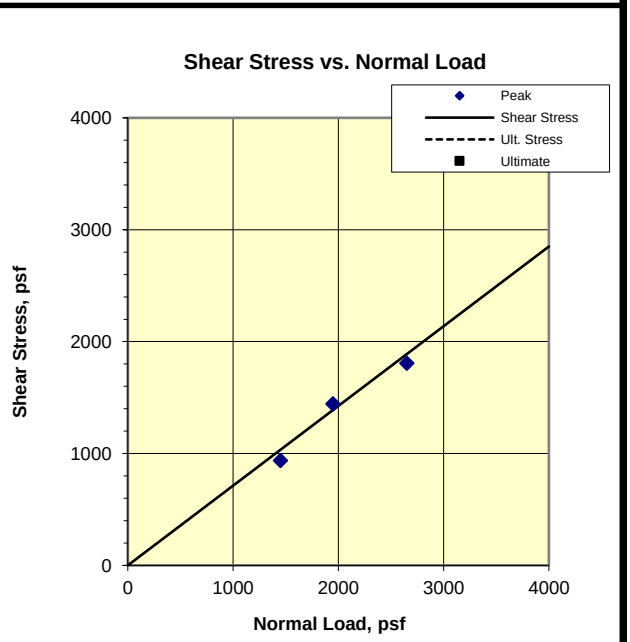
CTL Job #:	1152-002	Project #:	21129-4	By:	MD
Client:	Wallace Group	Date:	1/3/2023	Checked:	PJ
Project Name:	Coffin Butte Landfill Expansion	Remolding Info:			

Specimen Data				
	1	2	3	4
Boring:	GP-4	GP-4	GP-4	
Sample:	ST-3	ST-3	ST-3	
Depth (ft):	28-30.5	28-30.5	28-30.5	
Visual Description:	Yellowish Brown CLAY w/ Sand	Yellowish Brown CLAY w/ Sand	Yellowish Brown CLAY w/ Sand	
Normal Load (psf)	1450	1950	2650	
Dry Mass of Specimen (g)	102.0	103.4	101.2	
Initial Height (in)	0.98	0.99	1.01	
Initial Diameter (in)	2.87	2.85	2.87	
Initial Void Ratio	1.851	1.788	1.962	
Initial Moisture (%)	65.4	62.9	69.6	
Initial Wet Density (pcf)	101.4	102.1	100.1	
Initial Dry Density (pcf)	61.3	62.7	59.0	
Initial Saturation (%)	99.0	98.5	99.3	
ΔHeight Consol (in)	0.0209	0.0340	0.0580	
At Test Void Ratio	1.790	1.692	1.792	
At Test Moisture (%)	63.5	59.9	63.7	
At Test Wet Density (pcf)	102.4	103.9	102.5	
At Test Dry Density (pcf)	62.6	64.9	62.6	
At Test Saturation (%)	99.3	99.2	99.6	
Strain Rate (%/min)	0.01	0.01	0.01	
Strengths Picked at	9%	9%	9%	
Shear Stress (psf)	938	1442	1808	
ΔHeight (in) at 9%	-0.0010	0.0023	0.0308	
Ultimate Stress (psf)				

Phi (deg)	35.5	Ult. Phi (deg)	
Cohesion (psf)	0	Ult. Cohesion (psf)	



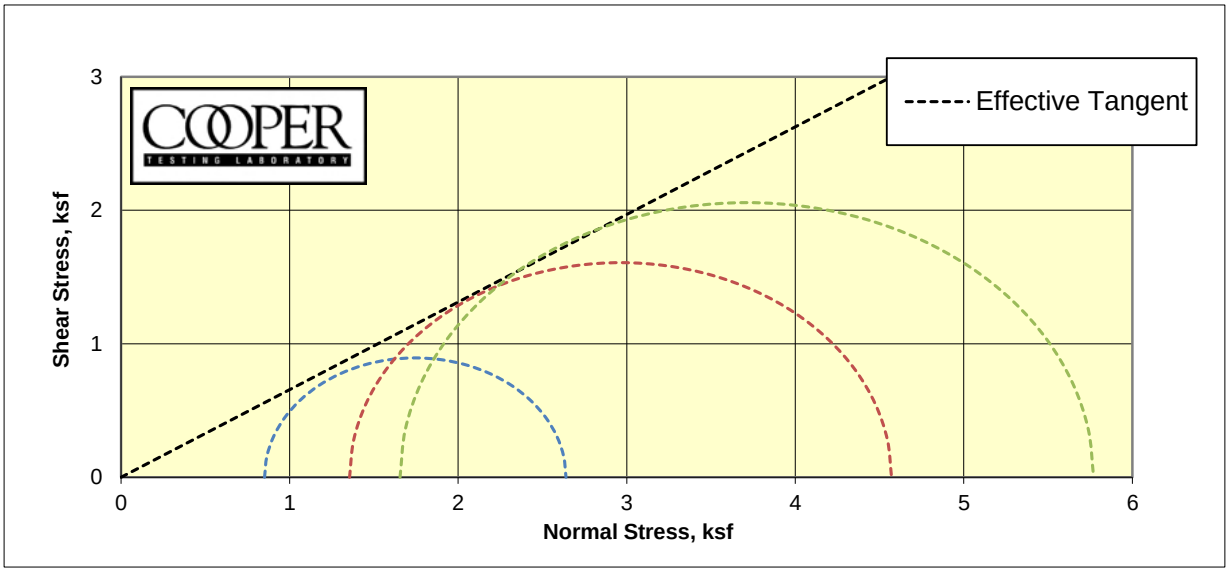


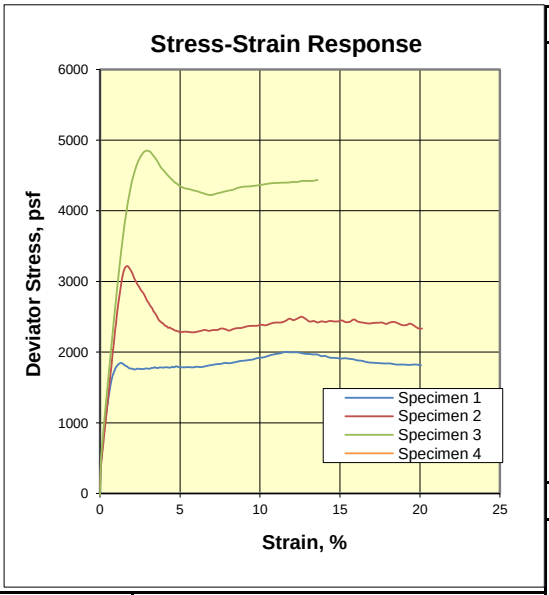


Remarks:

©

Consolidated Drained Triaxial Compression
ASTM D7181





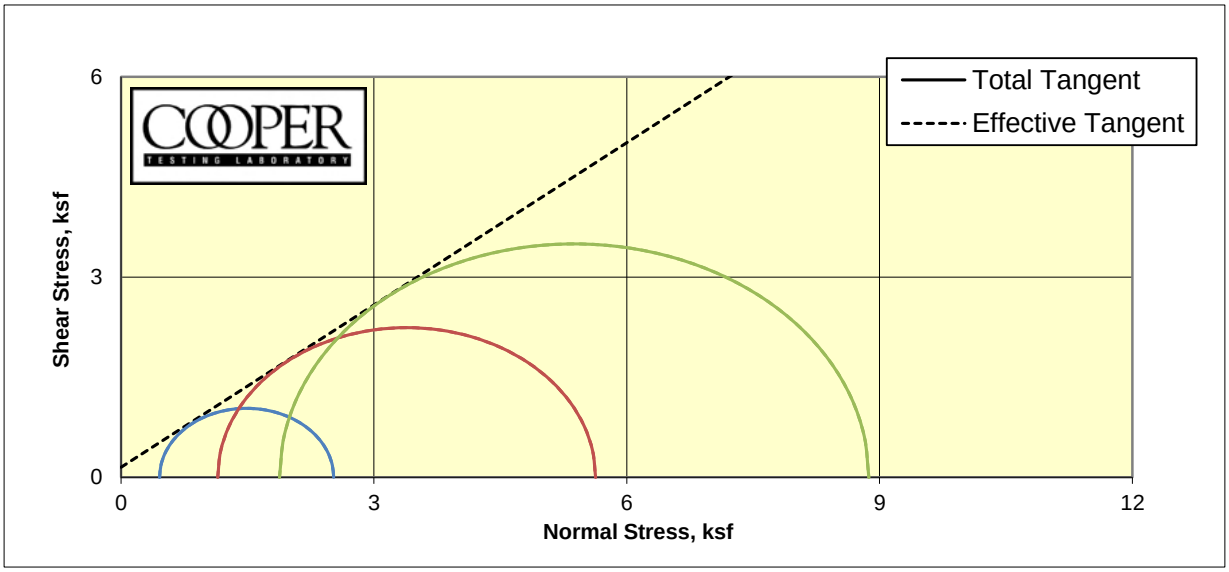
CTL Number:	1152-002
Client Name:	The Wallace Group
Project Name:	Coffin Butte Landfill Expansion
Project Number:	21129-4
Date:	12/13/2022 By: MD/DC

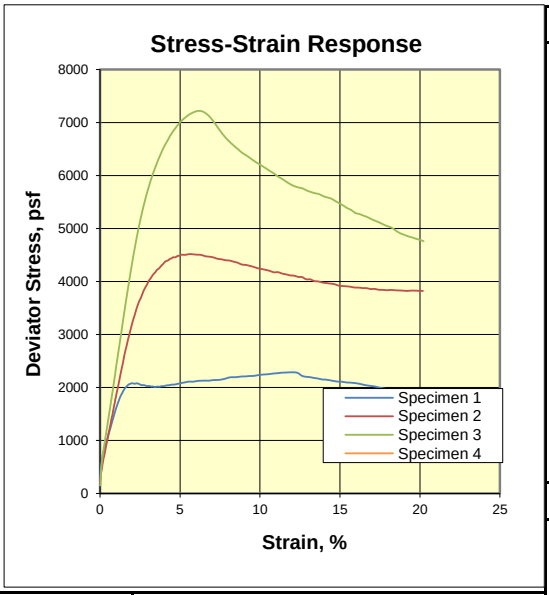
Total C	N/A	ksf
Total phi	N/A	degrees
Eff. C	0.000	ksf
Eff. Phi	33.3	degrees ©

Specimen	1	2	3	4
Boring	GP-4	GP-4	GP-4	
Sample	ST-2	ST-2	ST-2	
Depth	17.5(Tip-15")	18.5(Tip-7.5")	18.5(-1")	
Visual Description	Reddish Yellow CLAY w/ Sand (Silty)/ SILT w/ Sand (slightly plastic)	Reddish Yellow CLAY w/ Sand (Silty)/ SILT w/ Sand (slightly plastic)	Reddish Yellow CLAY w/ Sand (Silty)/ SILT w/ Sand (slightly plastic)	
MC (%)	65.7	69.8	69.0	
Dry Density (pcf)	62.6	58.9	59.8	
Saturation (%)	97.8	95.0	96.1	
Void Ratio	2.063	2.257	2.204	
Diameter (in)	2.87	2.87	2.87	
Height (in)	5.98	5.98	6.01	
	Final			
MC (%)	69.8	70.8	66.1	
Dry Density (pcf)	62.3	59.7	61.3	
Saturation (%)	100.0	100.0	100.0	
Void Ratio	2.075	2.210	2.130	
Diameter (in)	2.88	2.86	2.85	
Height (in)	5.96	5.94	5.97	
Cell Pressure (psi)	105.5	110.0	112.3	
Back Pressure (psi)	99.7	100.6	100.8	
	Effective Stresses At:			
Strain (%)	1.7	1.7	1.7	
Deviator (ksf)	1.788	3.215	4.115	
Excess PP (psi)	-0.1	-0.1	-0.1	
Sigma 1 (ksf)	2.640	4.571	5.770	
Sigma 3 (ksf)	0.851	1.356	1.655	
P (ksf)	1.745	2.963	3.712	
Q (ksf)	0.894	1.608	2.058	
Stress Ratio	3.101	3.372	3.487	
Rate (in/min)	0.0004	0.0004	0.0004	

Fig B-33

Consolidated Drained Triaxial Compression
ASTM D7181





CTL Number:	1152-002
Client Name:	The Wallace Group
Project Name:	Coffin Butte Landfill Expansion
Project Number:	21129-4
Date:	12/20/2022 By: MD/DC

Total C	N/A	ksf
Total phi	N/A	degrees
Eff. C	0.150	ksf
Eff. Phi	39.0	degrees ©

Specimen	1	2	3	4
Boring	GP-5	GP-5	GP-5	
Sample	ST-1	ST-1	ST-1	
Depth	10(Tip-15")	10(Tip-7.5")	10(Tip-.5")	
Visual Description	Reddish Yellow Clayey SAND w/ Gravel	Dark Brown Mottled Yellow Silty SAND grading to Reddish Yellow Clayey SAND w/ Gravel	Dark Brown Mottled Yellow Silty SAND	
MC (%)	41.2	48.2	41.2	
Dry Density (pcf)	78.5	71.4	78.8	
Saturation (%)	95.5	94.4	96.1	
Void Ratio	1.186	1.405	1.179	
Diameter (in)	2.87	2.87	2.87	
Height (in)	5.98	5.98	5.99	
	Final			
MC (%)	49.3	50.8	40.0	
Dry Density (pcf)	78.6	72.1	78.8	
Saturation (%)	100.0	100.0	100.0	
Void Ratio	1.185	1.382	1.177	
Diameter (in)	2.88	2.87	2.89	
Height (in)	5.94	5.92	5.92	
Cell Pressure (psi)	102.7	108.2	114.0	
Back Pressure (psi)	99.7	100.2	100.9	
	Effective Stresses At:			
Strain (%)	5.0	5.0	5.0	
Deviator (ksf)	2.065	4.484	6.993	
Excess PP (psi)	-0.2	0.0	0.0	
Sigma 1 (ksf)	2.523	5.630	8.873	
Sigma 3 (ksf)	0.457	1.147	1.880	
P (ksf)	1.490	3.389	5.376	
Q (ksf)	1.033	2.242	3.497	
Stress Ratio	5.517	4.910	4.721	
Rate (in/min)	0.0004	0.0004	0.0004	

Fig B-34

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OVEN DRY MOISTURE CONTENT
ASTM D-2216

Client:	CEC, Inc.	**Date Sampled:**	9/22/2022
Project Name:	Coffin Butte Landfill	**Project No. :**	21129 - 1
Technician:	PJH	**Lab No.:**	WGG0281
Reviewed By:	LMS	**Date Analyzed:**	10/14/2022

Location	GP-06		GP-06
Depth	7'		24'
Wt. Dish & Wet Soil	639.3		463.3
Wt Dish & Dry Soil	528.1		300.3
Wt of Dish	242.9		83.0
Wt of Water	111.2		163.0
Wt of Dry Soil	285.2		217.3
Percent Moisture	39.0		75.0

Note: Data and results shown above include ASTM Test Method D2216. This report pertains only to the material tested and/or inspected and is not to be reproduced without prior authorization of Wallace Group. If part of a larger document, this report is not to be removed or reproduced separately. This report is the property of the Client and shall not be distributed to other parties without Client's permission.

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No. 200 Sieve Wash

(Material Finer than No. 200 Sieve)

ASTM C117 / D-1140

Client: Civil & Environmental Consultants
Project Coffin Butte Landfill
Location: Corvallis, OR
Sample Location: GP-09 & GP-01
Date Sampled: 9/22/2022

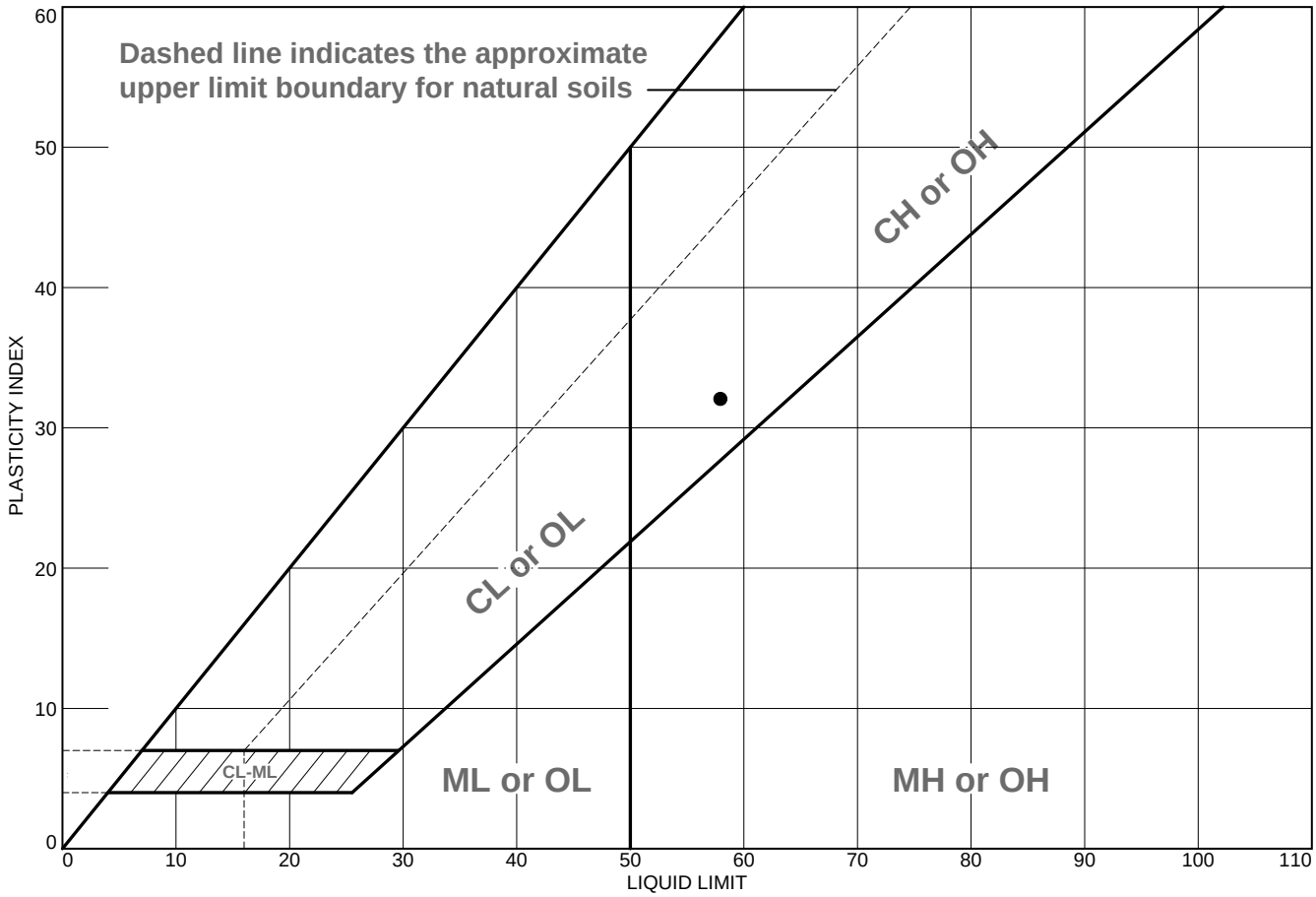
Project Number: 21129 - 1
Lab Number: WGG0281
Technician: PJH
Date Received: 9/25/2022
Date Analyzed: 10/17/2022

Location	GP-09	GP-01	GP-01
Depth	2 - 4'	3'	8.5'
Wet Weight	464.8	493.4	383.9
Dry Weight	362.3	379.7	283.1
Moisture %	28.3%	29.9%	35.6%
Weight After Wash	25.8	7.1	7.4
Weight Passing #200	336.5	372.6	275.7
% Passing #200	92.9%	98.1%	97.4%

REVIEWED BY: L. Splitter
DATE: 6/30/2023

Note: Data and results shown above include ASTM Test Methods C117 and C1140. This report pertains only to the material tested and/or inspected and is not to be reproduced without prior authorization of Wallace Group. If part of a larger document, this report is not to be removed or reproduced separately. This report is the property of the Client and shall not be distributed to other parties without Client's permission.

Plasticity Index of Soil (D4318)



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Clay	58	26	32	99.2%	98.1%	CH

Project No. 21129 **Client:** Civil & Environmental Consultants, Inc.

Project: Coffin Butte Landfill

●**Source of Sample:** GP-01 **Depth:** 3' **Sample Number:** S-1

Remarks:

●Lab No.: WGG0281
Sampled By: SMW on 09-22-22
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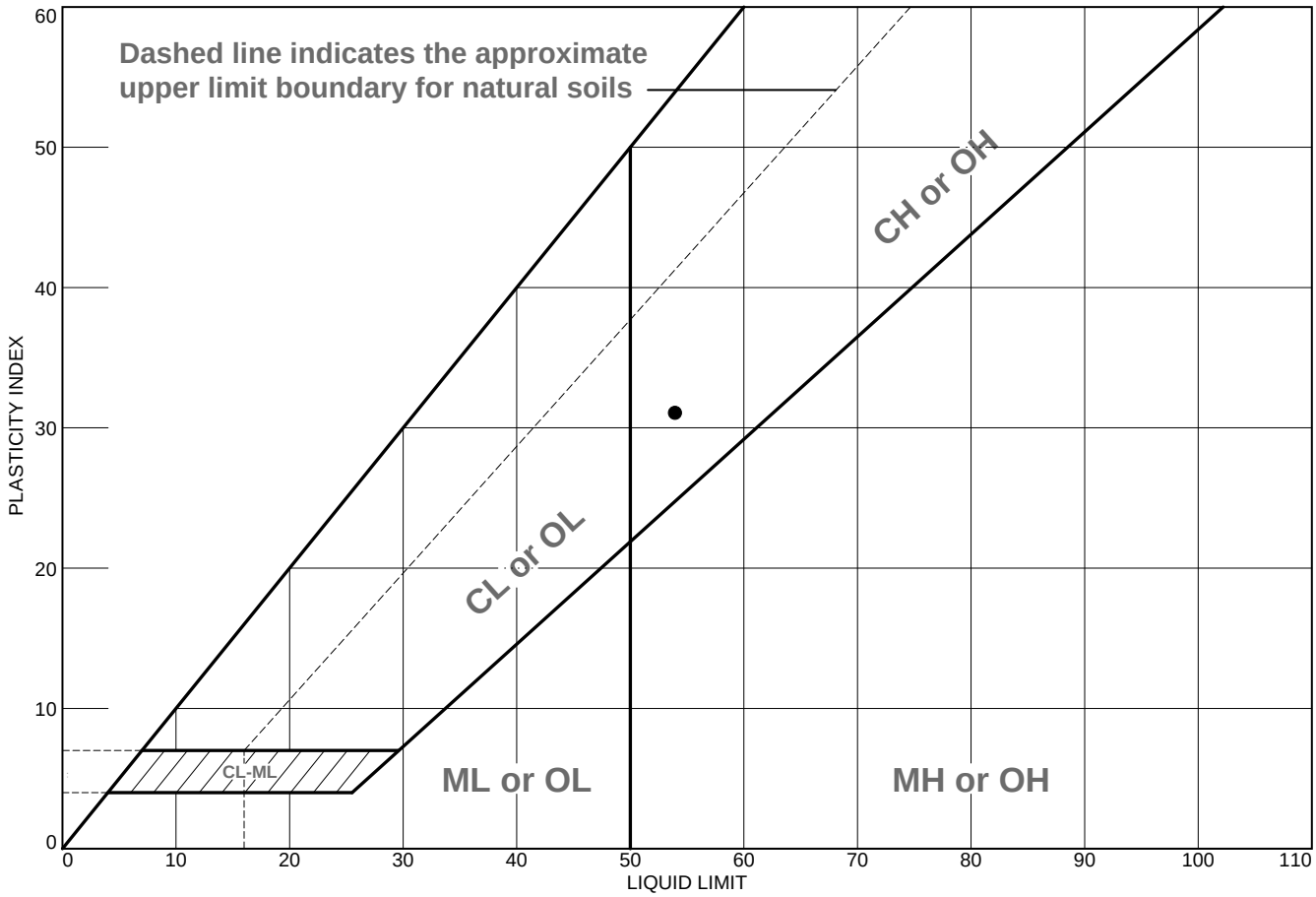
Figure B-37

Tested By: PJH **Checked By:** LMS

Plasticity Index of Soil (D4318)



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Clay	54	23	31	99.0%	97.4%	CH

Project No. 21129 **Client:** Civil & Environmental Consultants, Inc.

Project: Coffin Butte Landfill

●**Source of Sample:** GP-01 **Depth:** 8.5' **Sample Number:** S-2

Remarks:

●Lab No.: WGG0281
Sampled By: SMW on 09-22-22
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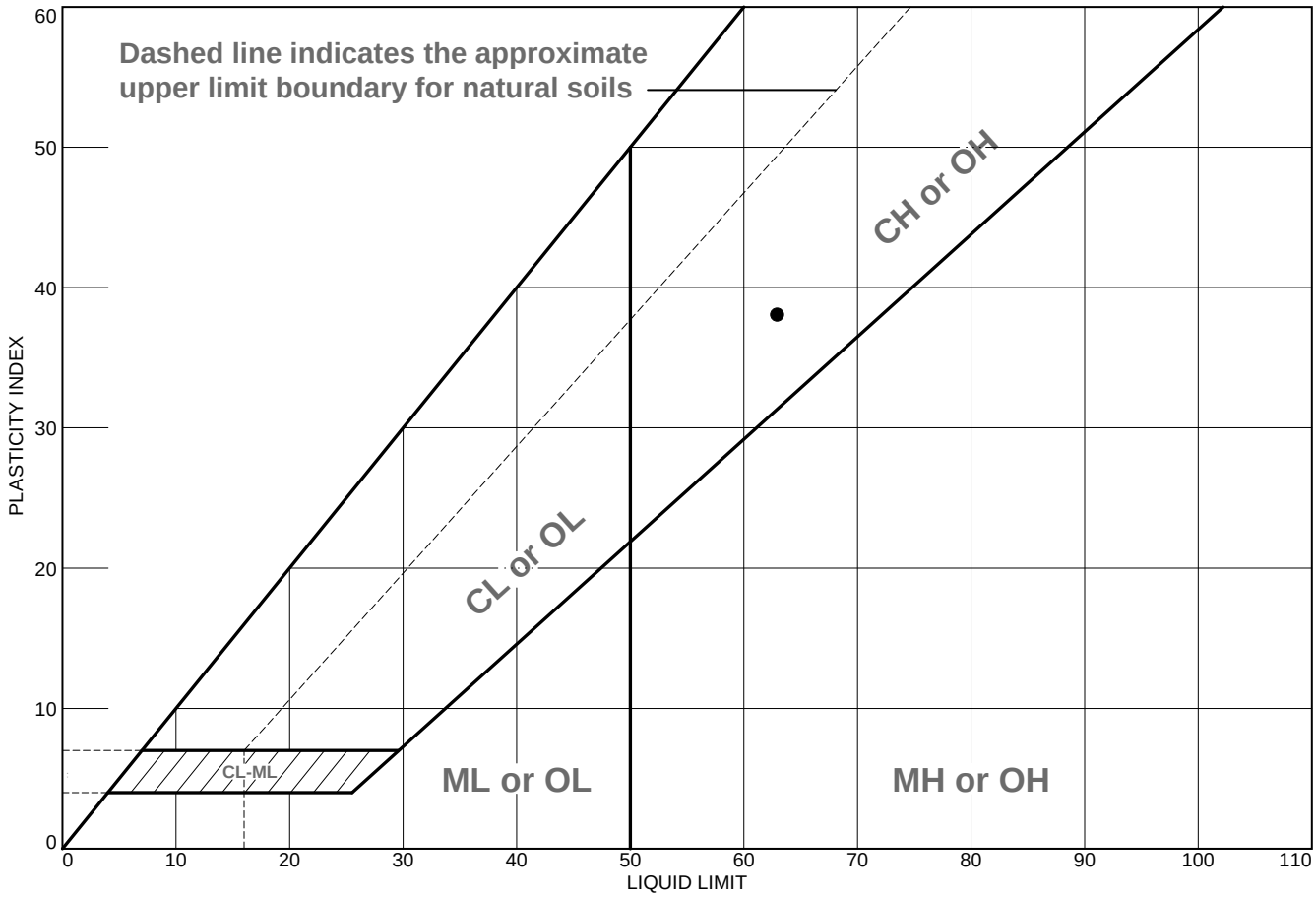
Figure B-38

Tested By: PJH **Checked By:** LMS

Plasticity Index of Soil (D4318)



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Clay	63	25	38	Not Tested	Not Tested	MH-CH

Project No. 21129 **Client:** Civil & Environmental Consultants, Inc.

Project: Coffin Butte Landfill

●**Source of Sample:** GP-04 **Depth:** 3' **Sample Number:** S-1

Remarks:

●Lab No.: WGG0281
Sampled By: SMW on 09-22-22
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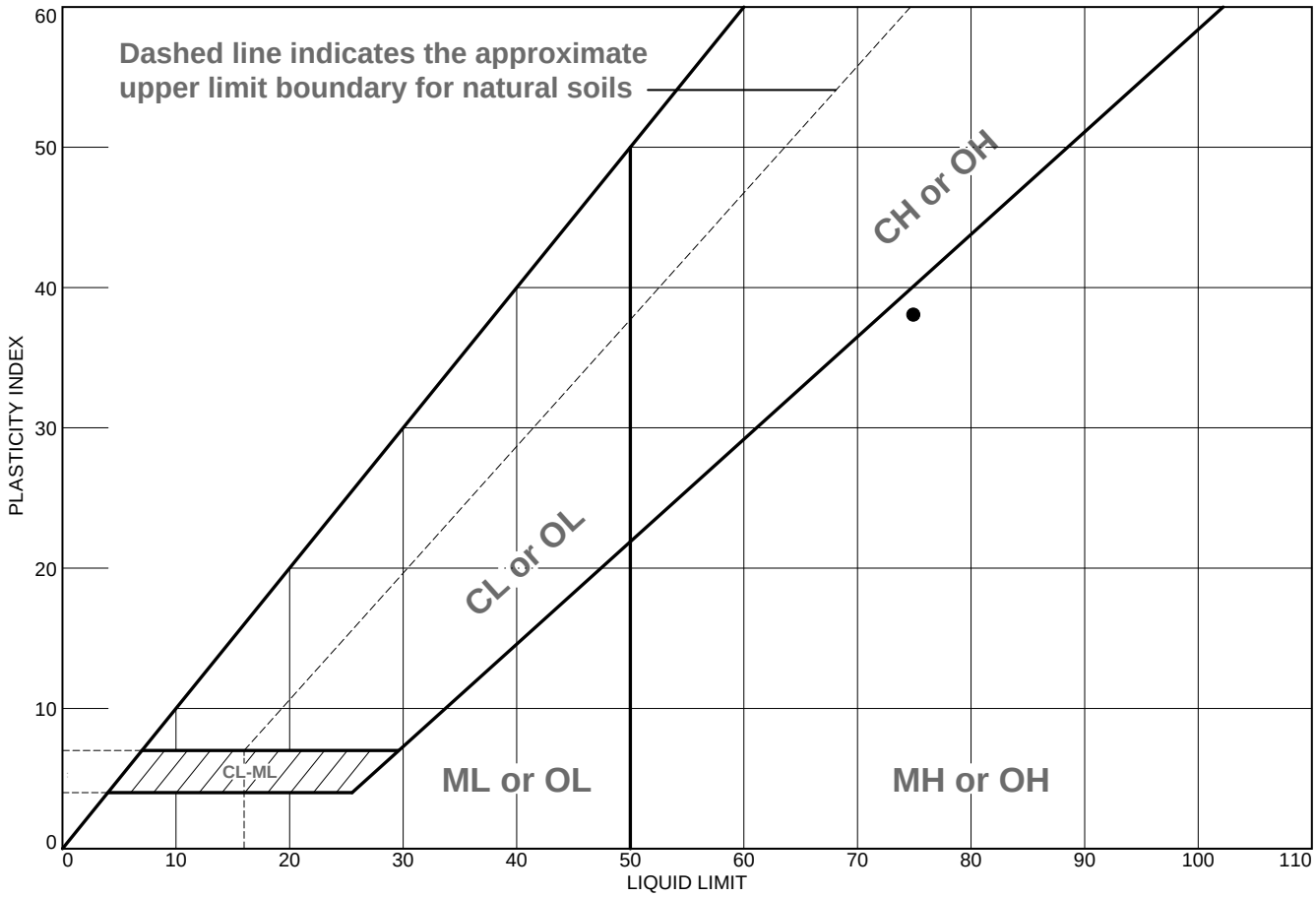
Figure B-39

Tested By: PJH **Checked By:** LMS

Plasticity Index of Soil (D4318)



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Elastic Silt with Sand	75	37	38	Not Tested	Not Tested	MH

Project No. 21129 **Client:** Civil & Environmental Consultants, Inc.

Project: Coffin Butte Landfill

●**Source of Sample:** GP-04 **Depth:** 17' **Sample Number:** S-3

Remarks:

●Lab No.: WGG0281
Sampled By: SMW on 09-22-22
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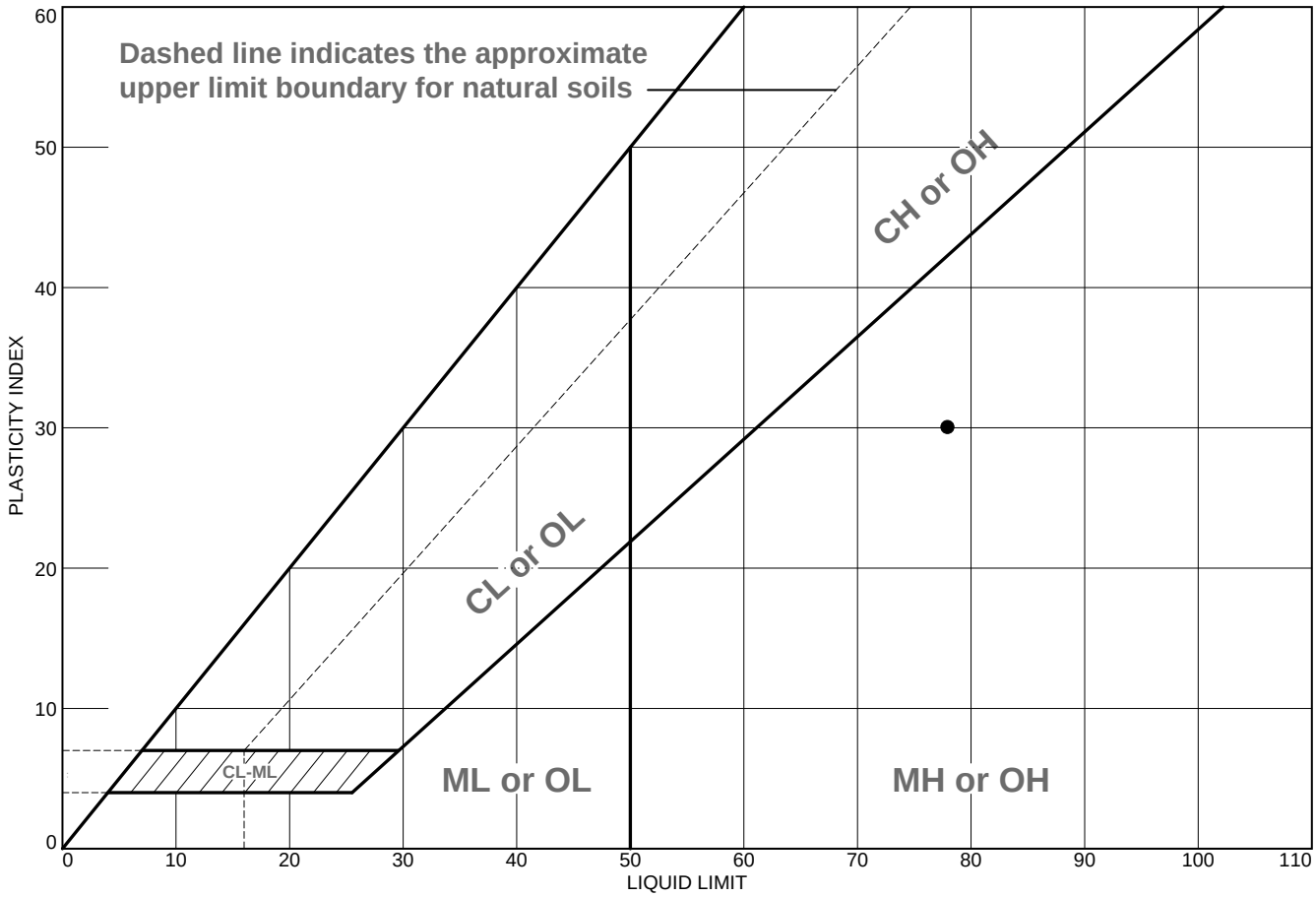
Figure B-40

Tested By: PJH **Checked By:** LMS

Plasticity Index of Soil (D4318)



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Elastic Silt with Sand	78	48	30	Not Tested	Not Tested	MH

Project No. 21129 **Client:** Civil & Environmental Consultants, Inc.

Project: Coffin Butte Landfill

●**Source of Sample:** GP-04 **Depth:** 25' **Sample Number:** S-5

Remarks:

●Lab No.: WGG0281
Sampled By: SMW on 09-22-22
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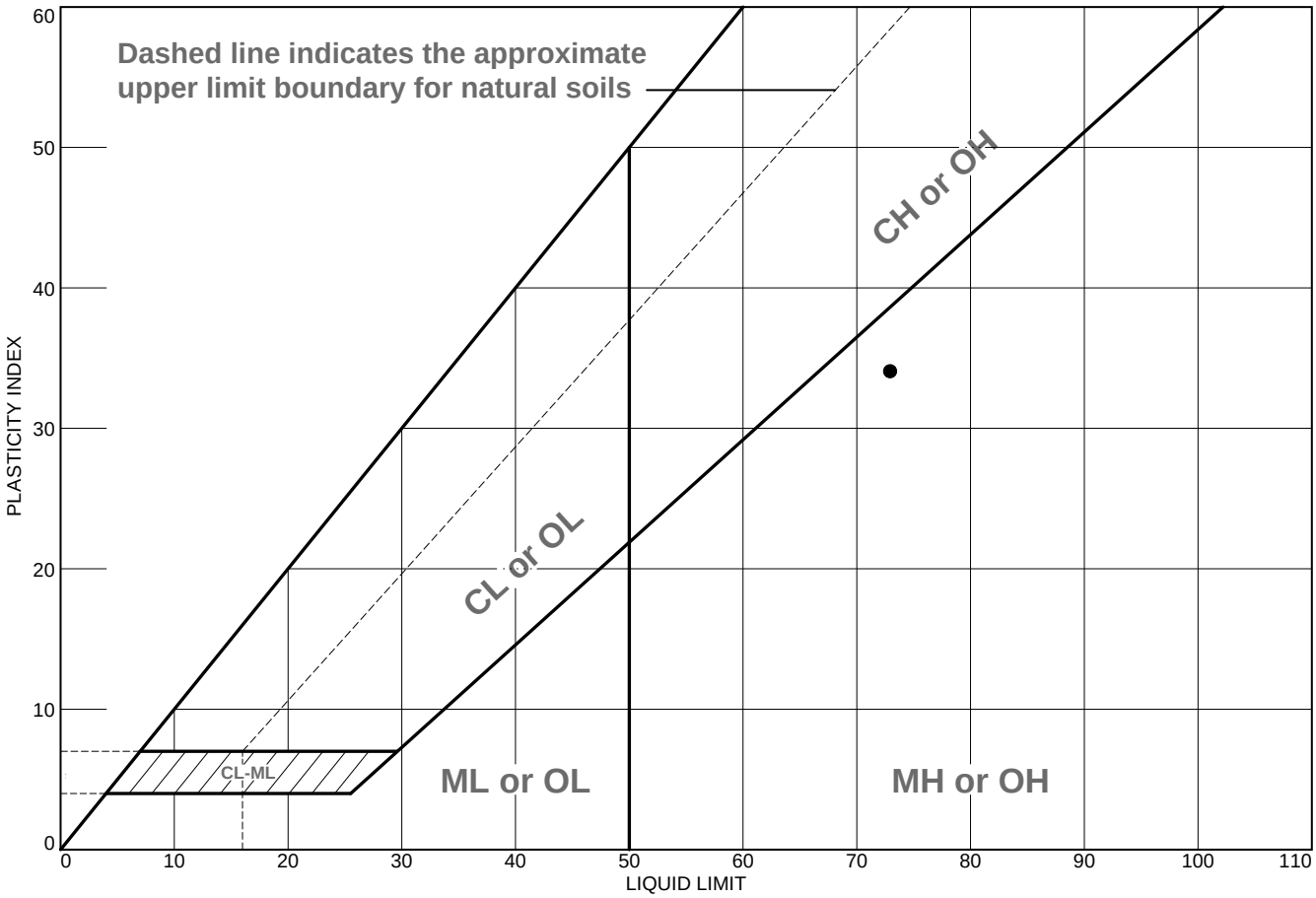
Figure B-41

Tested By: PJH **Checked By:** LMS

Plasticity Index of Soil (D4318)



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Elastic Silt with Sand	73	39	34	Not Tested	Not Tested	MH

Project No. 21129 **Client:** Civil & Environmental Consultants, Inc.

Project: Coffin Butte Landfill

●**Source of Sample:** GP-05 **Depth:** 6.5 - 8' **Sample Number:** S-2

Remarks:

●Lab No.: WGG0281
Sampled By: SMW on 09-22-22
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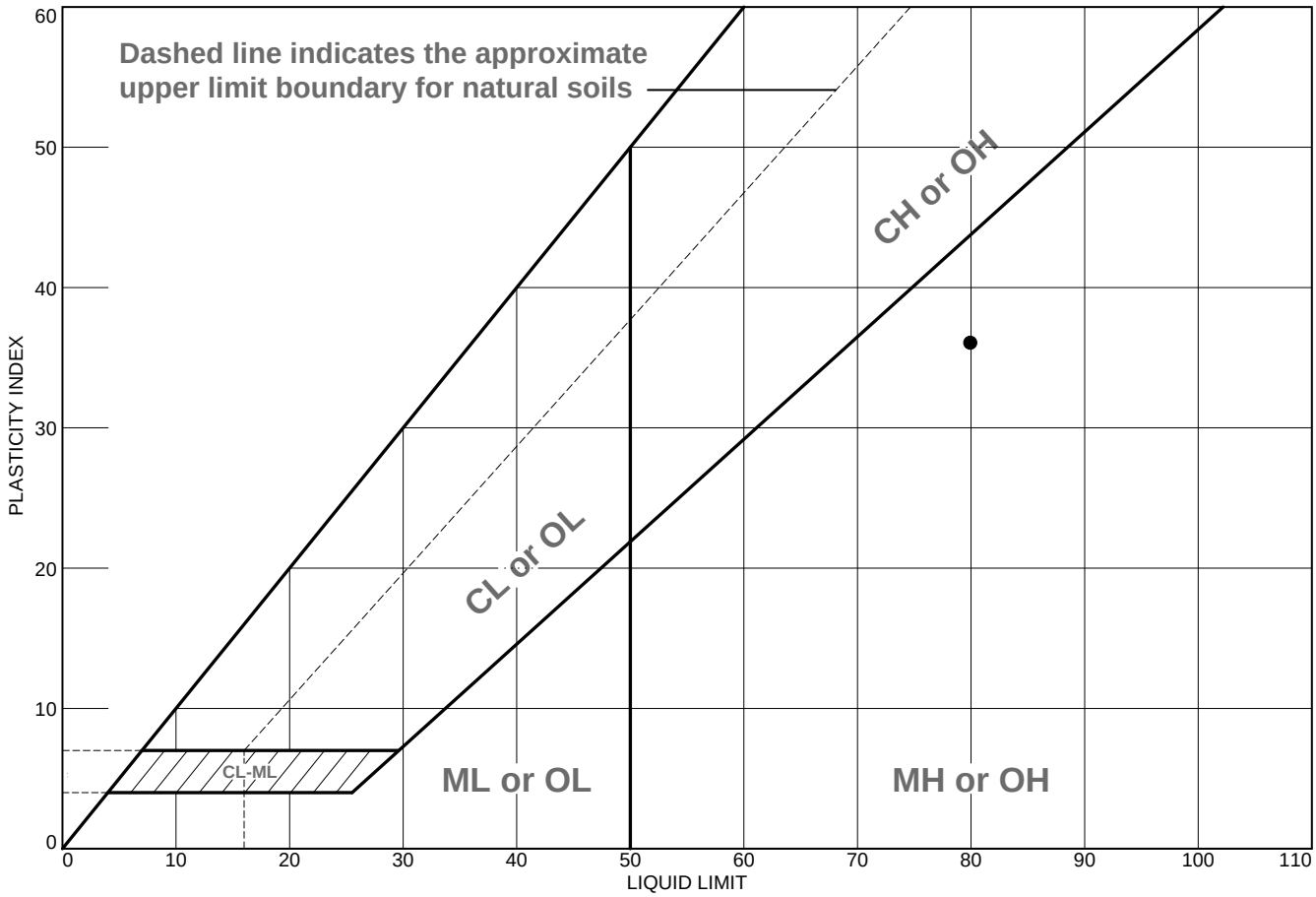
Figure B-42

Tested By: PJH **Checked By:** LMS

Plasticity Index of Soil (D4318)



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Elastic Silt	80	44	36	Not Tested	Not Tested	MH

Project No. 21129 **Client:** Civil & Environmental Consultants, Inc.

Project: Coffin Butte Landfill

●**Source of Sample:** GP-06 **Depth:** 7' **Sample Number:** S-2

Remarks:

●Lab No.: WGG0281
Sampled By: SMW on 09-22-22
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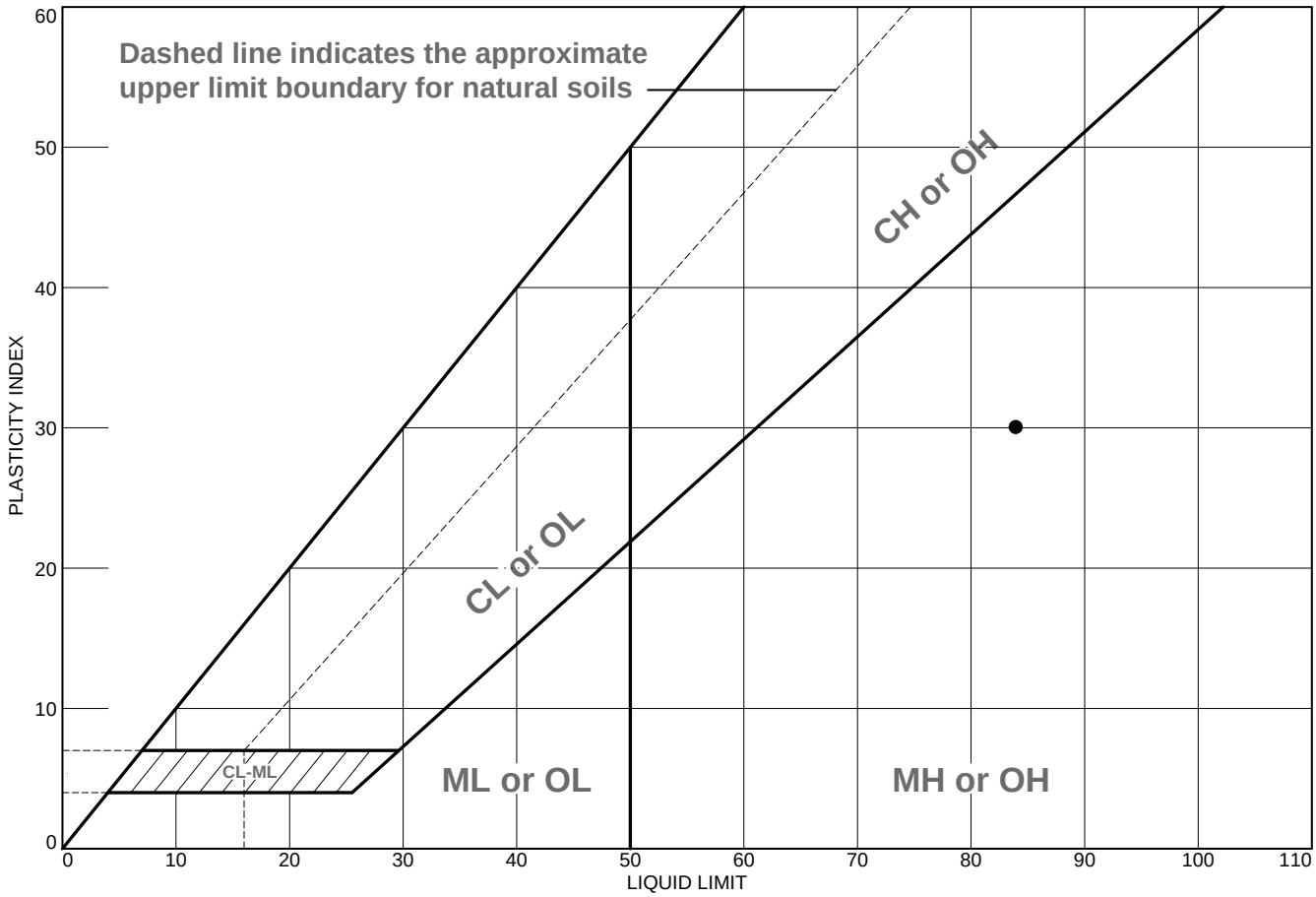
Figure B-43

Tested By: PJH **Checked By:** LMS

Plasticity Index of Soil (D4318)



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Elastic Silt	84	54	30	Not Tested	Not Tested	MH

Project No. 21129 **Client:** Civil & Environmental Consultants, Inc.

Project: Coffin Butte Landfill

●**Source of Sample:** GP-06 **Depth:** 24' **Sample Number:** S-5

Remarks:

●Lab No.: WGG0281
Sampled By: SMW on 09-22-22
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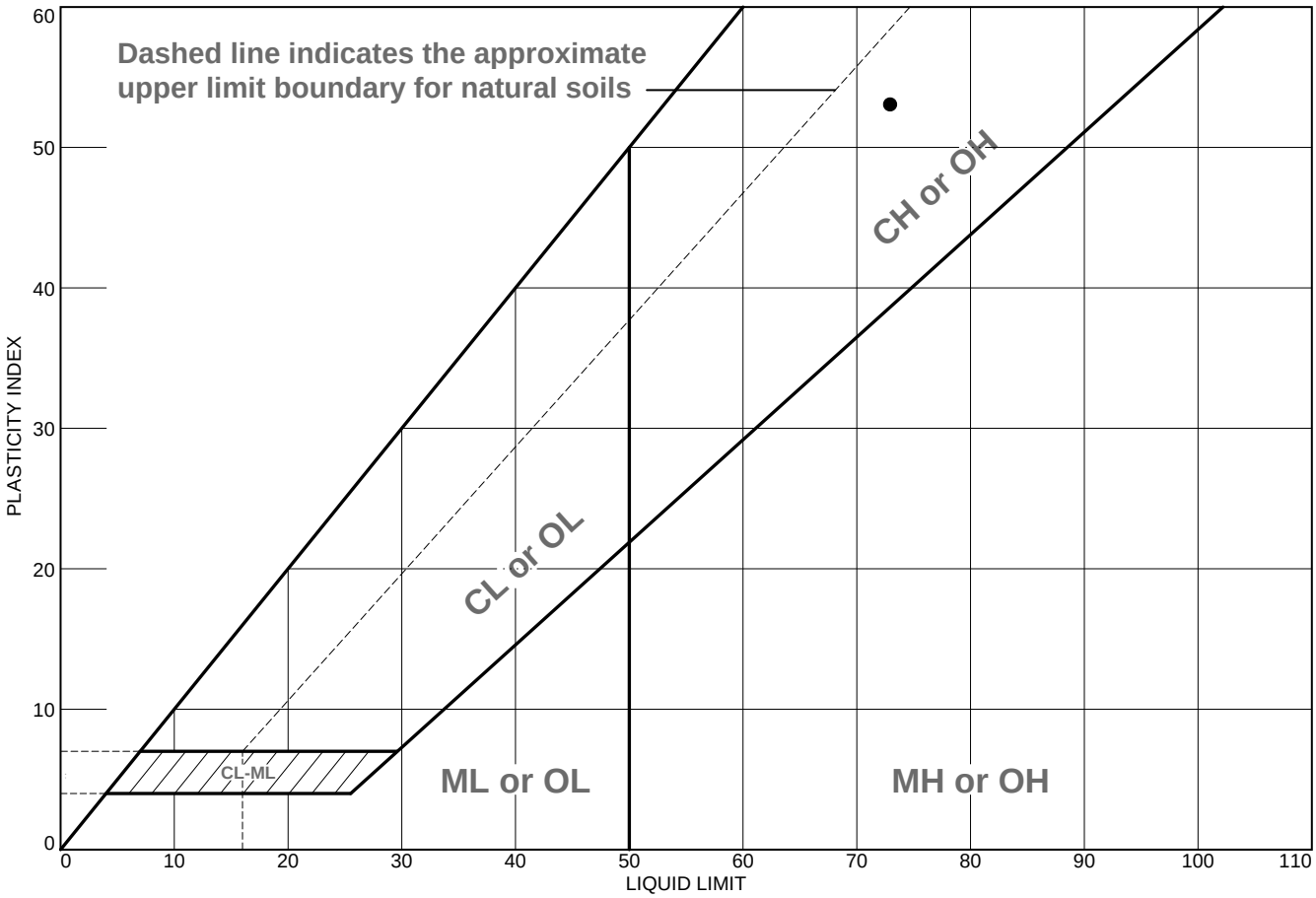
Figure B-44

Tested By: PJH **Checked By:** LMS

Plasticity Index of Soil (D4318)



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Fat Clay with Organics	73	20	53	97.3%	92.9%	CH

Project No. 21129 **Client:** Civil & Environmental Consultants, Inc.

Project: Coffin Butte Landfill

●**Source of Sample:** GP-09 **Depth:** 2 - 4' **Sample Number:** S-1

Remarks:

●Lab No.: WGG0281
Sampled By: SMW on 09-22-22
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Figure B-45

Tested By: PJH **Checked By:** LMS

Particle Size Distribution Report

	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	1.8	8.9	17.1	35.8	36.4	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	Not Tested	Not Tested	1.3264	0.2338	0.1516					

MATERIAL DESCRIPTION	TEST DATE	USCS	NM
○ Silty, Clayey Sand	10-17-22	SC-SM	28.9%

Project No. 21129 **Client:** Civil & Environmental Consultants, Inc.

Project: Coffin Butte Landfill

○ **Source of Sample:** GP-05 **Depth:** 14' **Sample Number:** S-3

Remarks:

○Lab No.: WGG0281

Sampled By: SMW

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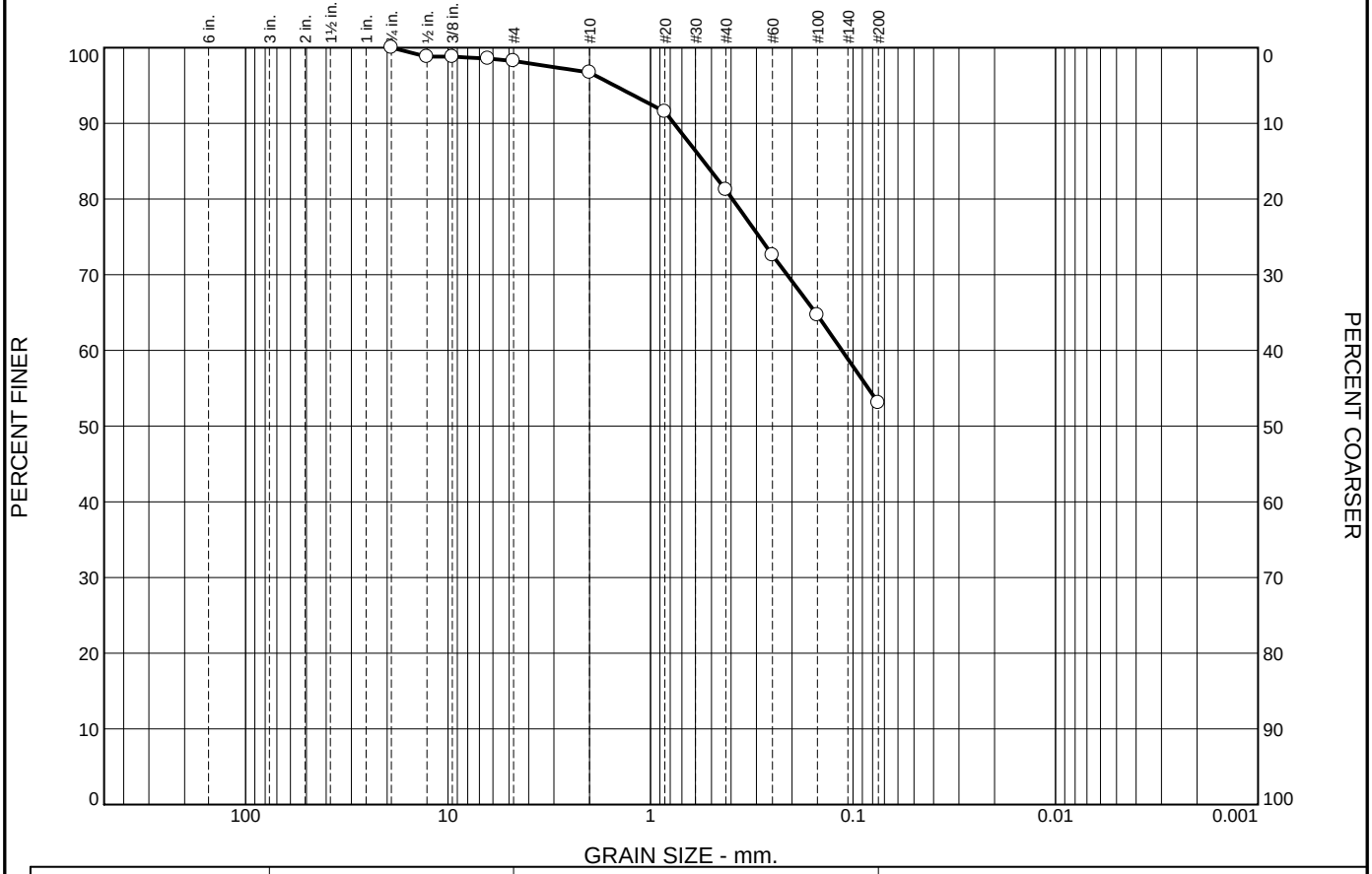
Figure B-46

Tested By: PJH **Checked By:** LMS

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	1.8	1.5	15.5	28.1	53.1	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	Not Tested	Not Tested	0.5479	0.1135						

MATERIAL DESCRIPTION	TEST DATE	USCS	NM
○ Sandy Clay	10-17-22	--	26.9%

Project No. 21129 **Client:** Civil & Environmental Consultants, Inc.

Project: Coffin Butte Landfill

○ **Source of Sample:** GP-07 **Depth:** 2 - 4' **Sample Number:** S-1

Remarks:

○Lab No.: WGG0281

Sampled By: SMW on 09-22-22

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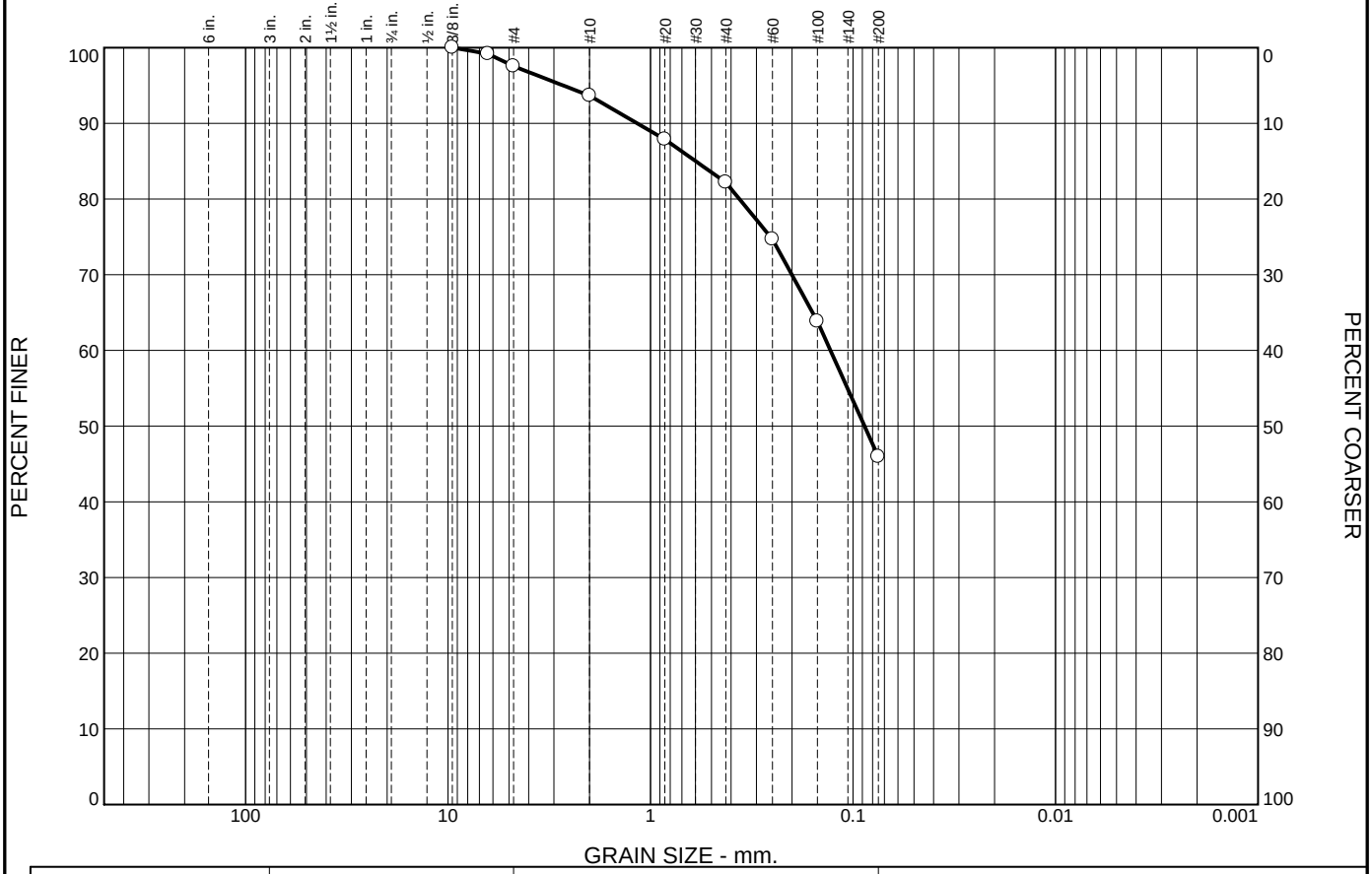
Figure B-47

Tested By: PJH **Checked By:** LMS

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	2.4	4.0	11.4	36.3	45.9	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	Not Tested	Not Tested	0.5986	0.1293	0.0878					

MATERIAL DESCRIPTION	TEST DATE	USCS	NM
○ Clayey Sand	10-17-22	SC-SM	25.5%

Project No. 21129 **Client:** Civil & Environmental Consultants, Inc.

Project: Coffin Butte Landfill

○ **Source of Sample:** GP-07 **Depth:** 16 - 18' **Sample Number:** S-3

Remarks:

○Lab No.: WGG0281

Sampled By: SMW on 09-22-22

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wallacegroup-inc.com

62915 NE 18th Street, St. 1
Bend, Oregon 97701

Figure B-48

Tested By: PJH **Checked By:** LMS

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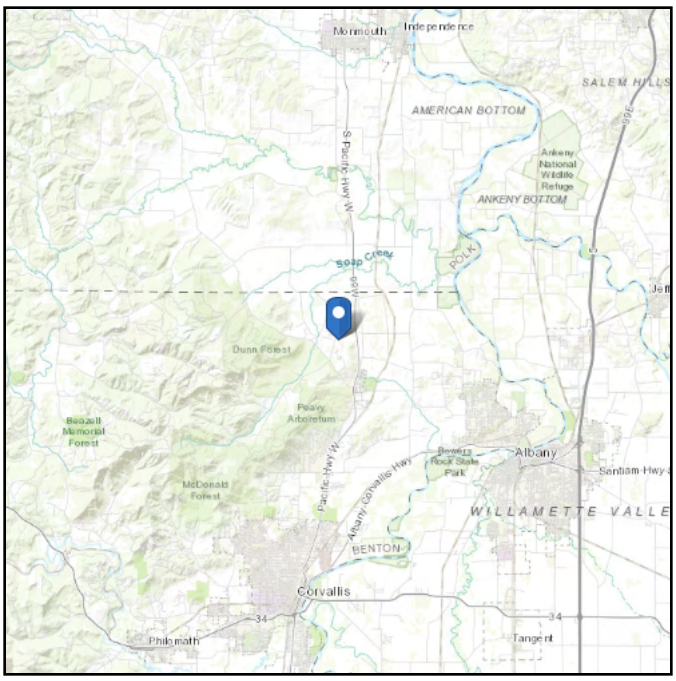
APPENDIX C

ASCE Hazards Report

Address:
28972 Coffin Butte Rd
Corvallis, Oregon
97330

Standard:	ASCE/SEI 7-22	**Latitude:**	44.695572
Risk Category:	II	**Longitude:**	-123.233928
Soil Class:	D - Stiff Soil	**Elevation:**	297.144000732361 ft (NAVD 88)



Seismic

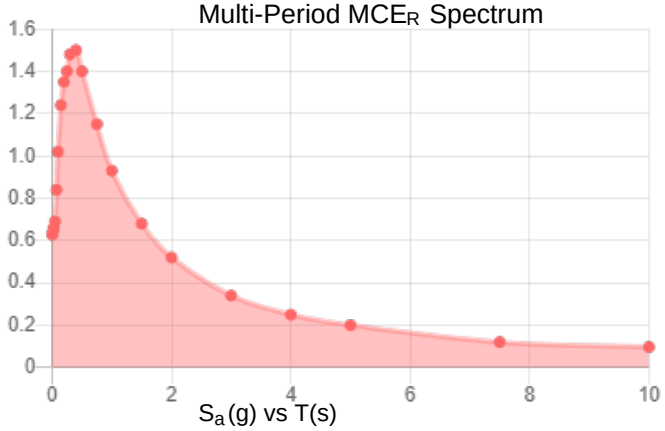
Site Soil Class: D - Stiff Soil

Results:

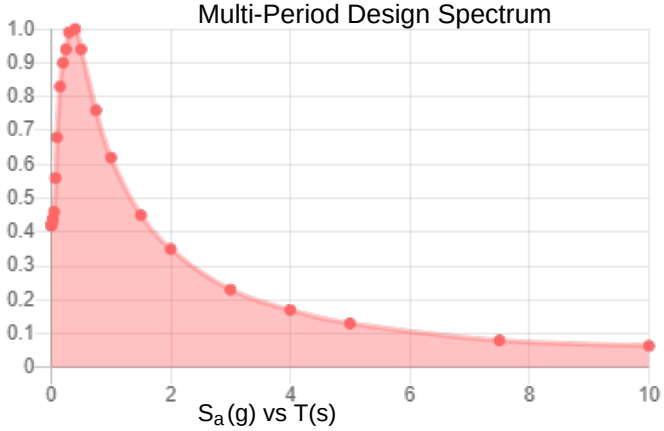
PGA_M :	0.61	T_L :	16
S_{MS} :	1.35	S_S :	1.05
S_{M1} :	0.94	S_1 :	0.44
S_{DS} :	0.9	V_{S30} :	260
S_{D1} :	0.63		

Seismic Design Category: D

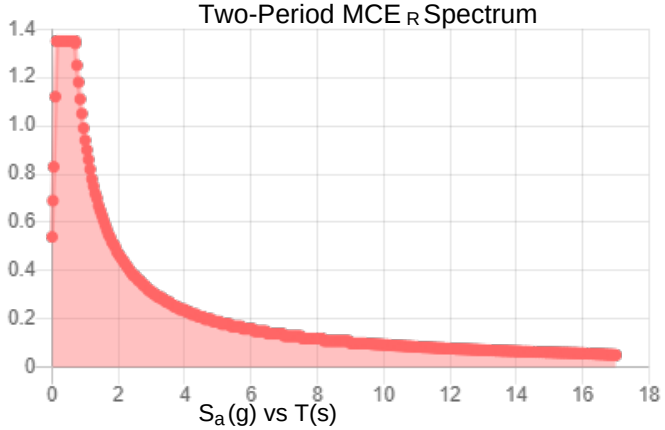
Multi-Period MCE_R Spectrum



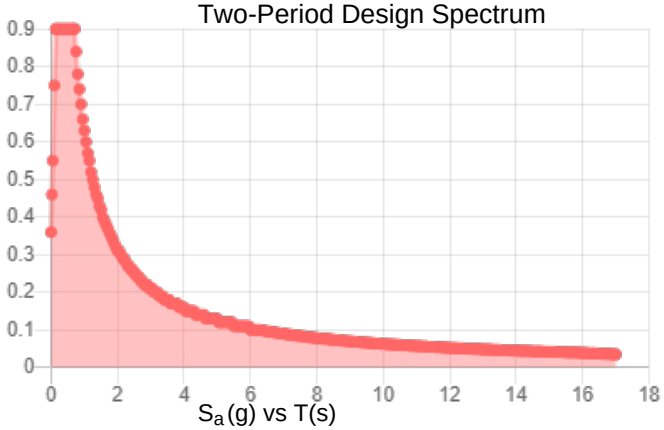
Multi-Period Design Spectrum



Two-Period MCE_R Spectrum



Two-Period Design Spectrum



MCE_R Vertical Response Spectrum

Vertical ground motion data has not yet been made available by USGS.

Design Vertical Response Spectrum

Vertical ground motion data has not yet been made available by USGS.

Data Accessed: **Sun Jul 14 2024**

Date Source:
USGS Seismic Design Maps based on ASCE/SEI 7-22 and ASCE/SEI 7-22 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-22 Ch. 21 are available from USGS.

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APPENDIX D

Existing conditions at BH-05 during the geotechnical exploration.

Drilling performed with track-mounted CME rig, operated by Western States Drilling, on February 16 through 18, 2021 and HazTech Drilling on November 8 through 16, 2022. Note the skid steer and cleared road required for site access.

Drilling was performed using hollow-stem auger, mud-rotary, and HQ wireline coring techniques.

Boring location B-13, which is typical of the dense onsite vegetation and restricted access.

Borings were backfilled using bentonite.

Areas near known landfill utilities were advanced using a vacuum truck.

Typical rock core, consisting of brecciated and altered basaltic rocks of the Siletz River Volcanics.

Initial exploration was performed using a CAT excavator.

Test pits were advanced to the limit of the machine's reach, or excavator refusal on competent bedrock.

Typical test pit profile, consisting of weathered in-place volcanic soils transitioning into bedrock.

Test pits were located to provide access to the proposed boring locations,
and the excavator was used to clear and grade access to the borings.

The higher elevations of the site are characterized by dense vegetation, with shallower depth to rock.

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APPENDIX E

DELVE underground

Final Draft Memorandum			
To:	Lisa Splitter, PE, GE, The Wallace Group	Project:	Coffin Butte Slope Stability Analysis
From:	Jamie Schick, CEG, Delve Underground	cc:	
Prepared by:	Jamie Schick, CEG, Luke Ferguson, PE, Ethan Guzek, PG(WA), Delve Underground	Job No.:	6309.0
Date:	November 6, 2023		
Subject:	Coffin Butte Landfill Slope Stability Analysis		

1.0 Introduction and Background Information

1.1 General

This Technical Memorandum has been developed by Delve Underground (Delve) for the Coffin Butte Landfill Expansion (Project). Delve is performing this work for the Wallace Group, LLC in support of their geotechnical engineering efforts associated with the design of this facility. The Wallace Group is a subconsultant to Civil and Environmental Consultants, Inc., who is completing the landfill design for Republic Services, Inc. Figure 1 presents the site location. The project includes the relocation of Coffin Butte Road, which will require excavating two cuts in existing slopes south of the current roadway to make room for the landfill expansion. Sections of these cuts will be in excess of 100 feet in height. Delve is under contract to complete the geotechnical engineering associated with these cuts and provide cut slope recommendations.

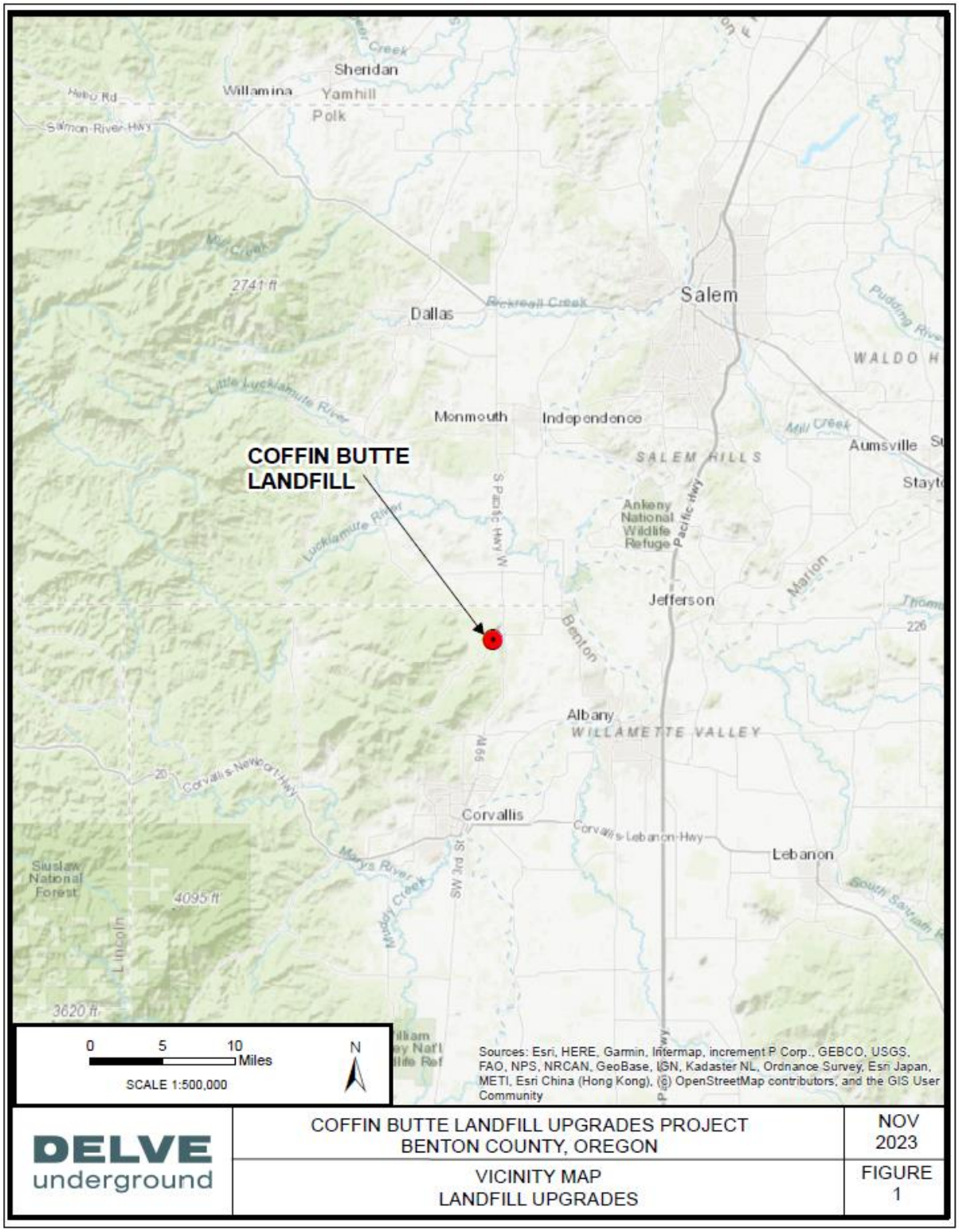

Figure 1. Vicinity map of project area.

1.2 Project Description

The Coffin Butte landfill is located in Oregon in the mid-Willamette Valley approximately 10 miles north of Corvallis, OR. Proposed upgrades to the landfill site include the construction of new landfill cells immediately south of the existing Coffin Butte Landfill. As part of the upgrade, the existing Coffin Butte Road is planned to be relocated to the south of the proposed landfill expansion area. From the intersection of Coffin Butte Road and NW Soap Creek Road, Coffin Butte Road is proposed to extend southeast, then east along the southern border of the expansion area before continuing northeast and north along the boundary of the expansion area to realign with the existing Coffin Butte Road. Construction of this reroute will include deep cuts into two separate bedrock knobs that will result in cut slopes in excess of 100-foot-high above the new road alignment. Locations of the proposed expansion area, preliminary grading plan, subsurface explorations, cross sections and Coffin Butte Road relocation provided by the Wallace Group are included in **Appendix A**.

The current cut slope geometry includes a 2 Horizontal to 1 Vertical (2H:1V) slope cut below the roadway and a 1.5H:1V cut slope above the proposed Coffin Butte Road. This memorandum summarizes our analysis, design, and recommendations regarding these proposed cuts as well as an evaluation of alternative cut angles to facilitate construction efforts and improve slope performance.

2.0 Geologic Setting

The site is located northwest of Albany, Oregon in the central portion of the Willamette Valley, an alluvial-filled structural basin located between the Oregon Coast Range and Cascade Range (Orr and Orr, 2012). Bedrock beneath the site consists of the Siletz River Volcanics, which are part of a chain of volcanic seamounts accreted to western North America during the Paleocene to early Eocene (approximately 60 million years ago) (Bela, 1979). The bedrock consists of a complex assemblage of pillow basalts with minor interbeds of tuffaceous claystone, siltstone and sandstone. The formation also includes flow breccias and coarse pyroclastic deposits. Both the east and west hillslopes at the site are underlain by this bedrock. A more complete discussion of the geologic setting and site history is contained in the project geotechnical engineering report completed by the Wallace Group (Wallace Group, 2023).

3.0 Site Exploration

3.1 Site Reconnaissance

A site reconnaissance was completed on September 29, 2021, by a senior engineering geologist from Delve Underground to inspect the project area and condition of exposed bedrock in the area. This included a reconnaissance of the existing rock quarry immediately west of the current Coffin Butte Landfill. Discontinuity mapping completed in the rock quarry was used to support the kinematic analysis for the proposed cut slope geometries.

In general, the discontinuities mapped were very persistent (greater than 30 feet in trace length) and typically filled with clay, sand, and gravel sized particles. The infilling was up to two inches in thickness. See Photographs 1 and 2 for typical exposures of mapped discontinuities. Conchoidal fractures associated with the basalt exposed in the rock quarry were not mapped.

Photograph 1. Typical steeply dipping joints in the existing Coffin Butte quarry.

Photograph 2. Steeply dipping joint trending subparallel to an existing cut face.

During the site reconnaissance, exposures of the existing soils on the eastern knob excavated for drill rig access were observed. These cuts generally consisted of silty to clayey gravels that were interpreted as shallow colluvium with decomposed bedrock near the base. Cuts were typically less than 5 foot high.

3.2 Field Exploration

A subsurface exploration program was completed in two phases due to changes in the landfill configuration during design. Wallace Group performed the subsurface exploration program for support of the project during the summer/fall of 2021 and 2022. The exploration program for the western hillslope included four borings (B-3, B-5, B-9 and B-15) which were advanced to depths of 111 feet, 131 feet, 70 feet and 165 feet and four test pits (TP-1, TP-12, TP-13 and TP-14). Four borings (B-7, BH-17, BH-18 and BH-19) and one CPT (GP/CPT-08) were drilled in the eastern hillslope. Borehole locations are shown on site plan in Appendix A.

Borings were advanced with mud rotary drilling techniques within soil material and HQ wireline, triple-tube rock coring techniques in rock materials in accordance with ASTM D 2113. Disturbed soil samples were collected in conjunction with Standard Penetration Testing (SPT) at selected intervals using a standard 2-inch diameter split-barrel sampler and automatic safety hammer system. In each test, the sampler was advanced 18 inches by dropping a 140-pound hammer, 30-inches for each strike in accordance with ASTM D1586. Details of the exploration

program are presented in the Wallace Group geotechnical report (Wallace Group, 2023). Downhole imaging in explorations was not performed.

3.3 Lab Testing

Point load testing (PLT) was conducted on select samples from borings conducted during the 2021 investigation. Test results were used to estimate the approximate intact rock strength of the bedrock. PLT results are provided in **Appendix B**. The results of point load testing are discussed in greater detail below.

4.0 Site Conditions

4.1 Surface Conditions

The eastern and western hillslopes consist of two bedrock knobs located at the north end of a ridgeline in the Willamette Valley. The knobs extend over two hundred feet above the valley floor and are generally east, north and west facing. Slopes on these hillslopes vary between approximately 15 and 25 degrees with locally shallower sections. Indications of existing slope instabilities (scarps, pistol butt, or jack strawed trees) were not observed during the site reconnaissance. Signs of springs or seeps were not observed, however it was summer at the time of the site reconnaissance.

4.2 Subsurface Conditions

The materials encountered in the project explorations were grouped into three general stratigraphic units based on their geologic origin and stratigraphic position. General units include colluvial soil, weathered rock, and rock. Engineering properties of soil and rock appear to vary between the east and west half of the site based on relative density and composition (for soils) and rock type, weathering, and intact strength (for rock). Variations in subsurface conditions are likely to exist between borings. The following paragraphs describe the geotechnical unit characteristics in greater detail in context of cut slope considerations.

- **Colluvial Soil**: Colluvial soils mantle weathered rock and rock across the project area to depths of 5 to 25 feet with soils being thinner across the west slopes and thicker across the east slopes. Colluvial materials encountered included silty sands, clayey sands, and sandy silts. In the western hillslope, colluvial soils are present in the upper 5 to 10 feet of the subsurface and typically consist of reddish-brown, medium dense to very dense silty sands, clayey sands, and sandy silts. In the eastern hillslope, colluvial soils are present in the upper 20 to 25 feet of the subsurface and typically consist of very loose to medium dense clayey sand.

- **Weathered Rock**: Decomposed to highly weathered bedrock was encountered beneath the colluvial soils. This material was typically drilled and sampled with SPTs and often

described as very dense gravels on logs. However, based on the observation that SPT tests generally encountered refusal, this material was interpreted as weathered bedrock. Typical unit thickness ranged between 3 and 7 feet.

Rock: Bedrock was encountered below the overlying soils and weathered bedrock in all borings. This unit consists primarily of fresh to highly weathered greenish gray basalt. The fresh basalt strength ranged from weak to strong. Highly weathered zones encountered were typically limited to isolated intervals only a few feet in extent. The basalt in the western hillslope was generally intensely brecciated with infilling of siltstone. The brecciation is interpreted as genetic, associated with the deposition of the basalt on seamount slopes where it often disaggregated into fragments surrounded by a silty matrix. For the purpose of this memorandum, this is referred to as a volcanic breccia. The basalt encountered in borings completed in the eastern hillslope was generally intact, with only isolated intervals of brecciation, and in general was composed predominantly of basalt with minor siltstone matrix. For the purpose of this memorandum, this is referred to as a basalt.

Point load tests (PLTs) on the basalt indicate an unconfined compressive strength (UCS) of generally 2,000 to 5,000 psi. PLT results from the siltstone matrix indicate UCS values ranging from approximately 200 to 1,000 psi.

Recovery and Rock Quality Designation (RQD) for borings BH-3, BH-5, BH-17, BH-18 and BH-19 are summarized in Table 1. RQD values indicate the rock quality is very poor to poor on the western hillslope and poor to fair on the eastern hillslope.

Table 1. Summary of Rock Core Recovery and RQD

Borehole	Recovery			RQD		
	Min	Max	Average	Min	Max	Average
Western Hillslope						
BH-3	48	100	87	0	75	47
BH-5	48	93	51	0	50	8
Eastern Hillslope						
BH-17	80	100	97	6	100	51
BH-18	95	100	100	30	80	60
BH-19	61	100	95	4	73	34

4.3 Groundwater

The project subsurface explorations did not encounter groundwater in the western hillslope except for BH-15 where groundwater was encountered at 5 feet below ground surface. In addition, information provided by Civil & Environmental Consultants (CEC) indicates groundwater in the vicinity of this area is relatively shallow, at least seasonally. Groundwater

was encountered in eastern hillslope borings BH-17, BH-18 and BH-19 at depths of approximately 16, 25, and 18 feet below ground surface (bgs), respectively.

5.0 Kinematic Analysis

When the face of a rock mass is exposed in a rock cut confining pressure is relieved and the potential exists for blocks created by natural discontinuities in the rock mass to fall out of the slope. These block failures result in safety hazards and maintenance issues. A kinematic analysis compares mapped discontinuities in the rock mass with proposed cut slope orientations to determine the potential of blocks to fail out of the proposed slope.

Project specific discontinuity orientation data was used to perform a kinematic assessment of how potential blocks formed by joints and fractures in the rock will behave when the rock mass is disturbed by a slope cut, and whether the proposed cut slope will be stable or will result in blocks created by discontinuities sliding or falling out of the slope. In the majority of designed cut slopes, blocks predominantly fail by planar sliding or wedge sliding.

5.1 Joint Sets

The mapped rock discontinuity data (consisting of 45 joint orientations) were plotted on a stereonet in the RocScience software program Dips in order to visualize the rock mass discontinuities in two dimensions. Analysis of clustering of discontinuity data suggests two prominent joint set orientations with the following orientations (dip/dip direction):

- Joint Set 1: 76/226
- Joint Set 2: 65/336

The resulting stereonet is provided in **Appendix B**.

5.2 Markland Analysis

Delve utilized the Markland Analysis technique with mapped joint orientations and an estimated rock mass peak friction angle to study the kinematic stability of the overall rock mass with respect to the proposed cut slope orientation. Where the stability of a rock slope is controlled by the structure of the rock mass, Markland Analysis is a well-documented and widely accepted design tool used to evaluate the rock slope stability relative to a proposed cut inclination (Hoek and Bray, 1981 and FHWA, 1998). The RocScience computer program Dips was used for this analysis to analyze the potential for planar and wedge sliding failures. It should be noted that Markland Analysis is a tool for evaluating the potential for specific modes of failure but does not directly calculate factors of safety.

For analysis, peak friction angle of the basalt rock mass was assumed to be 33° based observations of joint conditions and previous experience in similar basalt material. Kinematic

stability was analyzed at four different cut slope orientations, as shown in Table 1.

Table 1. Analyzed cut slope orientations.

Slope Orientation	Cut Slope Angle	Slope Cut Direction	Notes
#1	63°	010°	Approx. 1/2H:1V NNE facing slope
#2	63°	355°	Approx. 1/2H:1V NNW facing slope
#3	53°	010°	Approx. 3/4H:1V NNE facing slope
#4	53°	355°	Approx. 3/4H:1V NNW facing slope

5.2.1 Results

Stereonet outputs resulting from the Markland Analysis are provided in **Appendix C** and a summary of results is provided in this section.

Analysis suggests that the kinematic potential for planar sliding and wedge sliding is moderate at Slope Orientations #1 and #2 (cut slope angles of 63°) and low at Slope Orientations #3 and #4 (cut slope angles of 53°). Based on these results, we recommend that the slope is not cut steeper than 53° (approx. 0.75H:1V).

If the slope is cut at a steeper angle than 53° there exists the potential for planes and wedges formed by discontinuities in the rock mass to become unstable and slide out of the cut slope, resulting in potential failure during construction or ongoing rockfall which could impact operations below the cut slope. If cut at an inclination greater than 53 degrees, potentially unstable wedges and planes would likely need to be reinforced using rock anchors, increasing project cost. By cutting the slope at 53-degrees, the number of kinematically viable blocks created will be significantly reduced. Limited rock reinforcement, scaling, and rockfall mitigation (ditch or mesh) may be still required for a 53-degree cut slope and are discussed further in Section 7.0.

6.0 Limit Equilibrium Analysis

Kinematic analysis considers failure of blocks or masses of rock that have potential to fail along discontinuities in the rock mass but does not consider the global stability of the cut. To address the potential for larger scale shear failure through the rock mass, or failure through colluvial material at the brow of the slope, 2D limit equilibrium analysis was performed using the RocScience computer program SLIDE2. A limit equilibrium analysis considers all the forces driving a slope failure (mainly gravity) and the forces resisting a slope failure (mainly shear strength of the slope material) to assess the factor of safety of the slope. In addition to dry conditions, slope stability was analyzed under wet and seismic conditions where reduction of effective shear strength or external horizontal loading could potentially affect site conditions.

For limit equilibrium analysis, a factor of safety of 1.0 indicates that the forces driving a failure and the forces resisting a failure are equal, and the slope is near a state of failure. A factor of safety greater than 1.0 suggests the slope is stable, and a factor of safety less than 1.0 suggests the slope is prone to displacement or theoretically should have already failed. Generally, a factor of safety greater than 1.3 is considered allowable for permanent slopes affecting the general public (Oregon GDM, 2023). Transient groundwater and seismic loads were also considered and minimum factors of safety of 1.1 and 1.0, respectively, were considered acceptable. Assumptions and methods of limit equilibrium analysis are provided in the following sections.

6.1 Slope Geometry

Construction of 2D limit equilibrium model geometry was based on topographic and cross-section information provided by the Wallace Group (**Appendix C**). To evaluate the tallest cut sections among the provided data for cut slope analysis, Section B-B' and D-D' were chosen to represent the west and east slopes, respectively.

Configuration of ground surfaces for modelled sections B-B' and D'-D' (constructed to represent recommended cut slope inclinations) assumed the following:

- Slope of 2H:1V below the roadway.
- Slope of 0.75H:1V in rock and weathered rock above the roadway.
- Slope of 1.5H:1V to 2H:1V Slope inclinations at the brow of the slope where colluvium soil is encountered. Inclination varies between the east and west cuts depending on soil conditions anticipated based on results of exploration.

Representation of ground conditions at depth, particularly geologic unit boundaries, were constructed based upon lateral projection of adjacent borehole information for each cross section. Section B-B' was influenced most by explorations BH-03, BH-05, and BH-15. Section D-D' was influenced most by explorations BH-17 and BH-19. Geologic sections were constructed such that depths of unit transitions were consistent with observations in nearby explorations. Between and outside available borehole locations (along the profile) geologic interpretations were made assuming simple linear relationships across the project area, continuity of unit thicknesses or trends in thickness, and general tendency for the soil-weathered rock-rock profile to roughly parallel the existing surface topography. Model construction of the geologic profile at depth influenced the surface construction as material type and assumed unit-boundary locations influenced cut inclination transitions. In particular the interpreted boundary between soil and weathered rock dictated where the cut-slope transitions from 0.75H:1V to (1.5 - 2.0) H:1V inclination. Because of the assumptions made and variation in subsurface conditions, representation of subsurface geometry along the height of the cut should be considered approximate.

6.2 Material Strengths

Strength of soils was represented using Mohr-Coulomb criterion which includes modelling of soil strength using a frictional and cohesive component. Values selected for friction and cohesion for each unit were based on relative density of material encountered during exploration and lab tests regarding material composition. Strength of weathered rock and rock was represented using the Generalized Hoek-Brown criterion based on estimated values for unconfined compressive strength (UCS), geologic strength index (GSI) and assumed equation constants (such as the Hoek-Brown constant M_i) based on published values corresponding to rock type. For rock material strength estimates, UCS values were based on point-load testing performed on samples collected during exploration activities.

Material properties assumed for limit equilibrium analysis of Section B-B' (West Slopes) and D-D' (East Slopes) are summarized in Tables 2 and 3.

Table 2. Assumed material properties for geologic materials for Section B-B' (West Slopes).

Geologic Unit	Unit Weight	Strength Model	Friction Angle	Cohesion	UCS	GSI
Soil (Colluvium)	125 pcf	Mohr-Coulomb	34°	100 psf	-	-
Weathered Rock	165 pcf	Generalized Hoek-Brown	-	-	30,000 psf	30
Volcanic Breccia	170 pcf	Generalized Hoek-Brown	-	-	200,000 psf	45

Table 3. Assumed material properties for geologic materials for Section D-D' (East Slopes).

Geologic Unit	Unit Weight	Strength Model	Friction Angle	Cohesion	UCS	GSI
Soil (Colluvium)	125 pcf	Mohr-Coulomb	30°	150 psf	-	-
Weathered Rock	165 pcf	Generalized Hoek-Brown	-	-	30,000 psf	30
Basalt	175 pcf	Generalized Hoek-Brown	-	-	480,000 psf	55

6.3 Groundwater Conditions

Groundwater was assumed present in the bedrock based on the results of the subsurface investigation and information provided by CEC. In addition, a perched groundwater condition was evaluated to account for potential transient groundwater surcharge in colluvium and weathered rock related to high rainfall events. This was modeled as a perched groundwater condition atop the bedrock such that the weathered rock was fully saturated and the overlying colluvium was approximately 30-50% saturated in relation to unit thickness. Groundwater conditions within the bedrock were modeled by assuming saturated conditions in the bedrock and the perched groundwater condition. Dry conditions were also modeled.

6.4 Seismic Loading Parameters

Seismic loading criteria for the project were developed by the Wallace Group and include a peak ground acceleration of 0.55g at locations where rock cuts are anticipated. This was incorporated into the slope stability modeling as an external pseudo-static horizontal load condition equivalent to approximately half the PGA. This method of representing seismic forces imparted on a slope is industry standard for limit equilibrium stability modelling (Wyllie, 2018). The pseudo static horizontal load was modelled at 0.25g.

6.5 Results

Results of the limit equilibrium analysis suggest stable conditions at the following cut inclinations or shallower:

- Volcanic Breccia and Basalt: 0.75H:1V
- Weathered Rock: 0.75H:1V
- Colluvium soils (West): 1.5H:1V
- Colluvium Soils (East): 2H:1V

Calculated factors of safety for dry conditions, wet conditions, and seismic conditions are presented in Table 4. Printouts of the produced models can be found in **Appendix D**. The eastern hillslope colluvial soils were also modeled assuming a steeper 1.5H:1V slope however the resultant factors of safety did not meet the design criteria.

Table 4. Summary of Limit Equilibrium Modelling Results

Section	Dry Condition	Wet Condition	Seismic Scenario
B-B’	1.8 G	1.7 C	1.2 C
D-D’	1.8 C	1.6 C	1.1 C
*G (Global) indicates minimum factor of safety surface extended from the bottom to top of slope **C (Colluvium) indicates minimum factor of safety surface was limited to soil and weathered rock. Factor of safety for failure through bedrock was higher. ***Wet condition was not included in the seismic scenario			

As stated at the end of Section 5.0 and beginning of 6.0, this analysis considers global stability. Individual blocks of rock or raveling of colluvial material from the brow of the slope may still be a limited hazard at the proposed cut inclinations. Section 7.0 below discusses potential measures that can be taken to manage potential rockfall risks.

7.0 Rockfall Mitigation

As the cut slope is constructed, the fractured nature of the rock mass will lead to relatively small blocks being created in the exposed cut slope. Over the design life of the cut, these blocks will represent a continued source of potential rockfall from the cut face. This rockfall hazard can be mitigated through a combination of scaling, rock reinforcement, construction of a catchment ditch at the toe of the slope and installing a draped mesh over the slope.

7.1 Scaling

Scaling involves mechanically removing unstable blocks from the cut slope face either by hand or with equipment. Removing the blocks in a controlled construction environment reduces the amount of loose material on the slope and thereby reduces the rockfall hazard. This is usually the first step in rockfall mitigation and also serves to improve site safety. However, depending on the erosion and weathering rate of on-slope material, it is not typically effective as a long-term solution as a sole means and method for addressing rockfall.

7.2 Catchment Ditch

A catchment ditch constructed at the base of the cut slope serves as an area for any small falling rocks to collect in a safe area without impacting the roadway. A catchment ditch for rockfall purposes typically consists of a mono-sloped ditch, dipping away from the roadway towards the slope, constructed at a 6H:1V or 4H:1V inclination. Typical ditch construction is usually intended to capture approximately 90% of rockfall.

For an 80-foot-tall slope cut at a 0.75H:1V slope inclination, the ditch width required to catch 90% of rockfall (assume ditch inclination of 4H:1V) would be approximately 26 feet. For a 6H:1V ditch configuration the ditch would need to be approximately 31 feet wide (Pierson et al., 2001). Because slope heights across the east and west slopes are planned in excess of 90-100 feet at some locations, ditch widths greater than approximately 30 feet would likely be required to catch 90% of rockfall if using ditch catchment as the sole means of rockfall management. However, ditch widths on the order of 10 feet can be used if a drape mesh is applied to the slope to guide rockfall into the catchment ditch. Drape mesh application is discussed in the following section.

It should also be noted that depending on rockfall severity, the catchment ditch will require periodic maintenance visits to clear the ditch of fallen rocks and maintain its effectiveness. The frequency of required catchment ditch cleaning typically varies from annually at high volume rockfall slopes to every 5 or 10 years at low volume rockfall slopes.

7.3 Drape Mesh

Drape mesh installed over rock slopes guides ongoing rockfall from source areas on the slope into a catchment ditch, effectively reducing the impact of rockfall on roadway operations and

reducing the required ditch width. Drape mesh is constructed by installing ground anchors across the brow of the slope and hanging the mesh on a top cable that spans the horizontal length of the brow of the slope. Typically mesh coverage extends 5-10 feet back from the brow and extends down to 5-10 feet above the bottom of ditch. In the case of cut slopes for this project, it would be recommended that mesh be hung 10 feet back from the brow to cover colluvium material near the edge of the 0.75H:1V slope and extend to approximately 10 feet above bottom of ditch to allow for easy ditch cleanout.

7.4 Rock Reinforcement

Depending on the type of material used, drape mesh can contain blocks measuring 2-5 feet in diameter. If there are blocks on the slope larger than what the mesh can contain and that cannot be scaled, rock reinforcement may be used to pin the blocks in place. This involves drilling 3–4-inch diameter holes through the blocks and into the stable backslope, inserting a steel bar, and grouting the bar in place to effectively hold the unstable block in place. Considering that the planned cut slopes of 0.75H:1V effectively cut away the potential for sliding on the steeper persistent joints noted in the rock mass, the quantity of rock reinforcement elements would likely be limited and the length of elements would likely be limited to 10-20 feet.

It is difficult to quantify how much slope reinforcement may be needed until blasting, excavation, and scaling have been completed. However, because reinforcement of individual blocks would be primarily for rockfall management, rather than global stability, reinforcement efforts would likely be limited and sporadic assuming limited overbreak or ground disturbance from controlled blasting operations.

8.0 Construction Considerations

8.1 Blasting

Blasting associated with rock excavation will require a detailed specification to support the project. Blasting considerations that should be evaluated include minimizing fly rock, blast vibrations, and air blast. Specifications should consider the requirement of a blasting consultant on the contractor team.

8.2 Inspection

Based on our kinematic analysis, the potential for failure of the rock slope due to planar or wedge failure is considered low. However, it is possible that localized, random unmapped joints and fractures in the rock mass can create unstable blocks. Therefore, we recommend that a qualified geotechnical engineer or engineering geologist be on site during bench excavation construction to observe the slope for persistent joints inclined at 0.75H:1V inclinations or less that have the potential to daylight the slope and lead to block failures during excavation. If

instabilities are observed, mitigation options consisting of rock reinforcement or additional excavation can be explored to maintain a safe site.

8.3 Rockfall Management

It is recommended that scaling of the rockslope be performed periodically during construction to remove loose blocks from the slope. If cutting the slopes at a 0.75H:1V inclination, it is recommended that drape mesh be installed over the slope and a 10-foot-width ditch be constructed at the base of the slope. It is also recommended to maintain funds for limited amounts of steel bar rock reinforcement installation.

9.0 Closure

This report was prepared for the exclusive use of the Wallace Group, Inc. in conjunction with the Coffin Butte Landfill Upgrades Project. Our conclusions and recommendations are based on our interpretation of the information from the geotechnical exploration and analyses, as well as our professional experience and judgment.

In the performance of geotechnical work, specific information is obtained at specific locations at specific times, and geologic conditions can change over time. It should be acknowledged that variations in rock and soil conditions may exist between exploration and exposed locations and this report does not necessarily reflect variations between different explorations. The nature and extent of variation may not become evident until construction.

This report was completed within the limitations of the approved scope of work, schedule, and budget. The services rendered have been performed in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions in the same area. Delve Underground is not responsible for the use of this report in connection with anything other than the project at the location described above.

DELVE UNDERGROUND

Jamie Schick, CEG, LEG, LHG
Senior Associate

Luke Ferguson, PE
Project Engineer

10.0 References

Bela, James, (1979). *Geologic Hazards of Eastern Benton County, Oregon, Oregon Department of Geology and Mineral Industries*, Bulletin 98.

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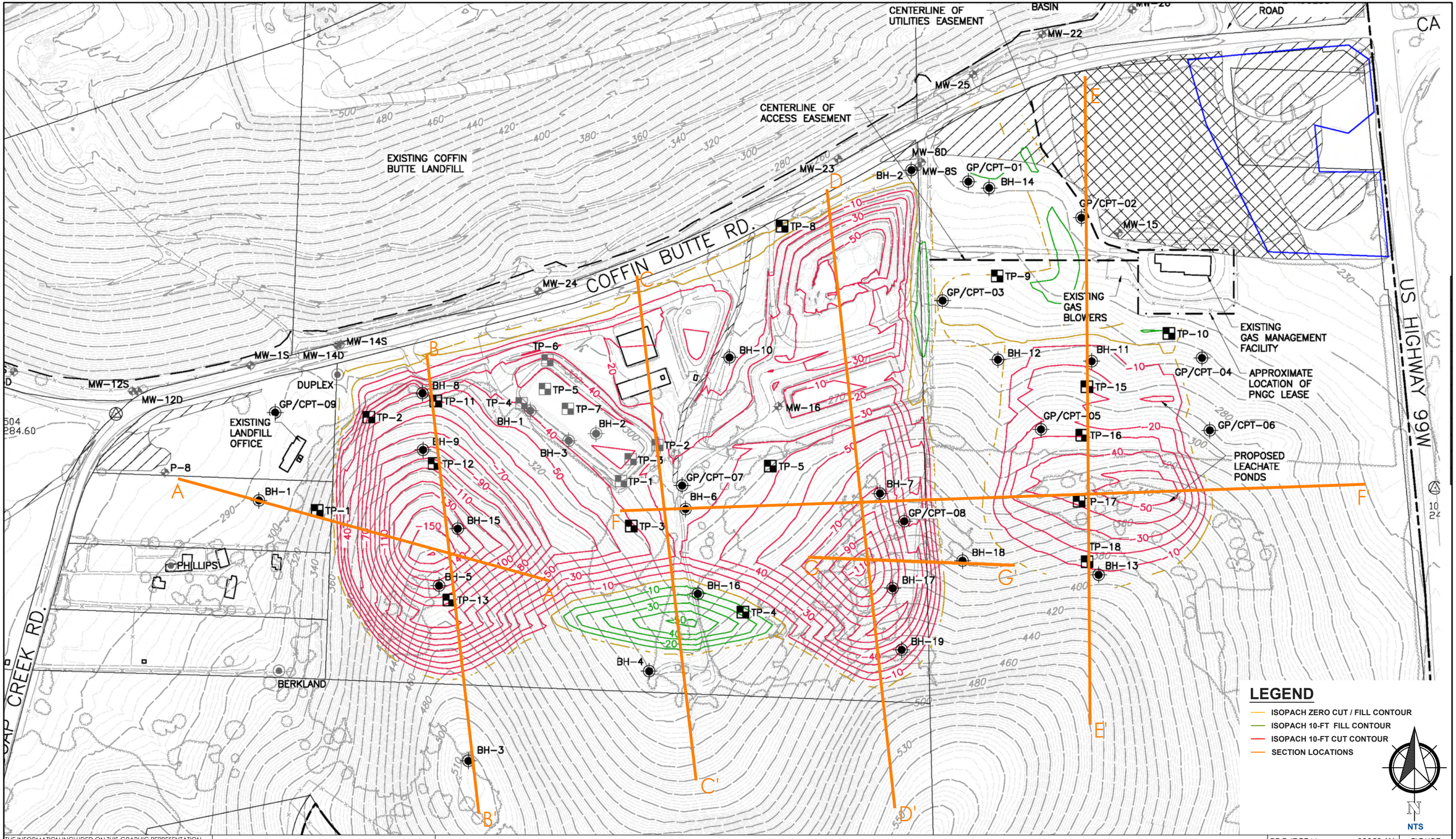
Pierson, L., Gullixson, C., and Chassie, R., (2001). *Rockfall Catchment Area Design Guide*, ODOT and FHWA, Report No. FHWA-OR-RD-02-04m.

Wyllie, D.C., 2018. Rock Slope Engineering, Section 11.6.2, 306-307pp. CRC Press.

Appendix A: Site Grading Plan and Cross Sections Provided by the Wallace Group



LEGEND

- ISOPACH ZERO CUT / FILL CONTOUR
- ISOPACH 10-FT FILL CONTOUR
- ISOPACH 10-FT CUT CONTOUR
- SECTION LOCATIONS

N

NTS

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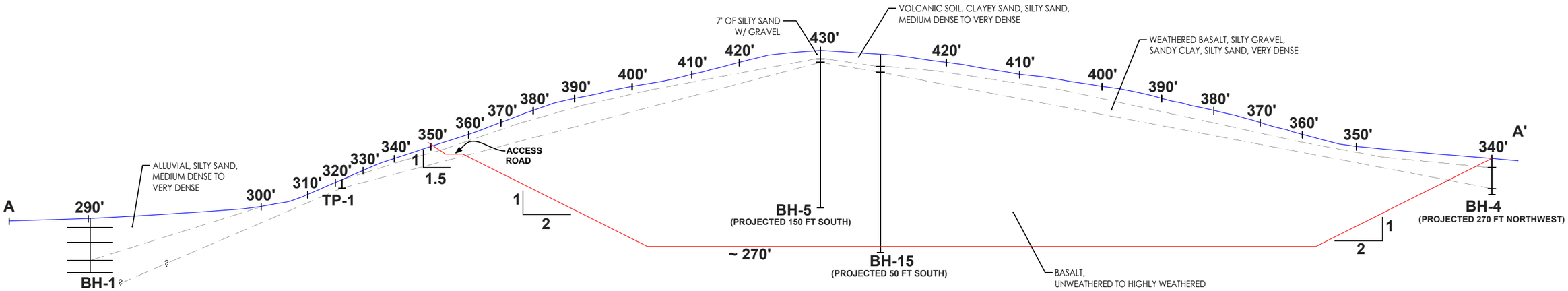
WALLACE GROUP
NORTHWEST GEOSYSTEM EXPERTS

SECTION LOCATION MAP
VALLEY LANDFILL INC.
COFFIN BUTTE LANDFILL
CORVALLIS, OREGON

PROJECT No.:	23050 (1)
DRAWN:	July 31, 2023
DRAWN BY:	DTJ
CHECKED BY:	LS
FILE NAME:	23050 (1)_FIGURE_8.DWG

FIGURE 8



LEGEND

- EXISTING 10-FT CONTOUR
- ISOPACH 10-FT CUT LINE

GRAPHIC SCALE

0 21.25 42.5 85 170

(IN FEET)

1 inch = 85 ft.

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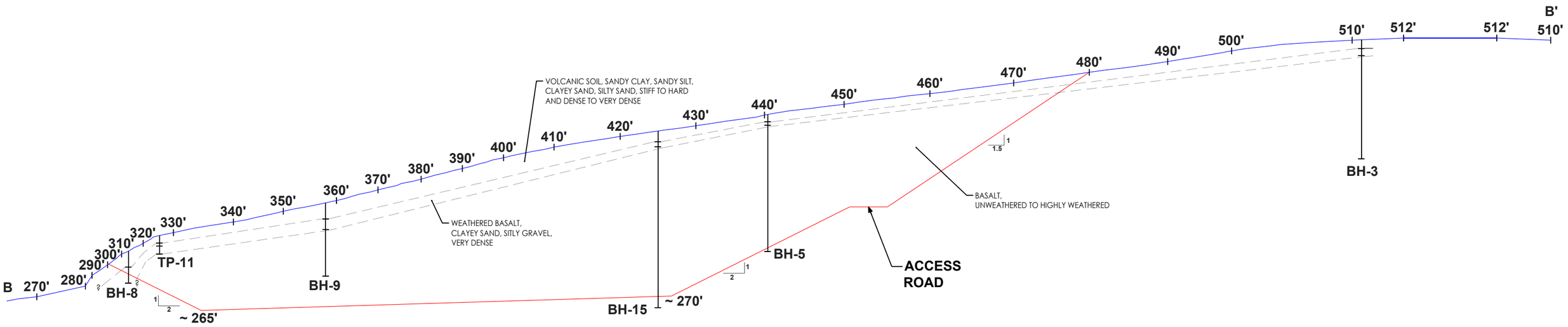
WALLACE GROUP
NORTHWEST GEOSYSTEM EXPERTS

CROSS-SECTION A-A'
VALLEY LANDFILL INC.
COFFIN BUTTE LANDFILL
CORVALLIS, OREGON

PROJECT No.:	23050 (1)
DRAWN:	April 1, 2023
DRAWN BY:	DTJ
CHECKED BY:	LS
FILE NAME:	23050 (1)_FIGURE_1.DWG

FIGURE 1



LEGEND

- EXISTING 10-FT CONTOUR
- ISOPACH 10-FT CUT LINE

GRAPHIC SCALE

0 22.5 45 90 180

(IN FEET)

1 inch = 90 ft.

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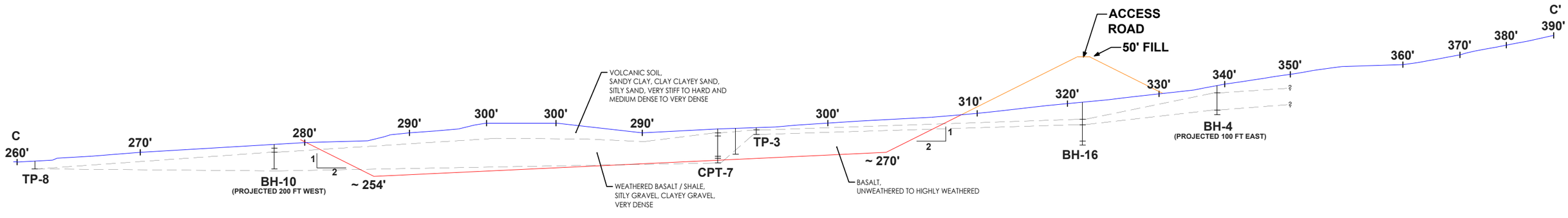
WALLACE GROUP
NORTHWEST GEOSYSTEM EXPERTS

CROSS-SECTION B-B'
VALLEY LANDFILL INC.
COFFIN BUTTE LANDFILL
CORVALLIS, OREGON

PROJECT No.:	23050 (1)
DRAWN:	April 1, 2023
DRAWN BY:	DTJ
CHECKED BY:	LS
FILE NAME:	23050 (1)_FIGURE_2.DWG

FIGURE 2



LEGEND

- EXISTING 10-FT CONTOUR
- ISOPACH 10-FT CUT LINE
- ISOPACH ZERO CUT/ FILL LINE

GRAPHIC SCALE

0 25 50 100 200

(IN FEET)

1 inch = 100 ft.

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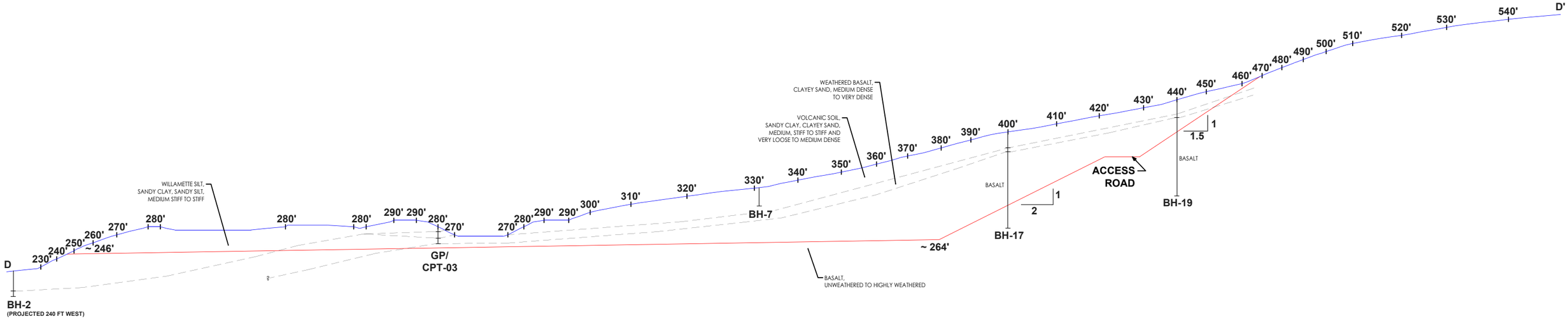
WALLACE GROUP
NORTHWEST GEOSYSTEM EXPERTS

CROSS-SECTION C-C'
VALLEY LANDFILL INC.
COFFIN BUTTE LANDFILL
CORVALLIS, OREGON

PROJECT No.:	23050 (1)
DRAWN:	April 1, 2023
DRAWN BY:	DTJ
CHECKED BY:	LS
FILE NAME:	23050 (1)_FIGURE_3.DWG

FIGURE
3



LEGEND

- EXISTING 10-FT CONTOUR
- ISOPACH 10-FT CUT LINE

GRAPHIC SCALE

0 30 60 120 240

(IN FEET)

1 inch = 120 ft.

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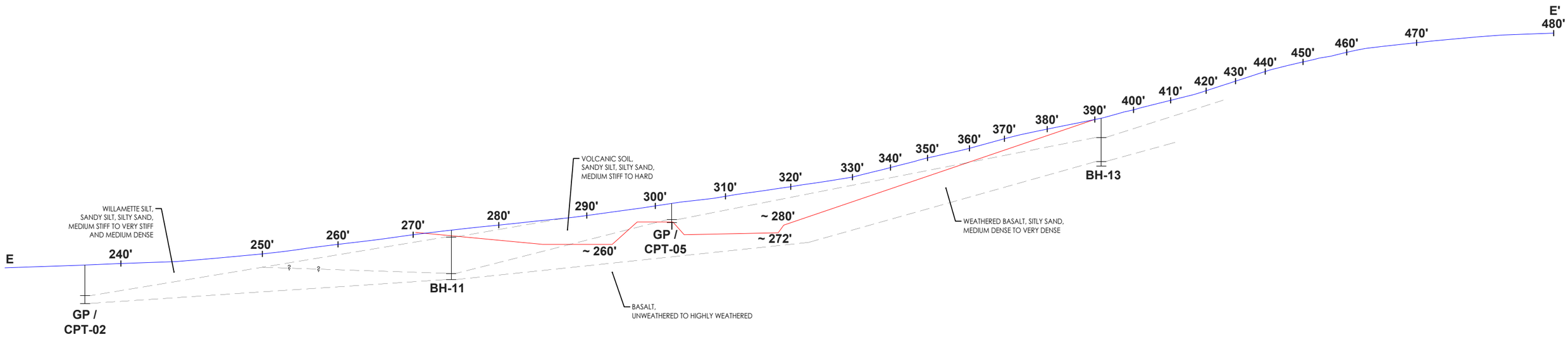
WALLACE GROUP
NORTHWEST GEOSYSTEM EXPERTS

CROSS-SECTION D-D'
VALLEY LANDFILL INC.
COFFIN BUTTE LANDFILL
CORVALLIS, OREGON

PROJECT No.:	23050 (1)
DRAWN:	June 5, 2023
DRAWN BY:	DTJ
CHECKED BY:	LS
FILE NAME:	23050 (1)_FIGURE_4.DWG

FIGURE 4



LEGEND

- EXISTING 10-FT CONTOUR
- ISOPACH 10-FT CUT LINE

GRAPHIC SCALE

0 25 50 100 200

(IN FEET)

1 inch = 100 ft.

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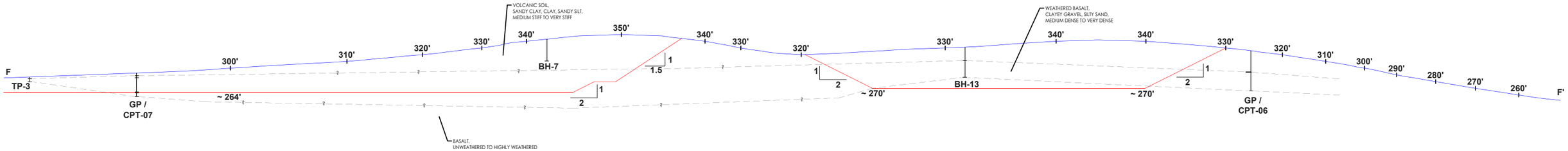
WALLACE GROUP
NORTHWEST GEOSYSTEM EXPERTS

CROSS-SECTION E-E'
VALLEY LANDFILL INC.
COFFIN BUTTE LANDFILL
CORVALLIS, OREGON

PROJECT No.:	23050 (1)
DRAWN:	June 5, 2023
DRAWN BY:	DTJ
CHECKED BY:	LS
FILE NAME:	23050 (1)_FIGURE_5.DWG

FIGURE 5



LEGEND

- EXISTING 10-FT CONTOUR
- ISOPACH 10-FT CUT LINE

GRAPHIC SCALE

0 36.25 72.5 145 290

(IN FEET)

1 inch = 145 ft.

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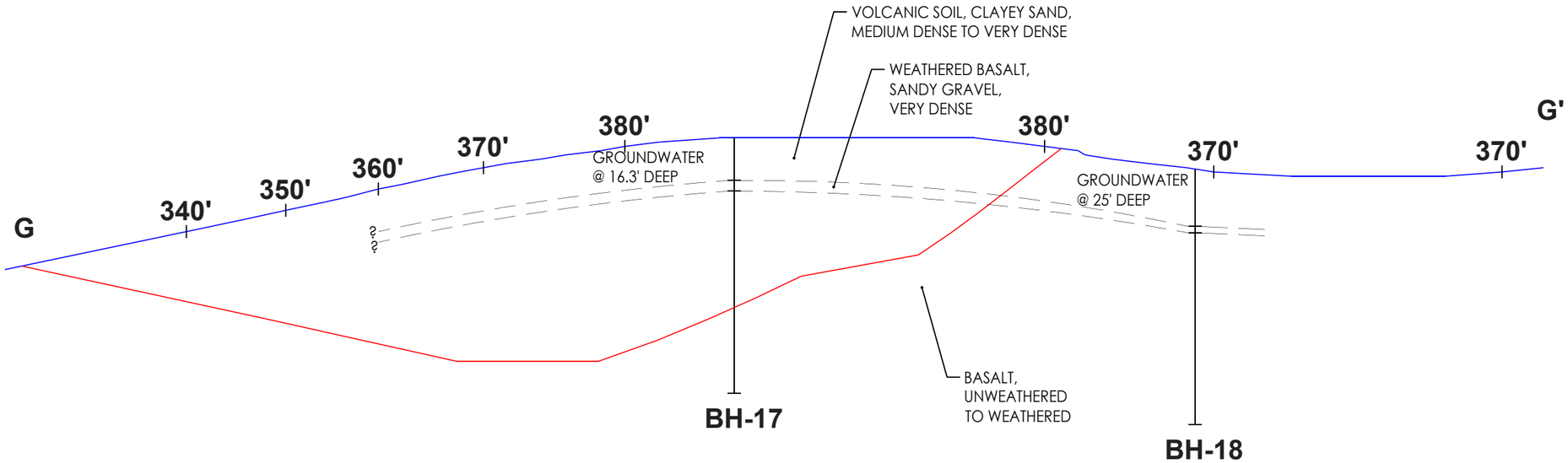
WALLACE GROUP
NORTHWEST GEOSYSTEM EXPERTS

CROSS-SECTION F-F'
VALLEY LANDFILL INC.
COFFIN BUTTE LANDFILL
CORVALLIS, OREGON

PROJECT No.:	23050 (1)
DRAWN:	April 1, 2023
DRAWN BY:	DTJ
CHECKED BY:	LS
FILE NAME:	23050 (1)_FIGURE_6.DWG

FIGURE 6



LEGEND

- EXISTING 10-FT CONTOUR
- ISOPACH 10-FT CUT LINE

GRAPHIC SCALE

0 15 30 60 120

(IN FEET)

1 inch = 60 ft.

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WALLACE GROUP
NORTHWEST GEOSYSTEM EXPERTS

CROSS-SECTION G-G'
VALLEY LANDFILL INC.
COFFIN BUTTE LANDFILL
CORVALLIS, OREGON

PROJECT No.:	23050 (1)
DRAWN:	July 10, 2023
DRAWN BY:	DTJ
CHECKED BY:	LS
FILE NAME:	23050 (1)_FIGURE_7.DWG

FIGURE 7

Appendix B: Point Load Testing Results

SUMMARY OF POINT LOAD TEST

PROJECT: Coffin Butte
PROJECT NO.: 6309.0
PROJECT LOCATION: Corvallis, Oregon
SAMPLED BY:
DATE SAMPLED:

LAB SAMPLE NO.: NA
SAMPLE NO.: NA
SAMPLE DESCRIP.: NA
DATE PLT TESTED: 11/15/2021
PLT TESTED BY: J. Siemens, J. Schick

TEST NOTES: All tests were diametral unless noted.
All samples were not moisture controlled.

Borehole ID	Depth (ft)	Test Number	Rock Type**	Depth or Diameter, D (mm)	D' (mm)	ΔD/D, penetration ratio (%)	Failure Load, P (kN)	Failure Load, P (N)	De^2 (mm^2)	Equivalent Diameter, De (mm)	Uncorrected Point Load Strength Index, I_s (Mpa)	Uncorrected Point Load Strength Index, I_s (PSI)	Size Correction Factor, F	Corrected Point Load Strength Index, $I_{s(50)}$ (Mpa)	Corrected Point Load Strength Index, $I_{s(50)}$ (PSI)	Estimated Uniaxial Compressive Strength, UCS (Mpa)*	Estimated Uniaxial Compressive Strength, UCS (PSI)*	Test Validation (Valid/Invalid)	Comments
9	57.0	1	Basalt	59.5	57.5	3	13.00	13000	3421	58.5	4	551	1.07	4.1	591	97.9	14194	Invalid	Followed Fractures on core axis
9	69.0	2	Breccia	59.5	56.0	6	0.95	950	3332	57.7	0	41	1.07	0.3	44	7.3	1059	Invalid	Fracture through matrix
9	43.5	3	Breccia	59.0	57.0	3	0.57	570	3363	58.0	0	25	1.07	0.2	26	4.3	631	Invalid	Fracture through matrix
9	45.5	4	Breccia	59.5	58.0	3	1.30	1300	3451	58.7	0	55	1.08	0.4	59	9.7	1410	Invalid	Fracture through matrix
9	35.0	5	Siltstone	58.5	55.0	6	0.42	420	3218	56.7	0	19	1.06	0.1	20	3.3	481	Valid	
9	26.0	6	Breccia	60.5	56.5	7	0.32	320	3418	58.5	0	14	1.07	0.1	15	2.4	350	Invalid	Followed Fractures on core axis
5	11.0	7	Breccia	59.0	57.0	3	0.84	840	3363	58.0	0	36	1.07	0.3	39	6.4	929	Invalid	Fracture through matrix
5	30.0	8	Breccia	59.5	57.0	4	0.93	930	3392	58.2	0	40	1.07	0.3	43	7.0	1022	Invalid	Fracture through matrix
5	47.0	9	Basalt	45.0	39.5	12	2.94	2940	1778	42.2	2	240	0.93	1.5	222	36.8	5332	Invalid	Clast, non-diametral
5	61.0	10	Breccia	59.5	57.0	4	0.30	295	3392	58.2	0	13	1.07	0.1	14	2.2	324	Invalid	Fracture through matrix
5	90.0	11	Basalt	59.5	57.5	3	16.50	16500	3421	58.5	5	699	1.07	5.2	751	124.2	18016	Valid	
5	105.0	12	Breccia	59.5	57.0	4	0.34	340	3392	58.2	0	15	1.07	0.1	16	2.6	374	Invalid	Fracture through matrix
5	119.5	13	Siltstone	59.5	57.5	3	0.97	970	3421	58.5	0	41	1.07	0.3	44	7.3	1059	Valid	
5	125.0	14	Breccia	59.5	58.0	3	1.41	1410	3451	58.7	0	59	1.08	0.4	64	10.5	1529	Valid	
5	127.0	15	Breccia	59.5	58.0	3	1.11	1110	3451	58.7	0	47	1.08	0.3	50	8.3	1204	Valid	
9	57.0	16	Basalt	38.0	35.5	7	3.40	3400	1349	36.7	3	366	0.87	2.2	318	52.6	7636	Invalid	Clast, non-diametral
3	21.5	17	Siltstone	59.0	56.5	4	0.56	560	3334	57.7	0	24	1.07	0.2	26	4.3	624	Valid	
3	28.5	18	Breccia	59.0	57.0	3	4.86	4860	3363	58.0	1	210	1.07	1.5	224	37.1	5377	Valid	Fracture through clast
3	32.5	19	Breccia	59.5	57.0	4	2.09	2090	3392	58.2	1	89	1.07	0.7	96	15.8	2297	Valid	Fracture through clast
3	36.5	20	Siltstone	59.5	55.5	7	0.24	235	3302	57.5	0	10	1.06	0.1	11	1.8	264	Invalid	
3	47.5	21	Siltstone	59.5	58.0	3	0.41	405	3451	58.7	0	17	1.08	0.1	18	3.0	439	Invalid	
3	60.0	22	Basalt	59.5	58.5	2	0.23	230	3481	59.0	0	10	1.08	0.1	10	1.7	248	Invalid	Followed Fractures on core axis
3	67.0	23	Breccia	59.5	52.5	12	2.10	2100	3124	55.9	1	98	1.05	0.7	103	17.0	2460	Invalid	Fracture through clast
3	73.0	24	Siltstone	59.0	57.5	3	0.43	430	3393	58.2	0	18	1.07	0.1	20	3.3	473	Valid	
3	85.0	25	Breccia	59.5	57.5	3	0.62	620	3421	58.5	0	26	1.07	0.2	28	4.7	677	Invalid	
3	79.0	26	Siltstone	59.0	57.5	3	0.43	430	3393	58.2	0	18	1.07	0.1	20	3.3	473	Valid	
3	87.0	27	Siltstone	59.0	52.5	11	0.83	830	3098	55.7	0	39	1.05	0.3	41	6.7	979	Valid	
3	105.0	28	Breccia	59.0	54.5	8	2.83	2830	3216	56.7	1	128	1.06	0.9	135	22.4	3242	Invalid	No fracture, penetration
3	105.0	29	Breccia	59.5	56.5	5	2.95	2950	3362	58.0	1	127	1.07	0.9	136	22.5	3265	Valid	
3	103.0	30	Siltstone	59.0	56.5	4	0.20	200	3334	57.7	0	9	1.07	0.1	9	1.5	223	Valid	
3	108.0	31	Breccia	59.5	58.0	3	0.59	590	3451	58.7	0	25	1.08	0.2	27	4.4	640	Valid	

Notes: * Estmated UCS was calculated using an estimated correlation factor (C) of 24

Assumed C* 24.0

Number of total breaks:	31
Number of basalt breaks	5
Number of breccia breaks	17
Number of siltstone breaks	9

McMILLEN JACOBS ASSOCIATES

CALCULATIONS (ASTM D5731)

Uncorrected Point Load Strength *

$I_s = P / De^2$

I_s = Point load strength index, Mpa
P = failure load, N
$De^2 = D^2$, for diametral core tests without platen penetration, mm^2
$De^2 = 4A/\pi$ for axial, block, and lump tests, mm^2
*For D = 50mm, if D is not equal to 50 mm, use size corrected point load index below.

D' = final separation of the loading points with significant platen penetration, mm
De = equivalent core diameter, mm
$De^2 = 4/\pi$ W x D' for block, and lump shapes with platen penetration, mm^2
De^2 = D x D' for cores with platen penetration, mm^2

Where:
A = WD = minimum cross-sectional area of a plane through the platen contact points

Size Corrected Point Load Index

$I_{s(50)} = k_{PLT} \times I_s$

$k_{PLT} = (De / 50)^{0.45}$

$I_{s(50)}$ = size-corrected point load strength index
k_{PLT} = size correction factor

C Value

$\sigma_c = C \times I_{s(50)}$

σ_c = uniaxial compressive strength (UCS)
C = C-value, correlation value

The uniaxial compressive strength, σ_c, is related to the point load index, $_{s(50)}$, by what is commonly referred to as the C-Value, which is a site specific value
The C-Value relating to a site is found by plotting the LAB Unconfined Compressive strengths (UCS) vs. the corrected Point Load ($I_{s(50)}$) data.
If no correlation, a generalized C-value can be used, C = 24.
This procedure is only used to correct FIELD point load test data. Laboratory data will already provide UCS values. However, the lab UCS and PLT data is used to find the C-Value.

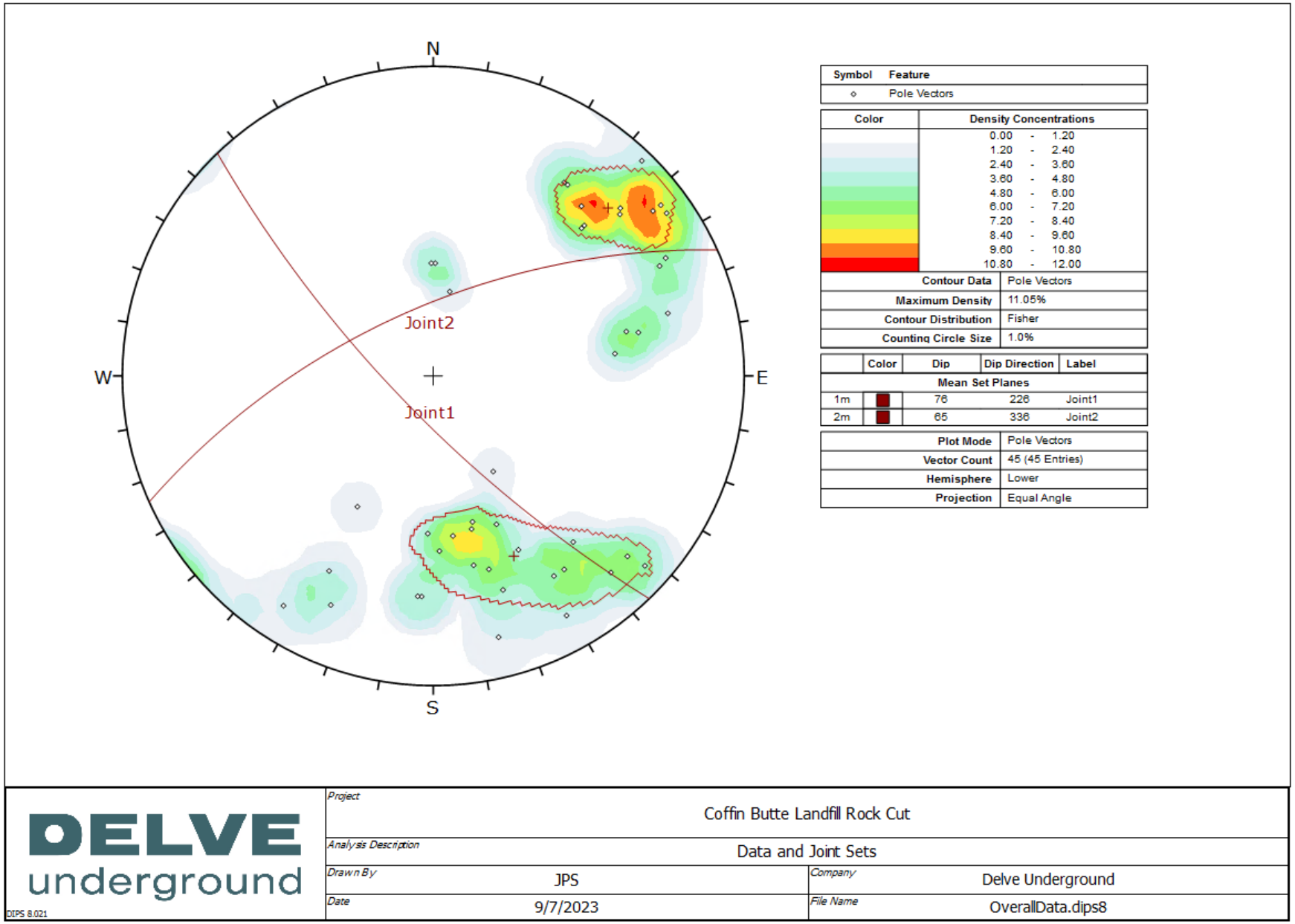
Reducing data

Find the minimum and maximum values and delete. ASTM calls for 2 lowest and 2 highest values to be deleted (data set choice).
Average the rest of the values for the set to get Is(50) and UCS.

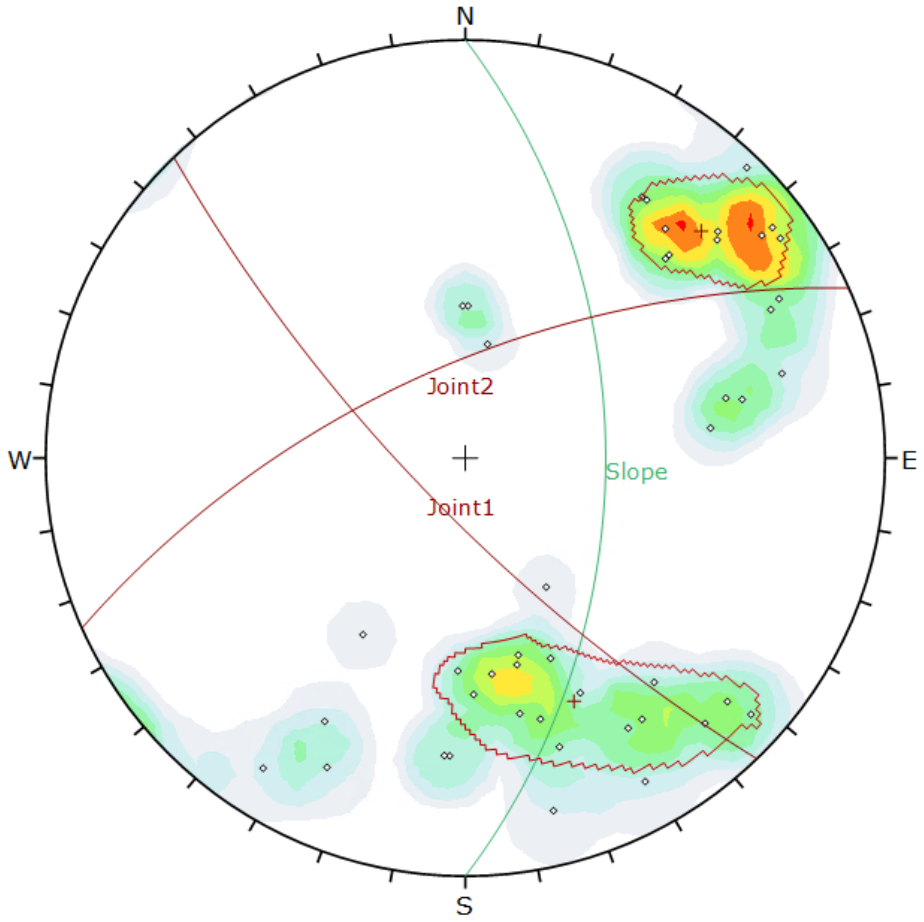
Calculations further explained in FHWA-IF-02-034 and ISRM RTH 325-89.

Appendix C: Stereonet and Kinematic Results

Overall Stereonet



Slope: 53/090 – Stereonet



Symbol	Feature
◇	Pole Vectors

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

	Color	Dip	Dip Direction	Label
User Planes				
1		53	90	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

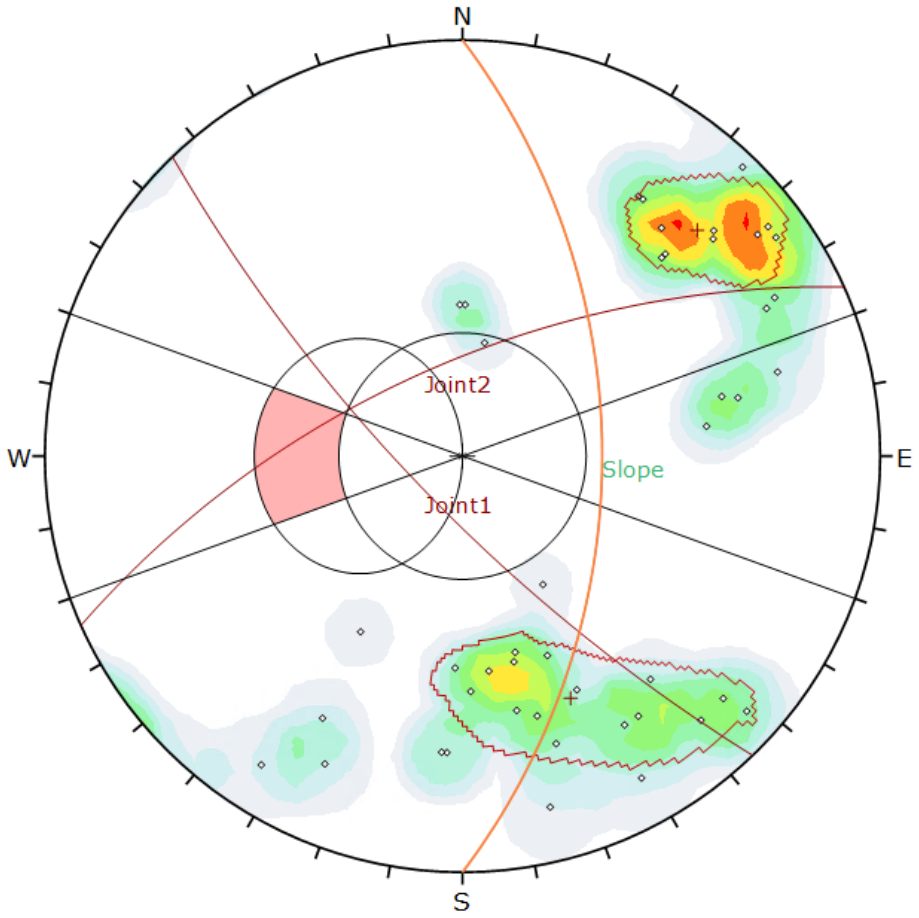
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 53/090		
Drawn By	JPS	*Company*	Delve Underground
Date	9/7/2023	*File Name*	CoffinButte_53-090.dips8

Slope: 53/090 – Planar Failure



Symbol	Feature
◇	Pole Vectors

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

Kinematic Analysis	Planar Sliding
Slope Dip	53
Slope Dip Direction	90
Friction Angle	33°
Lateral Limits	20°

	Critical	Total	%
Planar Sliding (All)	0	45	0.00%

	Color	Dip	Dip Direction	Label
User Planes				
1		53	90	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

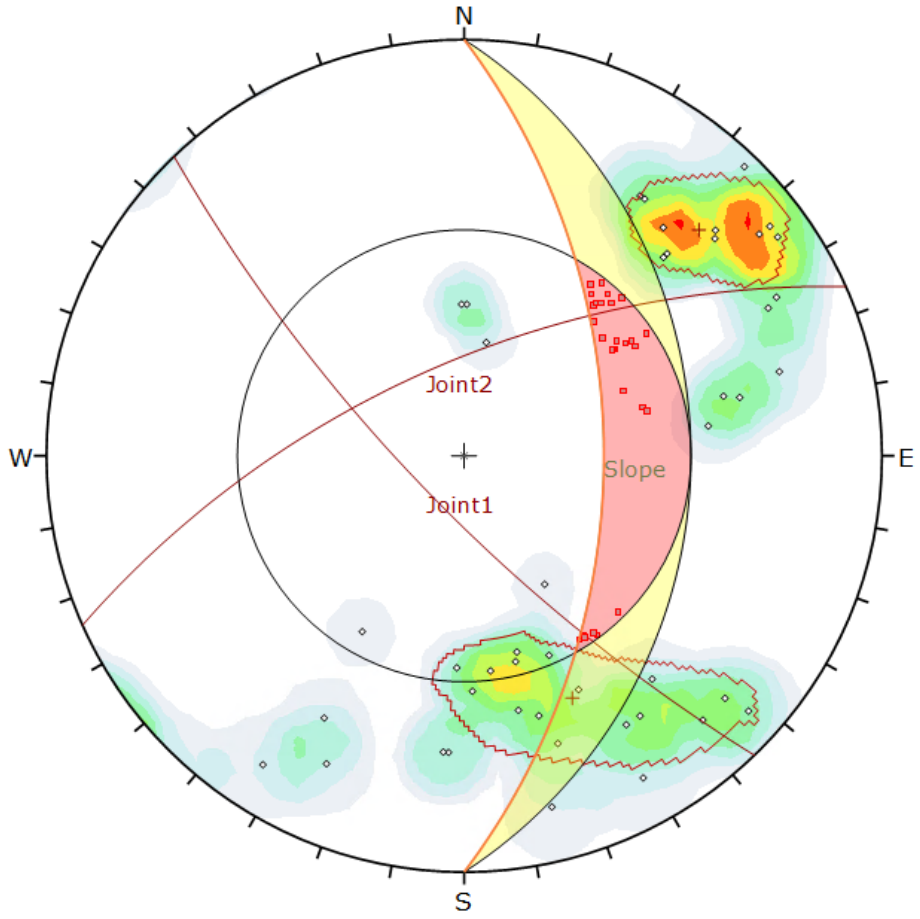
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 53/090 - Planar Failure		
Drawn By	JPS	*Company*	Delve Underground
Date	9/7/2023	*File Name*	CoffinButte_53-090_Planar.dips8

Slope: 53/090 – Wedge Failure



Symbol	Feature
◇	Pole Vectors
▫	Critical Intersection

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

Kinematic Analysis	Wedge Sliding		
Slope Dip	53		
Slope Dip Direction	90		
Friction Angle	33°		
	Critical	Total	%
Wedge Sliding	31	990	3.13%

	Color	Dip	Dip Direction	Label
User Planes				
1		53	90	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

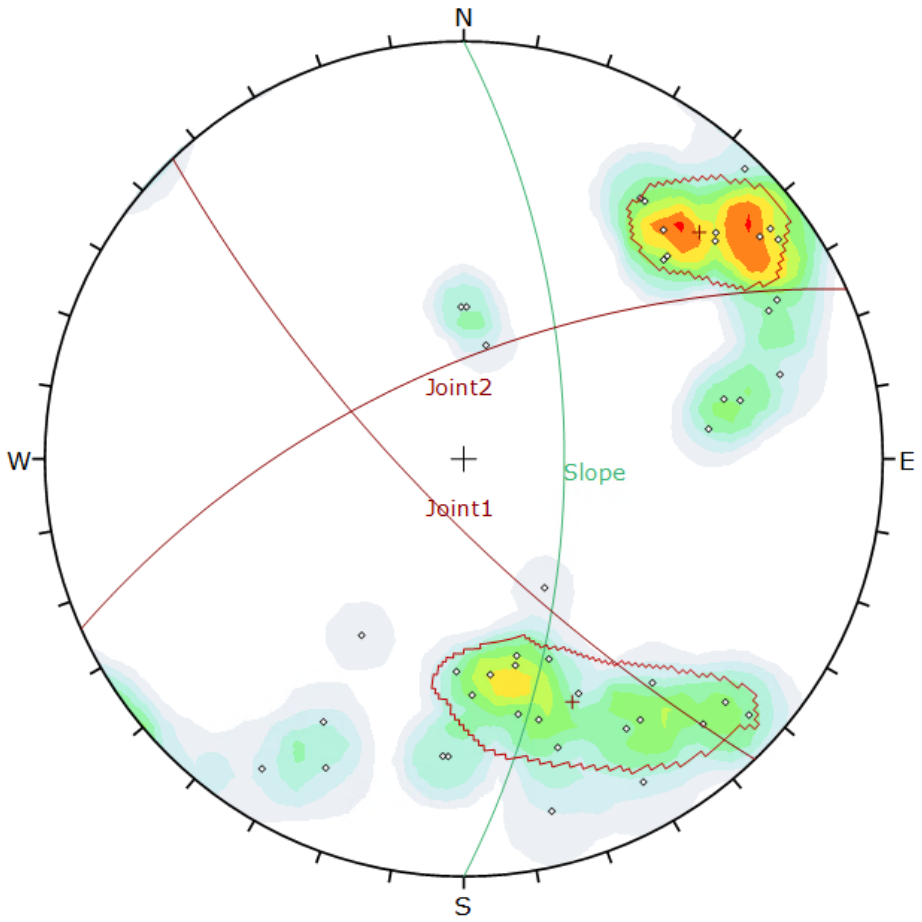
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Intersection Mode	Grid Data Planes
Intersections Count	990
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 53/090 - Wedge Failure		
Drawn By	JPS	Company	Delve Underground
Date	9/7/2023	File Name	CoffinButte_53-090_Wedge.dips8

Slope: 63/090 – Stereonet



Symbol	Feature
◇	Pole Vectors

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

	Color	Dip	Dip Direction	Label
User Planes				
1		63	90	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

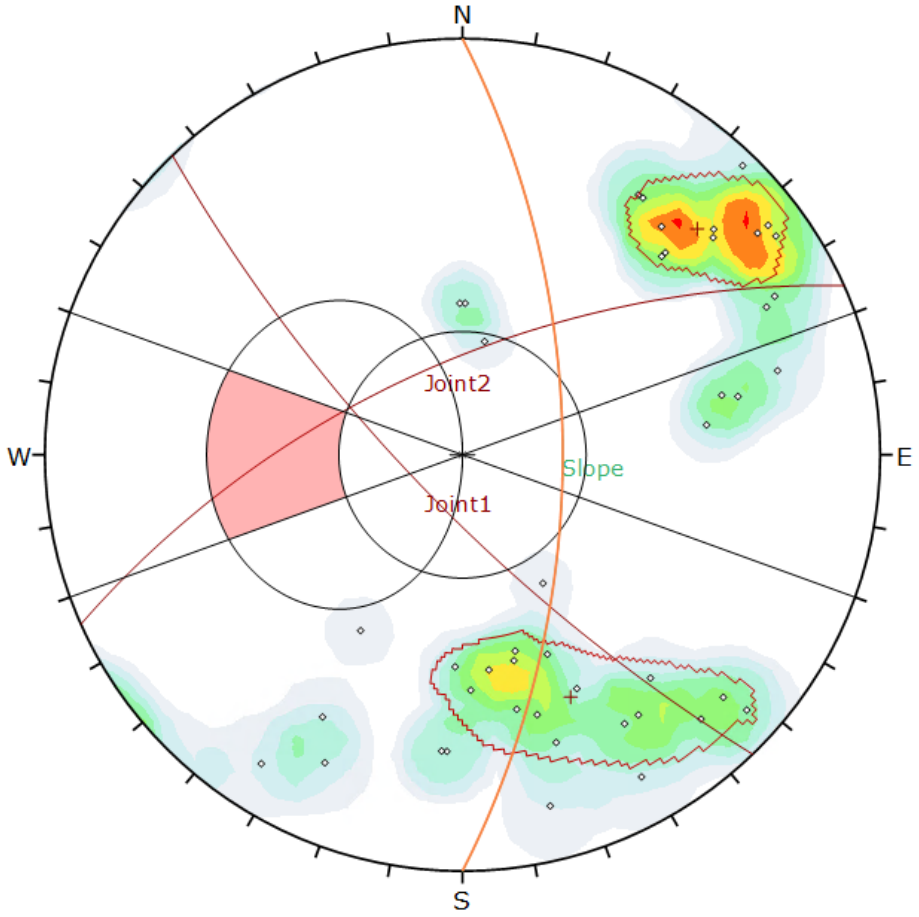
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 63/090		
Drawn By	JPS	Company	Delve Underground
Date	9/7/2023	File Name	CoffinButte_63-090.dips8

Slope: 63/090 – Planar Failure



Symbol	Feature
◇	Pole Vectors

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

Kinematic Analysis	Planar Sliding
Slope Dip	63
Slope Dip Direction	90
Friction Angle	33°
Lateral Limits	20°

	Critical	Total	%
Planar Sliding (All)	0	45	0.00%

	Color	Dip	Dip Direction	Label
User Planes				
1		63	90	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

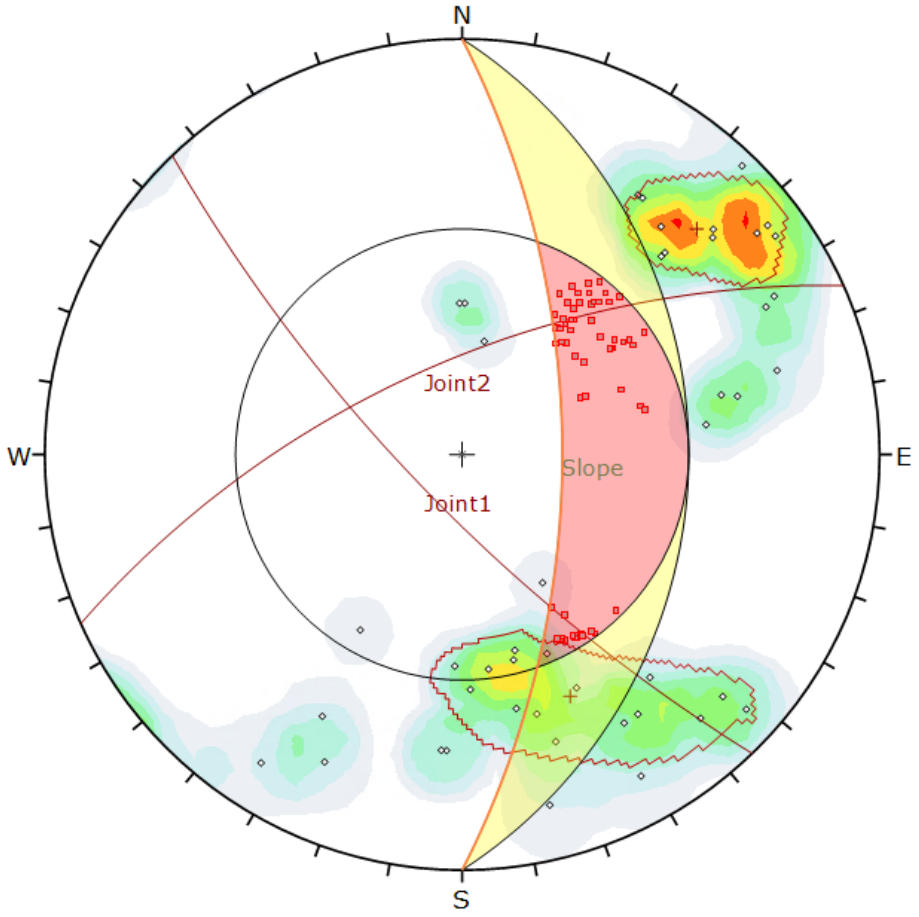
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 63/090 - Planar Failure		
Drawn By	JPS	*Company*	Delve Underground
Date	9/7/2023	*File Name*	CoffinButte_63-090_Planar.dips8

Slope: 63/090 – Wedge Failure



Symbol	Feature
◇	Pole Vectors
▫	Critical Intersection

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

Kinematic Analysis	Wedge Sliding		
Slope Dip	63		
Slope Dip Direction	90		
Friction Angle	33°		
	Critical	Total	%
Wedge Sliding	66	990	6.67%

	Color	Dip	Dip Direction	Label
User Planes				
1		63	90	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

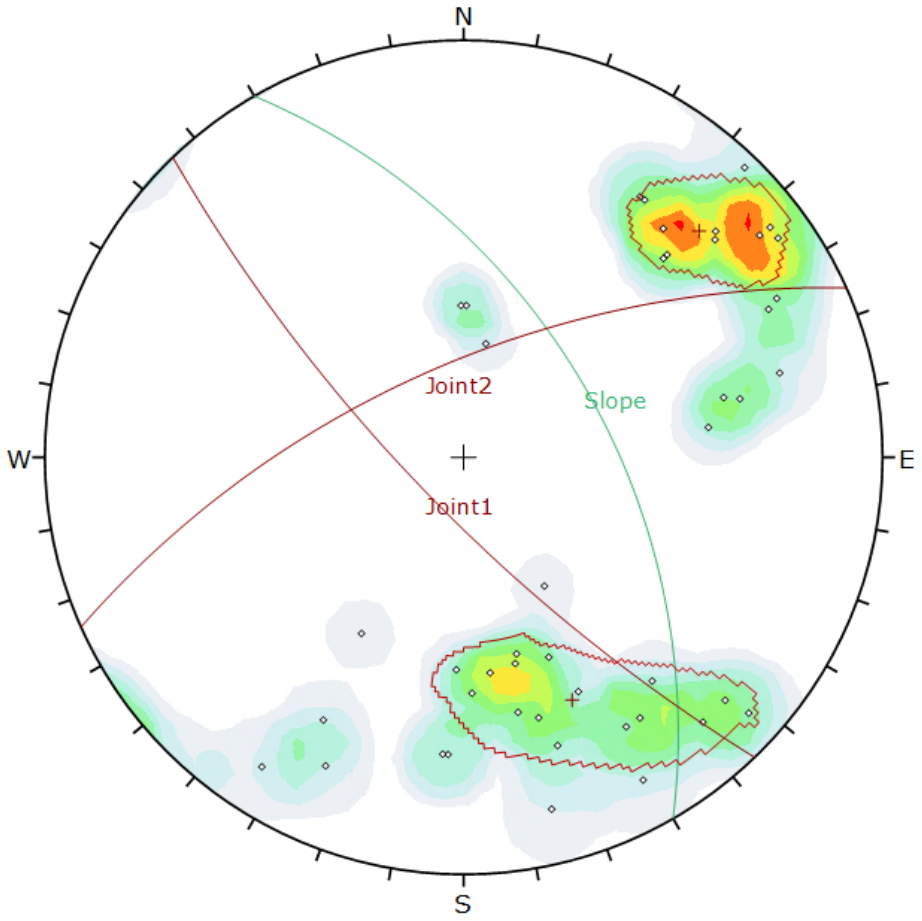
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Intersection Mode	Grid Data Planes
Intersections Count	990
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 63/090 - Wedge Failure		
Drawn By	JPS	Company	Delve Underground
Date	9/7/2023	File Name	CoffinButte_63-090_Wedge.dips8

Slope: 53/060 – Stereonet



Symbol	Feature
◇	Pole Vectors

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

	Color	Dip	Dip Direction	Label
User Planes				
1		53	60	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

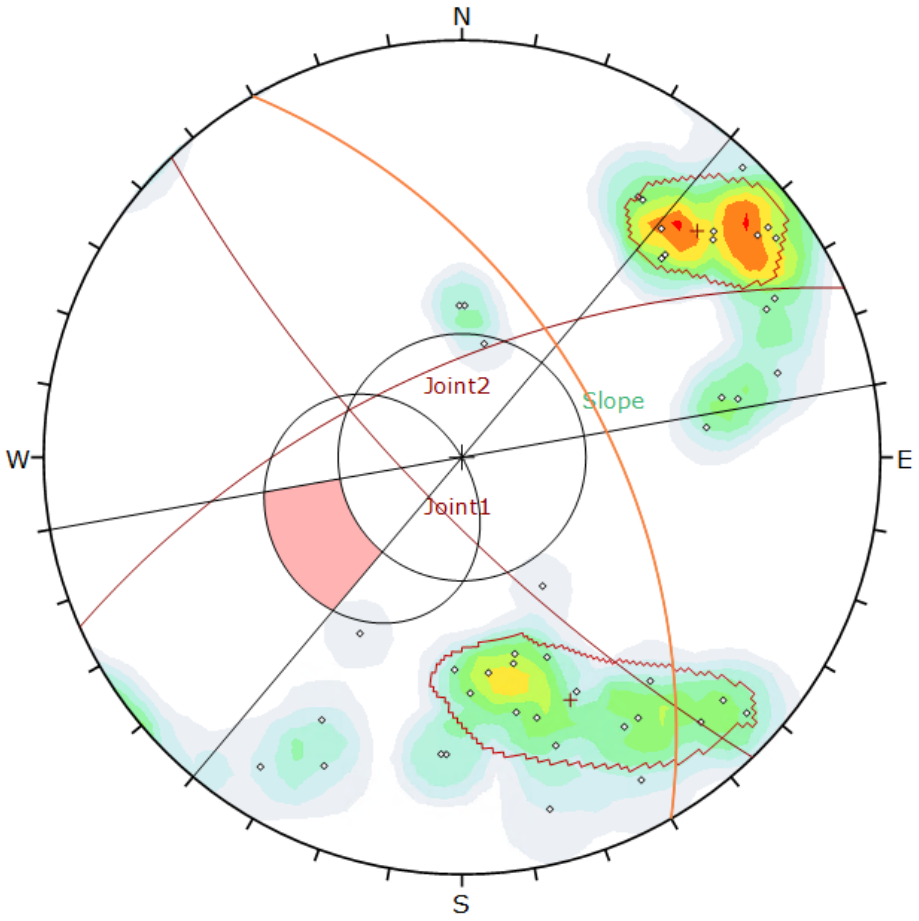
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 53/060		
Drawn By	JPS	*Company*	Delve Underground
Date	9/7/2023	*File Name*	CoffinButte_53-060.dips8

Slope: 53/060 – Planar Failure



Symbol	Feature
◇	Pole Vectors

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

Kinematic Analysis	Planar Sliding
Slope Dip	53
Slope Dip Direction	60
Friction Angle	33°
Lateral Limits	20°

	Critical	Total	%
Planar Sliding (All)	0	45	0.00%

	Color	Dip	Dip Direction	Label
User Planes				
1		53	60	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

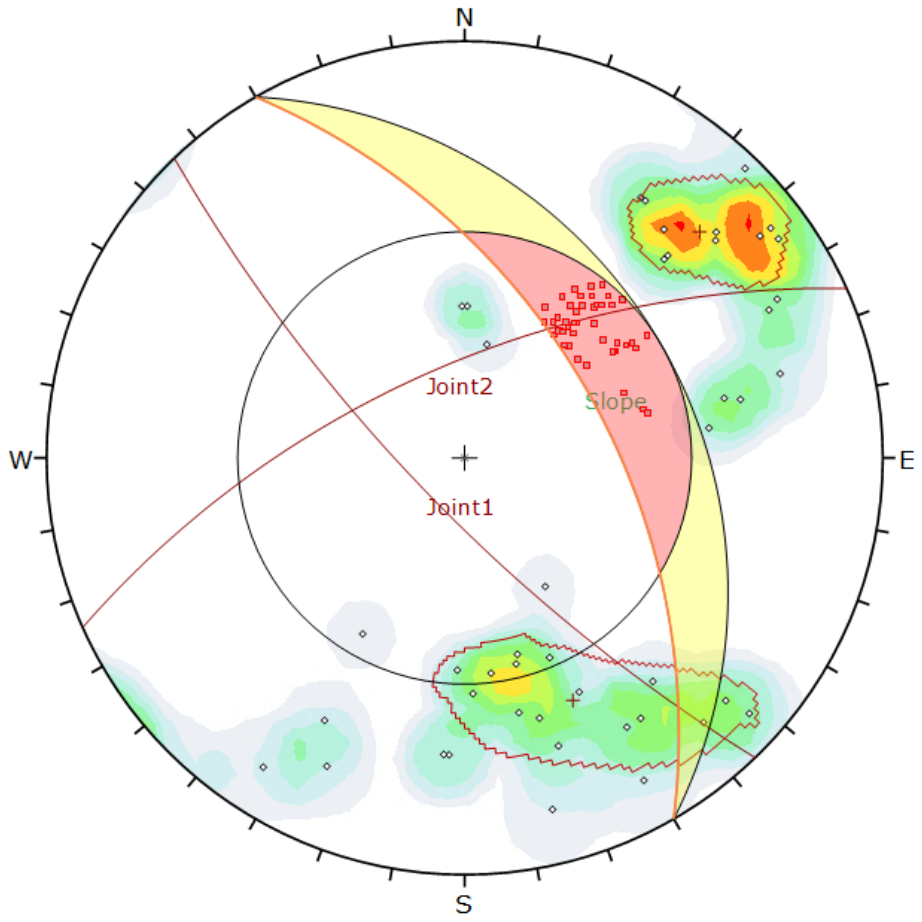
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 53/060 - PLanar Failure		
Drawn By	JPS	*Company*	Delve Underground
Date	9/7/2023	*File Name*	CoffinButte_53-060_Planar.dips8

Slope: 53/060 – Wedge Failure



Symbol	Feature
◇	Pole Vectors
▫	Critical Intersection

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

Kinematic Analysis	Wedge Sliding
Slope Dip	53
Slope Dip Direction	60
Friction Angle	33°

	Critical	Total	%
Wedge Sliding	45	990	4.55%

	Color	Dip	Dip Direction	Label
User Planes				
1		53	60	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

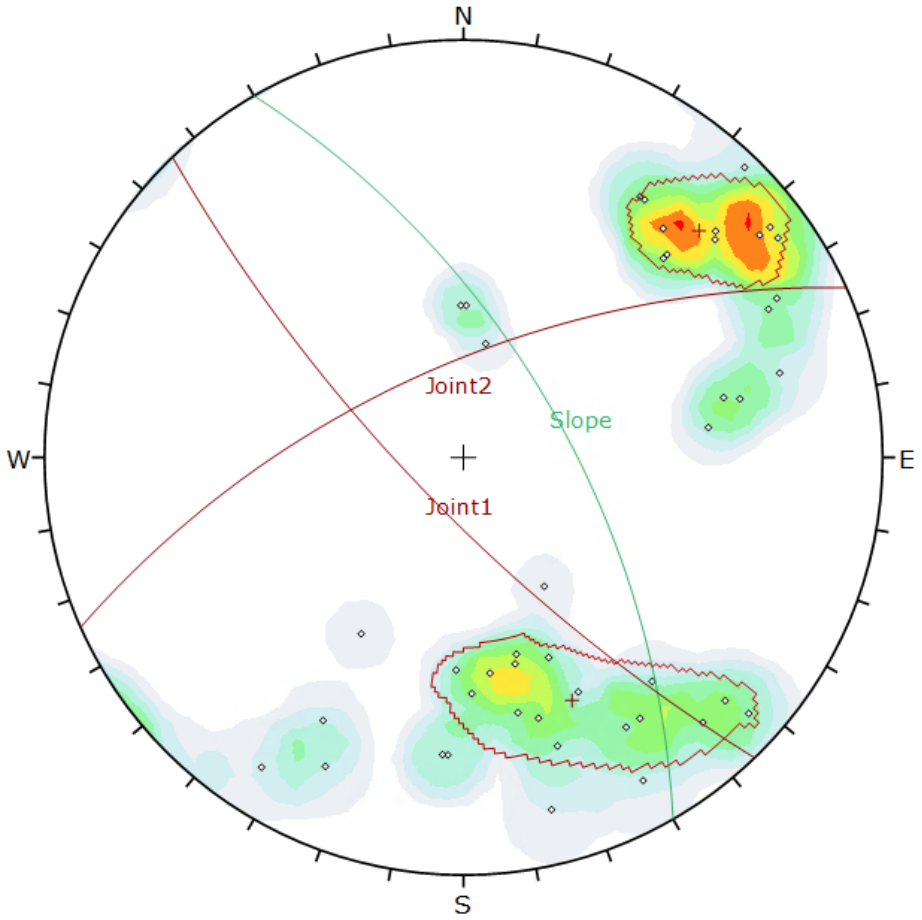
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Intersection Mode	Grid Data Planes
Intersections Count	990
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 53/060 - Wedge Failure		
Drawn By	JPS	Company	Delve Underground
Date	9/7/2023	File Name	CoffinButte_53-060_Wedge.dips8

Slope: 63/060 – Stereonet



Symbol	Feature
◇	Pole Vectors

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

	Color	Dip	Dip Direction	Label
User Planes				
1		63	60	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

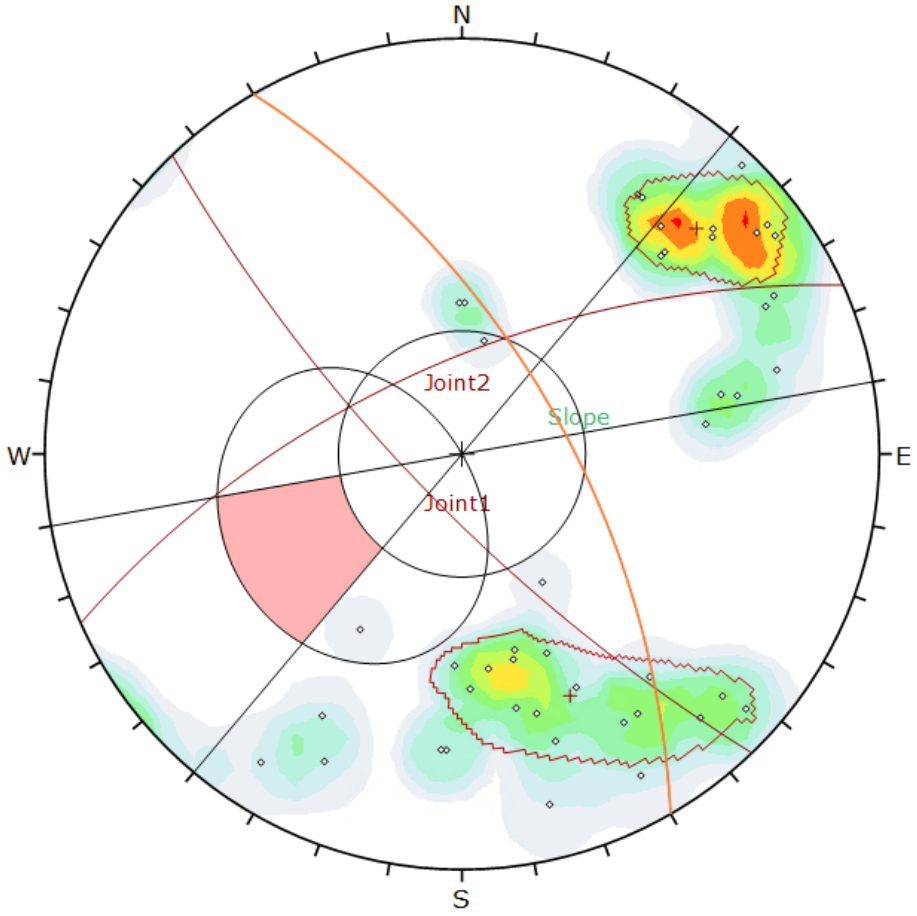
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 63/060		
Drawn By	JPS	*Company*	Delve Underground
Date	9/7/2023	*File Name*	CoffinButte_63-060.dips8

Slope: 63/060 – Planar Failure



Symbol	Feature
◇	Pole Vectors

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

Kinematic Analysis	Planar Sliding
Slope Dip	63
Slope Dip Direction	60
Friction Angle	33°
Lateral Limits	20°

	Critical	Total	%
Planar Sliding (All)	0	45	0.00%

	Color	Dip	Dip Direction	Label
User Planes				
1		63	60	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

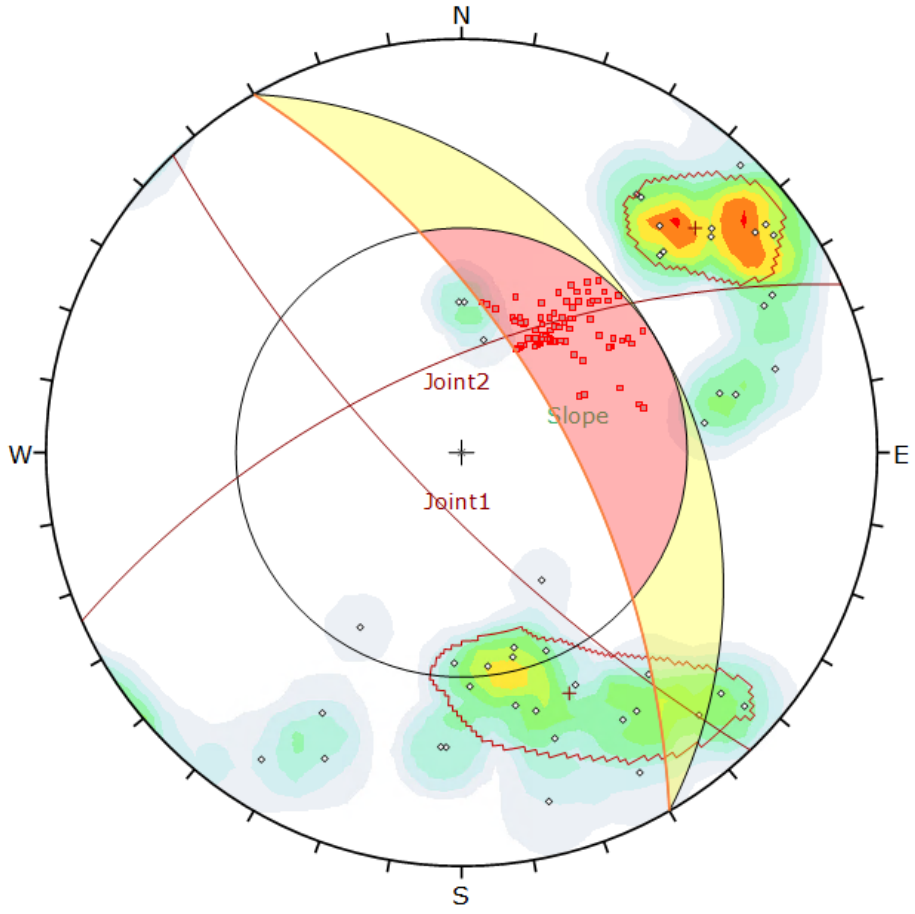
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 63/060 - Planar Failure		
Drawn By	JPS	*Company*	Delve Underground
Date	9/7/2023	*File Name*	CoffinButte_63-060-Planar.dips8

Slope: 63/060 – Wedge Failure



Symbol	Feature
◇	Pole Vectors
▫	Critical Intersection

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

Kinematic Analysis	Wedge Sliding
Slope Dip	63
Slope Dip Direction	60
Friction Angle	33°

	Critical	Total	%
Wedge Sliding	87	990	8.79%

	Color	Dip	Dip Direction	Label
User Planes				
1		63	60	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

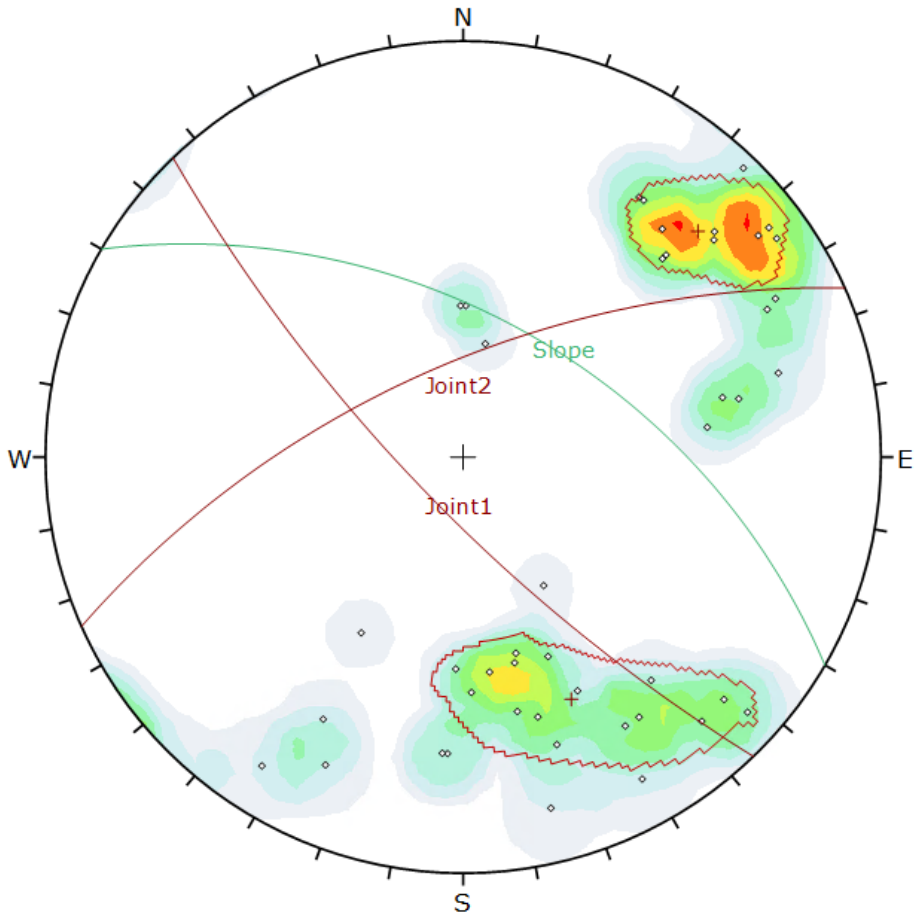
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Intersection Mode	Grid Data Planes
Intersections Count	990
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 63/060 - Wedge Failure		
Drawn By	JPS	Company	Delve Underground
Date	9/7/2023	File Name	CoffinButte_63-060-Wedge.dips8

Slope: 53/030 – Stereonet



Symbol	Feature
◇	Pole Vectors

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

	Color	Dip	Dip Direction	Label
User Planes				
1		53	30	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

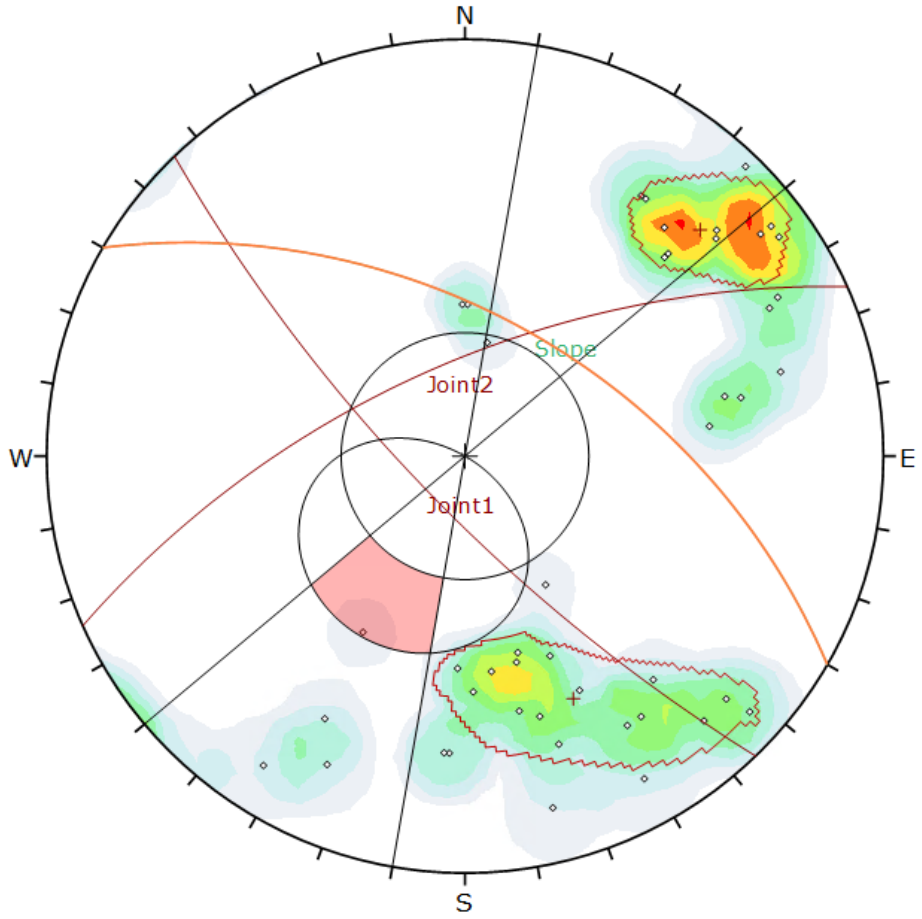
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 53/030		
Drawn By	JPS	*Company*	Delve Underground
Date	9/7/2023	*File Name*	CoffinButte_53-030.dips8

Slope: 53/030 – Planar Failure



Symbol	Feature
◇	Pole Vectors

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

Kinematic Analysis	Planar Sliding
Slope Dip	53
Slope Dip Direction	30
Friction Angle	33°
Lateral Limits	20°

	Critical	Total	%
Planar Sliding (All)	1	45	2.22%

	Color	Dip	Dip Direction	Label
User Planes				
1		53	30	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

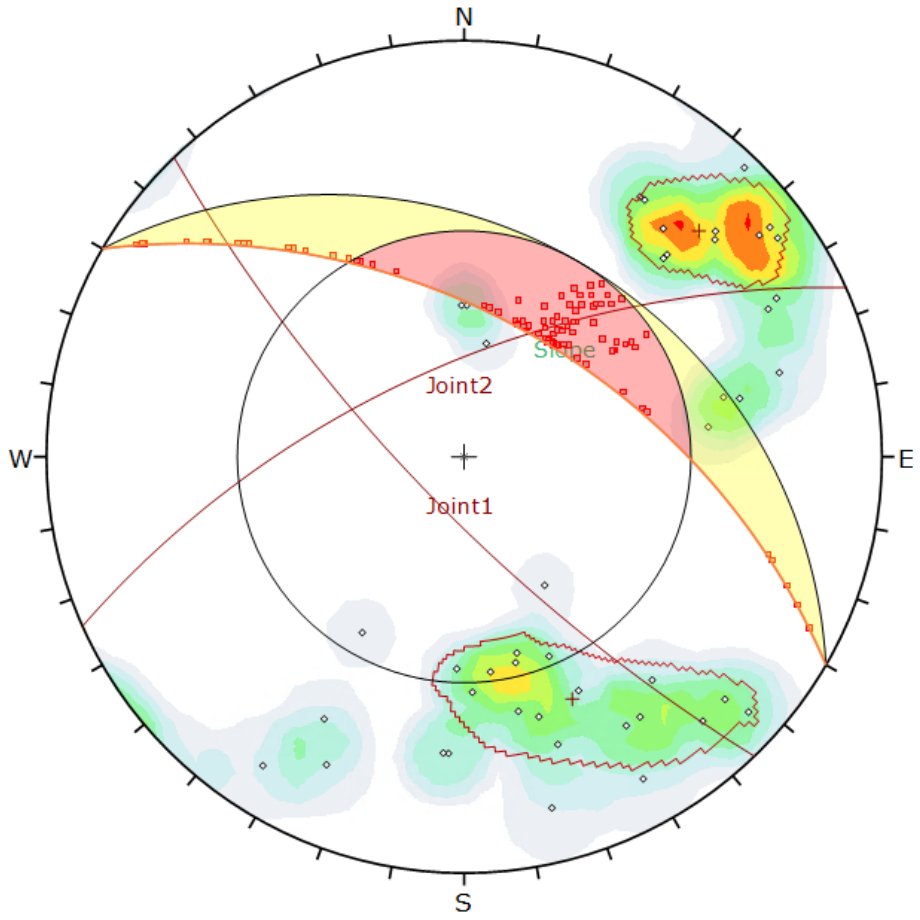
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 53/030 - Planar Failure		
Drawn By	JPS	*Company*	Delve Underground
Date	9/7/2023	*File Name*	CoffinButte_53-030-Planar.dips8

Slope: 53/030 – Wedge Failure



Symbol	Feature
◇	Pole Vectors
▫	Critical Intersection

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

Kinematic Analysis	Wedge Sliding		
Slope Dip	53		
Slope Dip Direction	30		
Friction Angle	33°		
	Critical	Total	%
Wedge Sliding	92	990	9.29%

	Color	Dip	Dip Direction	Label
User Planes				
1		53	30	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

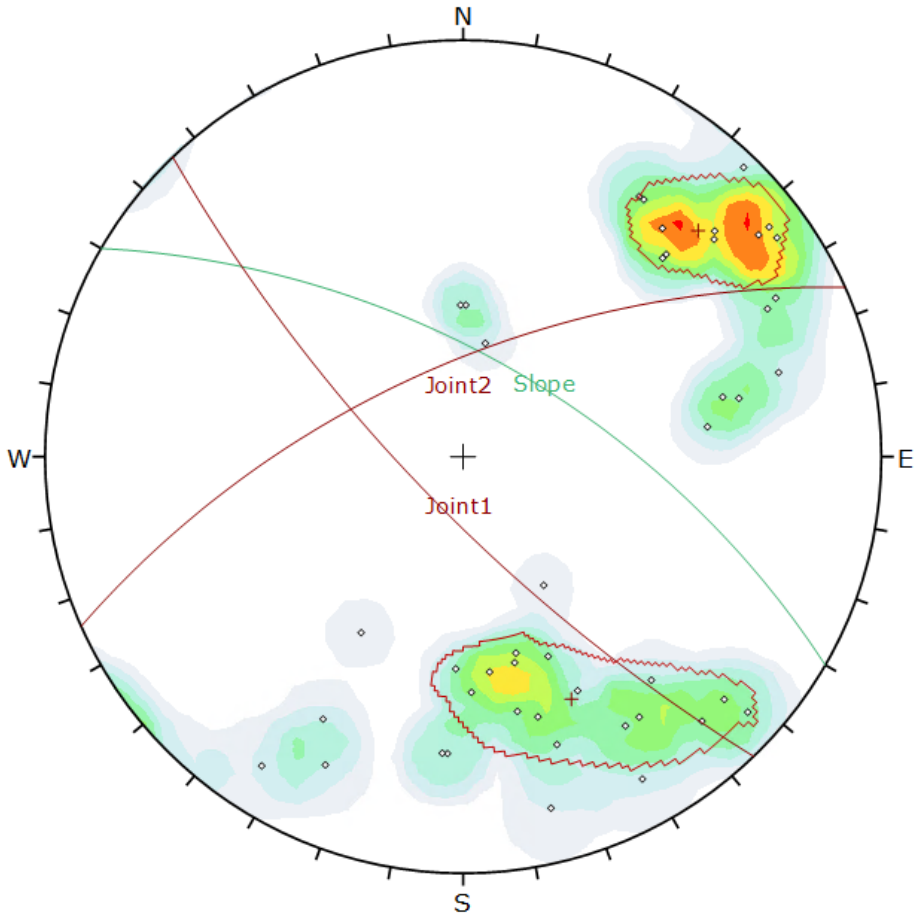
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Intersection Mode	Grid Data Planes
Intersections Count	990
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 53/030 - Planar Failure		
Drawn By	JPS	Company	Delve Underground
Date	9/7/2023	File Name	CoffinButte_53-030-Wedge.dips8

Slope: 63/030 – Stereonet



Symbol	Feature
◇	Pole Vectors

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

	Color	Dip	Dip Direction	Label
User Planes				
1		63	30	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

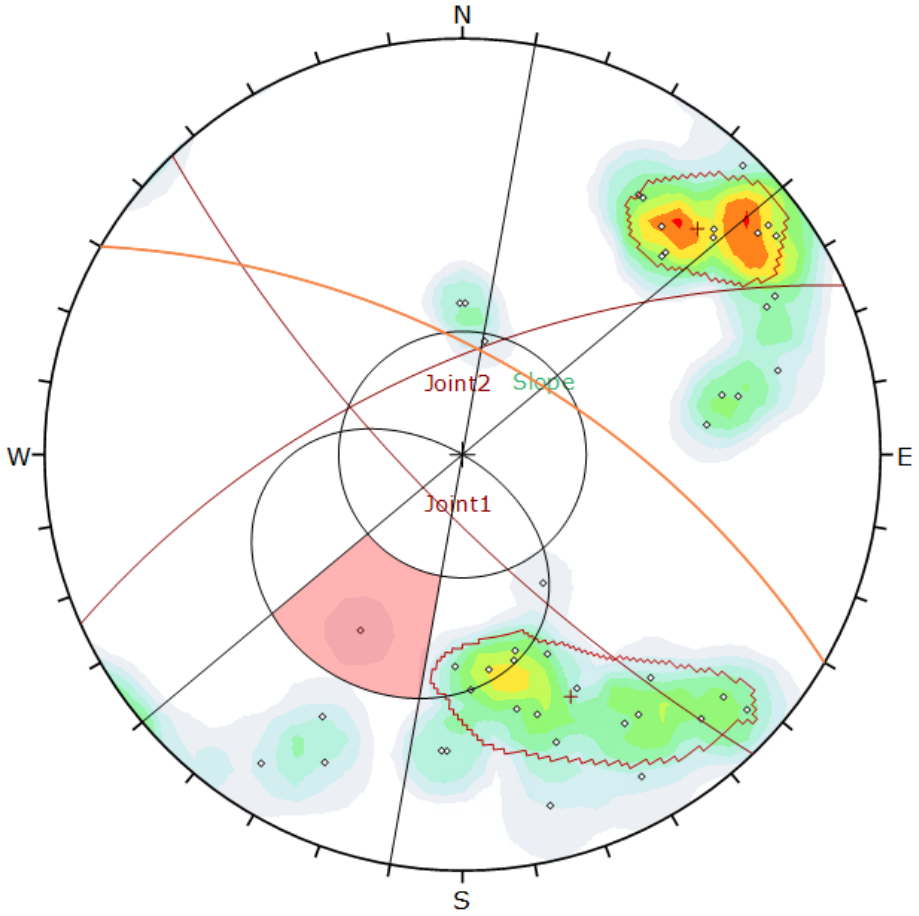
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 63/030		
Drawn By	JPS	*Company*	Delve Underground
Date	9/7/2023	*File Name*	CoffinButte_63-030.dips8

Slope: 63/030 – Planar Failure



Symbol	Feature
◇	Pole Vectors

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

Kinematic Analysis	Planar Sliding
Slope Dip	63
Slope Dip Direction	30
Friction Angle	33°
Lateral Limits	20°

	Critical	Total	%
Planar Sliding (All)	1	45	2.22%

	Color	Dip	Dip Direction	Label
User Planes				
1		63	30	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

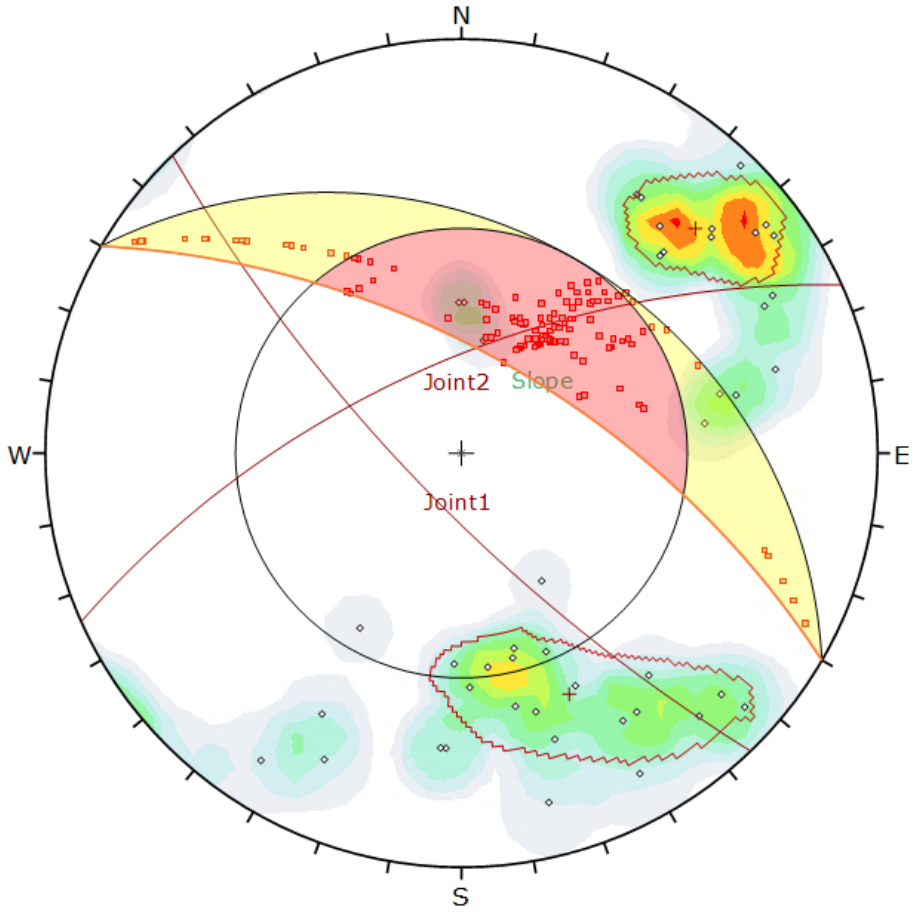
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 63/030 - Planar Failure		
Drawn By	JPS	*Company*	Delve Underground
Date	9/7/2023	*File Name*	CoffinButte_63-030-Planar.dips8

Slope: 63/030 – Wedge Failure



Symbol	Feature
◇	Pole Vectors
▫	Critical Intersection

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

Kinematic Analysis	Wedge Sliding
Slope Dip	63
Slope Dip Direction	30
Friction Angle	33°

	Critical	Total	%
Wedge Sliding	128	990	12.93%

	Color	Dip	Dip Direction	Label
User Planes				
1		63	30	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

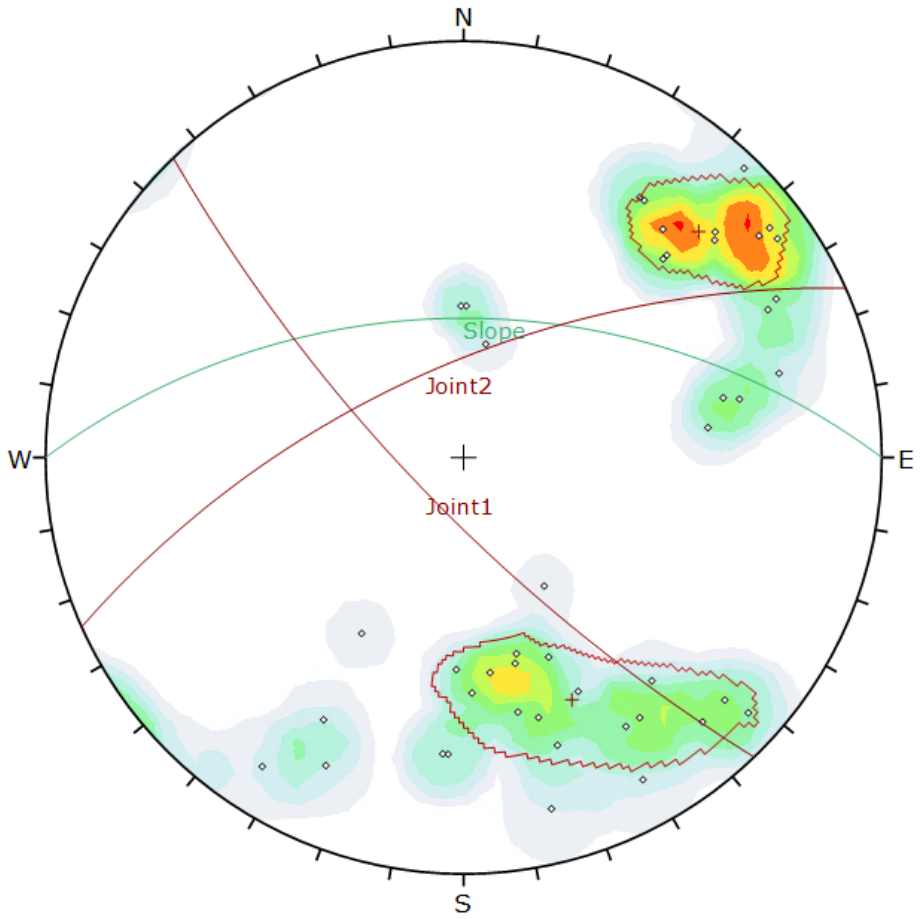
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Intersection Mode	Grid Data Planes
Intersections Count	990
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 63/030 - Wedge Failure		
Drawn By	JPS	Company	Delve Underground
Date	9/7/2023	File Name	CoffinButte_63-030-Wedge.dips8

Slope: 53/000 – Stereonet



Symbol	Feature
◇	Pole Vectors

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

	Color	Dip	Dip Direction	Label
User Planes				
1		53	360	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

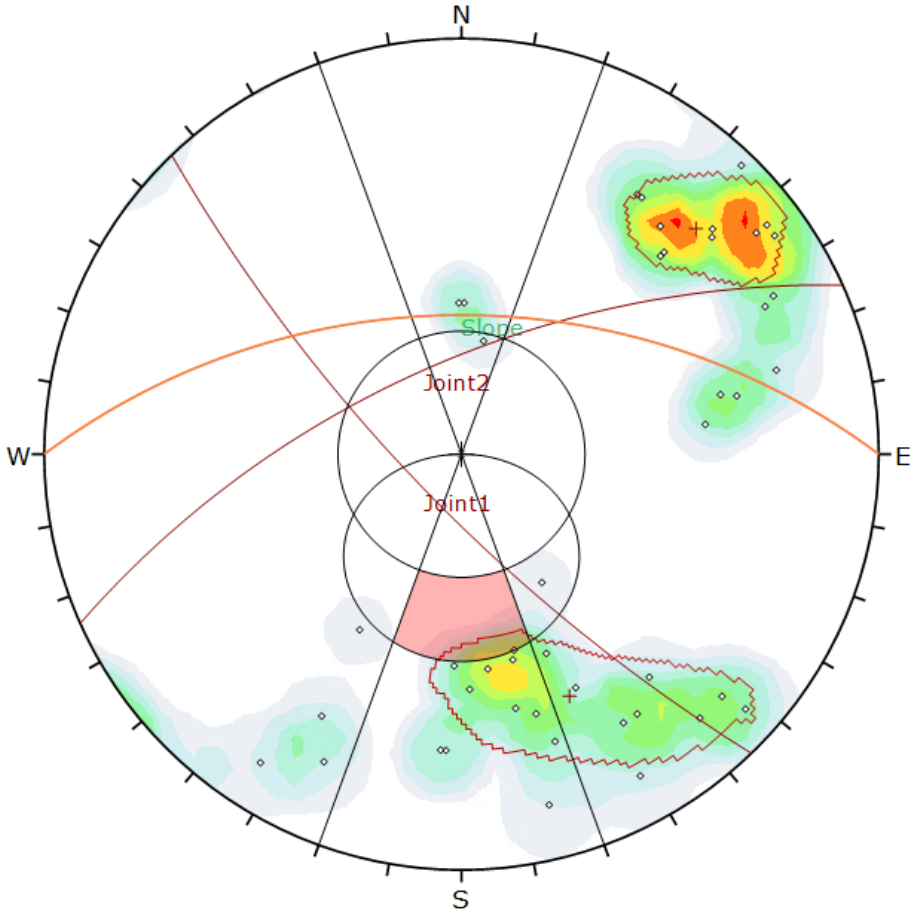
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 53/000		
Drawn By	JPS	Company	Delve Underground
Date	9/7/2023	File Name	CoffinButte_53-000.dips8

Slope: 53/000 – Planar Failure



Symbol	Feature
◇	Pole Vectors

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

Kinematic Analysis	Planar Sliding
Slope Dip	53
Slope Dip Direction	0
Friction Angle	33°
Lateral Limits	20°

	Critical	Total	%
Planar Sliding (All)	1	45	2.22%
Planar Sliding (Set 2: Joint2)	1	16	6.25%

	Color	Dip	Dip Direction	Label
User Planes				
1		53	360	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

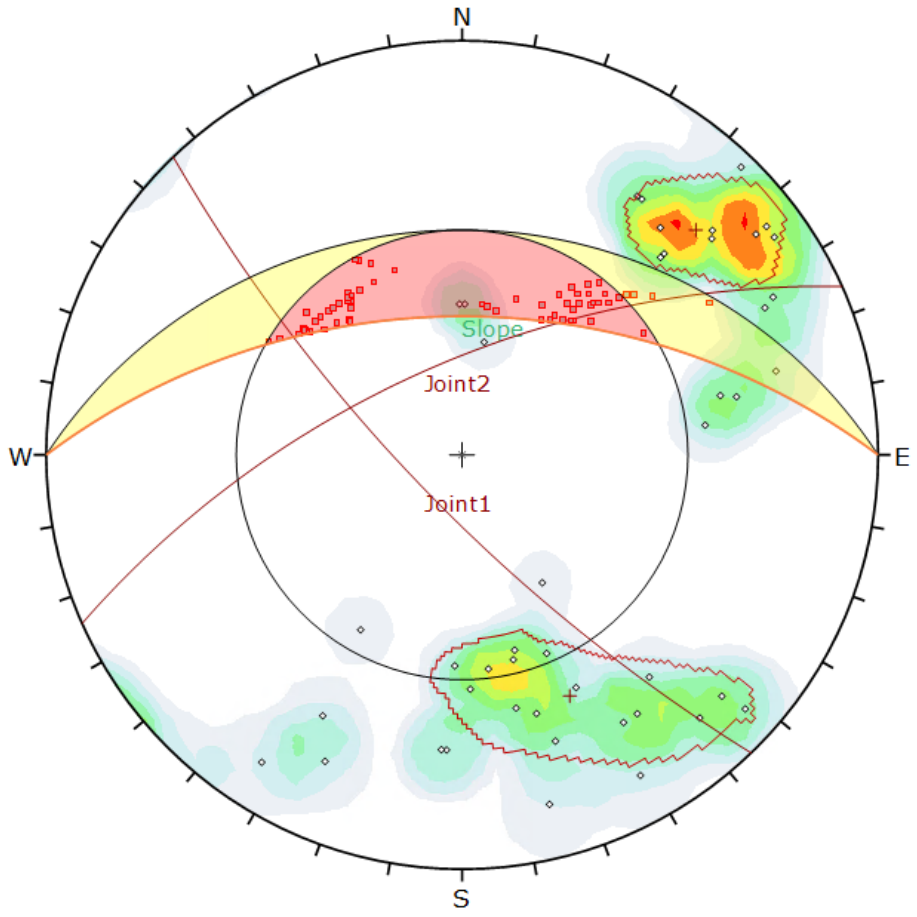
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 53/000 - Planar Failure		
Drawn By	JPS	*Company*	Delve Underground
Date	9/7/2023	*File Name*	CoffinButte_53-000-Planar.dips8

Slope: 53/000 – Wedge Failure



Symbol	Feature
◇	Pole Vectors
▫	Critical Intersection

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

Kinematic Analysis	Wedge Sliding
Slope Dip	53
Slope Dip Direction	0
Friction Angle	33°

	Critical	Total	%
Wedge Sliding	67	990	6.77%

	Color	Dip	Dip Direction	Label
User Planes				
1		53	360	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

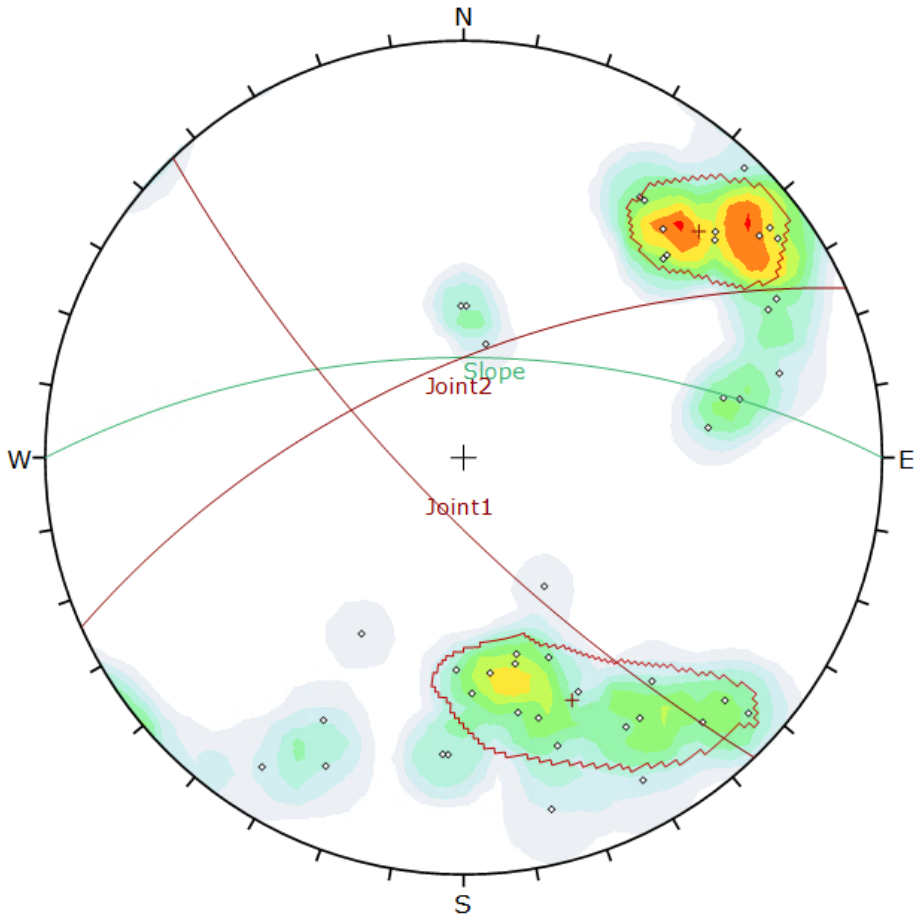
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Intersection Mode	Grid Data Planes
Intersections Count	990
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 53/000 - Wedge Failure		
Drawn By	JPS	Company	Delve Underground
Date	9/7/2023	File Name	CoffinButte_53-000-Wedge.dips8

Slope: 63/000 – Stereonet



Symbol	Feature
◇	Pole Vectors

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

	Color	Dip	Dip Direction	Label
User Planes				
1		63	360	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

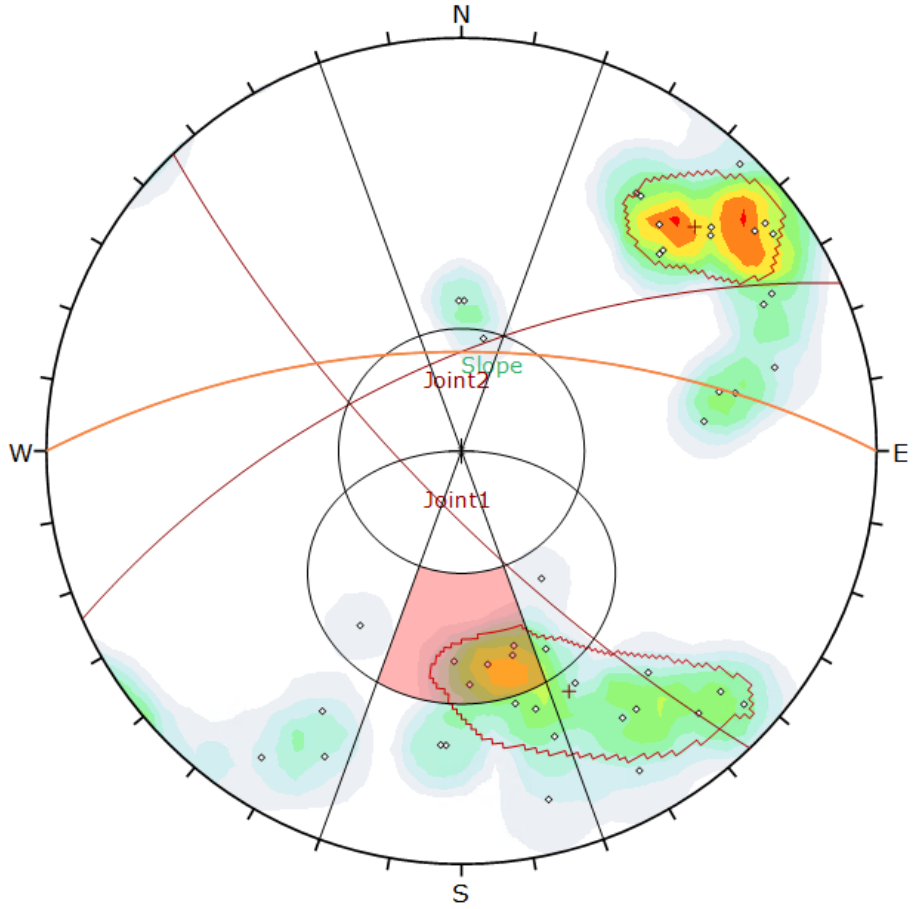
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 63/000		
Drawn By	JPS	*Company*	Delve Underground
Date	9/7/2023	*File Name*	CoffinButte_63-000.dips8

Slope: 63/000 – Planar Failure



Symbol	Feature
◇	Pole Vectors

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00
Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

Kinematic Analysis	Planar Sliding
Slope Dip	63
Slope Dip Direction	0
Friction Angle	33°
Lateral Limits	20°

	Critical	Total	%
Planar Sliding (All)	5	45	11.11%
Planar Sliding (Set 2: Joint2)	5	16	31.25%

	Color	Dip	Dip Direction	Label
User Planes				
1		63	360	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

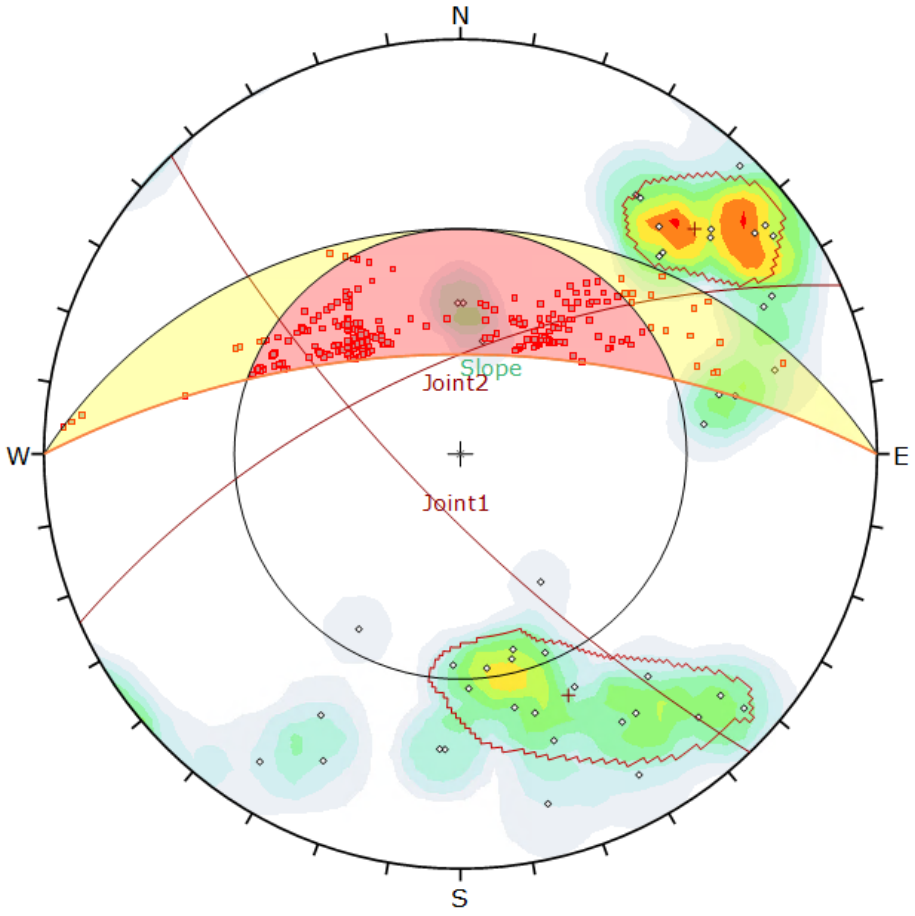
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 63/000 - Planar Failure		
Drawn By	JPS	Company	Delve Underground
Date	9/7/2023	File Name	CoffinButte_63-000-Planar.dips8

Slope: 63/000 – Wedge Failure



Symbol	Feature
◇	Pole Vectors
▫	Critical Intersection

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

Kinematic Analysis	Wedge Sliding		
Slope Dip	63		
Slope Dip Direction	0		
Friction Angle	33°		
	Critical	Total	%
Wedge Sliding	286	990	28.89%

	Color	Dip	Dip Direction	Label
User Planes				
1		63	360	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

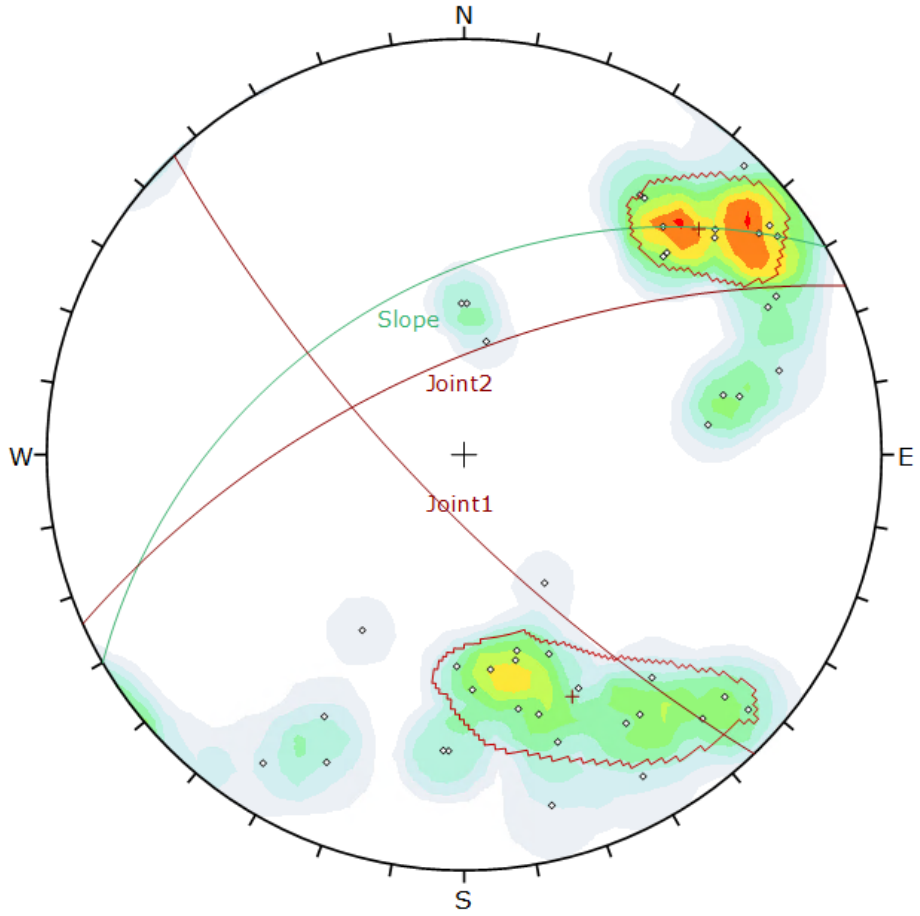
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Intersection Mode	Grid Data Planes
Intersections Count	990
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 63/000 - Wedge Failure		
Drawn By	JPS	Company	Delve Underground
Date	9/7/2023	File Name	CoffinButte_63-000-Wedge.dips8

Slope: 45/330 – Stereonet



Symbol	Feature
◇	Pole Vectors

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

	Color	Dip	Dip Direction	Label
User Planes				
1		45	330	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

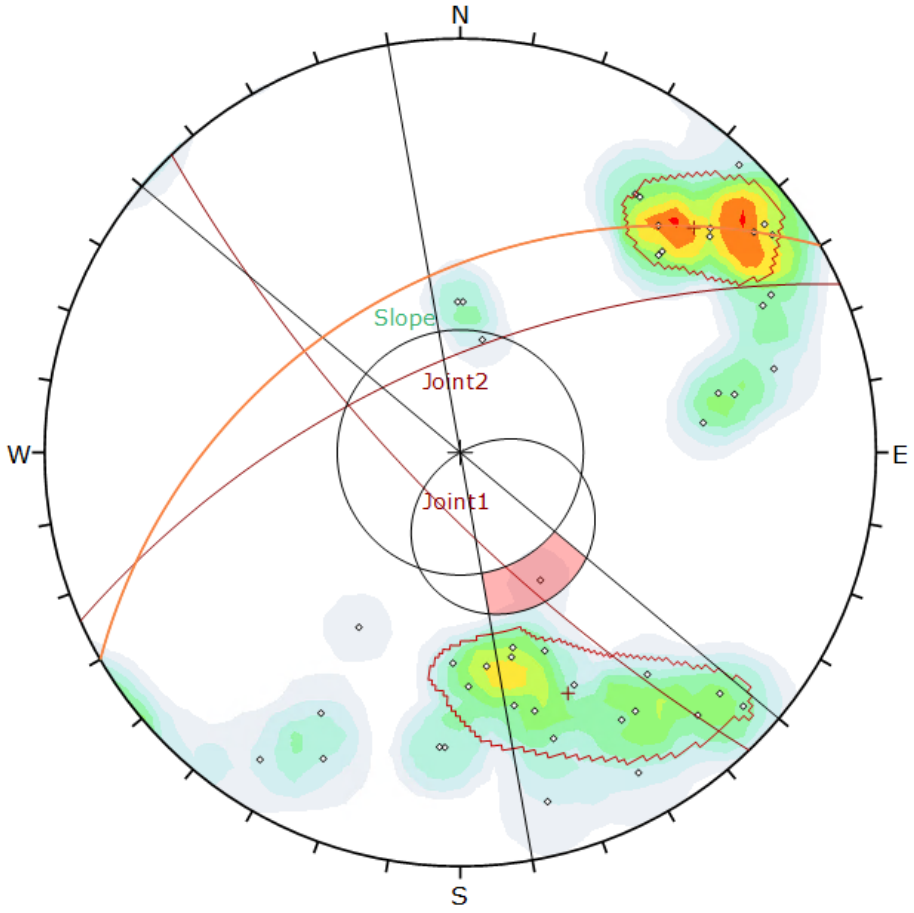
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 45/330		
Drawn By	JPS	Company	Delve Underground
Date	9/8/2023	File Name	CoffinButte_45-330.dips8

Slope: 45/330 – Planar Failure



Symbol	Feature
◇	Pole Vectors

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

Kinematic Analysis	Planar Sliding
Slope Dip	45
Slope Dip Direction	330
Friction Angle	33°
Lateral Limits	20°

	Critical	Total	%
Planar Sliding (All)	1	45	2.22%

	Color	Dip	Dip Direction	Label
User Planes				
1		45	330	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

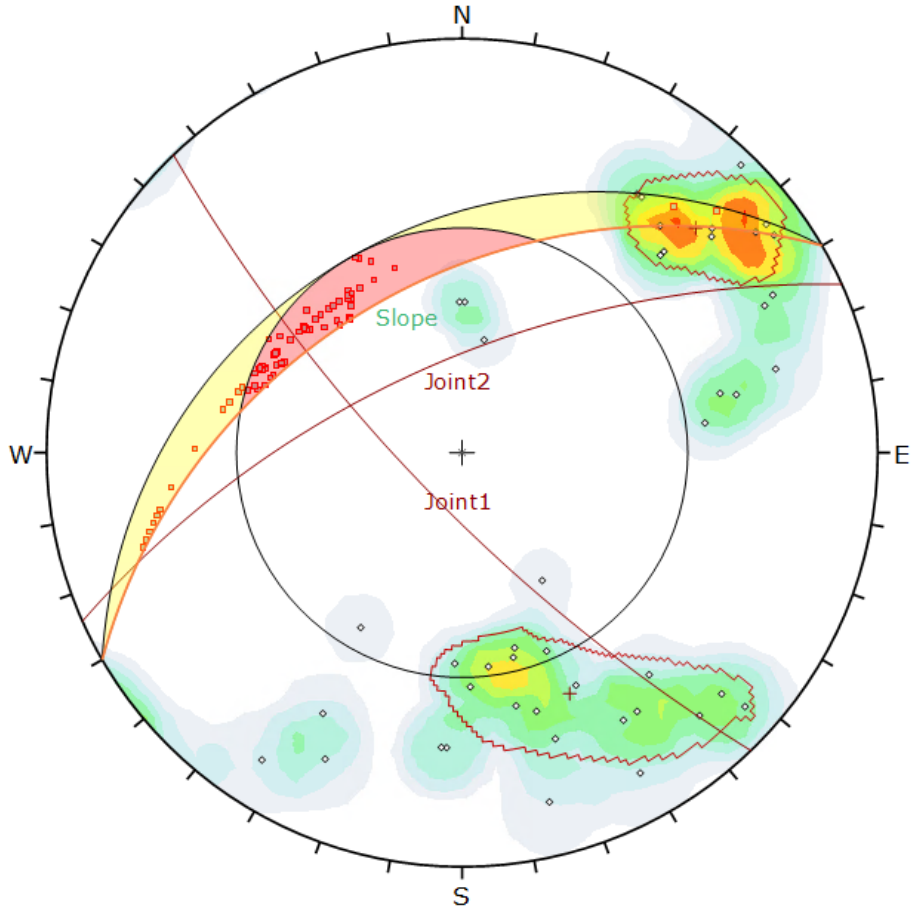
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 45/330 - Planar Failure		
Drawn By	JPS	Company	Delve Underground
Date	9/8/2023	File Name	CoffinButte_45-330_Planar.dips8

Slope: 45/330 – Wedge Failure



Symbol	Feature
◇	Pole Vectors
▫	Critical Intersection

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

Kinematic Analysis	Wedge Sliding		
Slope Dip	45		
Slope Dip Direction	330		
Friction Angle	33°		
	Critical	Total	%
Wedge Sliding	77	990	7.78%

	Color	Dip	Dip Direction	Label
User Planes				
1		45	330	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

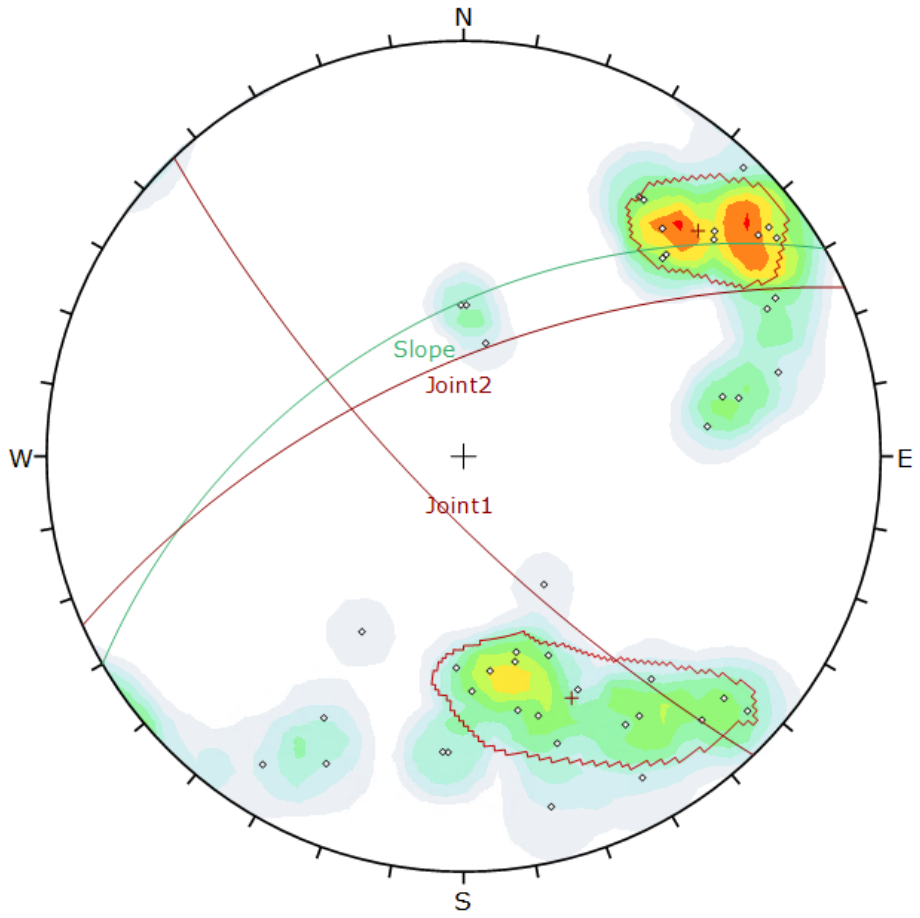
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Intersection Mode	Grid Data Planes
Intersections Count	990
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 45/330 - Wedge Failure		
Drawn By	JPS	Company	Delve Underground
Date	9/8/2023	File Name	CoffinButte_45-330_Wedge.dips8

Slope: 53/330 – Stereonet



Symbol	Feature
◇	Pole Vectors

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

	Color	Dip	Dip Direction	Label
User Planes				
1		53	330	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

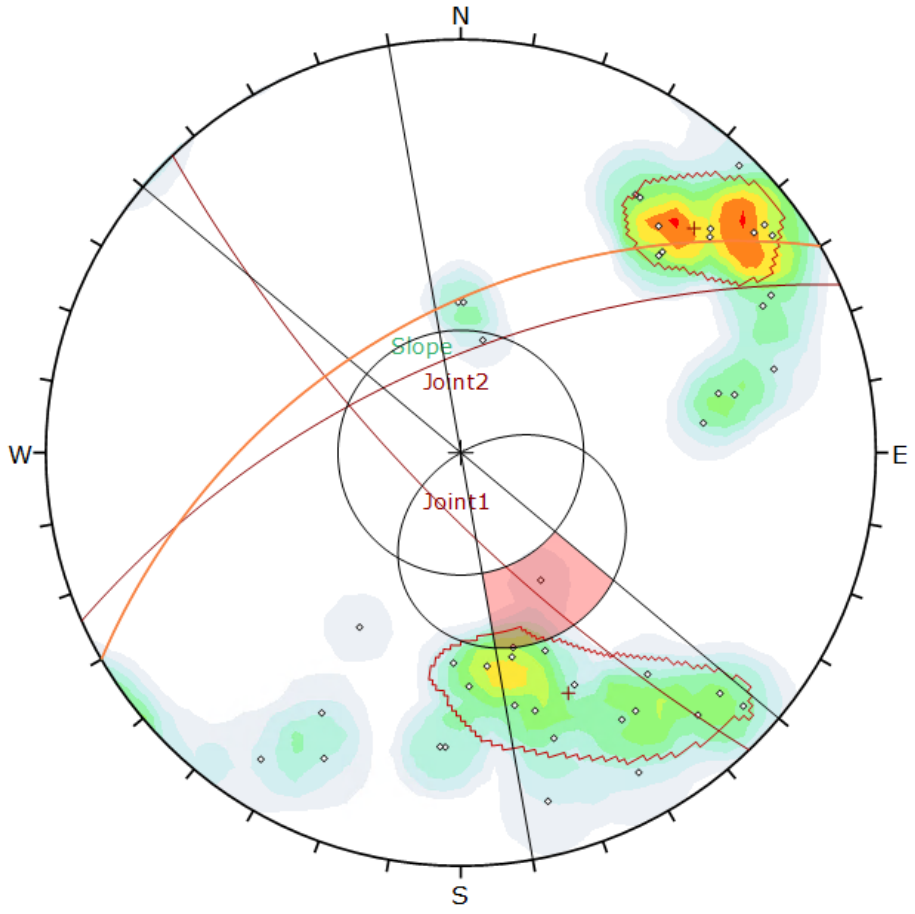
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 53/330		
Drawn By	JPS	*Company*	Delve Underground
Date	9/7/2023	*File Name*	CoffinButte_53-330.dips8

Slope: 53/330 – Planar Failure



Symbol	Feature
◇	Pole Vectors

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

Kinematic Analysis	Planar Sliding
Slope Dip	53
Slope Dip Direction	330
Friction Angle	33°
Lateral Limits	20°

	Critical	Total	%
Planar Sliding (All)	2	45	4.44%
Planar Sliding (Set 2: Joint2)	1	16	6.25%

	Color	Dip	Dip Direction	Label
User Planes				
1		53	330	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

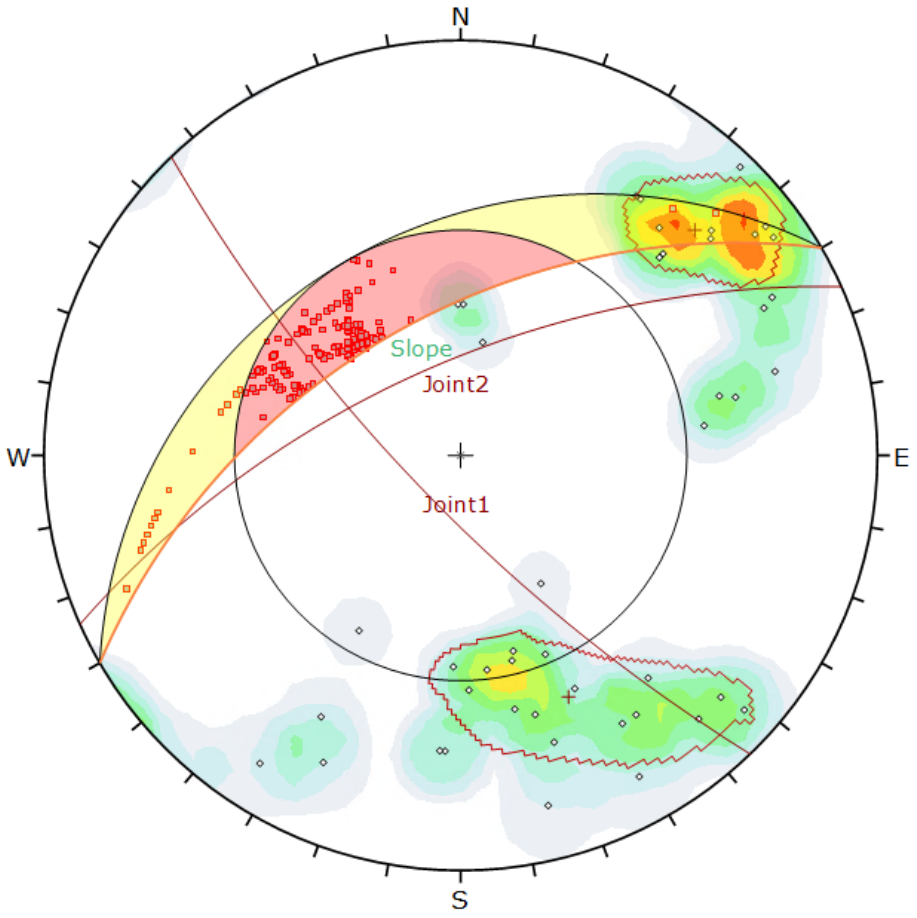
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 53/330 - Planar Failure		
Drawn By	JPS	Company	Delve Underground
Date	9/7/2023	File Name	CoffinButte_53-330_Planar.dips8

Slope: 53/330 – Wedge Failure



Symbol	Feature
◇	Pole Vectors
▫	Critical Intersection

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

Kinematic Analysis	Wedge Sliding
Slope Dip	53
Slope Dip Direction	330
Friction Angle	33°

	Critical	Total	%
Wedge Sliding	199	990	20.10%

	Color	Dip	Dip Direction	Label
User Planes				
1		53	330	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

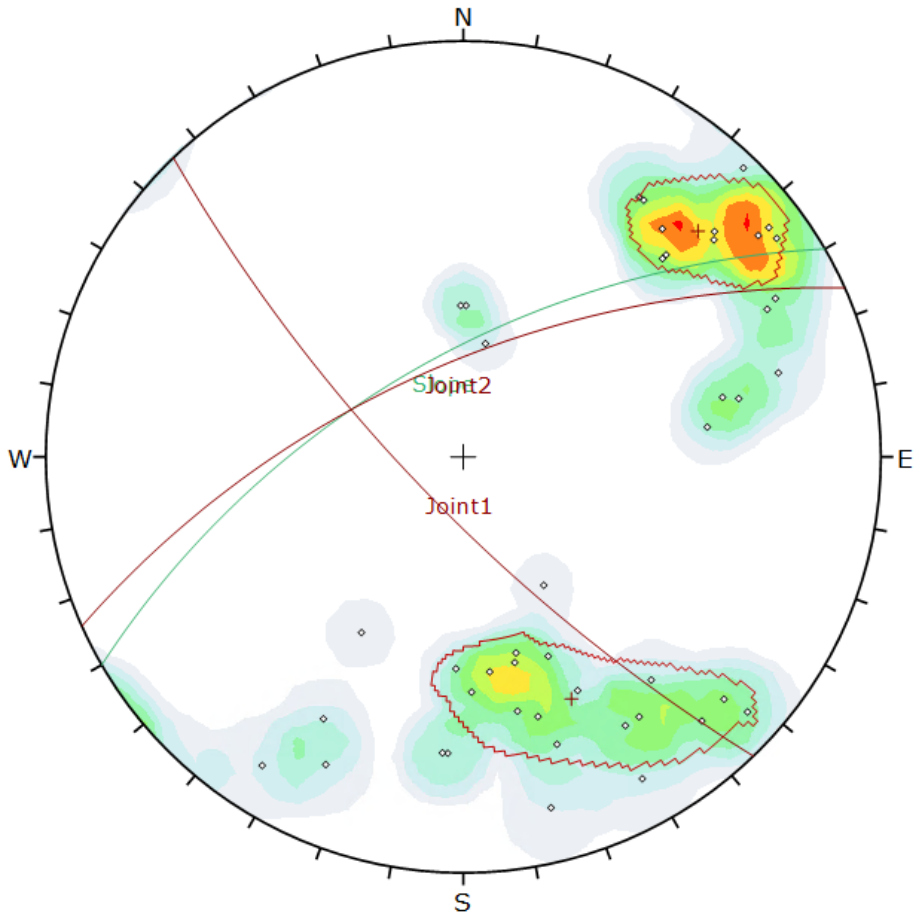
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Intersection Mode	Grid Data Planes
Intersections Count	990
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 53/330 - Wedge Failure		
Drawn By	JPS	Company	Delve Underground
Date	9/7/2023	File Name	CoffinButte_53-330_Wedge.dips8

Slope: 63/330 – Stereonet



Symbol	Feature
◇	Pole Vectors

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

	Color	Dip	Dip Direction	Label
User Planes				
1		63	330	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

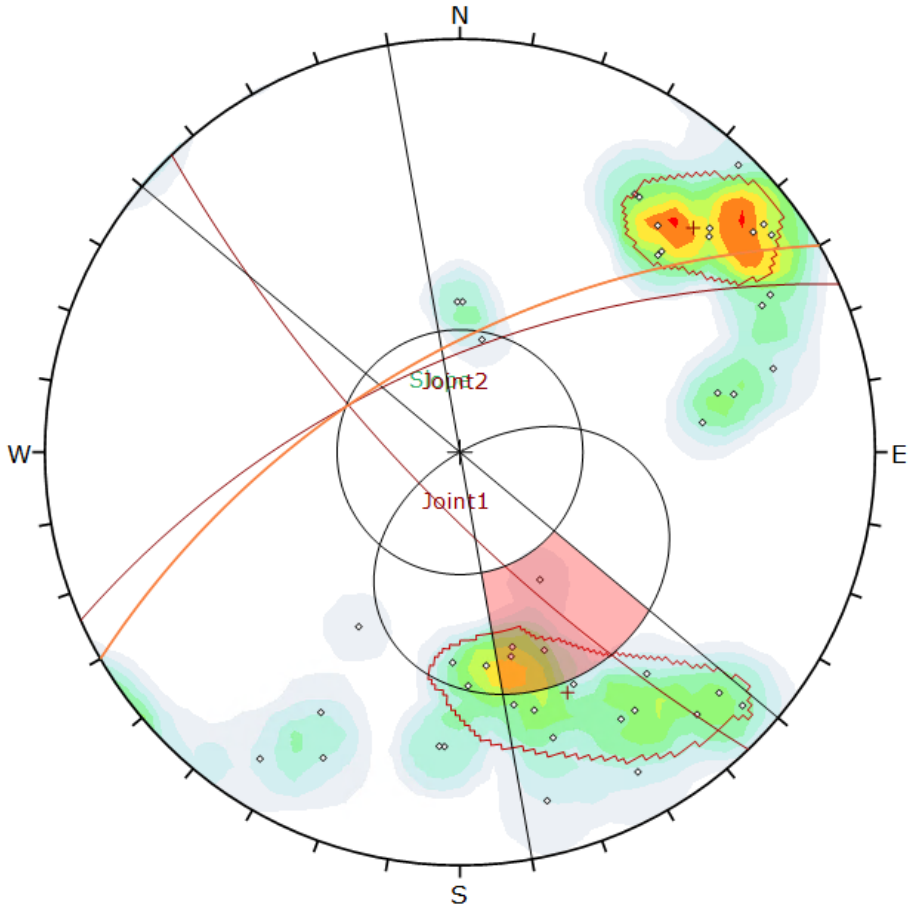
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 63/330		
Drawn By	JPS	*Company*	Delve Underground
Date	9/7/2023	*File Name*	CoffinButte_63-330.dips8

Slope: 63/330 – Planar Failure



Symbol	Feature
◇	Pole Vectors

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

Kinematic Analysis	Planar Sliding
Slope Dip	63
Slope Dip Direction	330
Friction Angle	33°
Lateral Limits	20°

	Critical	Total	%
Planar Sliding (All)	4	45	8.89%
Planar Sliding (Set 2: Joint2)	3	16	18.75%

	Color	Dip	Dip Direction	Label
User Planes				
1		63	330	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

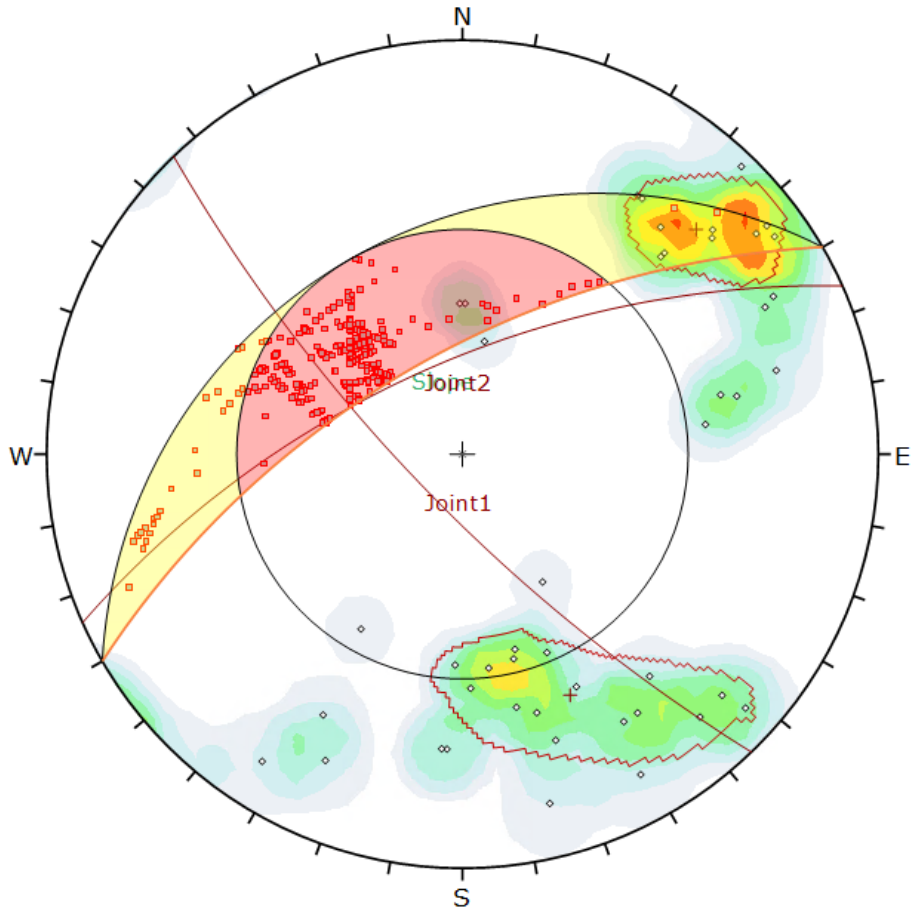
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 63/330 - Planar Failure		
Drawn By	JPS	Company	Delve Underground
Date	9/7/2023	File Name	CoffinButte_63-330_Planar.dips8

Slope: 63/330 – Wedge Failure



Symbol	Feature
◇	Pole Vectors
▫	Critical Intersection

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

Kinematic Analysis	Wedge Sliding		
Slope Dip	63		
Slope Dip Direction	330		
Friction Angle	33°		
	Critical	Total	%
Wedge Sliding	333	990	33.64%

	Color	Dip	Dip Direction	Label
User Planes				
1		63	330	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

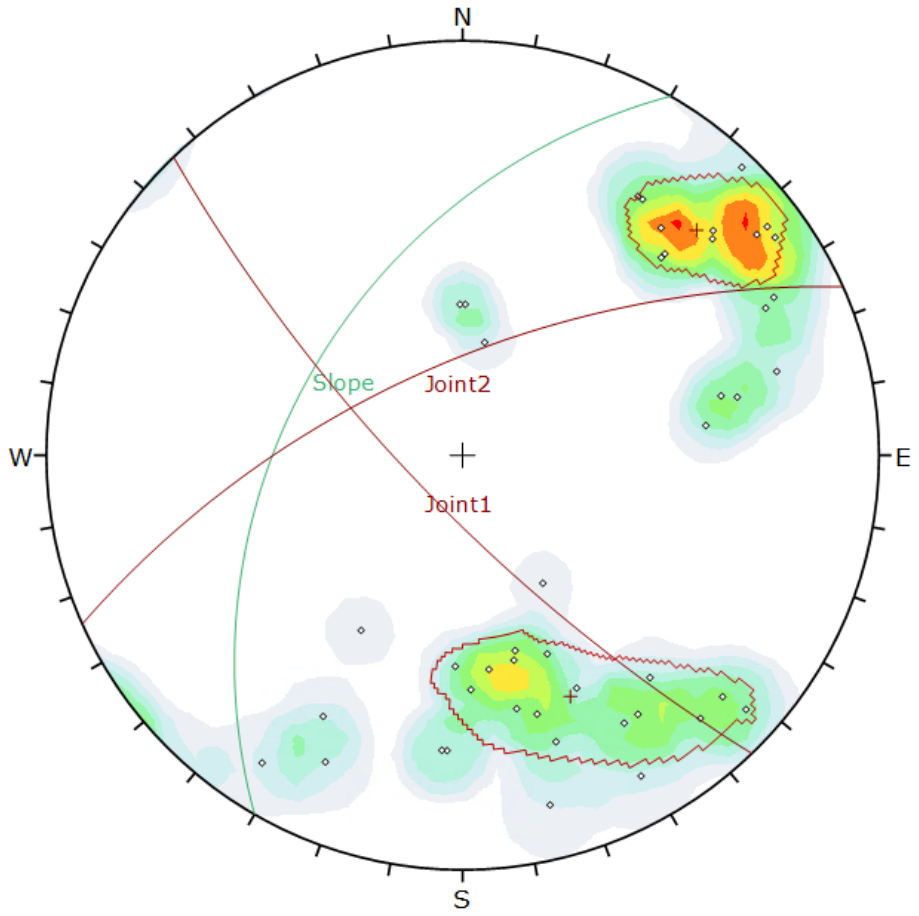
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Intersection Mode	Grid Data Planes
Intersections Count	990
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 63/330 - Wedge Failure		
Drawn By	JPS	Company	Delve Underground
Date	9/7/2023	File Name	CoffinButte_63-330_Wedge.dips8

Slope: 45/300 – Stereonet



Symbol	Feature
◇	Pole Vectors

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

	Color	Dip	Dip Direction	Label
User Planes				
1		45	300	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

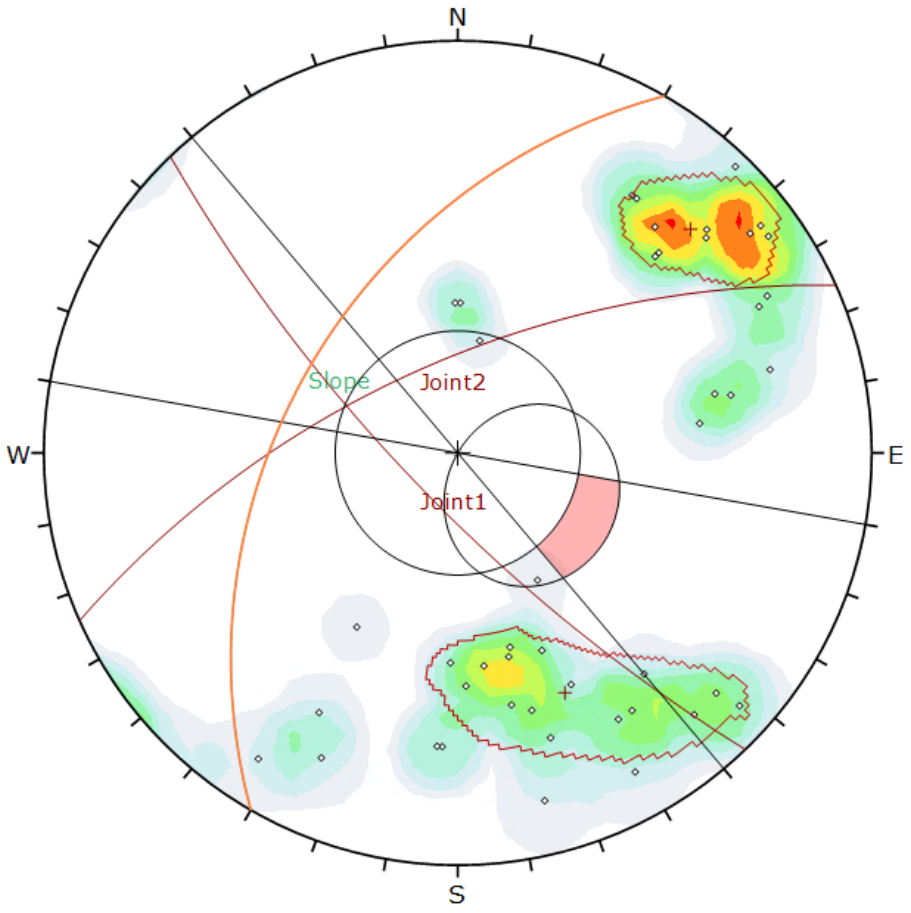
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 45/300		
Drawn By	JPS	Company	Delve Underground
Date	9/8/2023	File Name	CoffinButte_45-300.dips8

Slope: 45/300 – Planar Failure



Symbol	Feature
◇	Pole Vectors

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

Kinematic Analysis	Planar Sliding
Slope Dip	45
Slope Dip Direction	300
Friction Angle	33°
Lateral Limits	20°

	Critical	Total	%
Planar Sliding (All)	0	45	0.00%

	Color	Dip	Dip Direction	Label
User Planes				
1		45	300	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

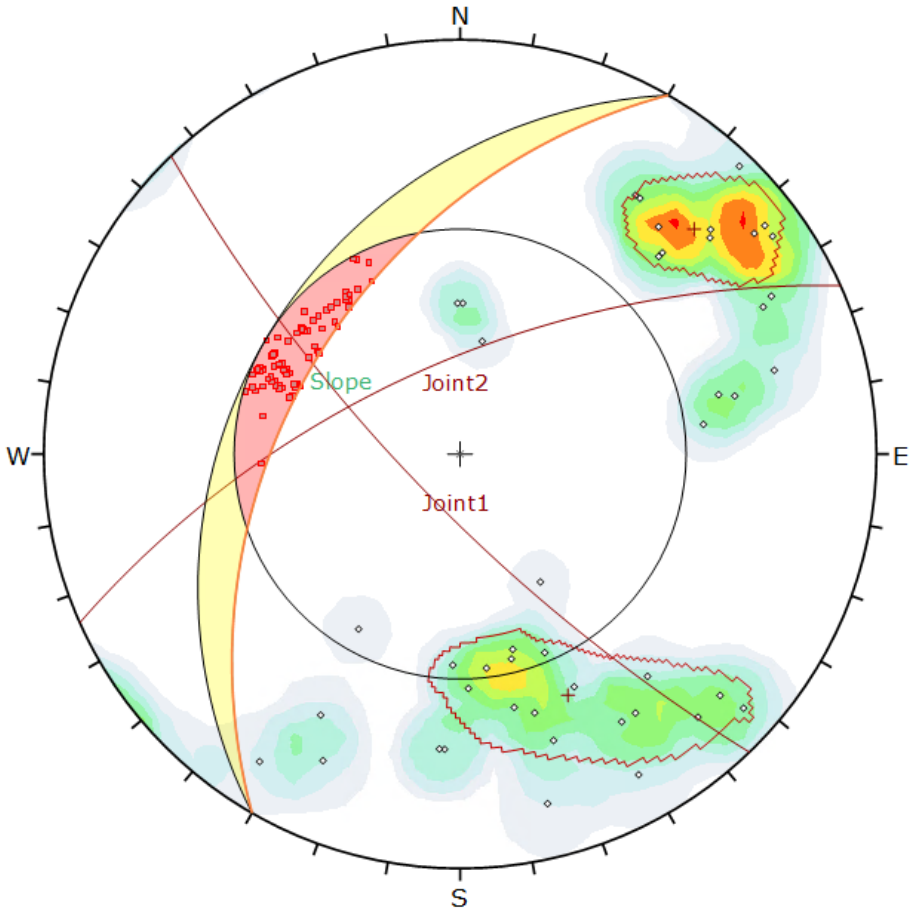
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 45/300 - Planar Failure		
Drawn By	JPS	Company	Delve Underground
Date	9/8/2023	File Name	CoffinButte_45-300_Planar.dips8

Slope: 45/300 – Wedge Failure



Symbol	Feature
◇	Pole Vectors
▫	Critical Intersection

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

Kinematic Analysis	Wedge Sliding		
Slope Dip	45		
Slope Dip Direction	300		
Friction Angle	33°		
	Critical	Total	%
Wedge Sliding	90	990	9.09%

	Color	Dip	Dip Direction	Label
User Planes				
1		45	300	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

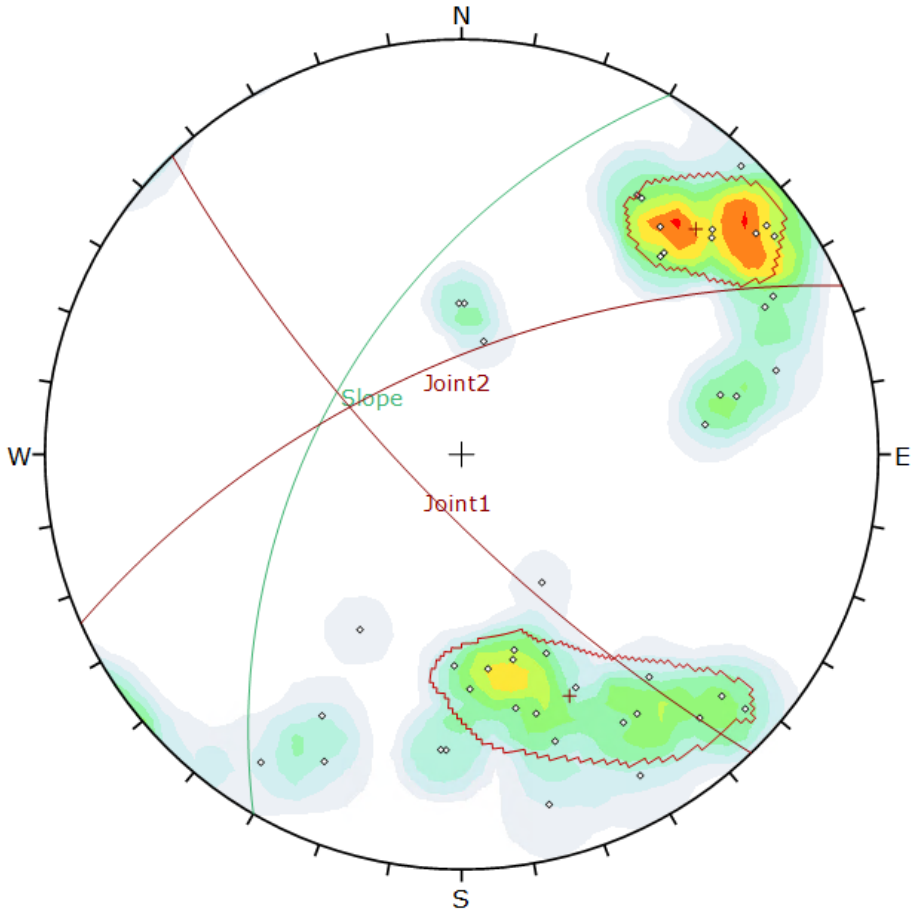
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Intersection Mode	Grid Data Planes
Intersections Count	990
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 45/300 - Wedge Failure		
Drawn By	JPS	Company	Delve Underground
Date	9/8/2023	File Name	CoffinButte_45-300_Wedge.dips8

Slope: 53/300 – Stereonet



Symbol	Feature
◇	Pole Vectors

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

	Color	Dip	Dip Direction	Label
User Planes				
1		53	300	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

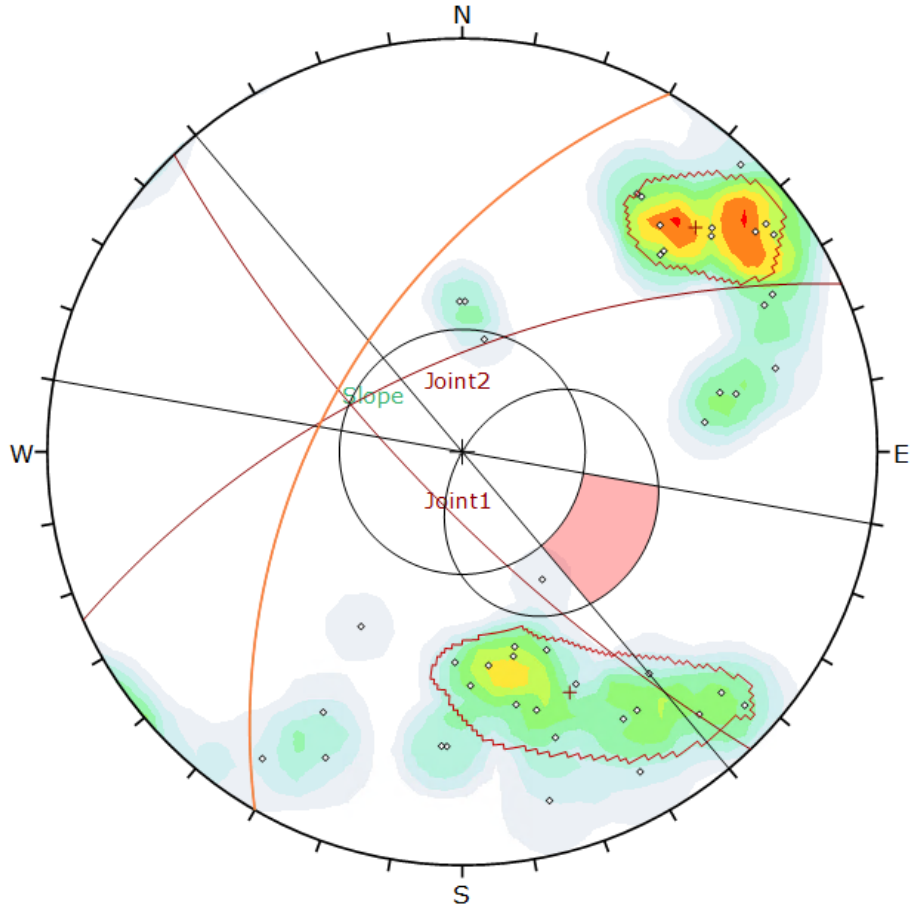
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 53/300		
Drawn By	JPS	Company	Delve Underground
Date	9/7/2023	File Name	CoffinButte_53-300.dips8

Slope: 53/300 – Planar Failure



Symbol	Feature
◇	Pole Vectors

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

Kinematic Analysis	Planar Sliding
Slope Dip	53
Slope Dip Direction	300
Friction Angle	33°
Lateral Limits	20°

	Critical	Total	%
Planar Sliding (All)	0	45	0.00%

	Color	Dip	Dip Direction	Label
User Planes				
1		53	300	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

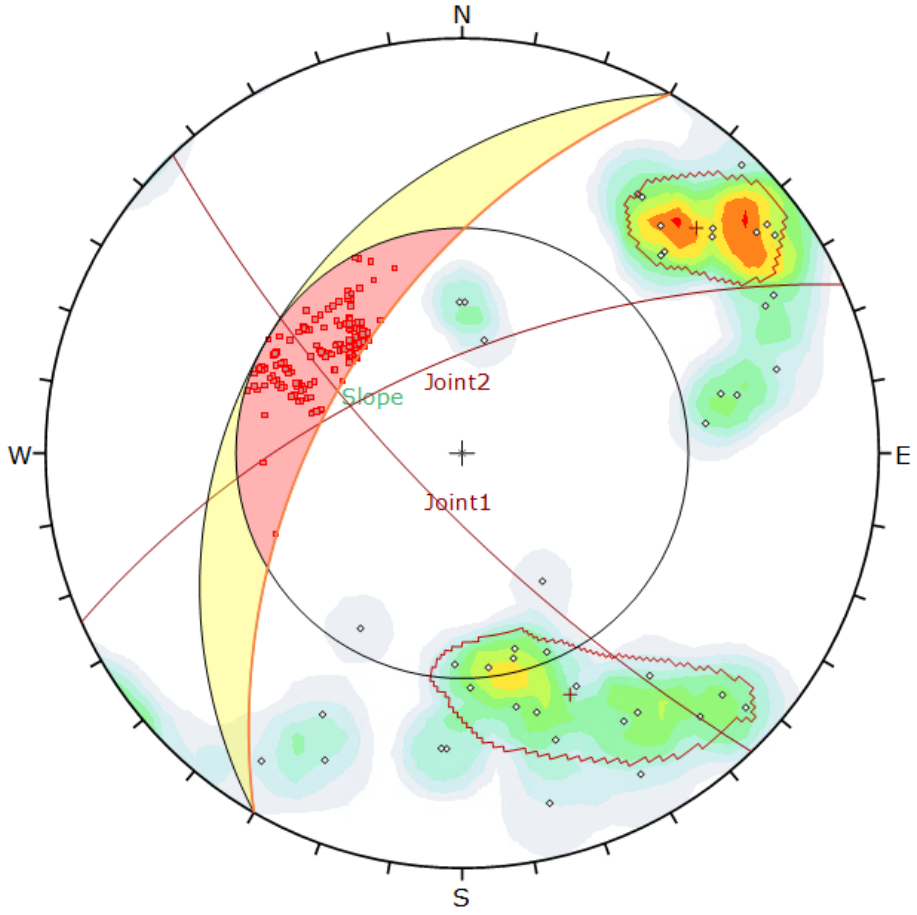
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 53/300 - Planar Failure		
Drawn By	JPS	Company	Delve Underground
Date	9/7/2023	File Name	CoffinButte_53-300_Planar.dips8

Slope: 53/300 – Wedge Failure



Symbol	Feature
◇	Pole Vectors
▫	Critical Intersection

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

Kinematic Analysis	Wedge Sliding		
Slope Dip	53		
Slope Dip Direction	300		
Friction Angle	33°		
	Critical	Total	%
Wedge Sliding	197	990	19.90%

	Color	Dip	Dip Direction	Label
User Planes				
1		53	300	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

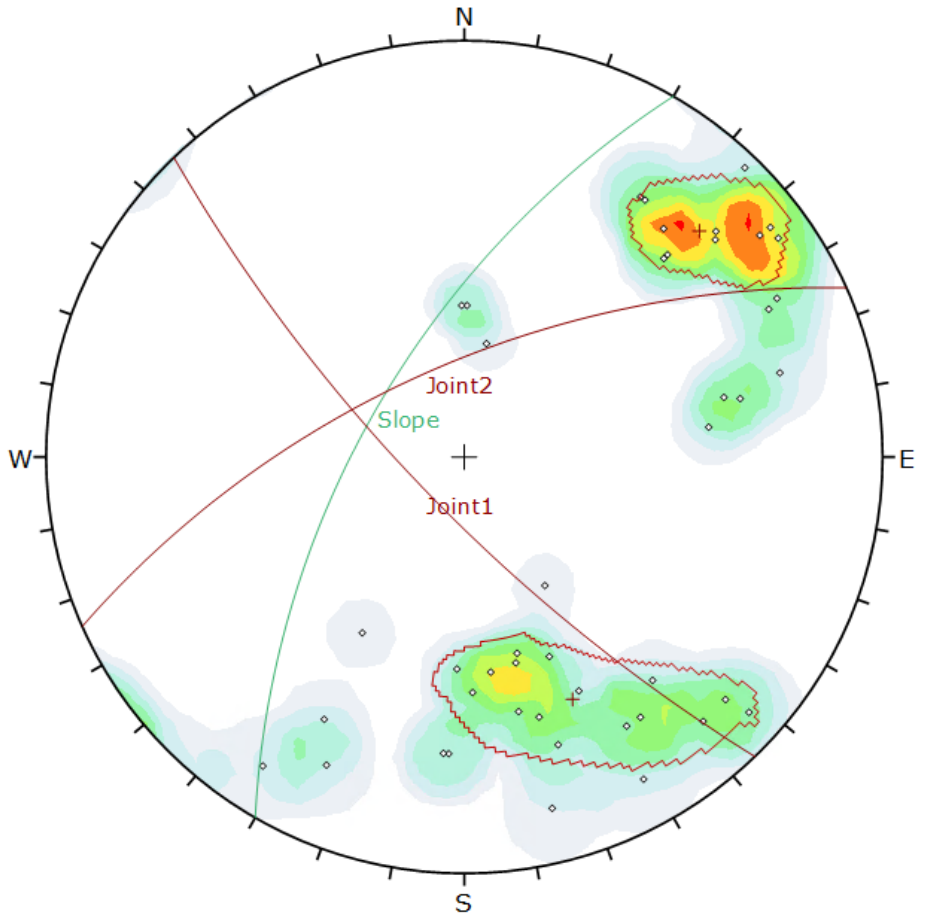
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Intersection Mode	Grid Data Planes
Intersections Count	990
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 53/300 - Wedge Failure		
Drawn By	JPS	Company	Delve Underground
Date	9/7/2023	File Name	CoffinButte_53-300_Wedge.dips8

Slope: 63/300 – Stereonet



Symbol	Feature
◇	Pole Vectors

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

	Color	Dip	Dip Direction	Label
User Planes				
1		63	300	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

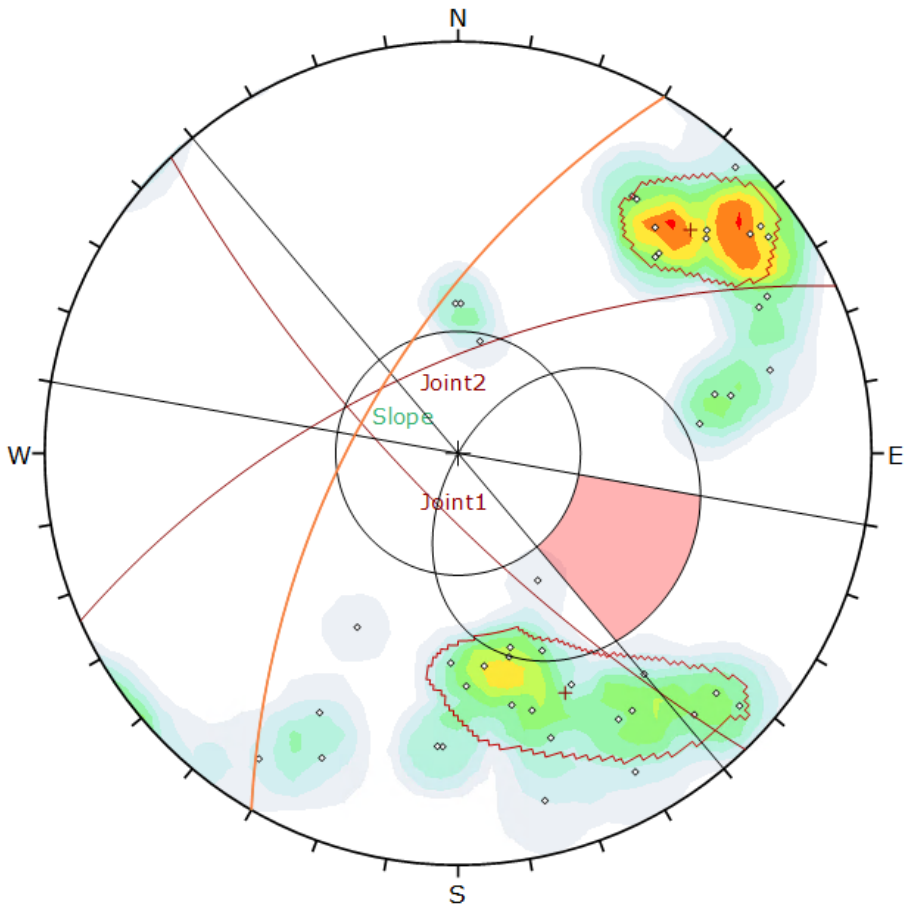
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 63/300		
Drawn By	JPS	*Company*	Delve Underground
Date	9/7/2023	*File Name*	CoffinButte_63-300.dips8

Slope: 63/300 – Planar Failure



Symbol	Feature
◇	Pole Vectors

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

Kinematic Analysis	Planar Sliding
Slope Dip	63
Slope Dip Direction	300
Friction Angle	33°
Lateral Limits	20°

	Critical	Total	%
Planar Sliding (All)	0	45	0.00%

	Color	Dip	Dip Direction	Label
User Planes				
1		63	300	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

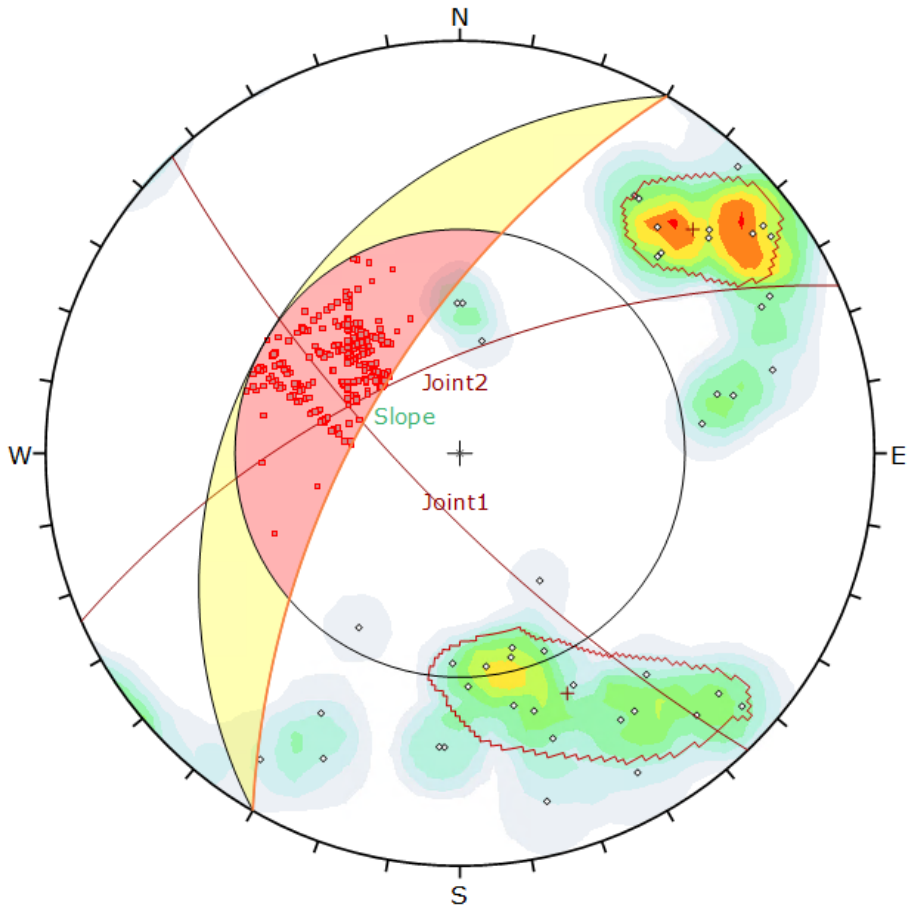
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 63/300 - Planar Failure		
Drawn By	JPS	Company	Delve Underground
Date	9/7/2023	File Name	CoffinButte_63-300_Planar.dips8

Slope: 63/300 – Wedge Failure



Symbol	Feature
◇	Pole Vectors
▫	Critical Intersection

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

Kinematic Analysis	Wedge Sliding		
Slope Dip	63		
Slope Dip Direction	300		
Friction Angle	33°		
	Critical	Total	%
Wedge Sliding	317	990	32.02%

	Color	Dip	Dip Direction	Label
User Planes				
1		63	300	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

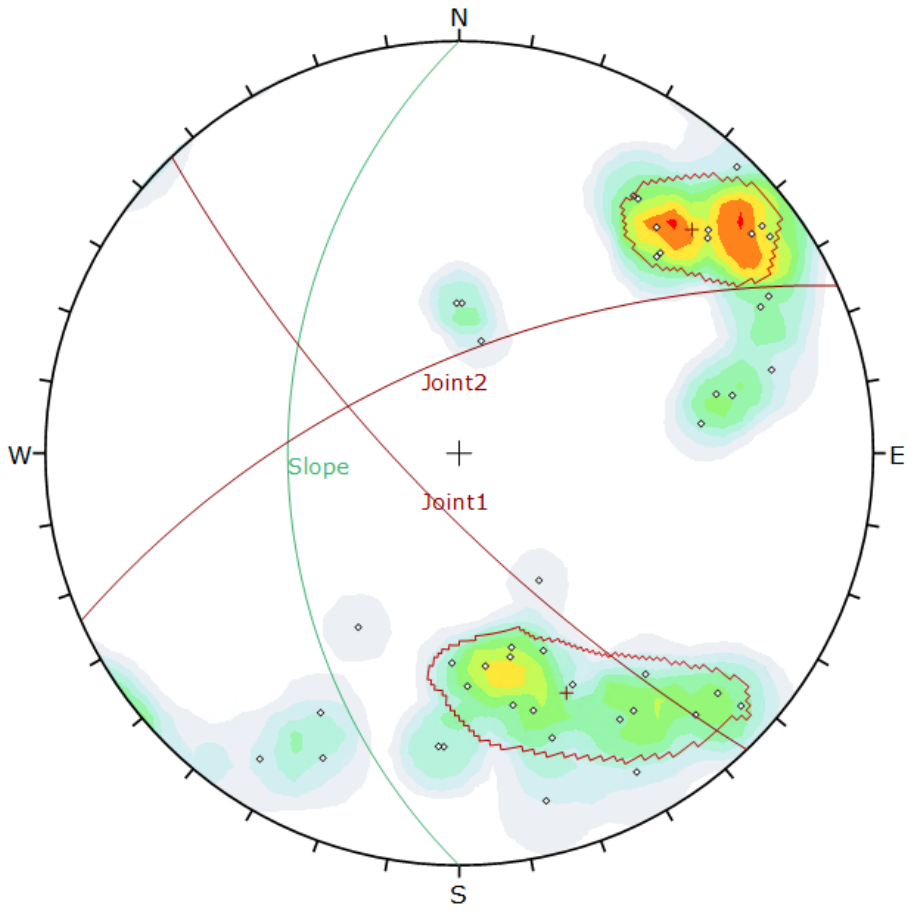
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Intersection Mode	Grid Data Planes
Intersections Count	990
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 63/300 - Wedge Failure		
Drawn By	JPS	Company	Delve Underground
Date	9/7/2023	File Name	CoffinButte_63-300_Wedge.dips8

Slope: 45/270 – Stereonet



Symbol	Feature
◇	Pole Vectors

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

	Color	Dip	Dip Direction	Label
User Planes				
1		45	270	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

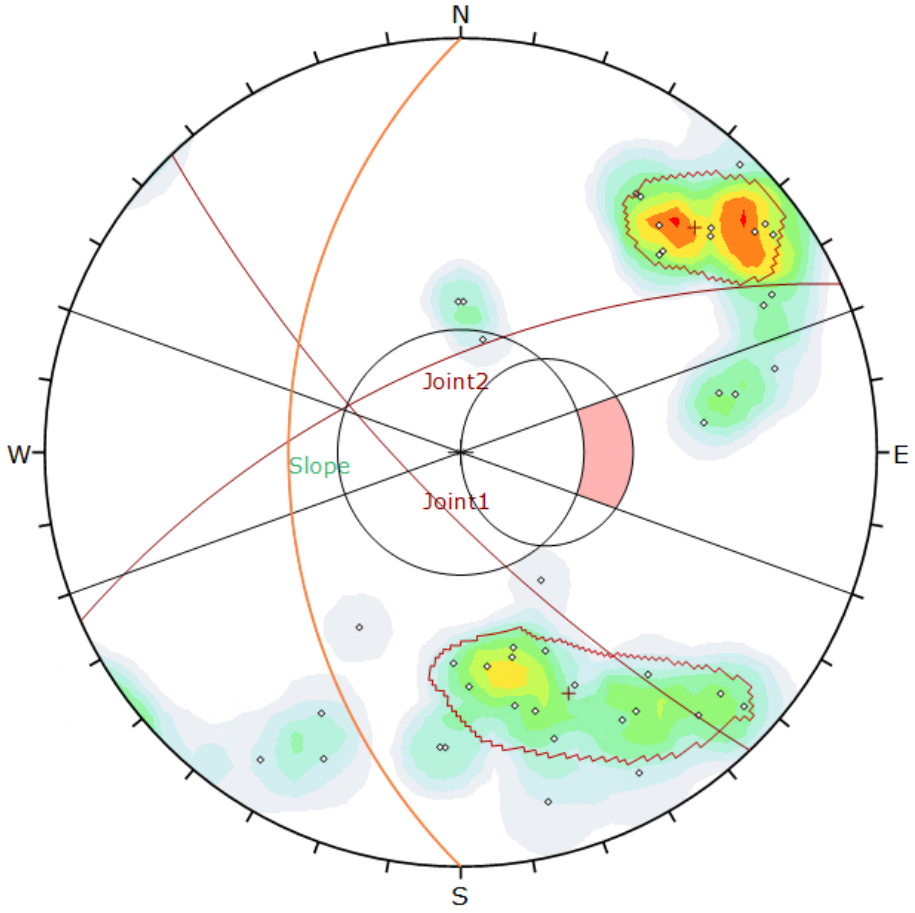
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 45/270		
Drawn By	JPS	*Company*	Delve Underground
Date	9/8/2023	*File Name*	CoffinButte_45-270.dips8

Slope: 45/270 – Planar Failure



Symbol	Feature
◇	Pole Vectors

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

Kinematic Analysis	Planar Sliding
Slope Dip	45
Slope Dip Direction	270
Friction Angle	33°
Lateral Limits	20°

	Critical	Total	%
Planar Sliding (All)	0	45	0.00%

	Color	Dip	Dip Direction	Label
User Planes				
1		45	270	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

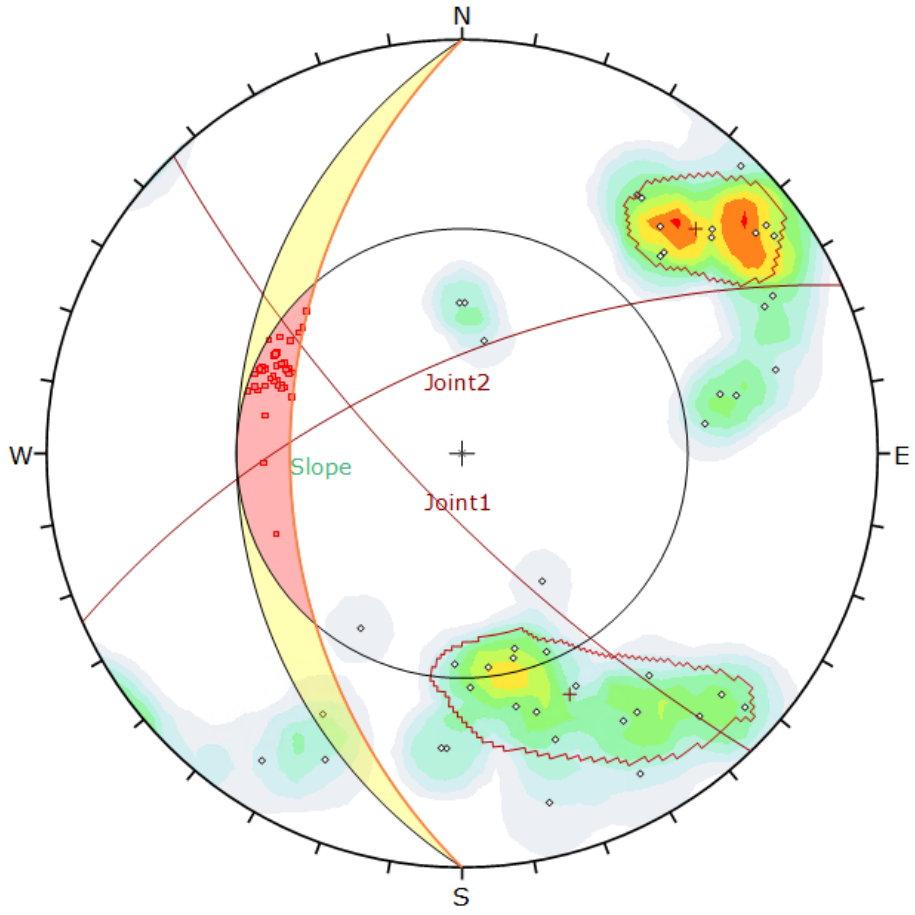
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 45/270 - Planar Failure		
Drawn By	JPS	*Company*	Delve Underground
Date	9/8/2023	*File Name*	CoffinButte_45-270_Planar.dips8

Slope: 45/270 – Wedge Failure



Symbol	Feature
◇	Pole Vectors
▫	Critical Intersection

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

Kinematic Analysis	Wedge Sliding		
Slope Dip	45		
Slope Dip Direction	270		
Friction Angle	33°		
	Critical	Total	%
Wedge Sliding	47	990	4.75%

	Color	Dip	Dip Direction	Label
User Planes				
1		45	270	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

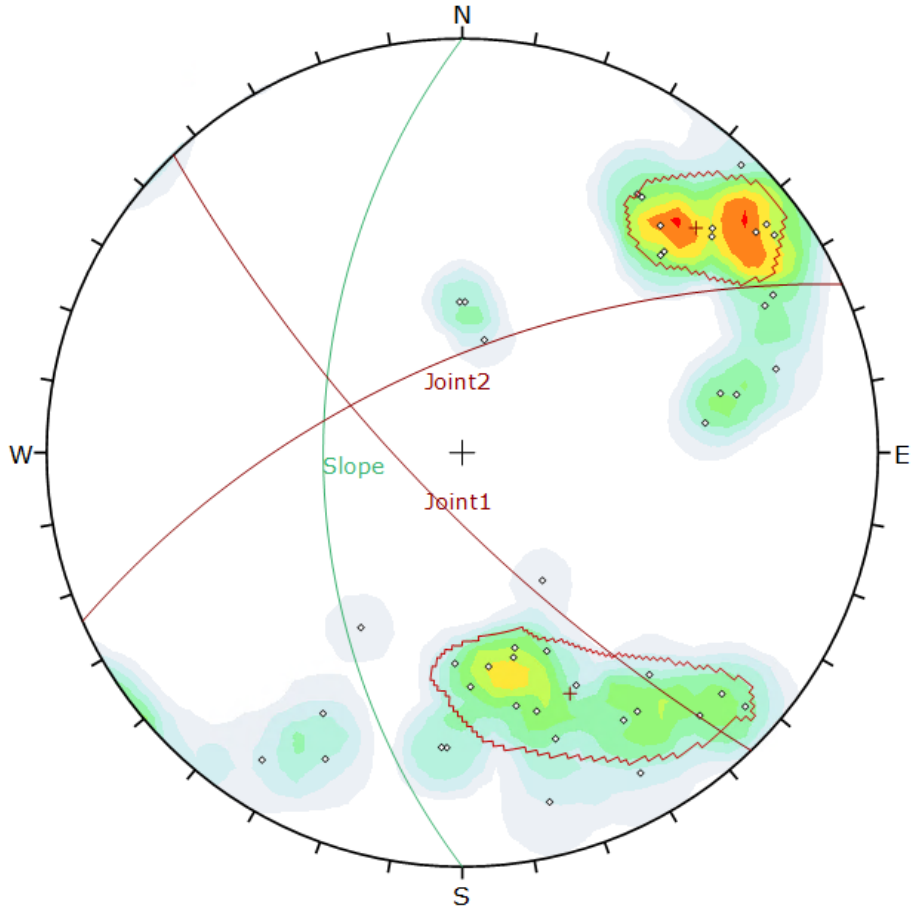
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Intersection Mode	Grid Data Planes
Intersections Count	990
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 45/270 - Wedge Failure		
Drawn By	JPS	Company	Delve Underground
Date	9/8/2023	File Name	CoffinButte_45-270_Wedge.dips8

Slope: 53/270 – Stereonet



Symbol	Feature
◇	Pole Vectors

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

	Color	Dip	Dip Direction	Label
User Planes				
1		53	270	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

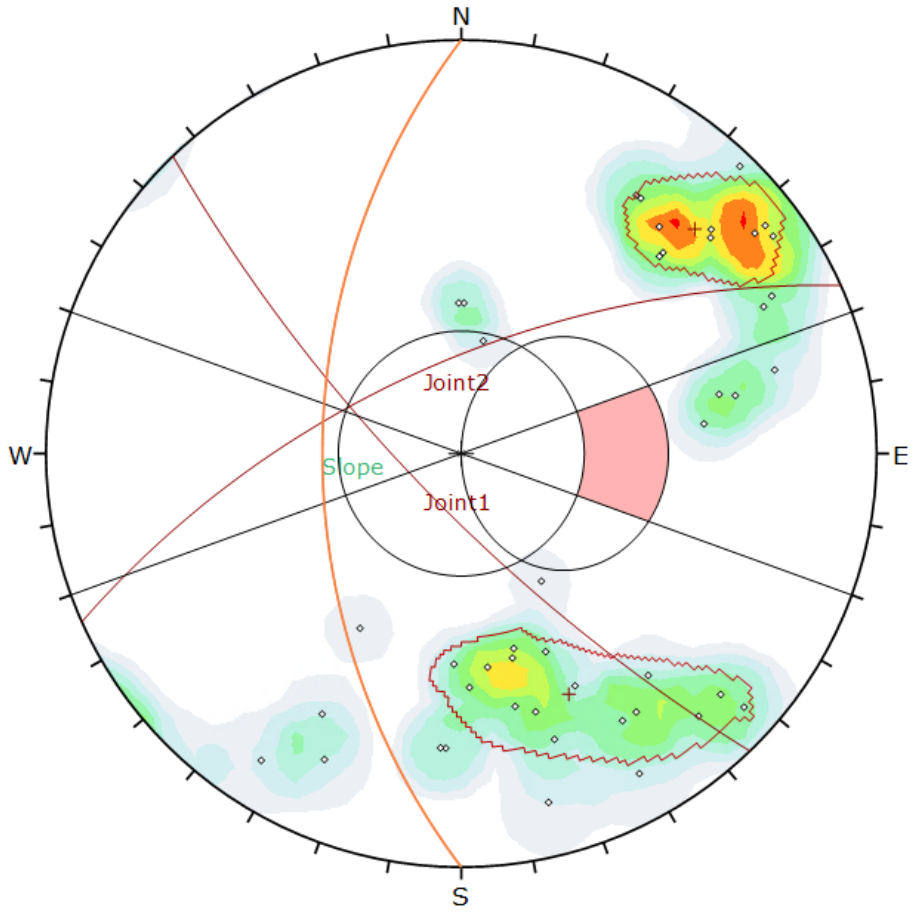
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 53/270		
Drawn By	JPS	*Company*	Delve Underground
Date	9/8/2023	*File Name*	CoffinButte_53-270.dips8

Slope: 53/270 – Planar Failure



Symbol	Feature
◇	Pole Vectors

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

Kinematic Analysis	Planar Sliding
Slope Dip	53
Slope Dip Direction	270
Friction Angle	33°
Lateral Limits	20°

	Critical	Total	%
Planar Sliding (All)	0	45	0.00%

	Color	Dip	Dip Direction	Label
User Planes				
1		53	270	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

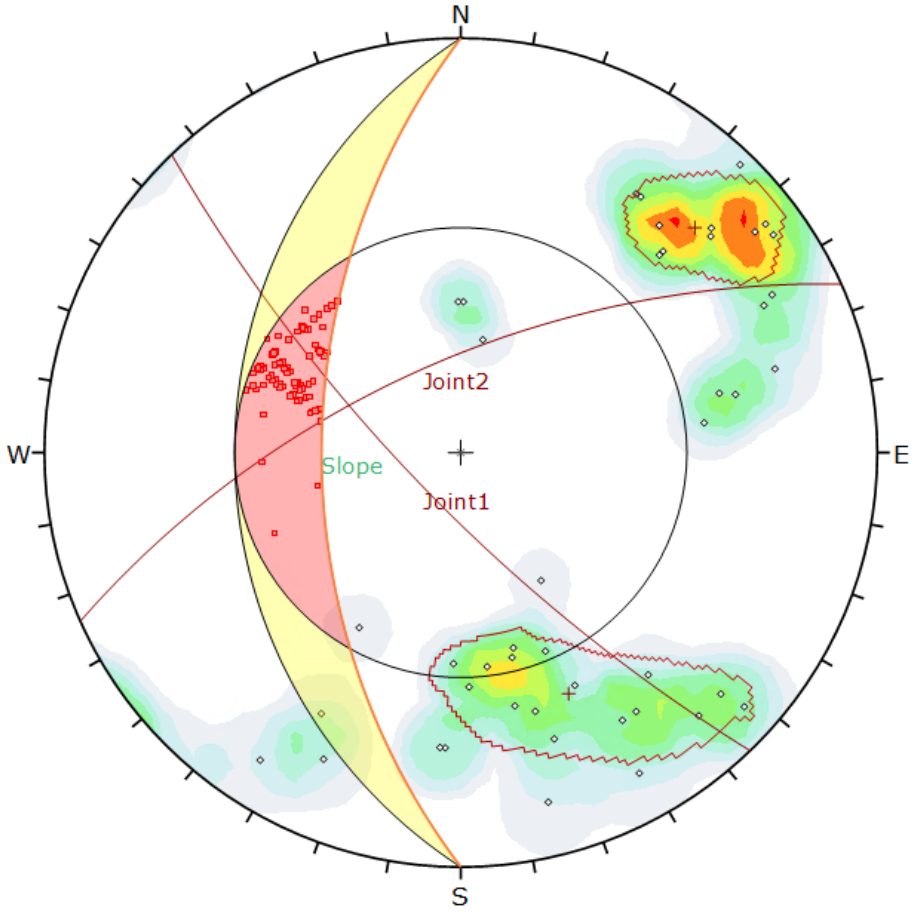
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 53/270 - Planar Failure		
Drawn By	JPS	*Company*	Delve Underground
Date	9/8/2023	*File Name*	CoffinButte_53-270_Planar.dips8

Slope: 53/270 – Wedge Failure



Symbol	Feature
◇	Pole Vectors
▫	Critical Intersection

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

Kinematic Analysis	Wedge Sliding
Slope Dip	53
Slope Dip Direction	270
Friction Angle	33°

	Critical	Total	%
Wedge Sliding	100	990	10.10%

	Color	Dip	Dip Direction	Label
User Planes				
1		53	270	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

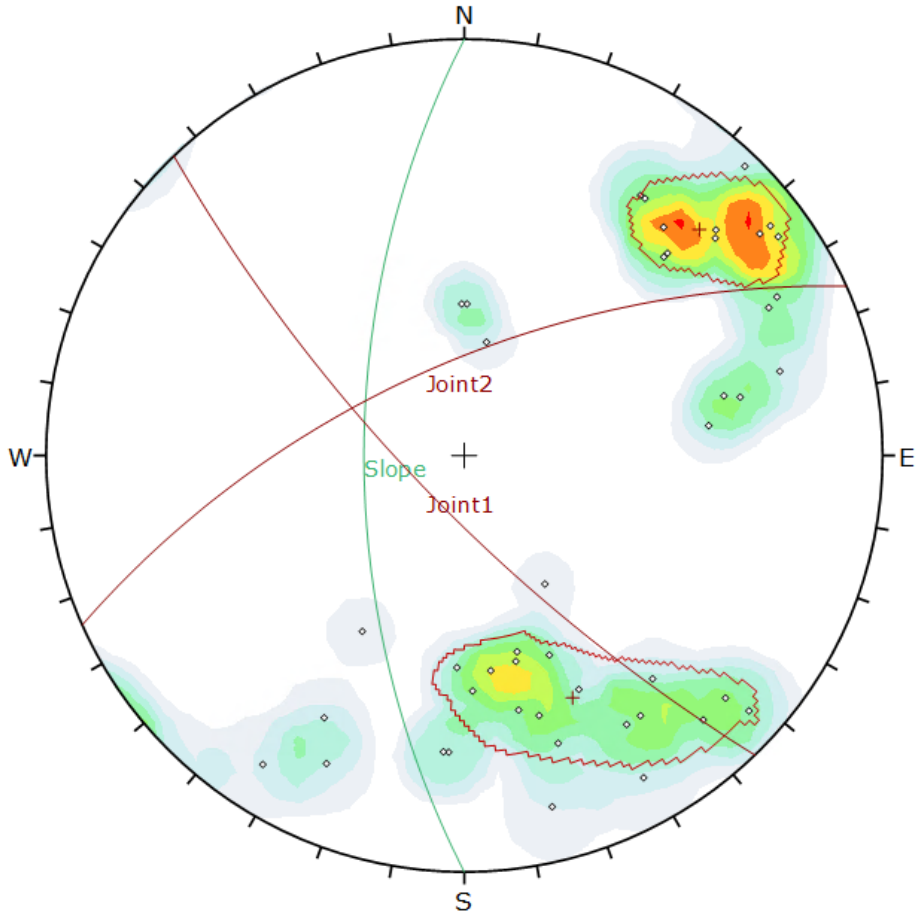
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Intersection Mode	Grid Data Planes
Intersections Count	990
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 53/270 - Wedge Failure		
Drawn By	JPS	Company	Delve Underground
Date	9/8/2023	File Name	CoffinButte_53-270_Wedge.dips8

Slope: 63/270 – Stereonet



Symbol	Feature
◇	Pole Vectors

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

	Color	Dip	Dip Direction	Label
User Planes				
1		63	270	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

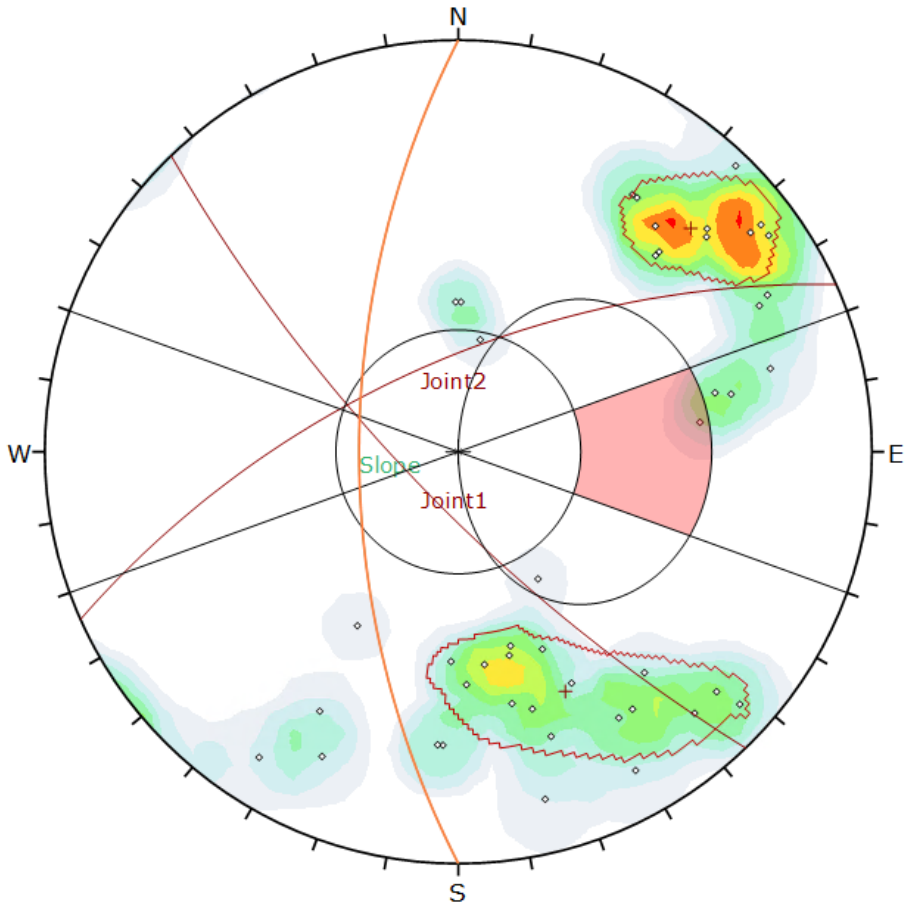
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 63/270		
Drawn By	JPS	*Company*	Delve Underground
Date	9/8/2023	*File Name*	CoffinButte_63-270.dips8

Slope: 63/270 – Planar Failure



Symbol	Feature
◇	Pole Vectors

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

Kinematic Analysis	Planar Sliding
Slope Dip	63
Slope Dip Direction	270
Friction Angle	33°
Lateral Limits	20°

	Critical	Total	%
Planar Sliding (All)	1	45	2.22%

	Color	Dip	Dip Direction	Label
User Planes				
1		63	270	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

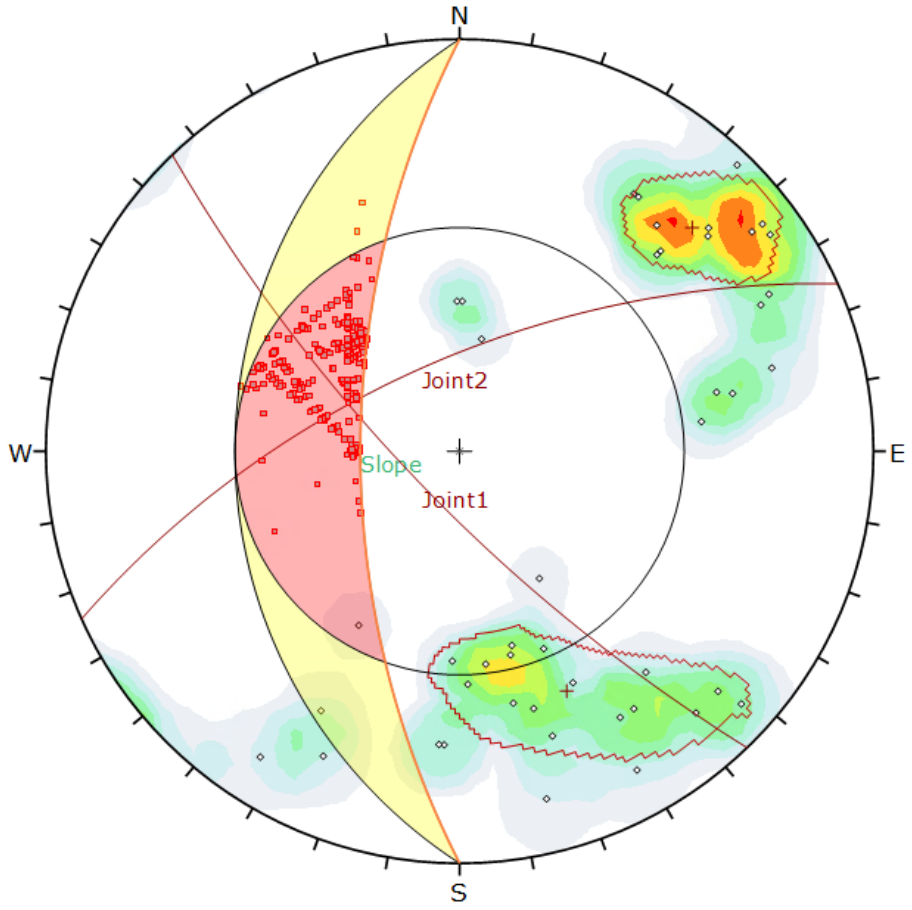
Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Hemisphere	Lower
Projection	Equal Angle

DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 63/270 - Planar Failure		
Drawn By	JPS	Company	Delve Underground
Date	9/8/2023	File Name	CoffinButte_63-270_Planar.dips8

Slope: 63/270 – Wedge Failure



Symbol	Feature
◇	Pole Vectors
▫	Critical Intersection

Color	Density Concentrations
	0.00 - 1.20
	1.20 - 2.40
	2.40 - 3.60
	3.60 - 4.80
	4.80 - 6.00
	6.00 - 7.20
	7.20 - 8.40
	8.40 - 9.60
	9.60 - 10.80
	10.80 - 12.00

Contour Data	Pole Vectors
Maximum Density	11.05%
Contour Distribution	Fisher
Counting Circle Size	1.0%

Kinematic Analysis	Wedge Sliding		
Slope Dip	63		
Slope Dip Direction	270		
Friction Angle	33°		
	Critical	Total	%
Wedge Sliding	284	990	28.69%

	Color	Dip	Dip Direction	Label
User Planes				
1		63	270	Slope
Mean Set Planes				
1m		76	226	Joint1
2m		65	336	Joint2

Plot Mode	Pole Vectors
Vector Count	45 (45 Entries)
Intersection Mode	Grid Data Planes
Intersections Count	990
Hemisphere	Lower
Projection	Equal Angle

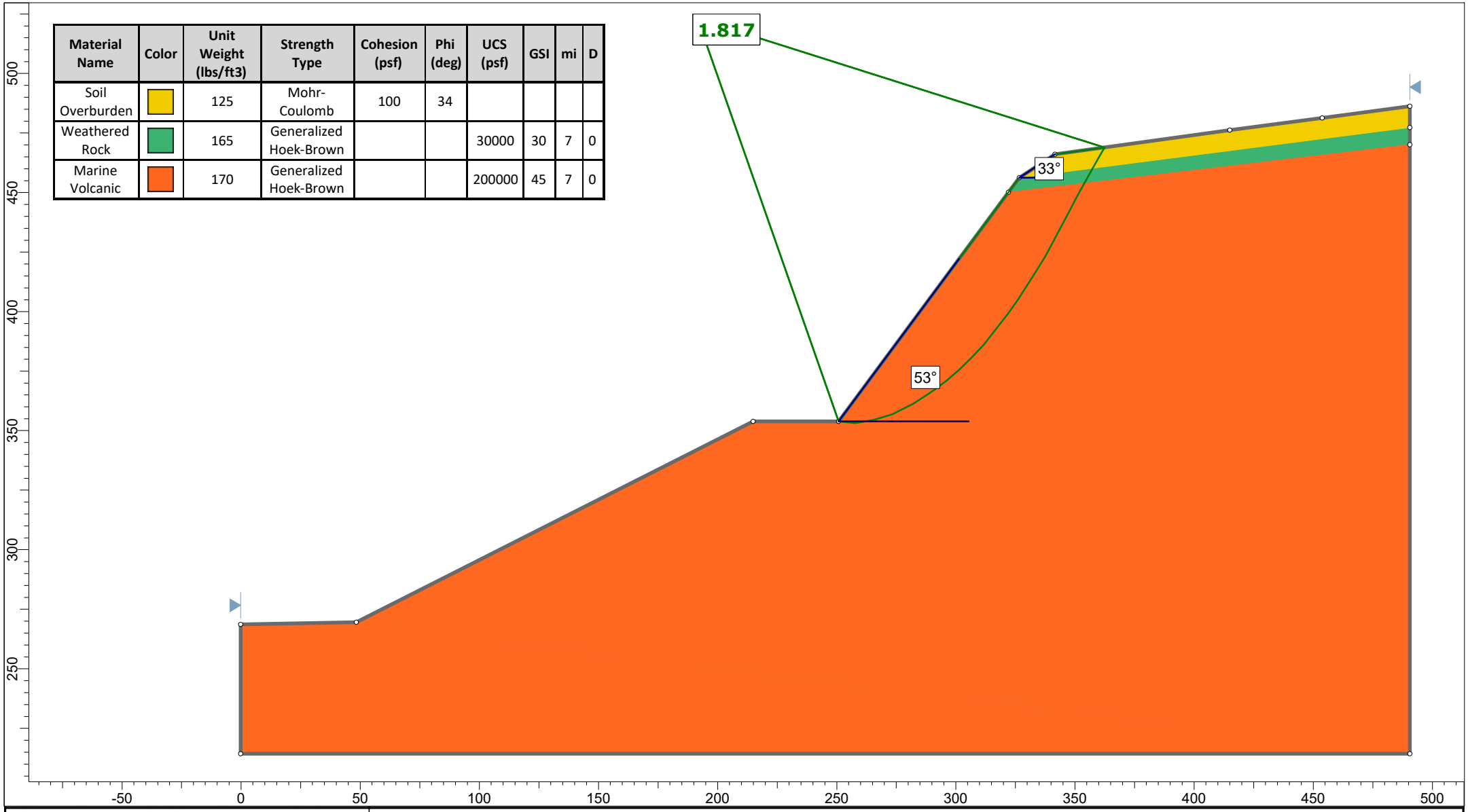
DELVE underground

DIPS 8.021

Project	Coffin Butte Landfill Rock Cut		
Analysis Description	Slope 63/270 - Wedge Failure		
Drawn By	JPS	Company	Delve Underground
Date	9/8/2023	File Name	CoffinButte_63-270_Wedge.dips8

Appendix D: Limit Equilibrium Stability Results

Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	UCS (psf)	GSI	mi	D
Soil Overburden		125	Mohr-Coulomb	100	34				
Weathered Rock		165	Generalized Hoek-Brown			30000	30	7	0
Marine Volcanic		170	Generalized Hoek-Brown			200000	45	7	0

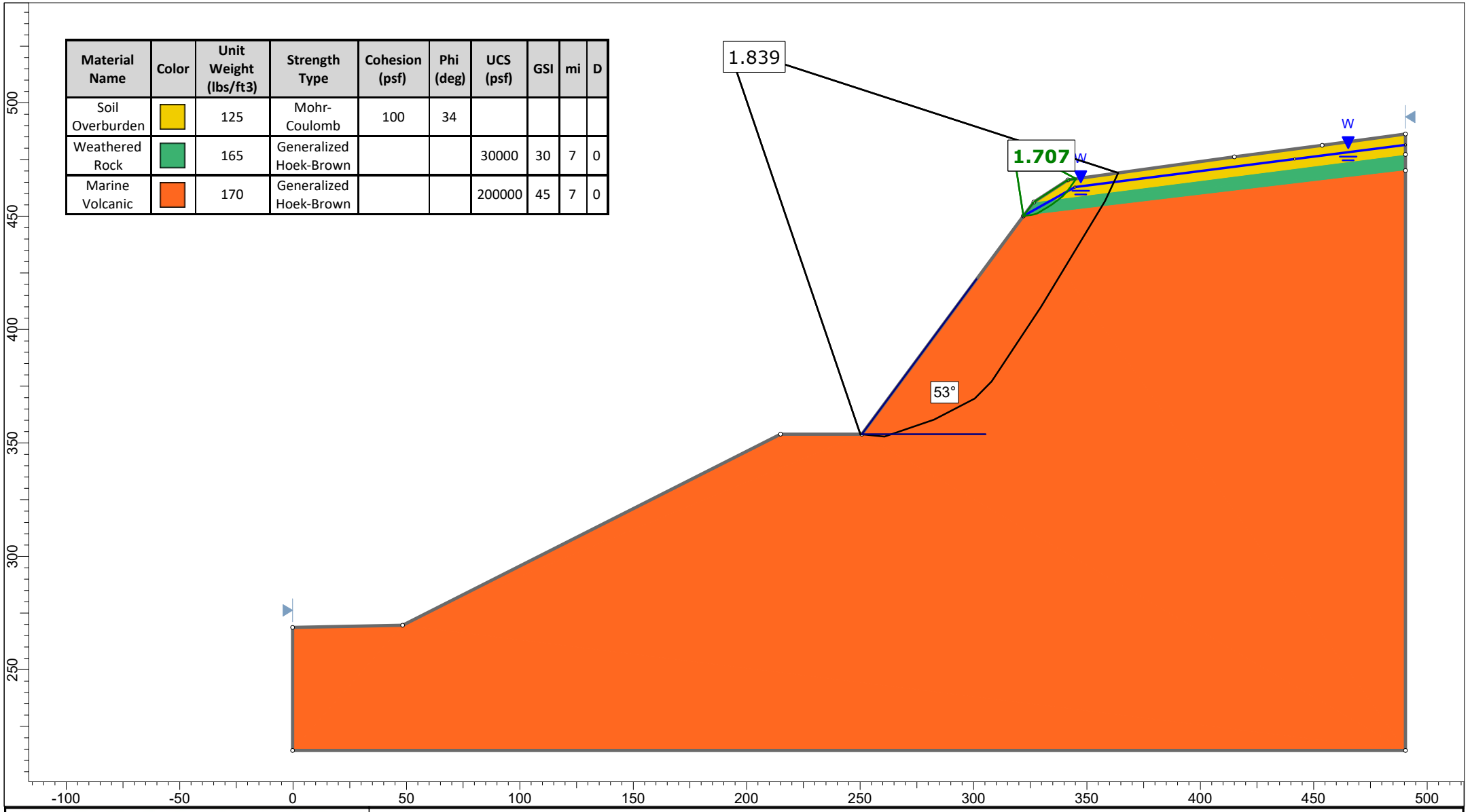


DELVE underground

SLIDEINTERPRET 9.027

Project	Coffin Butte Landfill		
Group	Section B - Dry - 0.75:1, 1.5:1	*Scenario*	Cuckoo
Drawn By	Guzek	*Company*	Delve Underground
Date	9/27/2023, 8:59:34 AM	*File Name*	09-2023_Section-B.slmd

Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	UCS (psf)	GSI	mi	D
Soil Overburden		125	Mohr-Coulomb	100	34				
Weathered Rock		165	Generalized Hoek-Brown			30000	30	7	0
Marine Volcanic		170	Generalized Hoek-Brown			200000	45	7	0

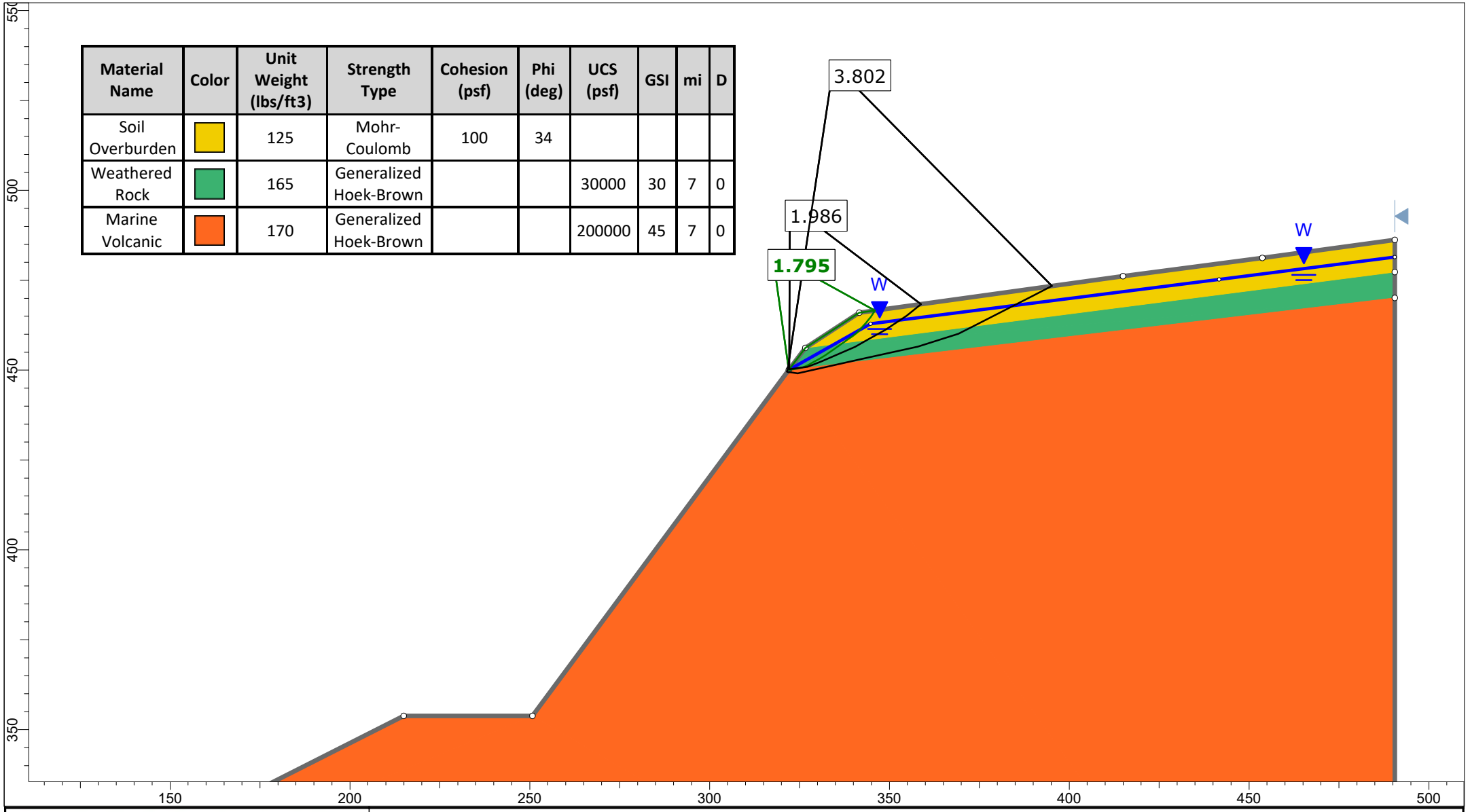


DELVE underground

SLIDEINTERPRET 9.027

Project	Coffin Butte Landfill		
Group	Section B - Wet - 0.75:1, 1.5:1	*Scenario*	Cuckoo
Drawn By	Guzek	*Company*	Delve Underground
Date	9/27/2023, 8:59:34 AM	*File Name*	09-2023_Section-B.slmd

Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	UCS (psf)	GSI	mi	D
Soil Overburden		125	Mohr-Coulomb	100	34				
Weathered Rock		165	Generalized Hoek-Brown			30000	30	7	0
Marine Volcanic		170	Generalized Hoek-Brown			200000	45	7	0

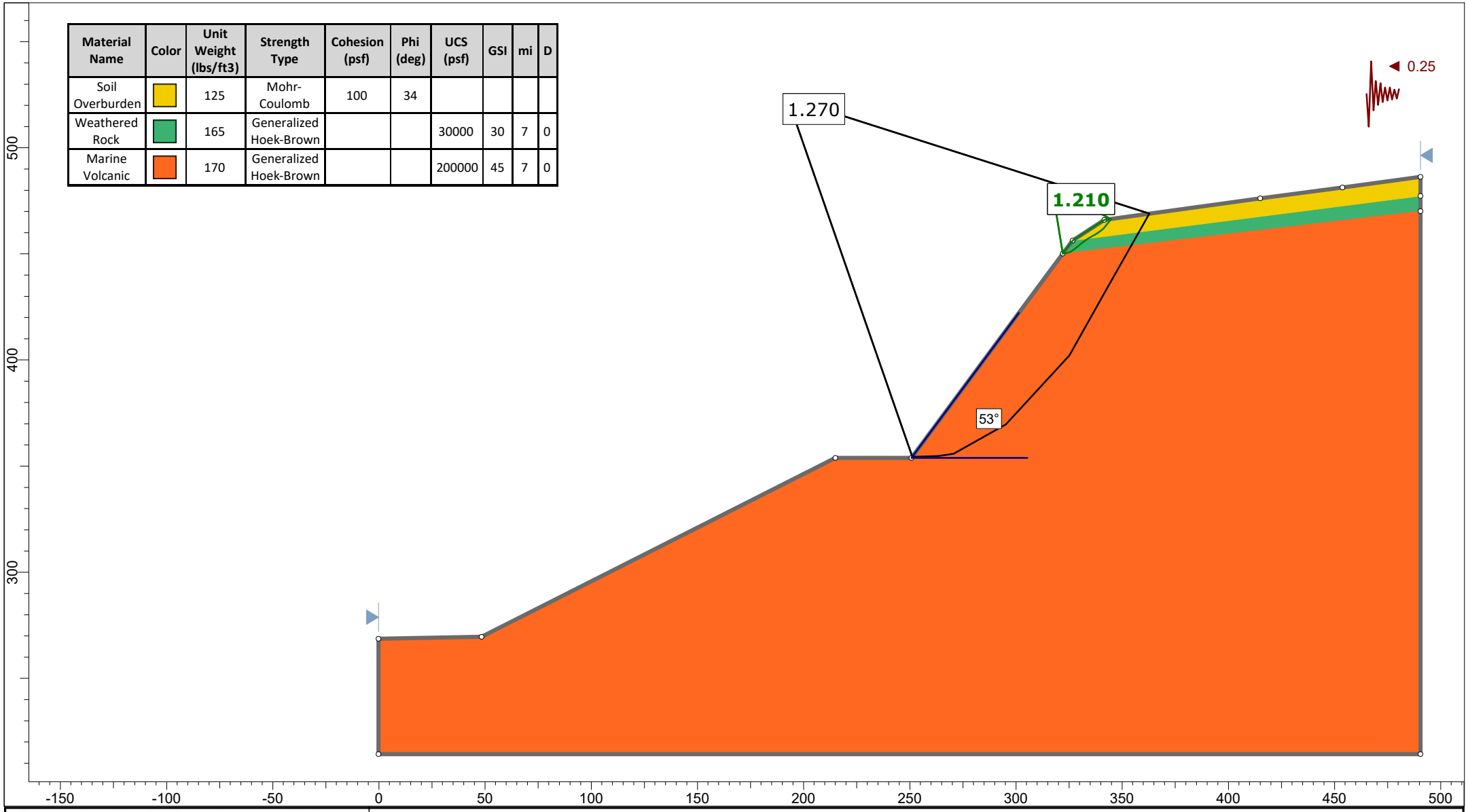


DELVE underground

SLIDEINTERPRET 9.027

Project	Coffin Butte Landfill		
Group	Section B - Fully Saturated - 0.75:1, 1.5:1	*Scenario*	Cuckoo
Drawn By	Guzek	*Company*	Delve Underground
Date	9/27/2023, 8:59:34 AM	*File Name*	09-2023_Section-B.slmd

Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	UCS (psf)	GSI	mi	D
Soil Overburden		125	Mohr-Coulomb	100	34				
Weathered Rock		165	Generalized Hoek-Brown			30000	30	7	0
Marine Volcanic		170	Generalized Hoek-Brown			200000	45	7	0

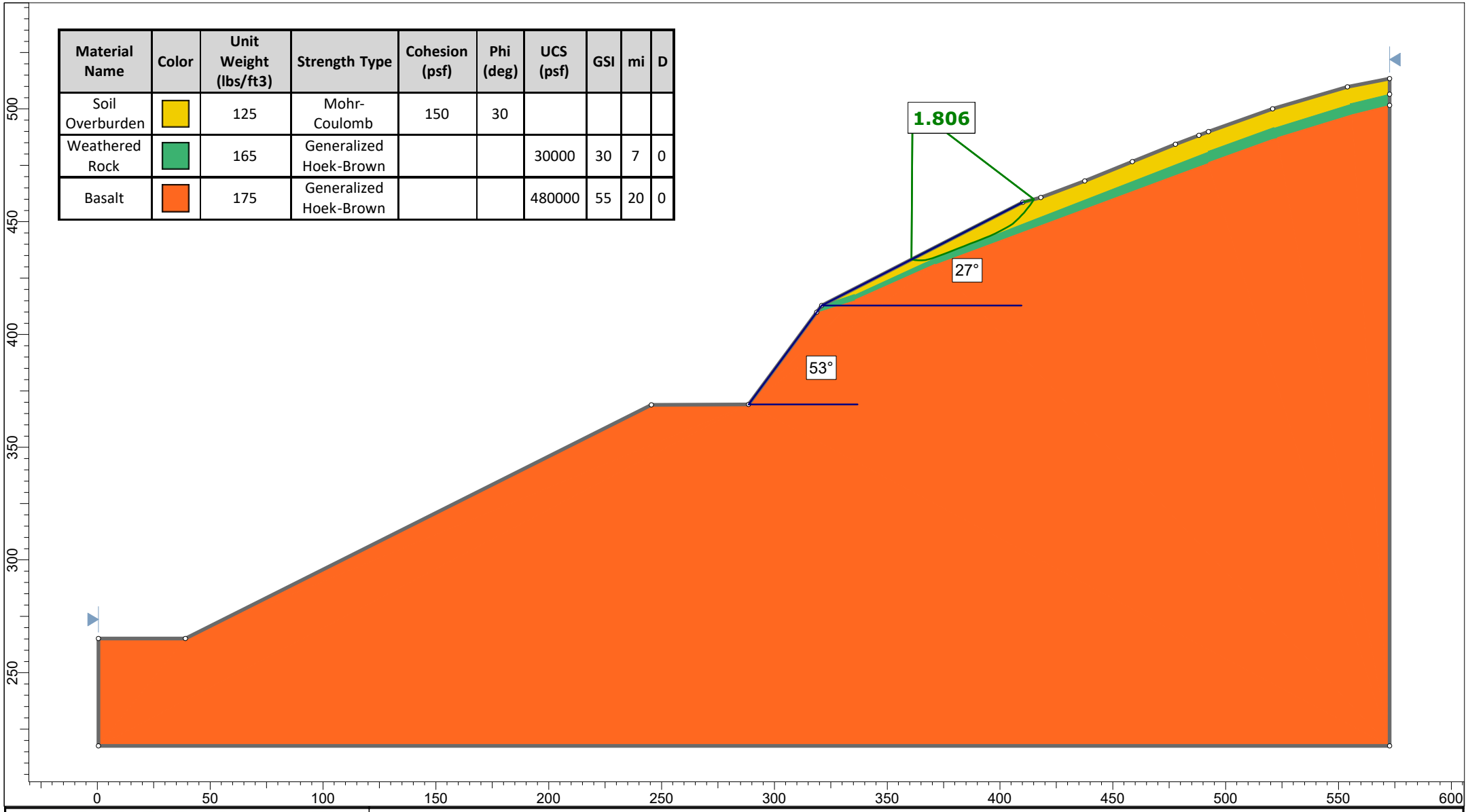


DELVE underground

SLIDEINTERPRET 9.027

Project	Coffin Butte Landfill		
Group	Section B - Seismic - 0.75:1, 1.5:1	*Scenario*	Cuckoo
Drawn By	Guzek	*Company*	Delve Underground
Date	9/27/2023, 8:59:34 AM	*File Name*	09-2023_Section-B.slmd

Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	UCS (psf)	GSI	mi	D
Soil Overburden		125	Mohr-Coulomb	150	30				
Weathered Rock		165	Generalized Hoek-Brown			30000	30	7	0
Basalt		175	Generalized Hoek-Brown			480000	55	20	0

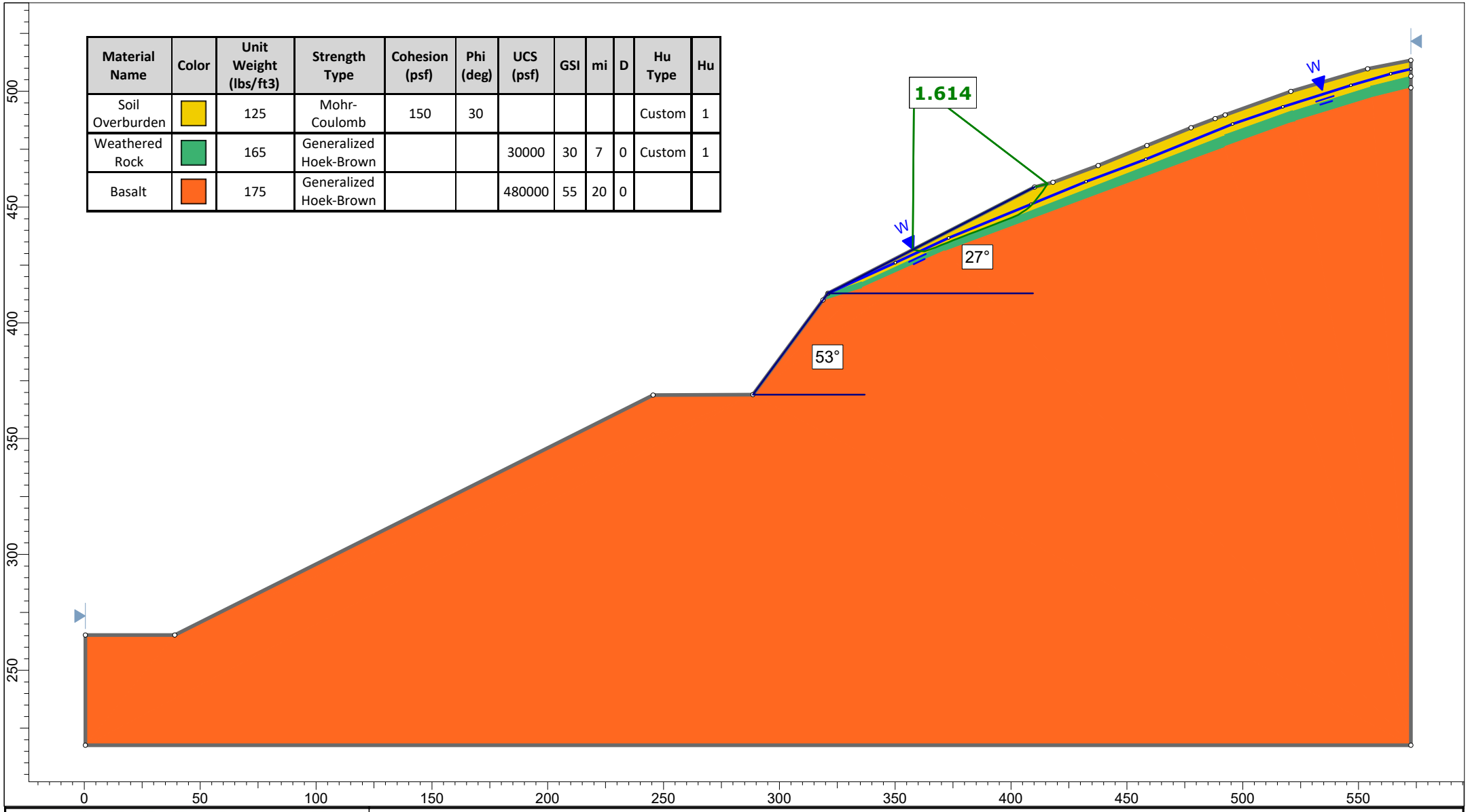


DELVE underground

SLIDEINTERPRET 9.027

Project	Coffin Butte Landfill		
Group	Section D - Dry - 0.75:1, 2:1	*Scenario*	Cuckoo
Drawn By	Guzek	*Company*	Delve Underground
Date	9/27/2023, 8:59:34 AM	*File Name*	09-2023_Section-D.slmd

Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	UCS (psf)	GSI	mi	D	Hu Type	Hu
Soil Overburden		125	Mohr-Coulomb	150	30					Custom	1
Weathered Rock		165	Generalized Hoek-Brown			30000	30	7	0	Custom	1
Basalt		175	Generalized Hoek-Brown			480000	55	20	0		

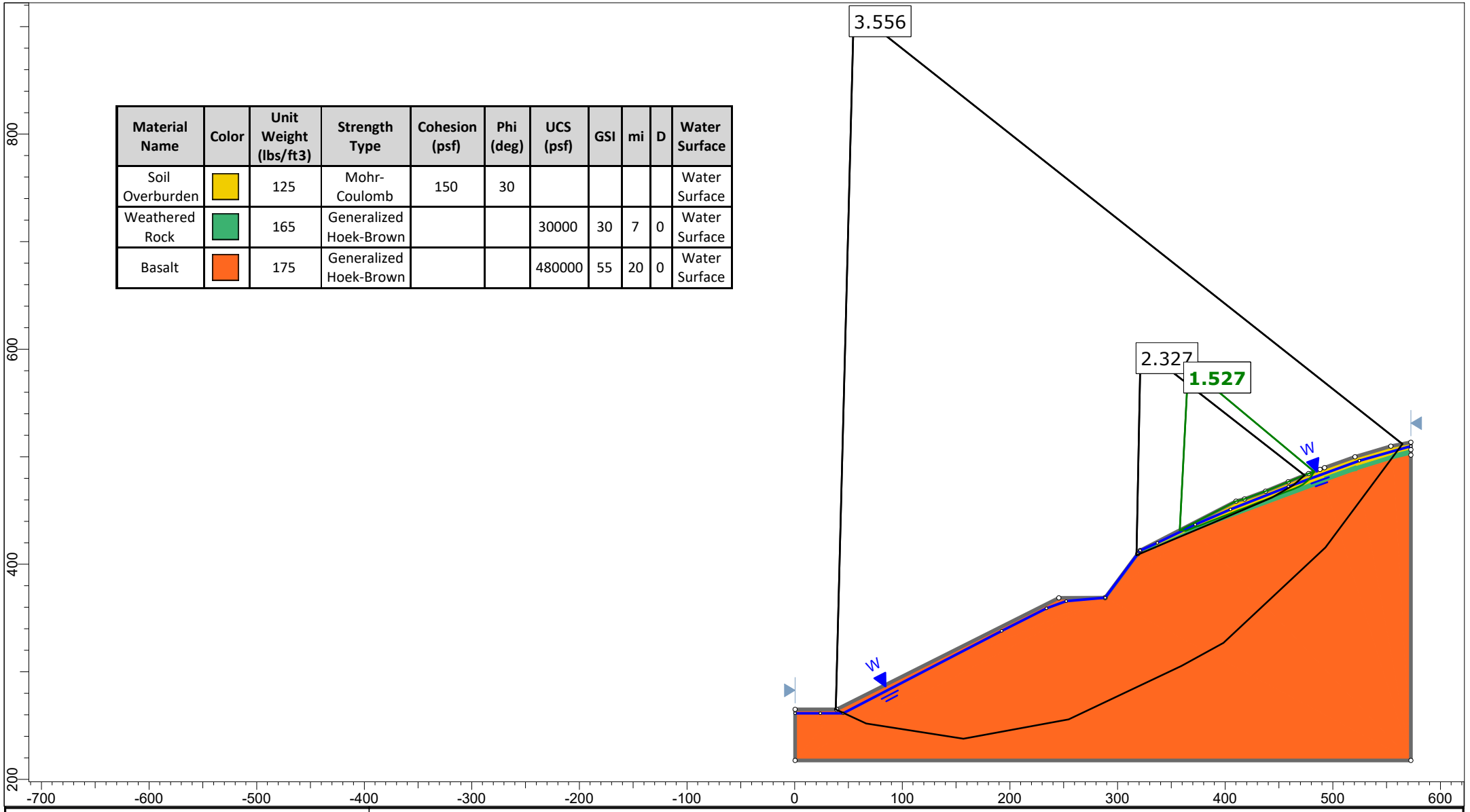


DELVE underground

SLIDEINTERPRET 9.027

Project	Coffin Butte Landfill		
Group	Section D - Wet - 0.75:1, 2:1	*Scenario*	Cuckoo
Drawn By	Guzek	*Company*	Delve Underground
Date	9/27/2023, 8:59:34 AM	*File Name*	09-2023_Section-D.slmd

Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	UCS (psf)	GSI	mi	D	Water Surface
Soil Overburden		125	Mohr-Coulomb	150	30					Water Surface
Weathered Rock		165	Generalized Hoek-Brown			30000	30	7	0	Water Surface
Basalt		175	Generalized Hoek-Brown			480000	55	20	0	Water Surface

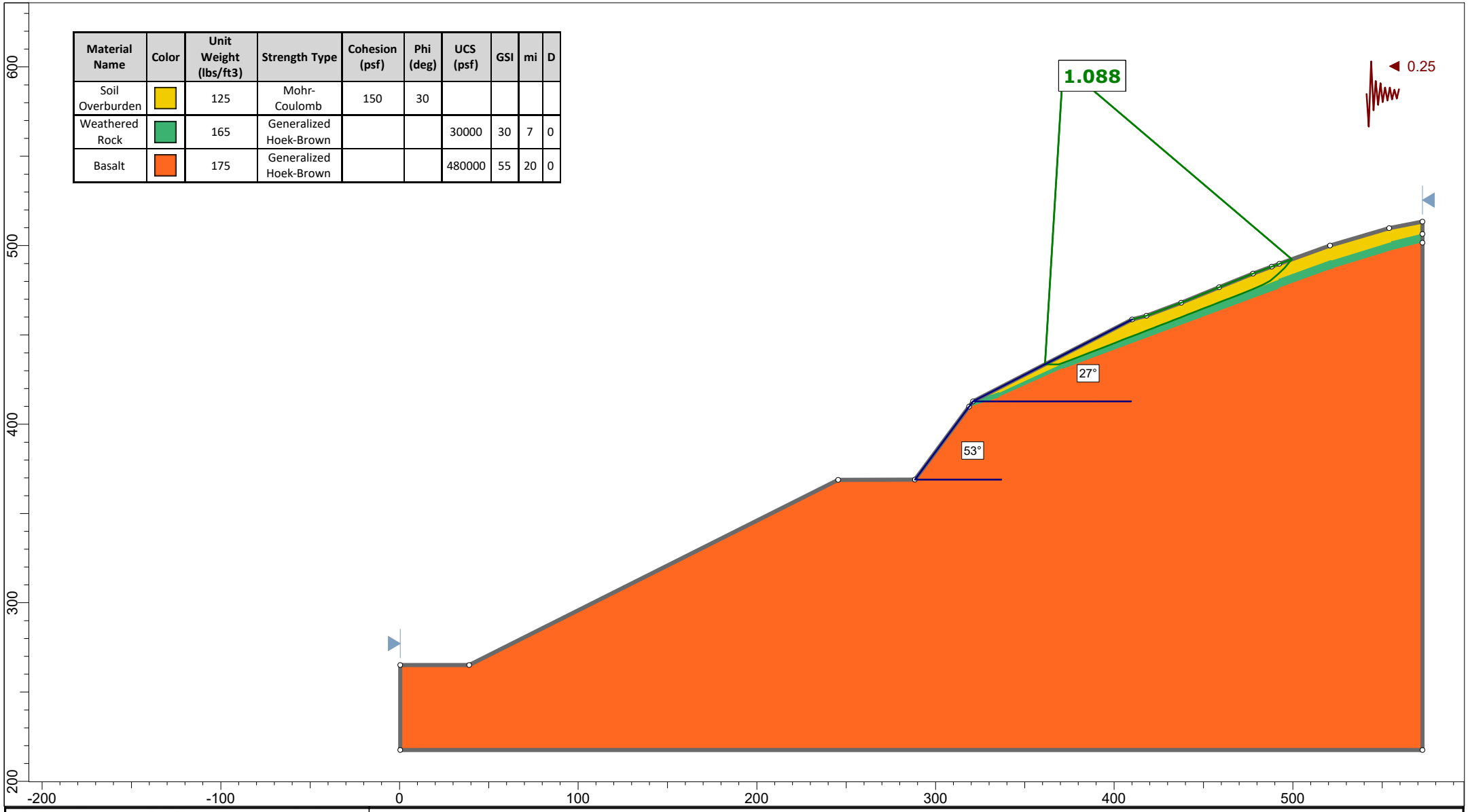


DELVE underground

SLIDEINTERPRET 9.027

Project	Coffin Butte Landfill		
Group	Section D - Fully Saturated - 0.75:1, 2:1	*Scenario*	Cuckoo
Drawn By	Guzek	*Company*	Delve Underground
Date	9/27/2023, 8:59:34 AM	*File Name*	09-2023_Section-D.slmd

Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	UCS (psf)	GSI	mi	D
Soil Overburden		125	Mohr-Coulomb	150	30				
Weathered Rock		165	Generalized Hoek-Brown			30000	30	7	0
Basalt		175	Generalized Hoek-Brown			480000	55	20	0



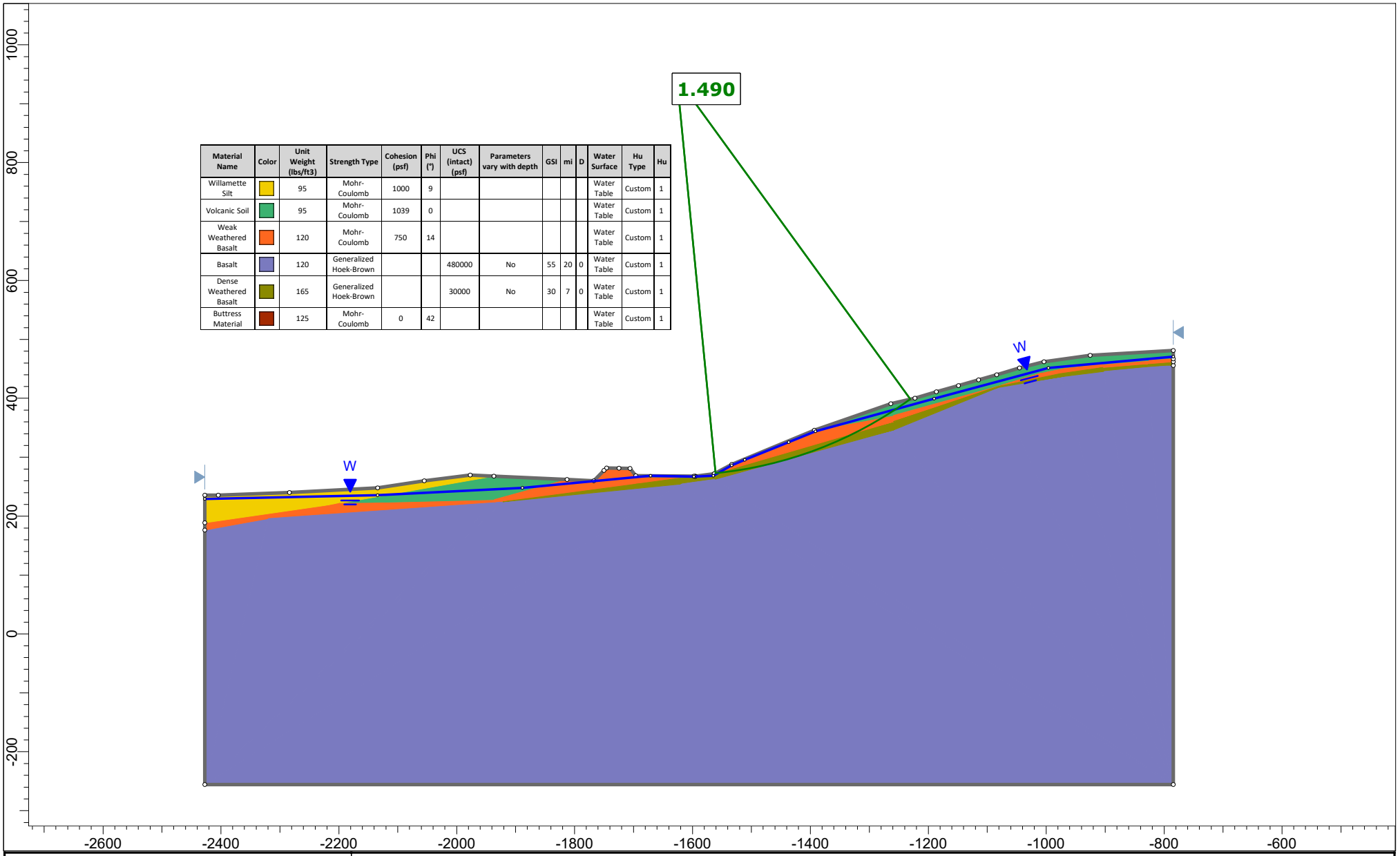
DELVE underground

SLIDEINTERPRET 9.027

Project	Coffin Butte Landfill		
Group	Section D - Seismic - 0.75:1, 2:1	*Scenario*	Cuckoo
Drawn By	Guzek	*Company*	Delve Underground
Date	9/27/2023, 8:59:34 AM	*File Name*	09-2023_Section-D.slmd

WALLACE GROUP
NORTHWEST GEOSYSTEM EXPERTS

APPENDIX F

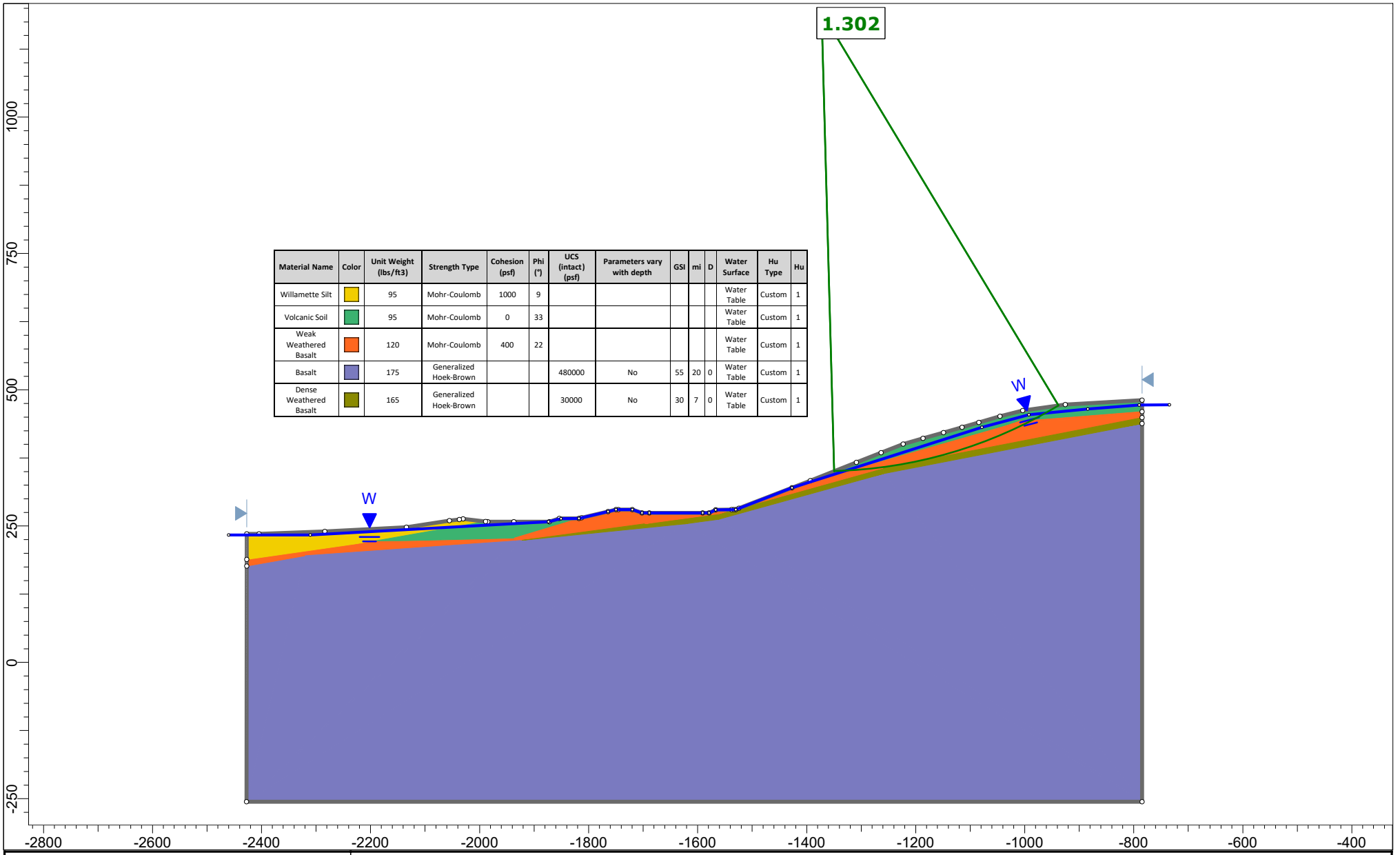


Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (°)	UCS (intact) (psf)	Parameters vary with depth	GSI	mi	D	Water Surface	Hu Type	Hu
Willamette Silt		95	Mohr-Coulomb	1000	9						Water Table	Custom	1
Volcanic Soil		95	Mohr-Coulomb	1039	0						Water Table	Custom	1
Weak Weathered Basalt		120	Mohr-Coulomb	750	14						Water Table	Custom	1
Basalt		120	Generalized Hoek-Brown			480000	No	55	20	0	Water Table	Custom	1
Dense Weathered Basalt		165	Generalized Hoek-Brown			30000	No	30	7	0	Water Table	Custom	1
Buttress Material		125	Mohr-Coulomb	0	42						Water Table	Custom	1

rocscience

SLIDEINTERPRET 9.028

Project	Coffin Butte Landfill Southern Expansion		
Group	Group 1	*Scenario*	Master Scenario
Drawn By	L. Splitter	*Company*	Wallace Group
Date	10/25/2023, 3:34:10 PM	*File Name*	Section E_ Short Term Condition for buttress construction.slmd

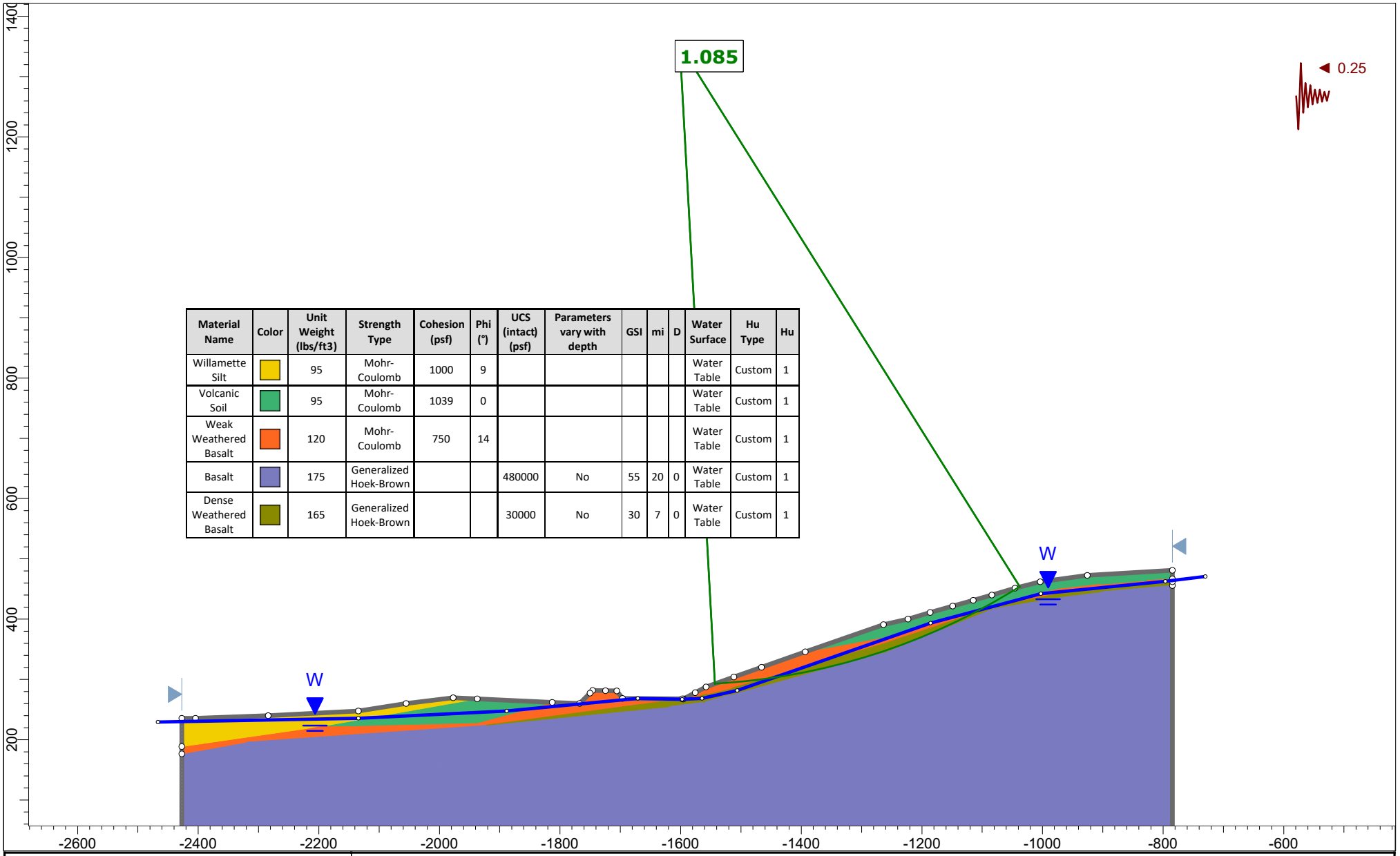


Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (°)	UCS (intact) (psf)	Parameters vary with depth	GSI	mi	D	Water Surface	Hu Type	Hu
Willamette Silt		95	Mohr-Coulomb	1000	9						Water Table	Custom	1
Volcanic Soil		95	Mohr-Coulomb	0	33						Water Table	Custom	1
Weak Weathered Basalt		120	Mohr-Coulomb	400	22						Water Table	Custom	1
Basalt		175	Generalized Hoek-Brown			480000	No	55	20	0	Water Table	Custom	1
Dense Weathered Basalt		165	Generalized Hoek-Brown			30000	No	30	7	0	Water Table	Custom	1

rocscience

SLIDEINTERPRET 9.028

Project	Coffin Butte Landfill Southern Expansion		
Group	Group 1	*Scenario*	Master Scenario
Drawn By	L. Splitter	*Company*	Wallace Group
Date	10/25/2023, 3:34:10 PM	*File Name*	Section E_ LongTerm Condition Static.slmd

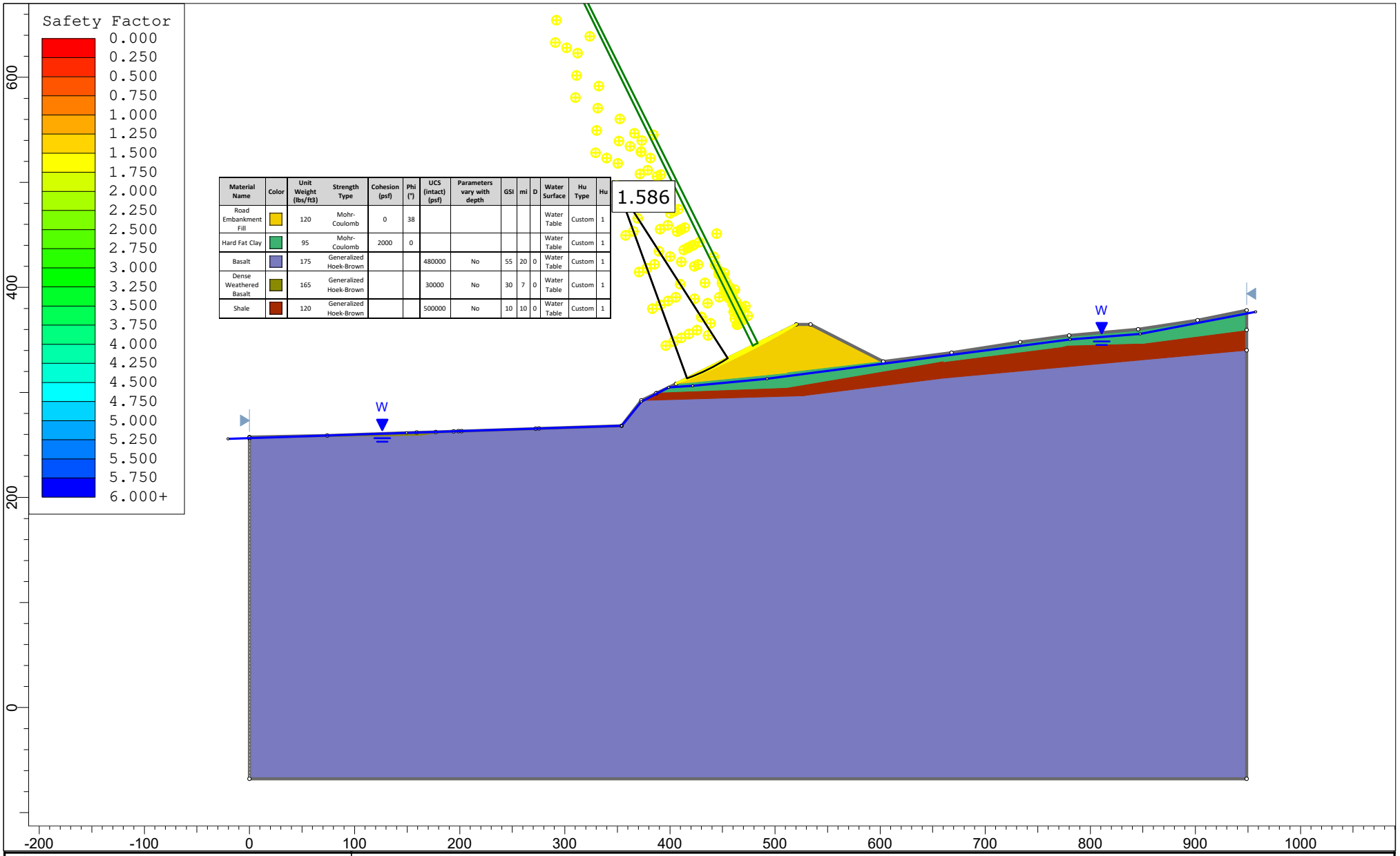


Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (°)	UCS (intact) (psf)	Parameters vary with depth	GSI	mi	D	Water Surface	Hu Type	Hu
Willamette Silt		95	Mohr-Coulomb	1000	9						Water Table	Custom	1
Volcanic Soil		95	Mohr-Coulomb	1039	0						Water Table	Custom	1
Weak Weathered Basalt		120	Mohr-Coulomb	750	14						Water Table	Custom	1
Basalt		175	Generalized Hoek-Brown			480000	No	55	20	0	Water Table	Custom	1
Dense Weathered Basalt		165	Generalized Hoek-Brown			30000	No	30	7	0	Water Table	Custom	1

rocscience

SLIDEINTERPRET 9.028

Project	Slide2 - An Interactive Slope Stability Program		
Group	Group 1	*Scenario*	Master Scenario
Drawn By	L Splitter	*Company*	Wallace Group
Date	10/25/2023, 3:34:10 PM	*File Name*	Section E_ Short Term Condition Seismic no buttress.slmd

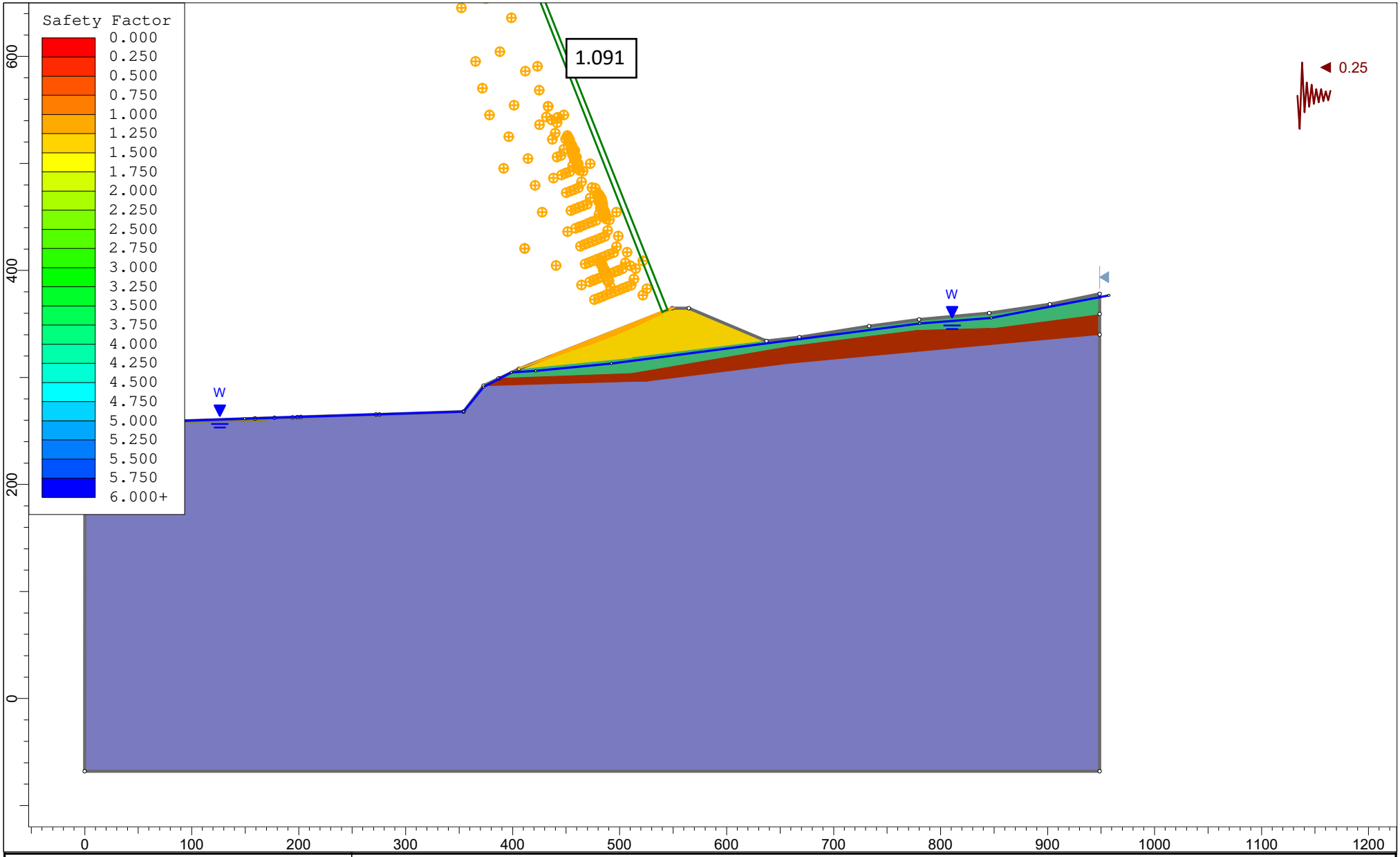


Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (°)	UCS (intact) (psf)	Parameters vary with depth	GSI	mi	D	Water Surface	Hu Type	Hu
Road Embankment Fill		120	Mohr-Coulomb	0	38						Water Table	Custom	1
Hard Fat Clay		95	Mohr-Coulomb	2000	0						Water Table	Custom	1
Basalt		175	Generalized Hoek-Brown			480000	No	55	20	0	Water Table	Custom	1
Dense Weathered Basalt		165	Generalized Hoek-Brown			30000	No	30	7	0	Water Table	Custom	1
Shale		120	Generalized Hoek-Brown			500000	No	10	10	0	Water Table	Custom	1

rocscience

SLIDEINTERPRET 9.028

Project	Coffin Butte		
Group	Group 1	*Scenario*	Master Scenario
Drawn By	L Splitter	*Company*	Wallace Group
Date	12/20/2023, 2:39:01 PM	*File Name*	Section C_long term.slmd



rocscience	Project	Coffin Butte	
	Group	Group 1	Scenario: Master Scenario
	Drawn By	L Splitter	Company: Wallace Group
	Date	12/20/2023, 2:39:01 PM	File Name: Section C_seismic 2.5 to 1.slmd

SLIDEINTERPRET 9.034

EXHIBIT 6
WELL LOGS FOR PW-2 AND BERKLAND WELL

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the
WATER RESOURCES DEPARTMENT, SALEM, OREGON 97310 within 30 days from the date of well completion.

Bert 244

WATER WELL REPORT

STATE OF OREGON
(Please type or print)
(Do not write above this line)

EMON 176

State Well No. 10S/5W-2

RECEIVED
MAY 24 1978
WATER RESOURCES DEPT.
SALEM, OREGON

State Permit No.

(1) OWNER:

Name John Wilkenson
Address 27469 Fern Ridge Rd.
Sweet Home Ore.

(2) TYPE OF WORK (check):

New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:

Rotary ☒ Driven ☐
Cable ☐ Jetted ☐
Dug ☐ Bored ☐

(4) PROPOSED USE (check):

Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

CASING INSTALLED:

Threaded ☐ Welded ☒

6" Diam. from 0 ft. to 20 ft. Gage .250
" Diam. from ft. to ft. Gage
" Diam. from ft. to ft. Gage

PERFORATIONS:

Perforated? ☐ Yes ☒ No

Type of perforator used
Size of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

(7) SCREENS:

Well screen installed? ☐ Yes ☒ No

Manufacturer's Name
Type Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.

(8) WELL TESTS:

Drawdown is amount water level is lowered below static level

Was a pump test made? ☐ Yes ☒ No If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
" " "
"Tested w/Air 15 gpm" " "
Bailer test gal./min. with 189 ft. drawdown after 1 hrs.
Artesian flow g.p.m.
Temperature of water Depth artesian flow encountered ft.

(9) CONSTRUCTION:

Well seal—Material used Cement
Well sealed from land surface to 18 ft.
Diameter of well bore to bottom of seal 10 in.
Diameter of well bore below seal 6 in.
Number of sacks of cement used in well seal 12 sacks
How was cement grout placed? poured

Was a drive shoe used? ☒ Yes ☐ No Plugs Size: location ft.
Did any strata contain unusable water? ☐ Yes ☒ No
Type of water? depth of strata
Method of sealing strata off
Was well gravel packed? ☐ Yes ☒ No Size of gravel:
Gravel placed from ft. to ft.

(10) LOCATION OF WELL:

County Linn Driller's well number
¼ ¼ Section 24 T. 10S R. 5W W
Bearing and distance from section or subdivision corner

(11) WATER LEVEL: Completed well.

Depth at which water was first found 196
Static level 31 ft. below land surface. Date 5/1
Artesian pressure lbs. per square inch. Date

(12) WELL LOG:

Diameter of well below casing 6"
Depth drilled ft. Depth of completed well

Formation: Describe color, texture, grain size and structure of materi and show thickness and nature of each stratum and aquifer penetra with at least one entry for each change of formation. Report each chang position of Static Water Level and indicate principal water-bearing str

MATERIAL	From	To	SW
Topsoil	0	5	
Brown Broken Basalt	5	18	
Blue basalt	18	114	
Blue sandstone	114	138	
Blue basalt	138	158	
Blue sandstone	158	220	

Work started 4/27/78 19 Completed 5/1/78 19
Date well drilling machine moved off of well 5/1/78 19

Drilling Machine Operator's Certification:

This well was constructed under my direct supervisi Materials used and information reported above are true to best knowledge and belief.

[Signed] Claude Irby (Drilling Machine Operator) Date 5/8, 19

Drilling Machine Operator's License No. 1133

Water Well Contractor's Certification:

This well was drilled under my jurisdiction and this report true to the best of my knowledge and belief.

Name Bert Jones (Person, firm or corporation) (Type or print)
Address 29400 Santiam Hwy Lebanon
[Signed] Bert Jones (Water Well Contractor)
Contractor's License No. 514 Date 5/8/78, 19

(USE ADDITIONAL SHEETS IF NECESSARY)

LOG OF EXPLORATORY BORING

PROJECT NAME	COFFIN BUTTE LANDFILL	BORING NO.	PW- 2
LOCATION	Benton County, Oregon	PAGE	1 OF 5
DRILLED BY	Staco Well Services	REFERENCE ELEV.	248.90'
DRILL METHOD	Air rotary	TOTAL DEPTH	199.00'
LOGGED BY	Craig D. Fanshier	DATE COMPLETED	7/30/92

RECOVERY PERCENT	POCKET PENETRO-METER (TSF)	BLOW COUNTS (N COMP)	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	WELL DETAILS	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
				5				0-6 feet: SILTY CLAY (CL), brown, hard, dry. (ALLUVIUM)
				10				6-8 feet: GRAVELLY CLAY (CL), brown, 60-80% clay, soft, 20-40% gravel (medium grain gray basalt), dry.
								8-14 feet: SILTY CLAY (CL), light brown, low plasticity, damp.
				15				14-43 feet: GRAVELLY CLAY (CL), light brown to light yellowish brown clay, low plasticity, 20-30% gravels (1/8-1/2").
			17' 7/30/92	20				
				25				
				30				
				35				
			39' 7/29/92	40				
				45				43-89 feet: BASALT, brown to gray, 5% green, 5% purple tint, fine to medium grained, moderately weathered.
				50				

REMARKS

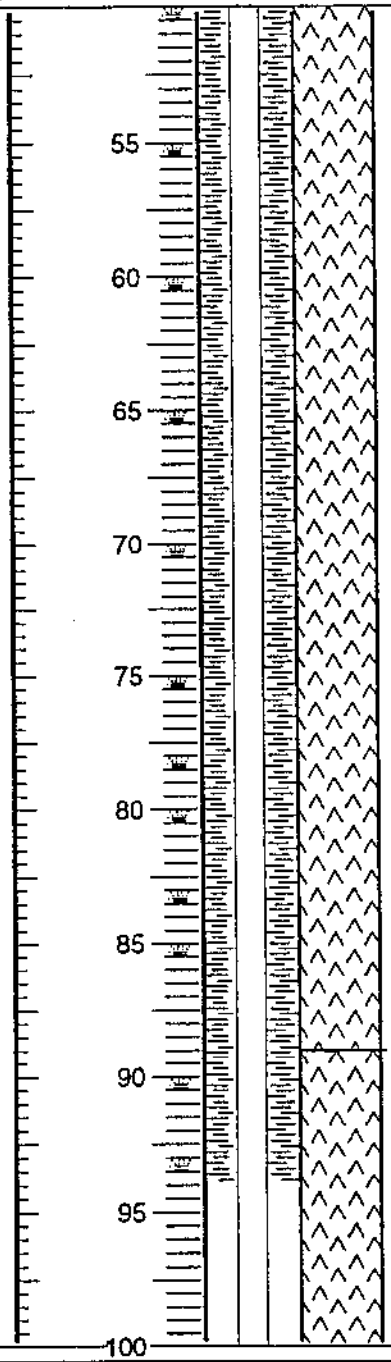
Boring drilled with air rotary using a 10-inch downhole hammer to 94 feet bgs and with a 6-inch downhole hammer from 94 to 199 feet bgs.

LOG OF EXPLORATORY BORING

PROJECT NAME COFFIN BUTTE LANDFILL
LOCATION Benton County, Oregon
DRILLED BY Staco Well Services
DRILL METHOD Air rotary
LOGGED BY Craig D. Fanshier

BORING NO. PW- 2
PAGE 2 OF 5
REFERENCE ELEV. 248.90'
TOTAL DEPTH 199.00'
DATE COMPLETED 7/30/92

RECOVERY PERCENT	POCKET PENETRO-METER (TSF)	BLOW COUNTS (N COMP)	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	WELL DETAILS	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION



43-89 feet: BASALT, brown to gray, 5% green, 5% purple tint, fine to medium grained, moderately weathered.

@ 52-57 feet: No green or purple tint.

@ 57 feet: Easier drilling, trace quartz and plagioclase.

@ 65 feet: Traces of quartz or plagioclase.

@ 71-72 feet: Easier drilling.

@ 85 feet: Harder drilling.

89-199 feet: BASALT, 60% greenish gray, 40% purple tint, fine to medium grained. Fresh basalt.

@ 95 feet: Borehole produces approximately 10 gpm water by air lifting through the drill pipe using the drilling air compressor.

REMARKS

Boring drilled with air rotary using a 10-inch downhole hammer to 94 feet bgs and with a 6-inch downhole hammer from 94 to 199 feet bgs.

LOG OF EXPLORATORY BORING

PROJECT NAME	COFFIN BUTTE LANDFILL	BORING NO.	PW- 2
LOCATION	Benton County, Oregon	PAGE	3 OF 5
DRILLED BY	Staco Well Services	REFERENCE ELEV.	248.90'
DRILL METHOD	Air rotary	TOTAL DEPTH	199.00'
LOGGED BY	Craig D. Fanshier	DATE COMPLETED	7/30/92

RECOVERY PERCENT	POCKET PENETRO-METER (TSF)	BLOW COUNTS (N COMP)	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	WELL DETAILS	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
				105				**89-199 feet: BASALT,** 60% greenish gray, 40% purple tint, fine to medium grained. Fresh basalt.
				110				
				115				
				120				
				125				
				130				
				135				
				140				
				145				
				150				

REMARKS

Boring drilled with air rotary using a 10-inch downhole hammer to 94 feet bgs and with a 6-inch downhole hammer from 94 to 199 feet bgs.

LOG OF EXPLORATORY BORING

PROJECT NAME	COFFIN BUTTE LANDFILL	BORING NO.	PW-2
LOCATION	Benton County, Oregon	PAGE	4 OF 5
DRILLED BY	Staco Well Services	REFERENCE ELEV.	248.90'
DRILL METHOD	Air rotary	TOTAL DEPTH	199.00'
LOGGED BY	Craig D. Fanshier	DATE COMPLETED	7/30/92

RECOVERY PERCENT	POCKET PENETRO-METER (TSF)	BLOW COUNTS (N COMP)	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	WELL DETAILS	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
				155				**89-199 feet:** BASALT, 60% greenish gray, 40% purple tint, fine to medium grained. Fresh basalt.
				160				
				165				
				170				
				175				
				180				
				185				
				190				
				195				
				200				

REMARKS

Boring drilled with air rotary using a 10-inch downhole hammer to 94 feet bgs and with a 6-inch downhole hammer from 94 to 199 feet bgs.

LOG OF EXPLORATORY BORING

PROJECT NAME	**COFFIN BUTTE LANDFILL**	BORING NO.	**PW- 2**
LOCATION	**Benton County, Oregon**	PAGE	**5 OF 5**
DRILLED BY	**Staco Well Services**	REFERENCE ELEV.	**248.90'**
DRILL METHOD	**Air rotary**	TOTAL DEPTH	**199.00'**
LOGGED BY	**Craig D. Fanshier**	DATE COMPLETED	**7/30/92**

RECOVERY PERCENT	POCKET PENETRO-METER (TSF)	BLOW COUNTS (N COMP)	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	WELL DETAILS	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
				205 210 215 220 225 230 235 240 245 250				Total depth drilled 199 feet below ground surface. Total depth sampled 199 feet below ground surface. **WELL COMPLETION DETAILS:** 0-94 feet: Bentonite grout slurry surface seal. +1.37-94 feet: 6-inch dia., 0.250-inch steel surface casing. 94-199 feet: Open borehole. 1.3-199 feet: 4.5-inch Class 160 PVC liner. 149-199 feet: 0.5-inch drilled perforation, 4 per foot (around circumference). End cap: PVC slip cap. **BOREHOLE DIMENSIONS:** 0-94 feet: 10-inch. 94-199 feet: 6-inch.

REMARKS

Boring drilled with air rotary using a 10-inch downhole hammer to 94 feet bgs and with a 6-inch downhole hammer from 94 to 199 feet bgs.

EXHIBIT 7
LETTER FROM JEFF SHEPHERD AND PAUL BURNS OF CEC REGARDING APPLICABLE OREGON DEQ PERMITS

February 26, 2024

Mr. Ian Macnab
Environmental Manager
Republic Services, Inc.
28972 Coffin Butte Rd
Corvallis, OR 97330

Subject: Oregon Department of Environmental Quality
Required Landfill Permits

Dear Mr. Macnab;

CEC has compiled the following information to provide an overview of the Oregon Department of Environmental Quality (ODEQ) permits required for the expansion of the Coffin Butte Landfill. The Coffin Butte Landfill holds permits for the existing facility and operation, but will need to obtain permit modifications from the ODEQ for approval to expand the landfill.

Modifications to the existing permits will be required for the ODEQ Solid Waste Facility Permit, the ODEQ 1200-Z stormwater Permit and the ODEQ title V (Air) Operating Permit. Following is a brief overview of each permit. The information in the overview is from the ODEQ Solid Waste Landfill Guidance Document, Department of State Lands website and ODEQ Air Quality and Water Quality websites.

As noted in the bulleted list below, a Land Use Compatibility Statement (LUCS) must accompany the application for the ODEQ permit modification application. Upon completion of the land use process by Benton County (Republic Services Conditional Use Permit Application), the County planning office completes Section 2 of the LUCS to indicate the use is compatible with the land use regulations and attaches written findings supporting the decision of compatibility. The LUCS will be included in the ODEQ Solid Waste Facility permit modification application.

<u>ODEQ Solid Waste Permit:</u>

The following documentation and information must be included with the permit application:

- A Land Use Compatibility Statement
- A recommendation from the local solid waste planning authority
- Demonstration of the need for a new, modified or expanded facility
- A Certificate of Business Registry
- Identifying any other known or anticipated permits
- Application fee and compliance fees (if required)
- Any other information DEQ deems necessary

Solid Waste facility Permit applications must include the following information:

Section 1: Location Restrictions

The location restrictions address the following:

- Airport safety
- Flood plains
- Wetlands
- Fault areas
- Seismic impact zones
- Unstable areas
- Critical habitat
- Sensitive hydrogeologic environments

Section 2: Phase I Site Characterization

- Phase I Site Characterization, the initial stage of data collection, establishes a preliminary framework for understanding the soils, geology and hydrogeology and plans the Phase II Site Characterization

Section 3: Phase II Site Characterization

- Phase II Site Characterization evaluates subsurface conditions in greater detail including the depth and extent of the uppermost (water bearing) geologic units and hydraulically interconnected units, the lithologic and hydraulic properties of these units, groundwater flow patterns, and other factors

Section 4: Geotechnical Investigations

- Phase I Geotechnical Investigation - Conduct a preliminary geotechnical investigation designed to accomplish the following objectives:
  - Characterize the variability, depth, aerial extent and engineering properties of on-site soils and other overburden deposits
  - Inventory soils and other overburden deposits suitable for use in construction, and identify the proposed use for these materials
  - Identify geotechnical considerations (such as settlement and slope stability) which must be addressed in the engineering design and/or further characterized by a Phase II Geotechnical assessment, and
  - Develop a work plan for conducting a Phase II Geotechnical investigation, as necessary, to adequately characterize on-site soils and other geotechnical considerations
- Phase II Geotechnical Investigation
  - Perform additional geotechnical investigations as required in the Phase II work plan and for design calculations and analyses.

Section 5: Conceptual Design of Landfill Facilities

- This section describes the elements of a Site Development Plan, including:
  - Facility operation
  - Conceptual design of landfill facilities
  - Leachate management
  - Surface water management
  - Landfill gas management
  - Environmental monitoring
  - Closure and end use
  - Supporting information

Section 6: Leachate Treatment and Disposal Feasibility Study

- Available leachate treatment alternatives should be evaluated. Methods that reflect site-specific conditions, and a full consideration of cross-media impacts should be selected for the facility

Section 7: Detailed Design

This section provides guidance on preparing detailed design plans and specifications for the following environmental control systems:

- Liner system
- Soil liner component
- Geomembrane component
- Primary leachate collection and removal system
- Secondary leachate collection and removal system
- Leachate treatment and storage impoundments
- Leachate holding tanks and conveyance pipelines
- Leachate treatment process
- Final cover system
- Surface water control system, and
- Landfill gas control system

Section 8: Facility Construction Program

The facility construction program should include the following elements:

- An organized, qualified construction project team
- Department-approved design drawings and specifications for each phase of landfill development
- A Construction Quality Control (CQC) program
- A Construction Quality Assurance (CQA) program, and
- Construction Certification Reports based on an evaluation of CQC and CQA documentation which certify that construction was completed in accordance with Department-approved plans and specifications

Section 9: Landfill Operations

- During the design phase of the project, prepare an operations plan that integrates the site development plan, the facility design elements, and the operational elements described in this subsection. Submit the plan to DEQ for review and approval.
- Once the landfill unit and related facilities are constructed and activated, prepare the O&M manual. Incorporate the operations plan elements, construction documents, and equipment manufacturers and suppliers data. Prepare separate O&M manuals for complex systems, such as leachate treatment systems, landfill gas control systems. Make the O&M manual available to operating personnel and place a copy of the manual(s) in the facility operating record.

Section 10: Environmental Monitoring

- Prepare and submit an Environmental Monitoring Plan (EMP) report to the Department for review and approval. Upon approval, all environmental monitoring must be conducted in accordance with the EMP, including any conditions of the approval. The plan should be stamped by an Oregon Registered Geologist with experience in environmental monitoring.
- The following regulations govern environmental monitoring:
  - 40 CFR Part 258, Solid Waste Disposal Facility Criteria
  - OAR 340 Division 94, Solid Waste Management
  - OAR 340 Division 40, Groundwater Quality Protection

Section 11: Closure and Post-Closure

- Minimum requirements for closure plans and post-closure plans for MSW landfills are specified in the Department's Financial Assurance Rule, OAR 340-94-100 through 145. The closure and post-closure requirements for Subtitle D landfills differ from those of non-Subtitle D MSW landfills (i.e., closing facilities).
- There are two separate categories of closure and post-closure plans:
  - Subtitle D ("worst case") Closure and Post-closure Plans are based on a hypothetical "worst case" scenario for closure and post-closure costs. This scenario establishes a conservative basis for estimating financial assurance funding requirements.

The Final Engineered Site Closure and Post-closure Plans are linked to the Closure Permit which must be obtained at least 5 years prior to anticipated final closure. The Final Engineered plans reflect the intended closure design. The Final Engineered plans contain all the elements of and replaces the Subtitle D plans.

Section 12: Financial Assurance

- Proper financial planning early in the development of landfill facilities is required to ensure that adequate funding will be available to cover the cost of closure(s), post-closure care, and any corrective action activities

- Maintain financial assurance to cover the costs of:
  - Closure of the landfill
  - Post-closure monitoring and maintenance of the landfill facilities, and
  - Any corrective action required by the Department

Two other Oregon Department of Environmental Quality Permits that are required for the landfill include:

Stormwater 1200-Z Industrial Stormwater General Permit –

- This permit regulates stormwater discharges from industrial facilities that may reach Oregon waterways, directly or through conveyance system such as ditches or storm drains.

The 1200-Z Permit modification is prepared and submitted to ODEQ concurrently with the ODEQ Solid Waste Facility permit modification process.

Oregon Title V (Air) Operating Permit -

- Air quality permits include enforceable conditions with which the owner or operator of a facility must comply. Some permit conditions are general to all types of emission units, and some permit conditions are specific to the source. The permit establishes limits on the types and amounts of air pollution allowed, operating requirements for pollution control devices or pollution prevention activities, and monitoring and reporting requirements

The Title V (Air) Operating Permit modification is prepared and submitted once the ODEQ Solid Waste Facility permit is issued.

A new permit which will be required for the project includes a Removal-Fill Permit for activity associated with fill required to construct an access road in a small area of wetland in the northeast corner of the development area (south side of Coffin Butte Road).

Oregon Department of State Lands Removal-Fill Permit

- Oregon's Removal-Fill Law (ORS 196.795-990) requires people who plan to remove or fill material in wetlands or waterways to obtain a permit from the Department of State Lands. This permit is broadly referred to as the "Removal-Fill Permit." The law applies to all landowners, whether private individuals or public agencies

Please let us know if you have any questions.

Sincerely;
Civil & Environmental Consultants, Inc.

Jeffery A. Shepherd, P.E.
Principal

Paul F. Burns
Principal

Attachment – ODEQ Solid Waste Landfill Guidance Document

ATTACHMENT

Section 1: Location Restrictions

1.1 Introduction

Regulatory reference

OAR 340-94-030 and 40 CFR Part 258 include location restrictions for new landfills or lateral expansions of existing landfills.

Location restrictions

The location restrictions address the following:

- airport safety
- flood plains
- wetlands
- fault areas
- seismic impact zones
- unstable areas
- critical habitat
- sensitive hydrogeologic environments

In this section

This section provides guidance on

- how to determine if the proposed new or lateral expansion of an existing municipal solid waste landfill is located in a restricted area, and
- how to make the associated location restriction demonstrations

How to respond

Complete the appropriate location restriction demonstrations and place the associated documentation in the facility operating record. Notify the Department when the demonstration has been placed in the operating record. Cite all sources used in making each of the analyses and demonstrations.

Inadequate demonstrations

If an existing landfill unit cannot successfully meet the location restrictions, then the unit must be closed in accordance with OAR 340-94-120 and post-closure activities must be conducted in accordance with OAR 340-94-130.

Related information

Site Characterization Reports, Site Geotechnical Investigations, and the facility conceptual design should provide relevant information for making location restriction demonstrations.

1.2 Airport Safety

Notification to FAA

Determine if the proposed new or lateral expansion of an existing municipal solid waste landfill is located within a five-mile (eight kilometer) radius of any airport runway end used by turbojet or piston-type aircraft. If so, notify the affected airport and the Federal Aviation Administration (FAA).

Need for demonstration

Determine if the proposed new or lateral expansion of an existing municipal solid waste landfill is within

- 10,000 feet (3,048 meters) of any airport runway end used by turbojet aircraft, or
- 5,000 feet (1,524 meters) of any airport runway end used by only piston-type aircraft

If so, demonstrate that the landfill is designed and operated so that the landfill does not pose a bird hazard to aircraft. Include a copy of the notifications, and any responses received from the FAA or affected airport.

The hazard of birds

Birds may be attracted to landfill units to satisfy a need for water, food, nesting, or roosting. Scavenger birds such as starlings, crows, blackbirds, and gulls are most commonly associated with active landfill units. Where bird/aircraft collisions occur, these types of birds are often involved due to their flocking, feeding, roosting, and flight behaviors.

Bird hazard demonstration

A demonstration that a landfill unit does not pose a bird hazard to aircraft within specified distances of an airport runway end should address at least the following elements:

- regulated distance
- public use
- collision risk
- landfill operation and design

Demonstration of regulated distance

The distance measurement can be made using existing maps showing the relationship of existing runways at the airport to the existing or proposed new unit or lateral expansion. The measurement can be made by drawing a circle of appropriate radius from the centerline of each runway end. The measurement only should be made between the end of the runway and the nearest landfill unit perimeter, not between any other boundaries.

Maps: Topographic maps (USGS 15-minute series) or State, regional, or local government agency maps providing similar or better accuracy would allow direct scaling, or measurement, of the closest distance from the end of a runway to the nearest landfill unit

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Demonstration of public use

The demonstration of whether the runway is part of a public use airport and whether all applicable public airports have been identified can be made by contacting the airport administration or the regional FAA office.

Note: The demonstration is not required for private airfields

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Demonstration of collision risk

The demonstration should address the likelihood that the landfill unit may increase bird/aircraft collisions. One approach is to determine whether birds are attracted to the landfill unit and whether this increased population may result in more in bird/aircraft collisions. The evaluation of bird attraction can be based on field observations at existing facilities that have similar geographic location, design features, and operational procedures.

Demonstration of landfill operation and design

The landfill unit design features and operational practices significantly effect the potential for bird/aircraft collisions. The demonstration should include a discussion of techniques to reduce collision risk. The following landfill design and operation techniques may be employed to reduce the bird hazard to aircraft:

- waste management
- bird control
- landfill design

Waste management techniques

Waste management techniques to reduce the supply of food to these birds include:

- frequent covering of wastes
- shredding, milling, or baling wastes, and
- diverting wastes that represent a food source for birds by source separation, composting, waste minimization, or other methods

Frequent covering

Frequent covering of wastes effectively reduces the availability of the food supply. Depending on site operations, cover may need to be applied several times a day to minimize the working face.

Shredding, milling, or baling

Milling or shredding municipal solid waste breaks up food waste into smaller particle sizes and distributes the particles throughout non-food wastes, which dilutes food wastes and reduces the materials' attractiveness to birds.

Bird control techniques

The use of varying bird control techniques may prevent the birds from adjusting to a single method. The table below provides examples of various techniques. Many of these methods have limited long-term effects on controlling bird populations at landfills, as the birds adapt to the environment in which they find food.

Bird control technique	Example
visual deterrents	realistic models (still or animated) of the bird's natural predators (e.g., humans, owls, hawks, falcons)
sounds	cannons, distress calls of the scavenger birds, and sounds of its natural predators
physical barriers	fine wires strung across or near the working face
other more labor intensive methods	falconry and firearms

Landfill design

Proper design and operation can also reduce bird habitat. For example, good stormwater management can prevent surface water ponding, which limits a source of water for the birds.

Birds may also be attracted to a landfill unit as a nesting area. Closed landfill cells may provide a roosting habitat due to elevated ground temperatures and freedom from disturbance. Nesting can be minimized by examining the nesting patterns and requirements of undesirable birds and designing appropriate controls. For example, nesting by certain species can be controlled through the mowing and maintenance schedule at the landfill.

1.3 Floodplains

Need for demonstration

Determine if the proposed new or lateral expansion of an existing solid waste landfill is located in a 100-year floodplain. If so, demonstrate that the landfill will not:

- restrict the flow of the 100-year flood
- reduce the temporary water storage capacity of the floodplain, or
- result in washout of solid waste that poses a hazard to human health, the environment, wildlife, or land or water resources

Identification of floodplains

Identify floodplains using:

- flood insurance rate maps (FIRM) and flood boundary and floodway maps published by the Federal Emergency Management Agency (FEMA), or
- floodplain maps available through other agencies such as the U.S. Army Corps of Engineers; the U.S. Geologic Survey, the U.S. Soil Conservation Service, the Bureau of Land Management and state and local agencies

Maps not available: If floodplain maps are not available, and the facility is located within a floodplain, then a field study to delineate the 100-year floodplain may be required

Demonstration of temporary storage

To demonstrate that the facility does not significantly reduce the temporary storage capacity of the floodplain during the base flood, estimate the

- floodplain storage capacity that would likely exist in absence of the facility
- floodplain storage capacity available in the vicinity of the facility, and
- change in storage capacity and base flood elevation due to facility construction

Demonstration of washout

The location of facilities relative to the velocity distribution of floodwaters will greatly influence the susceptibility to washout. To demonstrate that the facility will not result in washout of solid wastes, provide a conservative estimate of the shear stress of the landfill components caused by the depth, velocity, and duration of impinging river waters during a 100-year storm event.

1.4 Wetlands

Need for demonstration

Determine and describe whether the proposed new or lateral expansion of an existing municipal solid waste landfill is located in wetlands. If so, demonstrate that the unit will not cause or contribute to significant degradation of the wetland.

Other required permits

If the municipal solid waste landfill unit is to be situated or significantly expanded in wetlands, then consult with and obtain a permit from the Corps of Engineers (COE). Include a copy of the permit or permit application in the demonstration, if applicable.

Reference: Section 404(b)(1) of the Clean Water Act

Involvement of other agencies

During the permitting process, the Department and the State Division of Lands will need to be contacted to schedule a site visit. In general, the COE will require notification and/or consultation on any proposed impact on any wetland regardless of the actual degree of the impact. Other agencies such as the Fish and Wildlife Service and the SCS may also need to be contacted.

Mitigation

Mitigation plans must be approved by the appropriate regulatory agencies and must achieve an agreed-upon measure of success. Examples of mitigation include restoration of degraded wetlands or creation of wetland acreage from existing uplands.

Wetlands identification

Wetlands are identified based on the presence of hydric soils, hydrophytic vegetation, and the wetland hydrology. These characteristics affect the functional value of a wetland in terms of its role in:

- supporting fish and wildlife habitats
- providing aesthetic, scenic, and recreational value
- accommodating flood storage
- sustaining aquatic diversity, and
- its relationships to surrounding natural areas through nutrient retention and productivity exportation (e.g., releasing nutrients to downstream areas, providing transportable food sources)

Examples of wetlands

The term "wetlands" includes swamps, marshes, bogs, and any areas that are inundated or saturated by ground water or surface water at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation adapted for life in saturated soil conditions.

Wetlands assessment

A wetland assessment will need to be conducted by a qualified and experienced multi-disciplinary team. The assessment should identify:

- the limits of the wetland boundary based on hydrology, soil types and plant types
- the type and relative abundance of vegetation, including trees, and
- rare, endangered, or otherwise protected species and their habitats (if any)

Delineation methods

The current methods used to delineate wetlands are presented in "COE Wetlands Delineation Manual," 1987, per a January 1993, EPA and COE agreement. The Federal manual for “Identifying and Delineating Jurisdictional Wetlands” (COE, 1989) contains an extensive reference list of available wetland literature. For example, lists of references for the identification of plant species characteristic of wetlands throughout the United States, hydric soils classifications, and related wetland topics are presented. USGS topographic maps, National Wetland Inventory (NWI) maps, Soil Conservation Service (SCS) soil maps, wetland inventory maps, and aerial photographs prepared locally also may provide useful information.

Evaluation of wetland value

Evaluation of ecological resource protection may include assessment of the value of the affected wetland.

Methods for evaluating wetland value

Available methods include:

- analysis of functional value
- the Wetland Evaluation Technique (WET), and
- the Habitat Evaluation Procedure (HEP)

The most appropriate technique for a specific site should be selected in conjunction with the Department and other applicable regulatory agencies.

Analysis of functional value

The functional value of a given wetland is dependent on its soil, plant, and hydrologic characteristics, particularly the diversity, prevalence, and extent of wetland plant species. The relationship between the wetland and surrounding areas (nutrient sinks and sources) and the ability of the wetland to support animal habitats, or rare or endangered species, contributes to the evaluation of functional value.

WET

Wetland Evaluation Technique (WET) allows comparison of the values and functions of wetlands before and after construction of a facility, thereby projecting the impact a facility may have on a wetland. WET was developed by the Federal Highway Administration and revised by the COE (Adamus *et al.*, 1987).

HEP

Habitat Evaluation Procedure (HEP) was developed by the Fish and Wildlife Service to determine the quality and quantity of available habitat for selected species. HEP and WET may be used in conjunction with each other to provide an integrated assessment.

Locating in a wetlands

Erosion potential and stability of wetland soils and any dredged or fill material used to support the landfill unit should be identified as part of the wetlands evaluation. Any adverse stability or erosion problems that could affect the landfill or contaminant effects that could be caused by the landfill unit should be resolved.

Minimizing impacts

All practicable steps are to be taken to minimize potential impacts of the landfill unit to wetlands. A number of measures that can aid in minimization of impacts are available. Appropriate measure are site-specific and should be incorporated into the design and operation of the landfill unit. For example, placement of ground water barriers may be required if soil and shallow ground water conditions would cause dewatering of the wetland due to the existence of underdrain pipe systems at the facility.

It is possible that the landfill unit/facility will not directly displace wetlands, but that adverse effects may be caused by leachate or run-off. Engineered containment systems for both leachate and run-off should mitigate the potential for discharge to wetlands.

Unavoidable impacts

All unavoidable impacts must be "offset" or compensated for to ensure that the facility has not caused, to the extent practicable, any net loss of wetland acreage. Wetland offset studies require review and development on a site-specific basis. This compensatory mitigation may take the form of

- upgrading existing marginal or lower-quality wetlands, or
- replacement of wetlands

Upgrading existing wetlands

To identify existing wetlands that may be proposed for upgrade, a cursory assessment of surrounding wetlands and uplands should be conducted. The assessment may include a study to define the functional characteristics and inter-relationships of these potential wetland mitigation areas. An upgrade of an existing wetland may consist of transplanting appropriate vegetation and importing low-permeability soil materials that would be conducive to forming saturated soil conditions. Excavation to form open water bodies or gradual restoration of salt water marshes by culvert expansions to promote sea water influx are other examples of compensatory mitigation.

Replacement of wetlands

The Division of State Lands (DSL) has established offset ratios to determine how much acreage of a given functional value is required to replace the wetlands that were lost or impacted. Preservation of lands, such as through perpetual conservation easements, may be considered as a viable offset option. DSL offset ratios require for wetlands of an equivalent functional value, that a larger acreage be created than was displaced.

Monitoring the mitigation

Due to the experimental nature of creating or enhancing wetlands, a monitoring program to evaluate the progress of the effort should be considered and may be required as a wetland permit condition. The purpose of the monitoring program is to verify that the created/upgraded wetland is successfully established and that the intended function of the wetland becomes self-sustaining over time.

1.5 Critical Habitat

Need for demonstration	Determine if the municipal solid waste landfill unit is located where landfill activities could cause or contribute to the reduction of the likelihood of survival and recovery of a threatened or endangered species. If so, demonstrate the measures that will be taken to protect the species. Reference: OAR 340-94-030(3)
Other permits required	If the municipal solid waste landfill unit is to be situated or significantly expanded in a critical habitat, obtain a permit from the Secretary of Interior.
Information on threatened and endangered species	The Oregon Department of Fish and Wildlife maintains an up to date database of information on threatened and endangered species. The database coordinator can be reached at (503) 229-5454.

1.6 Fault Areas

Need for demonstration

Determine if faults, having displacement in Holocene time, are likely or have been identified in the vicinity of the proposed new or lateral expansion of an existing municipal solid waste landfill unit. If so, demonstrate that the landfill:

- is more than 200 feet (60 meters) of a fault that has had displacement in Holocene time, or
- that an alternative setback distance of less than 200 feet (60 meters) will prevent damage to the structural integrity of the landfill unit and protect human health and the environment

Fault danger

Proximity to a fault can cause damage through:

- movement along the fault which can cause displacement of facility structures
- seismic activity associated with faulting which can cause damage to facility structures through vibratory action, and
- earth shaking which can cause ground failures such as slope failures

Locating fault areas

U.S. Geological Survey (USGS) mapping can be used to determine if a proposed landfill unit is located in a Holocene fault area. A series of maps known as the "Preliminary Young Fault Maps, Miscellaneous Field Investigation (MF) 916" was published by the USGS in 1978. For information, call the USGS at 1-800-USA-MAPS (USGS National Center in Reston, Virginia) or by calling (303) 236-7477 (USGS Map Sales Center in Denver, Colorado). The Oregon Division of Geology and Mineral Industries (DGAMI) is a good local source of data on Holocene faults. They can be reached at (503) 731-4444 (Nature of Oregon Information Center).

Locating a fault zone that has moved since the USGS maps and other sources were published may require a geologic reconnaissance of the site and surrounding areas to identify and map these features.

1.7 Seismic Impact Zones

Need for demonstration

Determine if the proposed new or lateral expansion of an existing municipal solid waste landfill is located in a seismic impact zone. If so, demonstrate that all containment structures are designed to resist the maximum horizontal acceleration in lithified earth material for the site. To make the demonstration:

- determine the expected peak ground acceleration from a maximum strength earthquake that could occur in the area
- determine the site-specific seismic hazards such as soil settlement, and
- design the facility to withstand the expected peak ground acceleration

Note: containment structures include liners, leachate collection and storage systems, and surface water control systems

Definition: seismic impact zone

A Seismic Impact Zone is an area with a ten percent or greater probability that the maximum horizontal acceleration in lithified earth material expressed as a percentage of the earth's gravitational pull (g), will exceed 0.10g in 250 years.

Determining horizontal acceleration

The determination of the maximum horizontal acceleration of the lithified earth material for the site (see Figure 1-1) can be made by reviewing the seismic 250-year interval maps in U.S. Geological Survey Miscellaneous Field Study Map MF-2120, entitled "Probabilistic Earthquake Acceleration and Velocity Maps for the United States and Puerto Rico" (Altermissin *et al*., 1991). To view the original of the map that is shown in Figure 1-1 (reduced in size), contact the USGS office in your area. The original map (Horizontal Acceleration - Base modified from U.S.G.S. National Atlas, 1970, Miscellaneous Field Studies, Map MF 2120) shows county lines within each state. For areas not covered by the aforementioned map, USGS State seismic maps may be used to estimate the maximum horizontal acceleration. The National Earthquake Information Center, located at the Colorado School of Mines in Golden, Colorado, can provide seismic maps of all 50 states.

Other sources of information

The National Earthquake Information Center maintains a database of known earthquakes and fault zones. Information on the location of earthquake epicenters and intensities may be available through DGAMI or the Earthquake Information Center. For information concerning potential earthquakes in specific areas, the Geologic Risk Assessment Branch of USGS may be of assistance. Other organizations that study the effects of earthquakes on engineered structures include the National Information Service for Earthquake Engineering, the Building Seismic Safety Council, the National Institute of Science and Technology, and the American Institute of Architects.

Impact of seismic activity on landfills

Studies indicate that earthquakes produce superficial (shallow) slides and differential displacement, rather than massive slope failures (U.S. Navy 1983). Stresses created by superficial failures can affect the liner system, final cover systems, and leachate and gas collection and removal systems. Tensional stresses within the liner system can result in fracturing of the soil liner and/or tearing of the flexible membrane liner.

Design considerations

The design of the facility slopes, leachate collection system, and other structural components should have built-in conservative design factors. Additionally, redundant precautionary measures should be designed and built into the various landfill systems. Establish precautions using the table below.

If the maximum horizontal acceleration in the area is	and the facility is	then
greater than 0.1g	-----	complete an engineering evaluation of seismic effects when preparing the landfill design
less than 0.1g	situated in an area with low strength foundation soils or soils with potential for liquefaction	complete an engineering evaluation of seismic effects when preparing the landfill design
less than 0.1g	not situated in an area with low strength foundation soils or soils with potential for liquefaction	assess the facility for the effects of seismic activity, and design the landfill accordingly

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Engineering evaluation of seismic effects

The engineering evaluation should examine soil behavior with respect to earthquake intensity, including an evaluation of seismic effects on foundation soil stability and waste stability under seismic loading. When evaluating soil characteristics, it is necessary to know the soil strength as well as the magnitude or intensity of the earthquake in terms of peak acceleration. Other soil characteristics, including degree of compaction, sorting (organization of the soil particles), and degree of saturation, may need to be considered because of their potential influence on site conditions.

Example: deposits of loose granular soils may be compacted by the ground vibrations induced by an earthquake resulting in large uniform or differential settlements of the ground surface

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Design implications

Design modifications to accommodate an earthquake may include shallower waste sideslopes, more conservative design of dikes and run-off controls, and additional contingencies for leachate collection in case primary systems are disrupted. Strengths of the landfill component should be able to withstand these additional forces with an acceptable factor of safety. The design should be based on the evaluation of seismic effects.

Materials to use

Well-compacted cohesionless embankments or reasonably flat slopes in insensitive clay are less likely to fail under moderate seismic shocks (up to 0.15g and 0.20g acceleration). Embankments made of insensitive, cohesive soils founded on cohesive soils or rock may withstand even greater seismic shocks. For earthen embankments in seismic regions, designs with internal drainage and core material most resistant to fracturing should be considered.

Vulnerable landforms and materials

Slope materials vulnerable to earthquake shocks include:

- very steep slopes of weak, fractured and brittle rocks or unsaturated loess are vulnerable to transient shocks caused by tensional faulting
- loess and saturated sand may be liquefied by seismic shocks causing the sudden collapse of structures and flow slides
- similar effects are possible in sensitive cohesive soils when natural moisture exceeds the soil's liquid limit, and
- dry cohesionless material on a slope at an angle of repose will respond to seismic shock by shallow sloughing and slight flattening of the slope

In general, loess, deltaic soils, floodplain soils, and loose fills are highly susceptible to liquefaction under saturated conditions (USEPA, 1992).

Computer modeling

Geotechnical stability investigations frequently incorporate the use of computer models to reduce the computational time of well-established analytical methods. Several computer software packages are available that approximate the anticipated dynamic forces of the design earthquake by resolving the forces into a static analysis of loading on design cross sections. A conservative approach would incorporate both vertical and horizontal forces caused by bedrock acceleration if it can be shown that the types of material of interest are susceptible to the vertical force component. Typically, the horizontal force caused by bedrock acceleration is the major force to be considered in the seismic stability analysis.

Examples of computer models: PC-Slope by Geoslope Programming (1986), FLUSH by the University of California

Staffing

The use of professionals experienced in seismic analysis is strongly recommended for design of facilities located in areas of high seismic risk.

1.8 Unstable Areas

Need for demonstration

Determine if the site is located in an unstable area. If so, demonstrate that engineering measures have been incorporated into the appropriate landfill design to protect the structural integrity of the landfill.

Note: The results of the site stability investigation (see section 4) should be assessed in making this determination

Geotechnical factors

Consider the following factors when determining whether an area is unstable:

- on-site or local soil conditions that may result in significant differential settling
- on-site or local geologic or geomorphologic features, and
- on-site or local man-made features or events (both surface and subsurface)

Natural unstable areas

Natural unstable areas include those areas that have poor soils for foundations or are susceptible to mass movement. Examples are described below:

- Areas with compressible or expansive soils.
- Expansive soils usually are clay-rich soils that, because of their molecular structure, tend to swell and shrink by taking up and releasing water and thus are sensitive to a variable hydrologic regime. Bentontite is a commonly used example.
- Soils that are subject to rapid settlement (subsidence) include saturated silts, unconsolidated clays, and wetland soils in general.
- Sloped areas subject to mass movement such as avalanches, landslides, debris slides and flows, and rock slides. Such areas can be situated on steep or gradual slopes.

Human-induced unstable areas

Examples of human-induced unstable areas are described below:

- The presence of cut and/or fill slopes during landfill construction causing slippage of existing soil or rock.
- Excessive drawdown of ground water increases the effective overburden on the foundation soils underneath the unit causing excessive settlement or bearing capacity failure of the foundation soils.
- A closed landfill as the foundation for a new landfill ("piggy-backing") becoming unstable if the foundation wastes have not undergone complete settlement.

Unstable area demonstration contents

Assess the ability of the soils and/or rock to serve as a foundation and the ability of site embankments and slopes to maintain a stable condition. Develop a design that will address these types of concerns and prevent possible associated damage to structural components.

Stability assessment

In designing a new unit or lateral expansion or re-evaluating an existing unit, conduct a stability assessment to identify stability problems and preventive measures.

Source of information on natural features

- Nature of Oregon Information Center, Oregon Department of Geology and Mineral Industries at 731-4444
- Regional or local U.S. Soil Conservation Service soil maps
- Aerial photographs, and
- Site-specific investigations

Finding human-induced instability

To evaluate possible sources of human-induced ground instability, the site and surrounding area should be examined for activities related to extensive withdrawal of oil, gas, or water from subsurface geologic units. Evaluate construction or other operations that may result in ground motion (e.g., blasting).

Types of soil and rock failures

Principal modes of failure in soil or rock include:

- rotation (change of orientation) of an earthen mass on a curved slip surface approximated by a circular arc
- translation (change of position) of an earthen mass on a planar surface whose length is large compared to depth below ground
- displacement of a wedge-shaped mass along one or more plans of weakness;
- earth and mud flows in loose clayey and silty soils, and
- debris flows in coarse-grained soils

Common landfill failures

Two common types of failures can occur at a landfill unit:

- settlement
- loss of bearing strength

Settlement

Settlement beneath a landfill unit, both total and differential, should be assessed and compared to the elongation strength and flexure properties of the liner and leachate collection pipe system. Small amounts of settlement can damage leachate collection piping and sumps.

Allowable settlement is typically expressed as a function of total settlement because differential settlement is more difficult to predict. However, differential settlement is a more serious threat to the integrity of the structure than total settlement. Differential settlement generally occurs beneath a landfill in response to consolidation and dewatering of the foundation soils during and following waste loading.

Loss of bearing strength

Loss of bearing strength is a failure mode that can occur in areas that have expansive, compressible, or liquefaction-prone soils. Loss of bearing strength has occurred at sites where excavations for new landfill units near existing filled areas reduced the mass of the soil at the toe of the slope and the overall strength (resisting force) of the foundation soil.

1.9 Sensitive Hydrogeologic Environments

Need for demonstration

Determine if the landfill unit is located in a sensitive hydrogeologic environment.

Definition: sensitive hydrogeologic environments

Sensitive hydrogeologic environments are defined as:

- gravel pits excavated into or above a water table aquifer
- areas underlain by a sole source aquifer or other sensitive aquifer, and
- designated wellhead protection areas

Reference: OAR 340-90-030(4)

Definition: sensitive aquifer

A sensitive aquifer is defined as ". . . any unconfined or semi-confined aquifer which is hydraulically connected to a water table aquifer, and where flow could occur between the aquifers due to either natural gradients or induced gradients resulting from pumpage . . . ."

Location prohibition

OAR 340-94-030(4) does not allow landfill units to be located in sensitive hydrogeologic environments where the Department has determined that:

- groundwater must be protected from pollution because it has existing or potential beneficial uses, or
- existing natural protection is insufficient or inadequate to minimize the risk of polluting groundwater

1.10 Additional Resources

References

U.S. EPA's Solid Waste Disposal Facility Criteria, Technical Manual (EPA 530-R-93-017)

40 CFR Part 230 (Guidelines for Specification of Disposal Sites for Dredged or Fill Materials)

Section 2: Phase I Landfill Site Characterization

2.1 Introduction

Characterizing the site

Phase I Site Characterization, the initial stage of data collection, establishes a preliminary framework for understanding the soils, geology and hydrogeology and plans the Phase II Site Characterization.
Phase II Site Characterization (see Section 3) will evaluate site-specific subsurface conditions in greater detail including the depth and extent of the uppermost (water bearing) geologic units and hydraulically interconnected units, the lithologic and hydraulic properties of these units, groundwater flow patterns, and other factors.

Regulatory reference

OAR 340-93-130(4) requires a soils, geology and hydrogeology report and a feasibility study report for a new landfill or an expansion of an existing landfill. OAR 340-94-080, OAR 340-40 and 40 CFR Part 258 address groundwater hydrology, quality and groundwater monitoring.

Objectives of Phase I

The main objectives of the Phase I site characterization study are to

- describe existing site conditions
- determine if the site is suitable for landfill construction
- provide sufficient base-line information for developing the facility design, construction program, operations plan and environmental monitoring program.

How to respond

Prepare and submit to the Department a report describing the work performed in the Phase I Site Characterization. Geologic and hydrogeologic tasks should be performed by or under the direct supervision of an Oregon Registered Geologist with experience in conducting hydrogeologic investigations.

Report content

The Phase I Site Characterization report should address, at a minimum, completion of the tasks described in this subsection and the location restrictions defined in Section 1. Following the organizational format of this guidance will expedite Department review of the report. The report should be stamped by the Registered Geologist who performed or supervised the investigation.

In this section

This Section describes the recommended tasks that should be completed in preparation of Phase I Site Characterization study report. The following topics are addressed:

- existing conditions
- climate/meteorology
- hydrology
- water balance
- water use inventory
- geology and hydrogeology investigation, and
- phase II workplan

This guidance identifies the scope of investigations necessary to comply with the Solid Waste rules and provide the Department with sufficient data to evaluate the permit application or other submittals.

Related references

This Section focuses on technical guidance and format for the Phase I Site Characterization Report. Groundwater Monitoring requirements are addressed in more detail in Section 10 (Environmental Monitoring). Monitoring well construction standards are contained in a separate document ("Guidelines for Monitoring Well Drilling, Construction and Decommissioning," August 24, 1992).

2.2 Existing conditions

Site characterization task	Describe existing site conditions by providing the information in this subsection.
Site location	Describe the site location with respect to known or easily identifiable landmarks. Describe the site location in terms of the section, township, and range location for the site. Describe access to the site from the nearest U.S. or State Highway.
Legal description	Provide a legal description of the tract or tracts of land which have been or are proposed to be used for waste disposal activities.
Vicinity map	Prepare a map or series of maps showing the facility site and the area within at least a five-mile radius of the site boundary. The map(s) should clearly show the following: • the site location • the existing and proposed zoning and land uses • residential areas • public and private water supply wells • surface waters and surface water intakes • boundary of any municipal water supply service areas • access roads, bridges, railroads, and airports • historic sites • other existing and proposed man-made or natural features relating to the facility, and • the drawing date, a North arrow, and a bar scale Map format: The map should be on a U.S. Geological Survey (USGS) 7 1/2 minute quadrangle base or, if such a map is not available, a substitute base such as an enlargement of a USGS 15 minute quadrangle map, an Oregon Department of Transportation county map or city map at a similar scale.

Aerial photographs

Prepare a stereo pair of standard size (9 inches by 9 inches) recent vertical aerial photographs with a scale up to 1:40,000 which show the site and the area within at least a one-mile radius of the site boundary. Mark the site boundaries and actual fill areas on one of the photographs. Oblique aerial photographs or surface level photographs from various points around the site perimeter may also be submitted in support of the application. Photocopied reproductions of aerial photographs will not be accepted as fulfillment of this requirement.

Information concerning public agency sources for aerial photographs may be obtained by contacting:

Nature of Northwest
Oregon Dept. of Geology & Mineral Industries
800 NE Oregon Street #5, Suite 177
Portland, OR 97232
Phone: (503) 731-4444

Adjacent landowners

Show on a location map or on County Tax Lot map(s), the names and mailing addresses of all landowners within one quarter mile of the property and any other landowners identified as being affected by the proposed facility. Summarize this information on a separate list cross-referenced to the location map or the County Tax Lot map(s). Cite the source for obtaining the names and mailing addresses of persons identified as affected parties.

Site map

Prepare a detailed site map scaled at not more than one inch equals 200 feet (or other scale approved by the Department) that shows the following:

- the geographical location and boundaries of the disposal site
- the topography of the site and area within at least 1/4 mile of the site with contour intervals not to exceed five feet for slopes greater than five percent, or two feet if slopes are less than five percent
- natural features of the land including seeps, springs, streams, ponds and wetlands
- man-made features, including buildings, excavations, pipelines, utilities, recycling facilities, fences, roads, parking areas, drainage culverts, ditches, ponds, berms and dikes
- boundaries of all proposed, active, and closed waste disposal areas, and boundaries of all existing and proposed soil borrow areas
- locations of all existing and proposed borings, piezometers, monitoring wells, test pits, water supply wells, and any other facility monitoring or sampling points or devices
- benchmarks and permanent survey markers, and
- the drawing date, a north arrow, a bar scale, and an explanation of all map symbols

Use the National Geodetic Vertical Datum of 1929 as the vertical elevation datum, and the Oregon State Plane Coordinate System (ORS 93.330) as the horizontal control.

Map preparation: The map(s) should be prepared and stamped by a registered land surveyor or civil engineer. Surveyed well locations should:

- provide a horizontal accuracy of 0.2 feet (0.06 meters)
- provide the elevation of the land surface with a vertical accuracy of 0.1 feet (0.03 meters)
- provide the marked level at the top of the well casing with a vertical accuracy of 0.01 feet (0.003 meters)
- use National Geodetic Vertical Datum of 1929 as the vertical elevation control, and the Oregon State Plane Coordinate System (ORS 93.330) as the horizontal control
- describe the location in either latitude and longitude coordinates accurate to 0.1 seconds in latitude and longitude or UTM coordinates

2.3 Climate/Meteorology

Site characterization task	Provide current information based on or extrapolated from data collected at the closest reporting weather station or stations including: • average annual precipitation and monthly distribution of precipitation • average annual evaporation and monthly distribution of evaporation • average annual prevailing wind direction and monthly variation in wind direction • average and maximum wind velocities and monthly variations in wind velocity, and • average annual temperature and monthly variations in temperature
Obtaining information	This information can be obtained from the National Oceanic and Atmospheric Administration (NOAA), or other federal or state agencies reporting meteorological data.
On-site station	A site-specific station may need to be created if data from the nearest established meteorological station is not representative of site conditions.

2.4 Hydrology

Site characterization task	Evaluate and describe the surface water drainage of the site and of the surrounding area within at least a one-mile radius of the site. This information should include a map or maps at a scale of 1:24,000 showing major perennial, ephemeral and intermittent drainage channels, and their tributaries.
Map content	The maps should identify all existing wetlands and estuaries, and show the boundaries of the 100-year floodplain, based on data collected by the Federal Emergency Management Agency or other federal or state agencies reporting flood management data. Provide the minimum, maximum and average annual flow rates including monthly variations for all major streams. Values should be based on stream gauging data collected by the U.S. Geological Survey or other federal or state agencies reporting stream gauging data.

2.5 Water balance

Site characterization task	Analyze the average annual site water budget including precipitation, runoff, infiltration and evapotranspiration. Determine the monthly variations of each of these parameters for a one-year period.
Methods	Acceptable water balance methods include Thornthwaite-Mather (1957), the EPA Water Balance (1975), the EPA Help Model (1984), and/or other methods approved in advance by the Department.

2.6 Water Use Inventory

Site characterization task	Inventory and identify all water wells and water usage on-site and within a one-mile radius of the site boundary. Prepare a water well inventory report.
Well inventory	Identify all active and inactive water wells, irrigation wells, and surface water usage points within the targeted radius. Identify and field check all water usages within this radius which are listed in the drillers' log files or other records of the Oregon Water Resources Department (OWRD). Areas within the radius of investigation that are served by a municipal water supply should be included in the OWRD well records search.
Survey	Conduct a door-to-door field survey to identify wells not accounted for in OWRD files. For all wells identified in the OWRD files and the door-to-door survey, record the following information: • name and address of the well owner • name and address of the driller • date of drilling • well location • aquifer screened • approximate land surface elevation • depth of well • materials and construction (including casing, screen and annular seal depths and intervals) • reported yield • use of the water • reported or measured static and pumping water levels (or well drawdown) and dates of measurement, and • any available water quality data

Alternative to survey

In lieu of the door-to-door survey, provide the following information for areas served by a municipal supply:

- a map scaled at 1:24,000 or larger showing the boundary of the service area and the raw water intake location
- a record search for any other water usage within the radius of investigation
- a description of surface water supplies including the intake location, average daily and yearly withdrawal rates, and monthly distribution of withdrawals, and
- a description of groundwater supplies including their location, geologic logs and construction, average daily and yearly pumpage, monthly distribution of pumpage, and static and pumping water levels by well and aquifer

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Report content

The water well inventory report should include a map at a scale of 1:24,000 or larger showing the location and use of each well/surface water use point, and a table presenting the required information for each point. The report should include a copy of each available drillers' log, and cross-reference the logs to the well inventory maps and forms.

2.7 Geology and Hydrogeology Investigation

Site characterization task

Conduct a preliminary geology and hydrogeology investigation. Evaluate the regional geology and hydrogeology based on geological reconnaissance field mapping and existing published or unpublished reports and data from state and federal agencies, universities, consultants or other sources.

Investigation report

In the Phase I Site Characterization report:

- describe the regional geology including the age, areal and subsurface distribution, thickness, physical properties and genesis of major stratigraphic units; and the age, occurrence, orientation and physical description of major structural features
- describe the regional hydrogeology including the depth, thickness, physical characteristics and lateral persistence of major and minor aquifers and aquitards, rates and directions of groundwater flow, areas of recharge and discharge (including water wells), hydrologic boundaries, seasonal variations in groundwater levels and flow, and chemical quality of the groundwater
- describe the thickness, lateral extent, hydraulic conductivity and attenuative capacity of all in-situ geologic materials between the proposed base excavation for the landfill and the uppermost aquifer
- evaluate and explain the degree of protection afforded by the properties and extent of geologic materials described above
- prepare a hydrogeologic map of the site and the area within at least a one-mile radius of the site scaled at not more than one inch equals 2,000 feet that shows the surficial geology, the elevation of the water table or potentiometric surface and the regional groundwater flow direction (from published sources or field measurements), and the locations of known discharging wells
- prepare two cross-sections oriented at approximately right angles to each other, which illustrate the regional geology and hydrogeology of the site and vicinity, and
- list sources used to prepare descriptions

Geologic hazards

Geologic hazards may include seismic impacts, mass movement (e.g., landslides), unstable soils, flood inundation, shallow groundwater levels, tsunami, and volcanic eruptions. Location restrictions under OAR 340-94-030 address considerations such as Holocene fault zones, seismic impact areas and unstable areas.

Earthquake safety

Evaluate the earthquake safety of the site. The analysis should include

- a description of the seismo-tectonic setting and seismic history of the area, including size, frequency, and location of historic earthquakes
- potential for area to be affected by surface rupture, including sense and amount of displacement, and width of surface deformation zone
- probable response of site to likely earthquakes, including estimated ground motion, maximum ground acceleration, velocity and displacement
- potential for area to be affected by earthquake-induced landslides or soil liquefaction, and
- potential for area to be affected by regional tectonic deformation (subsidence or uplift)

To the extent possible, identify and evaluate all other known or suspected geologic hazards which may affect the design, construction, and operation of the facility.

2.8 Phase II Workplan

Propose workplan	Prepare a proposed work plan and schedule for conducting the Phase II Site Characterization Study and preparing a final report.
Workplan approval	This work plan should receive Department approval prior to the actual onset of site work. Section 3 of this guidance describes Phase II Site Characterizations.

2.9 Additional Resources

Reference	"Location Information Needed for the Groundwater Database," March 8, 1992 (DEQ)
Contacts	Oregon Maps and Aerial Photography, Oregon Department of Geology and Mineral Resources Driller's log files, Oregon Water Resources Department
Methods to determine water balance	Thornthwaite-Mather (1957) U.S. EPA Water Balance (1975) U.S. EPA "Hydrologic Evaluation of Landfill Performance (HELP) Model" (1984)

Section 3: Phase II Landfill Site Characterization

3.1 Introduction

Characterizing the site

Phase I Site Characterization (see Section 2), the initial stage of data collection, established a preliminary framework for understanding the soils, geology and hydrogeology and for planning the Phase II Site Characterization.
Phase II Site Characterization evaluates subsurface conditions in greater detail including the depth and extent of the uppermost (water bearing) geologic units and hydraulically interconnected units, the lithologic and hydraulic properties of these units, groundwater flow patterns, and other factors.

Basis for investigation

The scope of the investigations for Phase II site characterization should be based on the Phase I study results and the work plan developed as part of the Phase I study. If the proposed project involves a lateral expansion of an existing landfill unit, portions of the Phase II work may have previously been completed. If so, the appropriate documents should be referenced in the Phase II report.
Phase II Site Characterizations are frequently negotiated with the Department and may include direct Department involvement.

Objective of Phase II

The main objective of the Phase II site characterization study is to describe and evaluate the site geology and hydrogeology, including all stratigraphic units encountered, the uppermost aquifer or waterbearing zone, and all other potential zones of contaminant transport.

Definition: uppermost aquifer

U.S. EPA has defined the "uppermost aquifer" as the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically interconnected with this aquifer within the facilities boundary. U.S. EPA guidance refers to any saturated strata capable of producing representative groundwater samples as an aquifer.

How to respond

Prepare and submit to the Department a report describing the work performed in the Phase II site characterization. Geologic and hydrogeologic tasks must be performed by or under the direct supervision of a Registered Geologist with current Oregon registration and with experience in conducting hydrogeologic investigations, in accordance with OAR 340-93-130.

Report content

The Phase II Site Characterization report should address, at a minimum, completion of the tasks described in this subsection. Following the organizational format of this guidance will expedite Department review of the report. The report should bear the stamp of the Registered Geologist who performed or supervised the investigation.

Report illustrations

The report should contain illustrations, including the following:

- maps showing the as-built location of all borings, monitoring wells and other sampling locations
- boring logs
- as-built well construction details
- geologic maps and cross sections
- water table or potentiometric surface maps for all major aquifers or water-bearing zones, and
- geologic-structure contour maps depicting the soil-bedrock interface or other important subsurface features

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In this section

This Section describes the recommended tasks that should be completed in preparation of the Phase II Site Characterization Report. The following topics are addressed:

- surface investigation
- subsurface exploration
- environmental testing
- groundwater quality testing

Related references

This Section focuses on technical guidance and format for the Phase II Site Characterization Report. Groundwater Monitoring requirements are addressed in more detail in Section 10 (Environmental Monitoring). Monitoring well construction standards are contained in a separate document ("Guidelines for Monitoring Well Drilling, Construction and Decommissioning," August 24, 1992).

3.2 Surface Investigations

Site characterization task	Conduct appropriate surface mapping and surface geophysical logging to generate surface geology information, provide a basis for subsurface exploration, and delineate areas of previous waste disposal activities.
Surface geological mapping	Map the site in sufficient detail to determine the areal distribution of all surficial and bedrock units exposed across the entire site.
Standards	Practices and techniques used to obtain site-specific geologic and hydrogeologic data should be up-to-date, and consistent with industry-wide standards. All work should conform to applicable American Society for Testing and Materials (ASTM) standards, and/or appropriate U.S. Environmental Protection Agency (U.S. EPA) or Department guidelines.
Geophysical techniques	Geophysical techniques for performing surface investigations may include, but are not limited to, surface seismic, resistivity, gravity, radar, or magnetic surveys.

3.3 Subsurface Explorations

Site characterization task	Determine the geology and hydrogeology beneath the site through subsurface exploratory methods. Select the appropriate method(s) of subsurface exploration for the site that will allow collection of representative samples of subsurface media. A sufficient number of borings or other exploratory holes must be completed to adequately characterize the stratigraphy, and groundwater dynamics beneath the entire site.
Depth of investigation	The depth of investigation should be 100 feet below the landfill unit's proposed base excavation, or until the first encountered saturated zone is fully penetrated, whichever is deeper.
Methods	Borings, core drilling, test holes, test pits, cone penetration tests or other methods should be used.
Boring density	At least one boring should be continuously cored to obtain precise stratigraphic data and to obtain relatively undisturbed samples for laboratory testing and analysis. If a site is geologically complex or larger than five acres, additional continuously cored holes may be required to interpret stratigraphic and structural variations.
Standards	All borings should be constructed in accordance with applicable standards and guidelines, including: • "Guidelines for Groundwater Monitoring Well Drilling, Construction and Decommissioning," August 24, 1992 • standards developed by ASTM [such as D-5092-90] • OAR 690-240 Sampling methods should conform to ASTM D-1587, ASTM D-1586 or ASTM D-2113, as applicable.

Describe soil and overburden deposits

Classify soil and overburden deposits according to ASTM D-2488 and describe in detail according to their texture, color, mineralogy, moisture content, degree of weathering, geologic origin, and other relevant characteristics. The ASTM D-2488 visual method should be supplemented by appropriate ASTM D-2487 laboratory tests (i.e., mechanical and/or hydrometer grain size and Atterberg Limit tests) on representative samples from each stratigraphic unit.

Rock classification

Classify rock according to its lithology, mineralogy, color, grain size, degree of cementation, degree of weathering, density and orientation of fractures, other primary and secondary features, physical characteristics, and rock quality designation.

Documentation

Prepare a detailed geological log of each boring incorporating all information. Prepare a clear, labeled, photographic record of representative rock cores

Reference: Section 8.0 of the Department's August 24, 1992 guidance entitled "Groundwater Monitoring Well Drilling, Construction and Decommissioning"

Log content

The geological log should include, but is not limited to:

- the location of the hole
- the date drilled, driller's name and affiliation
- the site geologist's name and affiliation
- the elevation of the land surface surveyed to the nearest 0.01 foot
- the size (diameter) and total depth of the hole
- the type of drilling rig and method of drilling
- the type and volume of drilling fluids or additives used
- the penetration rate or standard penetration resistance
- the sampled intervals and the percent recovery
- the stratigraphic and lithologic information
- any aquifers, water-bearing zones and high permeability or fracture zones encountered
- any contamination observed
- any other drilling observations, including lost circulation zones or other difficulties encountered during drilling
- deposit classifications and descriptions
- the classification system used for deposit classification, and
- rock classifications

Geophysical	Perform appropriate downhole geophysical logging techniques to supplement data collected in the surface investigations.
Geophysical techniques	Geophysical techniques for subsurface explorations may include, but are not limited to, downhole caliper, SP, resistivity, induction, natural gamma, gamma-gamma, neutron density, sonic, dielectric, or other logging techniques.
Related activities	Subsurface exploration activities should be planned to maximize data transfer between geologic/hydrogeologic and geotechnical investigations.

3.4 Hydrogeologic Testing

Site characterization task

Conduct appropriate hydrogeologic testing to characterize the rate and directions of groundwater movement.

Unsaturated zone testing

Determine the saturated and unsaturated hydraulic conductivity and the vacuum pressure of unsaturated soils through field testing. Determine the porosity and moisture content of unsaturated soils through laboratory testing or geophysical techniques. Evaluate the spatial and temporal variability of these properties.

Saturated zone testing

Determine the hydraulic conductivity of all saturated water-bearing zones and aquifers identified in the subsurface investigation through field testing, as outlined in the Department's August 24, 1992 guidance, "Groundwater Monitoring Well Drilling, Construction and Decommissioning."

If the estimated hydraulic conductivity is...	Then...
greater than 10^{-3} cm/sec	an aquifer pumping test should be performed
less than 10^{-3} cm/sec	rising or falling head slug tests should be performed

Aquifer parameters

Determine the following:

- water table or potentiometric surface gradient
- rate and direction of groundwater flow for each aquifer or water-bearing zone
- vertical gradient between water bearing zones
- porosity for all aquifers and water-bearing zones identified during subsurface exploration, using laboratory or geophysical techniques, and
- hydraulic conductivity of all aquitards through laboratory and/or field testing

3.5 Environmental Testing

Site characterization task

Conduct appropriate environmental testing to assess background environmental quality prior to waste placement or to identify impacts from prior waste disposal practices.

Groundwater quality testing

Collect groundwater samples that are representative of formation water. Analyze these samples for the constituents and parameters listed in the table below.

Group	Parameters	Notes
Field indicators	Elevation of water level Specific Conductance pH Dissolved Oxygen Temperature Eh	These parameters must be measured in the field at the time samples are collected, either down-hole in situ, in a flow-through well, or immediately following sample recovery, with instruments calibrated to relevant standards
Laboratory indicators	Hardness (as $CaCO_3$) Total Dissolved Solids Total Alkalinity (as $CaCO_3$) Total Suspended Solids Specific Conductance (lab) Chemical Oxygen Demand pH (lab) Total Organic Carbon	Sample handling, preservation, and analysis are determined by requirements for each individual analyte: EPA or AWWA Standard Methods techniques must be followed.
Common anions and cations	Calcium (Ca) Manganese (Mn) Sulfate (SO_4) Magnesium (Mg) Ammonia (NH_4) Chloride (Cl) Sodium (Na) Carbonate (CO_3) Nitrate (NO_3) Potassium (K) Bicarbonate (HCO_3) Silica (SiO_2) Iron (Fe)	Dissolved concentrations must be measured. Samples must be field-filtered and field-preserved according to standard DEQ and/or EPA guidelines and analyzed by appropriate EPA or AWWA Standard Methods techniques. Results must be reported in mg/L and meq/L.

<table>
<tr><td>Trace metals</td><td>Antimony (Sb)
Chromium (Cr)
Selenium (Se)
Arsenic (As)
Cobalt (Co)
Silver (Ag)
Barium (Ba)
Copper (Cu)
Thalladium (Tl)
Beryllium (Be)
Lead (Pb)
Vanadium (V)
Cadmium (Cd)
Nickel (Ni)
Zinc (Zn)</td><td><table><tr><th>If the Total Suspended Solids concentration is...</th><th>then analyze for...</th></tr><tr><td>less than or equal to 100 mg/L in the sample</td><td>total concentrations (unfiltered)</td></tr><tr><td>greater than 100 mg/L in the sample</td><td>both total (unfiltered) and dissolved (field-filtered)</td></tr></table>
Samples must be field-preserved according to standard DEQ and/or EPA guidelines and analyzed by EPA Method 6010 or Department-approved equivalent. Results must be reported in mg/L.</td></tr>
<tr><td>Volatile organics</td><td>Analysis for all compounds detectable by EPA Method 8260 or EPA Method 524.2, including a library search to identify any unknown compounds present.</td><td>Method 8260 comprises the volatile organic constituents parameter group. Facilities that want to use Methods 8010 and 8020 as an alternative must obtain approval by the Department prior to use.</td></tr>
</table>

Surface water quality testing

Collect surface water samples as needed to characterize surface water quality up- and down-stream of the facility.

Other environmental testing

Conduct appropriate landfill gas testing, air quality test, or other environmental test as required to establish background environmental quality or to identify impacts from previous waste disposal practices.

Methods

Sample collection, handling, preservation, shipment, analysis and QA/QC should conform to procedures described in the approved work plan and in U.S. EPA SW-846, Test Methods for Evaluating Solid Waste, and Chapter 4 of the RCRA Technical Enforcement Guidance Document (TEGD), or other Department-approved methods.

3.6 Additional Resources

References

"Guidelines for Monitoring Well Drilling, Construction and Decommissioning," August 24, 1992 (DEQ)

Section 4: Geotechnical Investigations

4.1 Introduction

Investigation	As part of the Phase I Site Characterization, or other efforts to characterize the site, a Phase I Geotechnical Investigation may be performed.
How to respond	Prepare and submit a Geotechnical Report to support the Site Characterization Report. Geotechnical tasks must be performed by or under the direct supervision of a certified engineering geologist or professional civil engineer with current Oregon registration and experience in conducting engineering geology or geotechnical investigations.
Relation to engineering	Phase I and II Geotechnical Studies should produce sufficient site data to perform all relevant engineering analyses.
In this section	This section describes the tasks that should be performed as part of Phase I and Phase II Geotechnical Investigations.

4.2 Phase I Geotechnical Investigation

Objective of investigation

Conduct a preliminary geotechnical investigation designed to accomplish the following objectives:

- characterize the variability, depth, aerial extent and engineering properties of on-site soils and other overburden deposits
- inventory soils and other overburden deposits suitable for use in construction, and identify the proposed use for these materials
- identify geotechnical considerations (such as settlement and slope stability) which must be addressed in the engineering design and/or further characterized by a Phase II Geotechnical assessment, and
- develop a work plan for conducting a Phase II Geotechnical investigation, as necessary, to adequately characterize on-site soils and other geotechnical considerations

Tasks to be addressed

The Phase I Geotechnical Investigation should address, at a minimum, the tasks described in this subsection.

Describe surficial soils

Evaluate agricultural soil types and their distribution site-wide and within at least a one-mile radius of the site. At a minimum, prepare a soils map and describe the soils in the area. Basic data should be obtained from the U.S. Department of Agriculture Soil Conservation Service (SCS), and supplemented by additional site-specific reconnaissance or tests, as necessary, to confirm the accuracy and reliability of the SCS data.

Describe subsoils

Excavate backhoe test pits in a grid pattern across the site to characterize the depth, areal extent and uniformity of subsoils (overburden deposits). Collect representative soil samples for testing. Plot all test pits on a site map and log each test pit to include

- the location of the excavation
- a description of surface features before excavation
- the date excavated, excavator's name and affiliation
- the site geotechnical engineer's or engineering geologist's name and affiliation
- the elevation of the land surface surveyed to the nearest 0.01 foot
- depth of the excavation
- a detailed description of each stratigraphic unit, its depth, texture, color, mineralogy, grain properties, consistency or relative density, moisture content, degree of weathering, geologic origin, macroscopic features (e.g., root holes, slickensids), and other relevant or distinguishing characteristics
- each stratigraphic units Unified Soil Classification, using ASTM D-2488 visual method, and
- a clear, labeled, photographic record of all test pits

Supplemental tests

Supplement ASTM-D2488 with appropriate grain size and Atterberg limit tests on a representative number of samples of each stratigraphic unit.

Evaluate engineering properties of on-site materials

Analyze representative soil samples to evaluate their engineering properties as follows:

- determine the stability of on-site materials for foundation and sidewall construction
- determine the suitability of on-site materials facility construction, and
- inventory usable soils

Test soils

Perform the following tests:

- strength and compressibility (e.g., triaxial compression tests, consolidation tests) of foundation materials
- the following properites of low-permeability liner layer materials:
  - natural moisture content
  - in-situ density
  - compaction curves
  - Atterberg Limits
  - percent fines passing a #200 sieve
  - percent clay size content
  - percent coarse material retained on a #4 sieve, and
  - laboratory hydraulic conductivity
- grain size distribution and representative laboratory hydraulic conductivity of proposed drainage layer materials, correlate grain size distribution conductivity data

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Investigate site stability

Evaluate the site to identify and characterize any unstable conditions that could adversely impact facility structures, and to obtain sufficient data to plan more detailed Phase II studies. Stability analyses should be based on the investigator's professional judgment, published literature, field investigation, and data obtained from representative field and laboratory tests.

Stability factors

To determine if an area is stable, evaluate the following factors:

- weak and unstable foundation materials including soils, overburden, existing solid waste, peat deposits or other materials subject to excessive settlement
- active slope failure
- soils that may fail with a small increase in pore pressure or shear stress, or a small decrease in shear strength
- signs of pre-existing slope failure or slope failure in geologically similar material near the site
  - any other features that indicate the site is susceptible to instability

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Design considerations

Develop engineering measures to protect the integrity of the landfill structures.

Reference: OAR 340-94-030 and 40 CFR Part 258.15

Evaluation

Based on the results of the Phase I Geotechnical Investigation and Site Characterization, evaluate the following scenarios:

- Potentially unstable natural slopes and other on-site areas that could be destabilized by construction activities such as excavation, regrading or other site modifications;
- Stability of the landfill foundation considering site-specific topographic and geologic conditions, static and dynamic loads, pore-water pressures at the subgrade-liner interface, and any other relevant factors; and
- Compressibility of underlying geologic units and potential settlement of the landfill unit. Estimate total and differential settlement based on appropriate field and laboratory methods and design parameters.

Workplan

Prepare a workplan for the Phase II Geotechnical Investigation.

4.3 Phase II Geotechnical Investigations

Phase II study	Perform additional geotechnical investigations as required in the Phase II work plan and for design calculations and analyses.
Report	Document the results of the geotechnical investigations and present the findings in the Phase II Site Characterization report. Identify any geotechnical considerations that require additional investigation or analysis prior to detailed design and construction of landfill structures. As needed, confirm the engineering properties of on-site soil and rock materials that will be impacted by or used for landfill construction and operation activities.

4.4 Additional Resources

References

Sowers, G.F. (1979). "Soil Mechanics and Foundations: Geotechnical Engineering," The MacMillan Company, New York.

U.S. Navy (1986). "Design Manual - Soil Mechanics, Foundations, and Earth Structures," NAVFAC DM-7; Department of the Navy, Washington, D.C.

Winterhorn, H.F. and Fang, H.Y., (1975). "Foundation Engineering Handbook," Van Nostrard Reinhold, 1975.

U.S. EPA, (1993) "Solid Waste Disposal Facility Criteria Technical Manual" EPA 530-R-93-017.

Section 5: Conceptual Design of Landfill Facilities

5.1 Introduction

Conceptual design phase

The Site Development Plan provides the framework for establishing overall goals for facility design, construction, operation, and environmental monitoring. This section describes the methods and procedures for establishing appropriate design criteria and selecting technologies that will satisfy regulatory requirements and performance objectives.

How to respond

Prepare a comprehensive Site Development Plan that presents the conceptual design of landfill facilities and environmental control systems and documents the analysis used to select the proposed technologies. The plan should be prepared by or under the direct supervision of a professional engineer with current Oregon registration.

Plan content

The Site Development Plan should describe the elements in this subsection. The plan should be stamped by the professional engineer responsible for its preparation. Following the organizational format of this guidance will expedite Department review of the plan.

In this section

This section describes the elements of a Site Development Plan, including:

- facility operation
- conceptual design of landfill facilities
- leachate management
- surface water management
- landfill gas management
- environmental monitoring
- closure and end use
- supporting information

5.2 Facility Operation

Facility operation	Describe the existing and proposed facilities, anticipated waste stream characteristics, and operational procedures, including the items in this subsection.
Capacity and projected life	Specify the proposed capacity and projected life of the site.
Population to be served	Identify and list the communities expected to be served by the facility, and estimate their corresponding current populations. Describe how the listing was compiled. Cite all sources used to estimate population.
Industry to be served	Identify and list major industries to be served by the landfill, and describe how the listing was compiled.
Rate of waste disposal	Estimate the future flow of waste to the facility from communities and industries served and from any other projected sources. Include estimates for maximum daily, maximum monthly and average annual volume and weight of waste to be received. Cite all sources used to calculate volume and weight estimates.
Overall description of operation	Describe the operation including on-site equipment on site (i.e., compactors, dozers, grinders or chippers), anticipated hours of operation, and mode of delivery of solid waste to the site.
Site economic viability	Provide key assumptions used to calculate the economic viability of the proposed facility.
Site screening	Describe how the active landfill area(s) will be screened from public view. Reference: OAR 340-94-040(11)(f)

Planned future use

Describe the planned future use of the disposal site after closure.

Waste stream types

List and estimate the quantity of each type of waste stream projected to be disposed of at the facility.

Examples: domestic wastes, commercial and institutional wastes, industrial wastes, construction and demolition wastes, agricultural wastes, sewage sludge and grit, contaminated cleanup materials, other wastes requiring special handling [see OAR 340-94-040(11)(b)(J)]

Acceptance of industrial waste

If proposing to accept industrial wastes for disposal, report the major industrial waste stream(s). For each weight or volume calculation, treat as one waste stream all industrial waste generated from industries identified by the same first three digits in their Standard Industrial Classification (SIC) code.

Example: Spent casting sand from an aluminum foundry and spent casting sand from a nonferrous foundry should be treated as one waste stream since they are generated from industries having the same first three digits in their SIC code.

Definition: a "major" industrial waste stream comprises greater than one-quarter percent, by weight or volume, of the total estimated waste flow.

Regional facility

If the facility is a regional disposal site, discuss the following:

- plans from the local board of county commissioners for establishing a local citizens advisory committee
- how the information necessary for the Department to review and approve a Waste Reduction Program for any person who will send more than 75,000 tons of solid waste a year to the site will be submitted, and
- how the county, state and country of origin of the waste will be tracked

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5.3 Phased Development of Landfill Facilities

Phased development

Describe the phased development of the landfill. Establish a systematic blueprint of the construction, operation, and closure of each major phase of development.

Contents

Address the following elements in the design:

- design criteria used to determine the landfill's size, configuration, capacity, location, and environmental protection features
- design, construction, and operation considerations for initial cell development
- individual cell construction and the fill sequence
- slope stability in relation to construction, fill sequence, and side-slope liner design
- facility development drawings
- utility requirements including electrical power, water supply, and wastewater treatment and disposal
- earthwork materials for site construction and development, and
- environmental control technologies

Design criteria

Define the basis and any assumptions used to establish the landfill's footprint boundaries, overall configuration, capacity, and location considering at least the following factors:

- regulatory standards for location, design, and operation
- waste stream characteristics
- waste processing (e.g., incineration, composting, shredding)
- buffer zone requirements
- surface drainage patterns and physical characteristics of the site
- slope limitations on the landfill base and final cover profile
- land use and zoning restrictions
- location of utilities and support facilities
- transportation and access patterns
- environmentally sensitive areas
- geotechnical and hydrogeologic constraints, and
- end use alternatives

Facility development drawings

Prepare a series of scaled drawings showing the phased development of the site. Show each phase of landfill cell(s) development and site status when new cells are ready to be placed into service. The drawings should include at least one scaled plan-view and two perpendicular cross-sectional drawings of the excavation plan, fill sequence plan, and final grading plan.

Content of drawings

Identify the following information on the drawings:

- environmental monitoring components including groundwater monitoring wells, and gas monitoring probes, and surface water monitoring stations
- layout of landfill components including support facilities (e.g., public receiving and recycling areas)
- entrance and on-site roads, gates and fencing
- site drainage and surface water control structures (e.g., berms, dikes, ditches, culverts)
- surface impoundments
- soil stockpiles (i.e., the extent, available volume, and intended use of each soil, sub-soil, or rock unit identified as a borrow source)
- leachate collection, storage, treatment and disposal facilities
- special waste management areas (e.g., tires, bulky wastes, asbestos)
- planned total landfill footprint including buffer zones, landscaping, and site screening features
- planned excavations and base grades for each major phase of site development, relationship to hydrogeologic features (e.g., watertable profile, water bearing formations)
- configuration of the completed landfill and final grading plan
- the final landfill surface profile and its internal components, existing topography, and underlying geology/hydrogeology (in landfill cross-section views)
- existing landfill cells, including their operational status and configuration (e.g., exposed waste, intermediate cover, final cover, leachate drainage layer), and
- gas control system components

Earthwork materials for construction and development

Inventory on-site borrow materials and characterize their intended use as follows:

- analyze the results of the Phase I and Phase II geotechnical investigations and identify the intended uses of borrow materials
- quantify the available borrow materials
- describe the management and storage of soils and other construction materials

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5.4 Leachate Management

Leachate management

Describe the proposed leachate management strategies for the landfill's active operation, closure and post-closure stages.

Strategies

The leachate management strategy should be based on a systematic analysis of design, construction, and operation techniques, and the following objectives:

- accurately predict leachate quality and quantity
- select leachate control methods that are technically and economically sound
- maximize leachate containment and collection efficiencies (through liner system and collection and removal system design)
- maximize the reliability of leachate containment systems
- monitor the effectiveness of leachate control systems
- treat and dispose of leachate in an environmentally sound manner, and
- minimize leachate generation

Leachate management analysis

Perform a conceptual design analysis to evaluate background data, establish a rational basis for design, and to evaluate the performance and cost effectiveness of alternative technologies. This analysis should complete the following tasks:

- Evaluate leachate quantity and quality using methods described in Section 6
- Identify key assumptions and design criteria
- Evaluate alternative leachate control technologies
- Prepare conceptual design drawings of major components

Liner system: leachate containment

Prepare conceptual design drawings showing typical cross-sections of the proposed liner system including layer types and thicknesses, minimum slopes, and hydraulic conductivities of each soil layer. Describe the liner system components, including the soil and geosynthetic materials, potential sources of these materials, and the overall design basis.

Standard liner design

The standard composite-liner design incorporates the following components:

- a two-foot thick soil layer with a maximum permeability of 1×10^{-7} cm/sec
- a geomembrane layer with a minimum thickness of 60 mil for HDPE or 30 mil for other materials

The Department may require an enhanced liner design if site specific conditions suggest a significant potential for adverse groundwater quality impacts (see OAR 340-94-060(6)).

Alternative liner design demonstration

If an alternative liner system design is proposed, a demonstration must be made to the Director of the Department that the proposed design will:

- meet the performance standard in 40 CFR 258.40(a)(1), "the design must ensure that the concentration values listed in Table 1 ... will not be exceeded in the uppermost aquifer at the relevant point of compliance", and
- comply with the policies and specific performance requirements of Oregon's Groundwater Quality Protection Rules (i.e., prevent a leachate release exceeding the statistical background concentrations at the relevant point of compliance)

Workplan for alternative design

To facilitate Department review and approval of such a demonstration, submit a workplan describing methods to predict potential water quality impacts. The workplan must specify how the permittee intends to:

- characterize leachate quality and estimate leachate quantity
- estimate liner leakage using a hydrologic model such as the latest version of EPA's HELP model, and
- evaluate groundwater quality impacts due to forecasted leakage, using an appropriate groundwater flow and solute transport model, which demonstrates that the alternative liner design would adequately protect groundwater and surface water quality

---

Leachate collection and removal system

Describe the basis for the design, including key assumptions and design criteria on how the Leachate Collection and Removal System (LCRS) will maintain leachate depths of less than 30 cm. Prepare a conceptual design of the LCRS that includes drawings showing typical cross-sections and a plan-view of system layout, manholes, cleanouts, sumps.

LCRS design criteria

The Department's recommended design criteria are as follows:

- Drainage layer slopes should be at least 2% (after settlement)
- Collection pipes should:
  - have slopes of at least 1%
  - meet the recommendations of (not minimums) of OAR 340-52-030, and
  - have enough slope to maintain scouring velocity
- Manhole spacings should not exceed the capabilities of available cleanout equipment and should meet recommendations (not minimums) of OAR 340-52-030 for sewer pipelines. At a minimum, cleanouts should be provided at both ends of all leachate collection pipes with sweep ends used to allow smooth access to cleanout equipment
- Leachate pipe should have a minimum diameter of 6 inches and should be schedule 80 or equivalent strength pipe
- Granular drainage layers should consist of competent, non-angular rock or rounded gravel and have a minimum in-place hydraulic conductivity of at least 1 x 10^{-2} cm/sec

Secondary LCRS: Under certain circumstances (see OAR 340-94-060(6)), the Department may require a secondary leachate collection system. Suggested design criteria for the secondary LCRS and other pertinent design-related information are provided in Section 7 (Detailed Design).

Leachate storage

Prepare a conceptual design of the storage system including cross-section and plan-view drawings and describe the design basis. Leachate storage impoundments should be located, designed, constructed, and monitored to at least the same standards as landfills. Leachate storage impoundments should be equipped with a leak detection system beneath the entire liner system, creating a double liner system to protect against the high hydraulic head typically impinging on the liner system.

Leachate treatment and disposal

Perform a leachate treatment feasibility study as outlined in Section 6 of this guidance. The results of this study should be used to develop conceptual design drawings and preliminary equipment specifications for the proposed treatment and disposal methods. The Department recommends treatment methods that reduce leachate contaminants, not methods that transfer the environmental problem to another medium.

Leachate minimization

Describe the design, construction, and operation techniques that will be used to minimize leachate production during the landfill's active and post-closure periods. The leachate minimization program should include the following elements:

- phased development and closure to minimize the active area footprint
- temporary geosynthetic covers to minimize infiltration in active cells
- run-on and runoff control systems for active and closed areas
- subsurface drainage systems to control groundwater seepage
- low permeability final cover systems to minimize infiltration during post-closure, and
- cell construction techniques that promote surface runoff rather than infiltration

5.5 Surface Water Management

Surface water

Describe the proposed methods for managing surface water run-on and runoff during the landfill's active operation and post-closure stages.

Surface water control during active landfill operations

Describe the surface water control measures and facilities that will be implemented and maintained during active landfill operations and how the system will

- intercept and divert run-on away from active and closed landfill cells (subareas)
- promote runoff from landfill areas capped with interim or final cover
- minimize site erosion
- temporarily store excess peak runoff flow until it can be discharged at a lower controlled rate
- control sediment transport by removing suspended solids from surface water runoff as necessary to comply with the facility's NPDES stormwater discharge permit, and
- collect and contain leachate-contaminated stormwater that accumulates in active landfill areas

Surface water control after final facility closure

Describe the surface water control measures and facilities that will be implemented and maintained after final closure of the facility and how the system will

- protect the integrity and effectiveness of the landfill cover system, and
- minimize long-term maintenance requirements after closure

Conceptual design

Prepare conceptual design drawings showing the complete surface water control systems that will be in place during active landfill operations and after cell closure.

5.6 Landfill Gas Management

Landfill gas

Describe the methods and technologies that will be used to control landfill gas.

Content

Evaluate the following design and construction considerations:

- site characteristics including topography, soils, geology, hydrogeology, climate
- fluctuations in groundwater levels, soil moisture, barometric pressure, and other environmental parameters
- locations of on-site structures, utilities, etc.
- adjacent land use and development
- size and age of the landfill and quantity of in-place refuse
- regulatory standards including federal air emission standards for landfills
- the landfill's operational history
- landfill gas monitoring results
- permitting requirements for flare units and other air emission sources
- operational status of the landfill unit (closed/full, active/partially full, new/empty, etc.)
- site development sequence
- suitable space for mechanical equipment (motor blowers, flares, electrical panels, etc.)
- moisture conditions within the landfill (saturated zones can impede gas flow)
- landfill gas quality (chemistry) and potential effects on leachate and groundwater quality
- design of existing and future landfill cells and potential influences on landfill gas flow paths
- current and future landfill gas production rates
- depth of in-place refuse below grade (interface between refuse and subsurface strata)
- available options for containing and managing landfill gas condensate
- capital costs and operation and maintenance costs of alternative designs

Types of control systems

There are two general types of landfill gas control systems: active systems and passive systems. Active control systems are recommended by the Department for most applications because of their superior flexibility and performance. However, active systems are usually substantially more expensive to construct and operate.

Conceptual design plans

Prepare preliminary engineering drawings showing the following landfill gas control system features:

- extraction well and/or horizontal collection trench locations and spacings
- configuration of collection lateral and header piping
- condensate drains, storage and treatment methods, and
- mechanical equipment complex (motor-blower, flare, and associated equipment)

Design criteria

The Department's recommended design criteria for landfill gas control systems are as follows:

- The landfill gas control system should be operationally flexible to accommodate changing gas production rates, migration patterns, gas chemistry, and other variables.
- Active control systems should be designed to provide 100 percent blower standby (backup) capability.
- The landfill gas control system should be designed for phased construction and expansion potential.
- Flame arresters should be incorporated into flare systems to prevent accidental ignition in the discharge piping system.
- Flare units should be equipped with automatic ignition systems and alarms.
- Header piping systems should have minimum (post-settlement) slopes of 3 percent for condensate drainage and collection.

Methane limits

The concentration of methane gas must not exceed

- 25 percent of the lower explosive limit for methane in facility structures, excluding gas control or recovery system components, or
- the lower explosive limit (LEL) at the facility property boundary

Reference: OAR 340-94-060(4) and 40 CFR Part 258.23(a)

Monitoring

Facilities must conduct routine monitoring, with a minimum frequency of once per quarter, to verify compliance with the allowable concentration limits.

5.7 Environmental Monitoring

Establishing monitoring

In most instances, detailed environmental monitoring programs will not be established until Phase II site characterization and detailed facilities design are completed.

Conceptual monitoring plan

Describe the overall monitoring strategies and objectives for

- groundwater
- surface water
- leachate
- landfill gas
- air (if applicable)

Guidance

Guidance for preparing an environmental monitoring plan is provided in Section 10.

5.8 Closure and End Use

Closure and post-closure

Describe the general procedures for final facility closure and the end use plan for the facility property. Closure of modern landfills is accomplished in phases when discrete cells or subareas reach final capacity. Closed areas must be maintained and monitored while active operations continue in other cells. For financial assurance purposes, these activities should be considered as interim closures. The 30-year post-closure care period does not officially begin until final facility closure is complete.

Reference: OAR 340-130

Reference

Minimum regulatory requirements for final facility closure are prescribed in OAR 340-94-100 and 40 CFR Part 258.1. Detailed closure provisions should be incorporated into the closure plan (see Section 11 for further instructions).

5.9 Supporting Information

Local government endorsement

Submit written recommendations of the local government unit(s) having jurisdiction to establish a new disposal site or to substantially alter, expand, or improve a disposal site or to make a change in the method or type of disposal. Such recommendations should include, but are not limited to, a statement of compatibility with:

- the acknowledged local comprehensive land use plan and zoning requirements or the Land Conservation and Development Commission's Statewide Planning Goals (using the Department's Land Use Compatibility Statement form), and
- the adopted local solid waste management plan

Reference: OAR 340-93-070(3)(b) requires submittal of local government information to document that the proposed new landfill or expansion of an existing landfill has been reviewed and approved by the local host community

Compatibility with solid waste plans

Explain how the proposed facility or facility expansion is compatible with all elements of the local solid waste management plan, and the state integrated solid waste management plan.

Waste reduction

If any local government or other person will send more than 75,000 tons of solid waste per year to the disposal site, submit a copy of the person's plans for implementing a waste reduction program.

Other permits

Identify any local, state, or federal permits, in addition to the Solid Waste Disposal Site Permit, that will be required for the proposed facility or expansion. If the permit has been granted, include a copy of the permit. If the permit has been previously applied for but not yet granted, include a copy of the permit application.

Examples: Corps of Engineers Section 404 permit; NPDES permit

Statement of need

Submit a statement clearly demonstrating the need for the new or expanded facility. For the renewal of a permit for an existing facility, the statement should relate to the continuing need for the facility. The statement of need should address the following criteria:

- the availability and capacity of alternative disposal sites or resource recovery systems and facilities
- the relationship of the permit application to current or proposed state and local solid waste management plans for the affected area
- the existence of contracts for disposal of waste at the proposed site
- the potential costs of shifting to available alternative sites and the proximity of such sites, and
- the ability of the proposed site to comply with statutory and regulatory requirements

5.10 Additional Resources

References

U.S. EPA Solid Waste Disposal Facility Criteria Technical Manual. November 1993

Washington D.O.E. Solid Waste Landfill Design Manual. June 1987.

Section 6: Leachate Treatment and Disposal Feasibility Study

6.1 Introduction

Evaluate treatment alternatives	Available leachate treatment alternatives should be evaluated. Methods that reflect site-specific conditions, and a full consideration of cross-media impacts should be selected for the facility.
Preferred methods	Preferred treatment methods are those that reduce the leachate contaminants rather than simply transferring the environmental problem to another medium. New landfills, and municipal solid waste landfills with significant expansions built after October 9, 1993, may need to complete a supplemental information form to help identify and prevent the transfer of pollutants from one medium to another.
How to respond	Submit a Feasibility Study Report that documents the analysis of treatment and disposal alternatives, including any assumptions. The Report should be stamped by the Profession Engineer who conducted the study.

Analysis of treatment options

Evaluate leachate treatment and disposal alternatives as follows:

- estimate leachate generation rates based on the latest Help Model analyses and/or actual leachate volume measurements from existing landfill cells
- determine the chemical and physical characteristics of the leachate and predict variations in leachate characteristics over time. For lateral expansion of existing facilities, sample and analyze leachate from an adjacent cell. For new facilities, obtain data from the nearest existing facility with a comparable physio-climatic setting and incoming waste stream
- identify final disposal alternatives and evaluate their feasibility in terms of cost effectiveness, environmental impact, technological constraints, regulatory requirements, and compatibility with other elements of the landfill design and operation
- define leachate treatment (effluent) requirements for the disposal alternatives and overall design criteria
- select a treatment process or processes which will achieve desired treatment performance for each disposal alternative
- estimate the capital and operation and maintenance costs of each alternative treatment and disposal method
- select the best alternative treatment and disposal system with regard to cost, reliability, flexibility and any other appropriate considerations

The study should be conducted by a Professional Engineer with current Oregon registration.

Selection of method

Leachate characteristics and treatability may be affected by landfill expansion and by partial or final closure. Therefore, the proposed treatment methods should be highly adaptable to accommodate variable chemical and hydraulic loading. The proposed system should consist of one or a combination of treatment options.

Treatability studies

If possible, selection of a process to treat leachate should be based upon treatability studies (laboratory or pilot scale) using the actual leachate. This is recommended for several reasons:

- Published leachate treatment performance data are rare. In the absence of treatability studies, inferences must be drawn from laboratory experimental studies, and industrial and municipal water and wastewater treatment experience.
- Lacking previous experience or treatability data, there is no guarantee that high levels of treatment can be achieved.
- It is likely that a combination of several unit processes will be needed to deal with the leachate. Arriving at the optimum system is unlikely without treatability studies.
- The complex leachate may not behave like other wastewaters, thus affecting design and operating criteria (e.g., chemical dosage requirements), and invalidating extrapolations from other experiences. Leachate composition also varies with age of the landfill.
- Capital investment, and especially operation and maintenance costs, are likely to be greater per unit volume treated than for municipal or industrial wastewater. However, costs will be difficult to estimate without treatment experience. Investment in a costly, unproven system that may not meet the required treatment objectives is imprudent.

Alternative evaluation

In spite of these considerations, treatability studies may not be possible at all sites. Representative leachate samples may be unavailable at new landfill sites or arid area sites. In such cases, use a more theoretical approach that relies on published data or data from another similar facility.

In this section

This section describes alternative treatment methods for landfill leachate, including:

- discharge to privately or publicly-owned treatment works
- land application
- on-site treatment with discharge to surface water
- re-application or re-injection to lined cell
- evaporation or impoundment, and
- other alternatives

6.2 Discharge to Privately or Publicly-Owned Treatment Works

The option

This alternative is subject to any pretreatment and/or wastewater connection requirements of the authority operating the treatment works. Discharges to publicly-owned treatment works (POTW) are not directly regulated by the Department.

Reference: "Management Plan Requirements for Leachate Disposal to Publicly-Owned Treatment Works," March 19, 1993

Examples of use

This method is currently practiced by several landfill in the Northwest, including:

- St. Johns Landfill, Portland, Oregon. Contact: Metro Solid Waste
- Cedar Hills Landfill, King County, Washington. Contact: King County Solid Waste Department
- Cathcart Landfill, Snohomish County, Washington. Contact: Snohomish County Solid Waste Department
- Kent Highlands Landfill, Kent, Washington. Contact: City of Seattle

6.3 Land Application

The option

This alternative is subject to possible pretreatment requirements.

Reference: "Standards for Leachate Spray Irrigation Management," October 28, 1992

Examples of use

This method is currently practiced by several landfills in Oregon, including:

- Coffin Butte Landfill, Benton County. Contact: Valley Landfills, Corvallis, Oregon
- Riverbend Landfill, Yamhill County. Contact: Sanifill of Oregon

6.4 On-site Treatment with Discharge to Surface Water

The option

This alternative is subject to effluent limitations as defined in a National Pollutant Discharge Elimination System (NPDES) permit. Application for a permit should be completed and submitted to the Department's Water Quality Division. If Total Maximum Daily Loads have been established or proposed for the receiving waters, additional requirements may be mandated above and beyond the NPDES permit.

Treatment processes

Generally, there are eight unit treatment processes applicable to leachate treatment:

- biological treatment
  - aerobic
  - anaerobic
- chemical precipitation
- ion exchange
- reverse osmosis
- carbon absorption
- stripping
- chemical oxidation
- wet oxidation

The applicability of each of these processes depends largely on the age of the leachate and the location and design of the landfill.

Examples of use

This method is currently practiced by Roseburg Landfill in Douglas County.
Contact: Douglas County of Public Works

6.5 Re-application or Re-injection to Lined Cell

The option

This alternative is permissible under the conditions of U.S. EPA's Solid Waste Disposal Facility Criteria 40 CFR Part 258. Only those cells where the composite liner and leachate collection system are equivalent to the minimum standards as described in 40 CFR 258.40(a)(2) can this form of leachate treatment be employed.

Minimum standards

Re-application of leachate is prohibited unless the landfill cell has at least the equivalent of each of the following three elements:

- upper component: a composite liner with 30-mil FML [60-mil HDPE], installed in direct and uniform contact with the compacted soil component
- lower component: a two-foot or thicker layer of compacted soil with a hydraulic conductivity no greater than 10^{-7} cm/sec
- leachate collection: a collection system capable of maintaining less than a 12 inch [30-cm] depth of leachate head

Considerations

The following considerations should be addressed:

- hydrogeology of the landfill site and the surrounding area within a 1/4-mile radius of the site
- climatic/meteorological data
- design details of the recirculation system
- monitoring of leachate levels in the landfill
- detailed contingency plans for leachate control, in the event that the leachate head levels cannot be maintained at less than a 12 inch [30-cm] depth
- metals accumulation in cover soils (if leachate is surface applied), and
- surface runoff and erosion control (if leachate is surface applied)

Examples of use

This method is practiced in limited use at Finley Buttes Landfill in Morrow County, Oregon.

6.6 Evaporation/Impoundment

The option

This alternative is subject to the same requirements as an application for a Water Pollution Control Facility (WPCF) permit. A lagoon, impoundment structure, or evaporation pond with a discharge to surface water is subject to a NPDES permit.

Inclusion in other documents

The Site Development Plan and detailed design plans and specifications should include:

- the rationale for selecting the proposed evaporation/impoundment technique
- water balance calculations
- pilot and bench tests, as appropriate, and
- alternative methods for residuals handling

Examples of use

This method is currently practiced at Columbia Ridge Landfill and Recycling Center in Gilliam County, Oregon.

6.7 Other Alternatives

Options

The Department will consider other treatment options, such as incineration, moisture source for composting if supporting information demonstrates consistency with DEQ regulations and water quality criteria.

6.8 Additional Resources

References

"Management Plan Requirements for Leachate Disposal to Publicly-Owned Treatment Works," DEQ, March 19, 1993

"Standards for Leachate Spray Irrigation Management," DEQ, October 28, 1992

Section 7: Detailed Design

7.1 Introduction

Detailed design phase

Fundamental design assumptions and criteria established during conceptual design should be reevaluated and refined at the outset of the detailed design stage. At this point, additional site characterization data, materials testing results, input from the Department and other reviewing agencies, permit requirements, and other available information should be incorporated into the design.

Regulatory references

Mandatory design standards and performance criteria are specified in 40 CFR 258 and OAR 340 Division 94. The design approach should also reflect current technologies, and conventional engineering principals and practices. Requirements for detailed design plans and specifications are described in OAR 340-93-140.

How to respond

Submit the following design documents to the Department for approval prior to construction, consisting of:

- detailed plans and specifications, stamped by a qualified professional engineer with current registration in Oregon
- a design report that describe the technologies and engineering analyses associated with the proposed design

Design plans and specifications

Base design plans and specifications on the results of Phase I and Phase II site characterization, geotechnical studies, and conceptual design analyses and reporting.

Design report

Prepare a design report that includes the following information:

- executive summary, conclusions, recommendations
- design basis, main assumptions, design criteria, and site constraints
- descriptions of key landfill components and their design functions
- a written explanation of the detailed design drawings and specifications
- a demonstration that landfill components will function as designed
- results of design-related materials testing
- preliminary specifications for construction materials, and
- engineering analyses and calculations used to develop the design

Format

To facilitate the Department's review, design reports, design plans and specifications and other related documents should have the same organizational format used in this guidance document. Design documents should be sufficiently detailed to enable the Department to determine whether mandatory standards and performance criteria have been achieved. Specifications should follow the standard format adopted by the Construction Specifications Institute.

In this section

This section provides guidance on preparing detailed design plans and specifications for the following environmental control systems:

- liner system
  - soil liner component
  - geomembrane component
- primary leachate collection and removal system
- secondary leachate collection and removal system
- leachate treatment and storage impoundments
- leachate holding tanks and conveyance pipelines
- leachate treatment process
- final cover system
- surface water control system, and
- landfill gas control system

7.2 Liner System

Performance criteria

Landfill liners are designed to protect the environment by preventing the release of leachate and landfill gas. New municipal solid waste landfill units and lateral expansions of existing landfill units must be equipped with either a composite liner, or a site-specific alternative design that meets the environmental performance criteria. Unless the Department approves an alternative design, liner systems must include:

- a soil liner component and
- a geomembrane liner component

These components are discussed in the following sections.

Reference: Minimum design standards for liner systems are specified in 40 CFR 258.2, 40 CFR 258.40(b), and 258.40(a)(1). Associated performance criteria are contained in the Department's groundwater protection rules [OAR 340-40-020(1),(2),(3)].

Proposing an alternative design

An alternative design proposal should be discussed with Department staff, before the development of formal design details. At this point, the Department will consider, from a technical and environmental standpoint, whether the proposal is viable. The Department will not approve alternative liner designs unless a convincing demonstration is made that the alternative design meets both the environmental performance requirements and the no-groundwater-degradation policy. Alternative design proposals will be subject to the opportunity for public comment.

Reference: See the Alternative Design discussion in Section 5: Conceptual Design of Landfill Facilities

Design document content

The design documents should address technical considerations such as

- performance criteria
- construction details (anchoring, penetrations)
- material properties
- dimensions
- bottom and sidewall slopes
- site operations (particularly the cell filling sequence and configuration),
- interface friction properties of liner system components, and
- subgrade conditions such as groundwater levels and soil properties

7.3 Liner System -- Soil Liner Component

Soil characteristics

Soils have a wide range of physical characteristics that are relevant to liner construction. These characteristics, described below, effect the soil's potential to meet the specified permeability of 1×10^{-7}.

Characteristic	Description
Soil plasticity	The soil plasticity index (PI) should be greater than 10 percent. However, soils with very high PI (above 30 percent), are cohesive, sticky and difficult to work with in the field. When high PI soils are too dry, they may form clods that are difficult to break down during compaction. Perferential flow paths may form around the clods, increasing the liner's permeability. Large soil particles or rock fragments can also form perferential flow paths.
Soil density and moisture	A soil's maximum density corresponds to the optimum moisture content, the minimum permeability to a moisture content wet of optimum. Wet soils, however, have less shear strength and more potential for desiccation cracking. When specifying moisture content, consider shear strength and other engineering properties. Typically, the permeability criterion can be achieved at moisture values of 1 to 7 percent above optimum.

Liner construction

Soil liners should be constructed in a series of compacted lifts. To specify lift thickness consider soil characteristics, compaction equipment, foundation characteristics, compaction requirements and liner permeability. The compactor must reach the lower portions of the lift to establish good, homogeneous bonding between lifts.

Soil test methods

Use the following test methods to characterize prospective liner soils:

- grain size distribution (ASTM D-422)
- Atterberg limits (ASTM D-4318), and
- moisture/density relationships by standard or modified Proctors (ASTM D-698 or ASTM D-1557), whichever is appropriate for the compaction equipment the foundation characteristics

Design criteria: soil liner

Design the soil liner to meet the following criteria:

- maximum saturated hydraulic conductivity (permeability) -- 1 x 10^{-7} cm/sec
- minimum compacted thickness -- least two feet
- Atterberg limits -- plasticity index $\geq$ 10%;
- percent fines -- $\geq$ 50% passing a #200 sieve;
- percent coarse material -- 10% retained on a #4 sieve;
- maximum particle size including clods -- 1 - 2 inches.

Recommended design procedures

Design the soil liner component by following the procedures below.

Step	Action
1	Specify performance objectives and material properties
2	Specify Unified Soil Classification, percent clay content (by hydrometer analysis to the 2 micron particle size) and the additional soil properties in the design criteria
3	Establish liner dimensions including thickness and surface area
4	Prepare appropriate design details, including details of connections between existing and new sections of the liner
5	For bentonite amended soils, specify the bentonite application rate as a percentage of the original dry weight of the soil, and mixing techniques
6	Specify construction requirements for the soil test pad the full-scale liner and associated earthwork
7	Specify Construction Quality Control (CQC) and Construction Quality Assurance (CQA) requirements

Reference: Also refer to the construction requirements in Sections 8.3, 8.4, and 8.5.

7.4 Liner System -- Geomembrane Liner Component

Design criteria: geomembrane liner

Design the geomembrane component of the landfill liner to meet the following criteria:

- HDPE geomembranes of at least 60 mils thick (or at least 30 mil thick for other materials) should be installed in direct and uniform contact with the underlying soil liner
- the geomembrane should be chemically compatible with leachate, landfill gas, and other expected environmental conditions within the landfill
- the geomembrane should be physically compatible with the proposed subgrade and backfill properties
- the geomembrane should be capable of withstanding the anticipated short-term and long-term stresses due to facility construction and operation.
- the number of pipe penetrations through the geomembrane should be minimized to the extent possible
- the geomembrane's friction properties should be compatible with other components of the liner system to minimize mechanical stresses on any component

Design approach

A systematic approach to design will enhance the geomembrane's performance, reliability and compatibility with other landfill components.

Recommended design procedures

Design the geomembrane liner component by following the procedures below. Where listed, refer to the pages in Section 7.13 (Appendix of Engineering Analyses and Calculations) for additional details.

Step	Action	Ref. pg.
1	Specify performance criteria and material properties for geomembranes and associated geosynthetics	---
2	Perform a geomembrane design analysis to determine acceptable geomembrane properties	7-25
3	Analyze the liner system's stability in side-slope areas	7-26
4	Analyze geomembrane runout or anchor trench requirements and prepare design details	---
5	Prepare design details for sumps, pipe penetrations, mechanical attachments to structures, etc.	---

Step	Action	Ref. pg.
6	Specify Construction Quality Control (CQC) and Construction Quality Assurance (CQA) requirements	---

Geomembrane specifications

Identify the geomembrane's function and specify desired properties for:

- the geomembrane to perform its intended function
- construction survivability, and
- in-service durability (i.e., resistance to temperature variations, UV radiations, leachate, mechanical stress)

Testing and acceptance

Establish minimum requirements for testing and acceptance of geomembrane conformance, including:

- sampling frequency
- sample size
- sampling technique
- conformance testing procedures
- acceptance criteria, and
- rejection procedures

7.5 Primary Leachate Collection and Removal System

Performance criteria

The primary leachate collection and removal system (LCRS) must be designed to function automatically, continuously, and as efficiently as possible within practical limits. The LCRS should maintain a leachate depth of less than 30-cm above the liner.

Reference: 40 CFR 258.40(a)(2)

Design criteria

Design the primary leachate collection and removal system to meet the following criteria:

- granular drainage layer percent fines -- < 5% passing No. 200 sieve.
- granular drainage layer hydraulic conductivity -- 1 x 10^{-2} cm/sec.
- granular drainage material should consist of carbonate-free, rounded gravel or non-angular rock.
- leachate collection pipe -- minimum 6-inch diameter, schedule 80 or equivalent strength pipe.
- minimum slopes for collection pipes -- 1% after predicted settlement; comply with OAR 340-52-030 for sewer pipelines (enough slope to maintain scouring velocity).
- minimum slopes for leachate drainage layer -- 2% after foundation settlement.
- manhole/cleanout spacing -- Should be compatible with available cleanout equipment and meet recommendations (not minimums) of OAR 340-52-030 for sewer pipes. At a minimum, provide cleanouts at both ends of all leachate collection pipes and sweep bends to accommodate cleanout equipment.

Recommended design procedures

Design the leachate collection and removal system (LCRS) by following the procedure below. Where listed, refer to the pages in Section 7.13 (Appendix of Engineering Analyses and Calculations) for additional details.

Step	Action	Ref. pg.
1	Prepare scaled drawings of the leachate collection system layout and construction details	---
2	Specify properties, characteristics and performance criteria of granular drainage layers, including Unified Soil Classification, grain size distribution, maximum particle size, maximum percent passing No. 200 sieve, thickness, and hydraulic conductivity at anticipated field density	---

Step	Action	Ref. pg.
3	Specify properties, characteristics and performance criteria of geosynthetic drainage layers, including polymer type, transmissivity and evidence of chemical compatibility. Analyze requirements for geosynthetic drainage material to determine allowable properties	7-25, 7-26, 7-28
4	Specify properties and characteristics of any granular filter layers, including Unified Soil Classification, grain size distribution and thickness	---
5	Specify properties and characteristics of any geosynthetic layers used for filtration or for liner protection. By analysis, determine allowable properties for protection or filtration layers	7-26, 7-28
6	Describe leachate collection pipe configuration, dimensions and properties, and analyze pipe loading and structural strength	7-31
7	Identify minimum slope specifications for drainage layers and collection pipes	---
8	Prepare leachate collection sump capacity and design details	---
9	Prepare manhole/cleanout design details, describe cleanout equipment capability and procedures, and analyze manhole-foundation design requirements	7-31
10	Identify the location and minimum spacing of manhole/cleanouts	---
11	Conduct a filtration analysis to evaluate the primary LCRS's clogging potential	7-31
12	Conduct an analysis of primary LCRS performance	7-30

7.6 Secondary Leachate Collection and Removal System

Need for secondary system

Under certain circumstances (see OAR 340-94-060(6)), the Department may require a secondary leachate collection and removal system (LCRS) to provide for additional groundwater protection and/or enhanced monitoring.

Design criteria

Design the secondary LCRS to detect and collect leachate at locations of maximum leak probability (e.g., liner penetrations, leachate collection sumps and leachate drain lines). Consider the following criteria:

- locate the secondary LCRS
  - beneath areas of maximum leak probability;
  - directly below and parallel to the liner system; and
  - above or hydraulically isolated from the seasonal-high water table to prevent groundwater intrusion into the secondary LCRS and potentially erroneous monitoring results.
- granular drainage layer percent fines -- < 5% passing No. 200 sieve.
- granular drainage layer hydraulic conductivity -- 1 cm/sec (at field density).
- granular drainage layer physical properties -- non-angular rock or rounded gravel free of carbonate material
- geosynthetic drainage layer transmissivity -- 5×10^{-4} m^2/s.
- minimum slope specifications for drainage layer and collection pipes -- pipes should meet recommendations (not minimums) of OAR 340-52-030 for sewer pipelines. Drainage layer should slope at least 2% (after settlement)
- manhole/cleanout location and spacing should not exceed capabilities of available equipment

Recommended design procedures

Design the secondary leachate collection and removal system (LCRS) by following the procedure below. Where listed, refer to the pages in Section 7.13 (Appendix of Engineering Analyses and Calculations) for additional details.

Step	Action	Ref. pg.
1	Prepare scaled drawings of the secondary leachate collection and removal system layout and construction details	---
2	Describe the secondary LCRS lining system, including its physical properties and dimensions	---

Step	Action	Ref. pg.
3	Specify granular drainage layer properties and performance criteria, including Unified Soil Classification, grain size distribution, maximum particle size, maximum percent passing No. 200 sieve, thickness, and hydraulic conductivity at anticipated field density	---
4	Specify geosynthetic drainage layer properties, and performance criteria, including polymer type and transmissivity. Determine allowable properties for geosynthetic drainage material should be determined by analysis	7-25, 7-26
5	Specify granular filter layer properties and performance criteria, including Unified Soil Classification, grain size distribution and thickness. Granular filter material must be free of carbonate material	---
6	Specify geosynthetic protective or filter layer properties. Determine allowable properties for geosynthetic by analysis	7-25
7	Describe leachate collection pipe configuration, dimensions and properties. Determine allowable properties by a structural stability analysis	7-31
8	Identify minimum slope specifications for drainage layers and collection pipes	---
9	Prepare leachate collection sump capacity and design details	---
10	Prepare manhole/cleanout design and operation details, including cleanout equipment capabilities and operating procedures. Analyze foundation requirements for manholes.	7-31
11	Identify manhole/cleanout configuration and spacing	---
12	Analyze the clogging potential within secondary LCRS components	7-31
13	Analyze the collection efficiency of the secondary LCRS	7-30

7.7 Leachate Treatment and Storage Impoundments

Performance criteria

Environmental safeguards for leachate treatment and storage impoundments should be comparable to or more extensive than what is required for a Subtitle D landfill cell. For minimum standards on location, design, construction, and monitoring see OAR 340-94-060(3).

Design Criteria

Design leachate treatment and storage impoundments to meet the following criteria:

- impoundment liners equal or exceed the landfill liner design
- the leak detection system underlies the impoundment liner to account for the substantial liquid depths within such impoundments
- impoundments have sufficient freeboard to contain and prevent overflow due to the 24-hour, 25-year storm
- available storage capacity reflects adopted leachate management practices and seasonal operating restrictions

Recommended design procedures

Design the leachate treatment and storage system by following the procedures below. Where listed, refer to the pages in Section 7.13 (Appendix of Engineering Analyses and Calculations) for additional details.

Step	Action	Ref. pg.
1	Calculate required storage capacity, account for leachate flow projections and the impoundment's internal water budget	7-31
2	Incorporate landfill cell design procedures	---
3	Design the leak detection system, incorporate all applicable steps outlined in Subsection 7.6 for secondary leachate collection and removal systems	---
4	Design leachate impoundments using landfill-cell equivalent detail and engineering analysis	---
5	Use applicable information previously developed for landfill cell design analyses	---

7.8 Leachate Holding Tanks and Conveyance Pipelines

Design criteria: holding tanks

Design leachate holding tanks to be:

- watertight
- composed of landfill-leachate compatible materials
- located on a flat, stable foundation, and
- sized to support the LCRS and leachate management practices

Design criteria: conveyance pipelines

Design conveyance pipelines to be:

- composed of landfill-leachate compatible materials
- consistent with the Departments' guidelines for sewer pipelines
- watertight and
- capable of withstanding in-service conditions, physical loads, stresses

Recommended design procedures

Design leachate holding tanks to meet the same operational considerations as impoundments. Design conveyance pipelines according to the guidelines for sewer pipelines.

References: OAR 340-060(3); OAR 340-52-020, Appendix A

7.9 Leachate Treatment Process

Performance criteria

Design the leachate treatment and disposal system to achieve effluent quality (leachate strength) objectives as appropriate for direct discharge or for pretreatment followed by discharge to another treatment facility.

Designing the system

The design of a leachate treatment and disposal system should include the following main stages:

Stage	Description
A feasibility study	Evaluate treatment and disposal alternatives and identify preferred method
Conceptual design	Prepare Conceptual Design (Engineering) Report including conceptual design plans and specifications for the selected alternative
Detailed design	Prepare detailed design plans and specifications and the Design Report

Selecting a design

Leachate composition and flow rates are highly variable and subject to numerous, site-specific physical and environmental influences. Select treatment technologies which can be easily modified to accommodate substantial changes in hydraulic loading and leachate strength.

Treatability studies

If possible, conduct treatability studies on site-specific leachate before committing to a particular leachate treatment process or technology. Treatment process staging may be necessary to accommodate variations in leachate chemistry and flow rates. Staging involves adding or deleting treatment processes or changing capacity of existing processes as future conditions warrant.

Design criteria

Establish leachate treatment goals and design criteria (e.g., effluent quality, treatment efficiency) consistent with final disposal requirements and raw leachate characteristics.

Recommended design procedures

Design the leachate treatment process based on the results of the site characterization studies, a feasibility study, and the conceptual design report. Re-evaluate the following critical design parameters established during conceptual design:

Design parameter	Evaluation criteria
Leachate characteristics	additional testing may be needed to assess the leachate's variability and treatability
Site geotechnical conditions	additional, localized geotechnical testing may be required to augment site-wide investigations
Leachate flow projections (hydraulic loading)	accuracy
Storage capacity and detention times	accuracy
Treatment efficiency forecasts	accuracy
The adaptability of proposed leachate treatment technologies	ability to accommodate short-term and long-term variations in leachate characteristics and treatment requirements

7.10 Final Cover System

Performance criteria

The final cover system should minimize water infiltration and erosion. Other important design issues include landfill gas containment and control, settlement, erosion, long-term maintenance requirements, and slope stability. Landfills that undergo remedial action to alleviate groundwater contamination, may be required to meet more stringent design criteria for the final cover.

References: 40 CFR 258.60(a) and OAR 340-94-120

Alternative designs

EPA allows approved state permitting programs, like Oregon's, flexibility in interpreting Subtitle D cover design requirements. Accordingly, the Department may consider alternative designs provided that critical performance criteria (e.g., minimal infiltration) are met. In the State's arid regions, for example, a properly designed soil cover may perform as well as a geomembrane.

Design criteria

Design the final cover system to meet the following criteria:

- minimum slopes of 2% and maximum slopes of 30%
- accommodate anticipated settlements
- contain landfill gas and enhance gas collection and recovery efforts
- minimize erosion
- minimize surface water infiltration
- promote efficient surface water drainage and runoff
- maintain stability on side slopes, and
- enhance site aesthetics

Design procedures

Design the final cover system by following the procedure below. Where listed, refer to the pages in Section 7.13 (Appendix of Engineering Analyses and Calculations) for additional details.

Step	Action	Ref. pg.
1	Prepare typical cross-sections of the cover system design for top and side slope	----
2	Use the HELP Model to predict infiltration	7-25
3	Analyze slope stability	7-26, 7-27
4	Analyze potential settlement	7-28

5	Describe each layer of the cover system, including: • foundation layer • low permeability layer • drainage layer • protective layer • topsoil layer • vegetative layer	---

Foundation layer

The foundation layer will serve as a base for either a low-permeability soil layer, or a geomembrane layer. The foundation layer must support and protect the cover during and after the construction phase.

Specify appropriate material properties, thickness, and configuration.

Low Permeability Layer

Design the low permeability layer to minimize moisture infiltration, to enhance landfill gas containment and control, and to accommodate site specific physical and environmental conditions.

Reference: Section 6.2 of this guidance provides detailed information on designing geomembrane and low-permeability soil layers

Drainage layer

Design the drainage layer to minimize infiltration, leachate generation, slope stability problems, erosion, and to enhance access for maintenance equipment.

Design procedures: drainage layer

Design the drainage layer of the final cover system by following the procedures below. Where listed, refer to the pages in Section 7.13 (Appendix of Engineering Analyses and Calculations) for additional details.

Step	Action	Ref. pg.
1	Specify properties, and performance criteria of granular drainage layers, including Unified Soil Classification, grain size distribution, maximum particle size, maximum percent passing No. 200 sieve, thickness and hydraulic conductivity	---
2	Specify properties, and performance criteria of geosynthetic drainage layers, including polymer type and transmissivity	7-25
3	Identify properties of granular filter layers, including Unified Soil Classification, grain size distribution and thickness;	---

4	Specify properties of geosynthetics used for protective or filter layers. Determine allowable properties by analysis	7-28
5	Analyze filter layer performance	7-31
6	Specify configuration, dimensions and properties of the collection pipe system. Analyze structural parameters.	7-31
7	Develop exit drain design details	---
8	Analyze drainage layer performance	7-30

Protective layer

An additional soil layer may be used to protect low-permeability layers from physical or environmental damage.

Design of protective layer

Specify the protective layer's properties and dimensions, including Unified Soil Classification, grain size distribution, thickness, hydraulic conductivity and maximum particle size (if placed directly on a geomembrane layer). Design the protective layer to:

- provide adequate rooting depth and soil moisture storage for selected vegetation
- protect the low-permeability layer against root penetration, freezing, drying and desiccation, and
- protect geosynthetic layers from puncture and other physical damage

Topsoil layer

The primary function of the topsoil layer is to provide an optimal growing medium for desirable vegetation. Topsoil may be amended with woodwaste, sewage sludge, or compost if applied appropriately at agronomic rates. Soil amendments should not cause odors, air-born contaminants or surface water quality problems.

Design criteria: topsoil layer

Specify top soil characteristics based on a thorough analysis of vegetation alternatives and fertilizer requirements, such as:

- thickness
- U.S.D.A. textural classification
- Soil Taxonomy
- pH
- organic content
- salinity
- nutrient content, and
- carbon to nitrogen ratio

If the topsoil layer will function as the protective layer, follow procedures for the design of the protective layer

Note: For additional information on soil properties and enhancement techniques, contact the County Agent of the Oregon State University Extension Service

Vegetative layer

The vegetative layer's main functions are to:
- minimize erosion and long-term maintenance, and
- maximize evapotranspiration

Design criteria: vegetative layer

The vegetative layer should be compatible with other cover-system components and easy to maintain. Plant shallow-rooted, locally adapted perennial plants that:
- resist drought and temperature extremes
- thrive in low nutrient soil with minimum nutrient addition
- establish dense growth to minimize cover soil erosion (limit is no more than 2 tons/acre/year), and
- survive and function with little or no maintenance

Reference: Refer to the Page 7-33 in Section 7.13 (Appendix of Engineering Analyses and Calculations) for additional details.

Alternative to vegetative layer

A vegetative layer may be incompatible with site climatic conditions or end use plan. If an alternative layer is planned, assess soil erosion, long-term maintenance requirements, and compatibility with other cover system components. The specified material should:
- accommodate settlement without compromising function
- maintain positive slopes to promote surface drainage off the cover
- be stable and erosion resistant during extreme precipitation and/or wind, and
- limit soil erosion to no more than 2 tons/acre/year

Reference: Refer to the Page 7-33 in Section 7.13 (Appendix of Engineering Analyses and Calculations) for additional details.

Typical cover system design

A typical final cover system design meets the thickness, slope, and specifications listed in the table below.

Layer	Construction material	Thickness	Slope	Specifications

Layer	Construction material	Thickness	Slope	Specifications
Top layer	vegetation	---	---	persistent, drought resistant, adapted to local conditions, shallow-rooted
	on soil	$\geq$ 12 inches	$\geq$ 2%	erosion rate < 2 tons/acre/year
Drainage layer	Soil (sand and gravel mixes)	$\geq$ 12 inches	$\geq$ 2%	SP (USCS) soil, K > 10^{-2} cm/sec
	geosynthetic	variable	$\geq$ 2%	performance equivalent to soil, hydraulic transmissivity > $3x10^{-5}$ m^2/s
Low-permeability layer	geomembrane (HDPE)	$\geq$ 60 mils	$\geq$ 2%	other types of FMLs should be at least 20 mils in thickness
	on low-permeability soil	$\geq$ 24 inches	$\geq$ 2%	in place K < 10^{-6} cm/sec

7.11 Surface Water Control System

Precipitation data

Select appropriate precipitation data for design analyses.

Reference: Refer to the Page 7-32 in Section 7.13 (Appendix of Engineering Analyses and Calculations) for additional details.

Design criteria

Design the surface water control system to meet the following criteria:

- prevent run-on flow onto active or inactive portions of the landfill (assuming peak discharge from the 25-year storm)
- collect and control run-off from active and inactive portions of the landfill (assuming a 24-hour, 25-year storm)
- comply with the provisions of the storm water discharge (NPDES) permit and the Clean Water Act
- control sediment transport and remove suspended solids as necessary to comply with the NPDES permit conditions
- collect and contain leachate contaminated stormwater that accumulates in active fill areas
- temporarily store excess run-off from peak flows until it can be discharged at a lower, controlled rate
- minimize site erosion
- protect the integrity and effectiveness of the landfill cover system, and
- minimize post-closure maintenance requirements

Design Procedures

Design the surface water control system for both the active landfill operation and post-closure phases by following the procedure below.

Step	Action
1	Define drainage basin boundaries
2	Identify potentially sensitive features, such as wetlands, fish migratory streams
3	Develop site grading plans for active and closed landfill scenarios
4	Develop design storm hydrographs and calculate peak flow volumes and velocities
5	Select and size appropriate control-system components, including ditches, culverts, and detention basins to safely pass peak flows
6	Specify permanent and temporary erosion control measures

Step	Action
7	Specify permanent and temporary siltation control measures, and
8	Perform applicable analyses and calculations Reference: Refer to the Page 7-32 in Section 7.13 (Appendix of Engineering Analyses and Calculations) for additional details.

7.12 Landfill Gas Control System

Designing the system

Design the landfill gas control system to accommodate a wide range of operational and environmental variables, withstand harsh physical/ environmental conditions, and function as long as needed.

Appropriate landfill gas control system technologies are:

- flexible operationally
- easy to construct and modify
- durable (physically and chemically)
- easy to monitor, and
- easy to maintain and repair

Design criteria

Design the landfill gas control system to:

- handle the maximum gas flow rate predicted for the landfill
- accommodate variability in gas generation, composition, and other operational parameters
- expand as needed to collect gas from future cells, and
- meet the applicable criteria in the table below

If designing...	then meet the following criteria:
an active control system	• extraction well boreholes should be at least 24 inches in diameter • construct extraction well casings and collection laterals and headers of PVC, HDPE or stainless steel • provide 100% blower standby (backup) capability • equip flare systems with flame arresters to prevent accidental ignition in the discharge piping system • equip flare units with automatic ignition systems and alarms • at sites with a high risk of off-site gas migration, install alarm systems with auto-dial-phone capabilities to contact response personnel 24-hours-a-day, 7-days-a-week • design perimeter extraction wells should be designed to provide 100-percent overlap of influence between adjacent wells (i.e., radii of influence of adjacent wells should completely overlap)
a passive control system	use only in combination with geomembrane cover and liner systems

Recommended design procedures

Establish the overall design basis by re-evaluating conceptual design criteria, landfill gas test data, and site characterization data. Incorporate the latest available engineering data and gas test data and following the design procedure below.

Step	Action
1	Determine the landfill's gas generation potential. Various modeling techniques may be used to predict approximate peak and total landfill gas production
2	Define the main operating functions of the landfill gas control system (i.e., landfill gas migration control, odor or air-emissions control, energy recovery, or multi-use)
3	Establish performance criteria, construction materials properties, equipment layout, and equipment types and characteristics. Design construction details (e.g., well or collection-trench depths and spacings and perimeter setbacks, header pipe sizes and configuration) to accommodate site-specific conditions
4	Prepare a facilities plan that depicts the following system components: • extraction well and/or collection trench locations and spacings • locations of adjustment valves and sampling ports • configuration of collection header piping • condensate drain locations • layout of mechanical equipment complex (i.e., blowers, flares, electrical panels) • locations of gas monitoring probes
5	Prepare design details that describe proposed materials and equipment for the major control system components (i.e., well casings, collection piping, granular materials, valves, blowers, flares) and typical design details for the following: • extraction wells • valves and sampling ports • condensate drains, sumps, pumps, storage tanks and associated equipment • mechanical equipment complex (blowers, flares, condensers, electrical panels, alarms, etc.), and • well or piping penetrations through the cover or liner systems

7.13 Appendix of Engineering Analyses and Calculations

Design report supporting information	As applicable, describe the assumptions, technical rationale, references, and factors of safety used for each engineering analysis or calculation. Incorporate relevant analyses and calculations into the Design Report.
Soil balance calculations	Calculate quantities of specialized and general-purpose soils: • to construct and operate each phase of landfill development • for phased closure and final closure construction • available at the identified borrow source, and • to be imported over the life of the site
Water balance analysis (HELP model)	Use the latest version of U.S. EPA's Hydrologic Evaluation of Landfill Performance (HELP) Model to estimate: • water percolation through each barrier layer • lateral drainage from each drainage layer, and • hydraulic head build-up in each drainage layer Model input should consist of site-specific climatological data, if available, and site-specific geotechnical and design data. Assume landfill operational status ? development plan and engineering design plans. Provide all input assumptions and the complete model output in the Design Report.
Use of geosynthetics	Geosynthetics such as geomembranes, geotextiles, geonets, geogrids and geocomposites have many possible applications in landfill design and construction. Non-structural materials such as geomembranes and geonets should not be subjected to significant physical stresses. Other liner or cover components must be designed to protect non-structural materials from physical stresses. Note: For methods to evaluate interface friction and shear stresses of layered geosynthetic components see Stability Analyses on page 7-26.

Selecting a geosynthetic

Select geosynthetics by matching intended functions with compatible physical properties. Manufacturers' specifications are usually derived from laboratory tests which do not account or field conditions. Adjust for differences between laboratory and in-situ conditions by either:

- customizing laboratory and field tests to model field conditions, or
- using partial factors of safety to account for differences between laboratory tests and field conditions

Perform a "design by function" analysis to select the appropriate geosynthetic material, or establish material properties by following the procedure below.

Step	Action
1	Evaluate the geosynthetic layer and the materials above and below
2	Specify a design factor of safety that reflects the potential consequences of the geosynthetic's failure
3	Describe the geosynthetic's primary function(s) and other critical functions
4	Calculate the numerical value for each geosynthetic property in question (as appropriate for the geosynthetic's intended function)
5	Specify testing requirements for selecting a geosynthetic product
6	Determine the partial factors of safety needed to compensate for differences between laboratory testing and the field conditions
7	Specify the minimum allowable properties for a product in a particular application

Reference: The suggested "design by function" approach to designing with geosynthetics is summarized in pages 61-62 of R. M. Koerner's Designing With Geosynthetics, 2nd Edition, Prentice-Hall Publ. Co., Englewood Cliffs, NJ, 1990, 652 pgs

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Stability analyses: parameters

Analyze the stability of all waste containment structures. Consider facilities design, construction and operation, and site characteristics (e.g., naturally unstable or seismically affected areas). Seismic impact zones, as defined in 40 CFR 258.14, exist at most locations in Oregon. Use appropriate testing and analysis to determine the following parameters:

- strength of soils and solid waste materials
- effective angles of internal friction for soils and solid waste
- friction angles of adjoining layer interfaces
- density of soils and solid waste, and
- pore water pressure in soils

Stability analyses: scenarios

Analyze the following scenarios using appropriate factors of safety:

- Potential rotational failure of the soil mass beneath the liner system
- Potential rotational failure of any containment dike, or other engineered structures
- Potential sliding failure of the liner system along the plane of the side slope
- The general slope stability and liner system stability along the plane of the liner system (assume active landfill operations and worst-case site development conditions
- Potential sliding failure or the cover system side slopes, assuming maximum pore water pressure in the drainage layer or cover soils over a geomembrane

Factors of safety

Suggested factor of safety (FS) values are shown in the table below. Actual values reflect engineering analyses site geotechnical and environmental characteristics, construction materials, operational procedures and risk factors.

Consequences of Slope Failure	**Uncertainty of Strength Measurements**	
	Small[1]	Large[2]
No imminent danger to human life or major environmental impact if slope fails:	1.25 (1.2)*	1.5 (1.3)
Imminent danger to human life or major environmental impact if slope fails:	1.5 (1.3)	2.0 or greater (1.7 or greater)

[1] Strength measurements are most reliable when the soil conditions are uniform and high quality test data are available

[2] Strength measurements are most uncertain when the soil conditions are complex and test data are inconsistent and incomplete

* Numbers without parentheses apply for static conditions and those within parentheses apply to seismic conditions.

Modified from: U.S. EPA, (1993), "Technical Manual for Solid Waste Disposal Facility Criteria - 40 CFR Part 258," November 1993.

Settlement

Settlement may involve a landfill cell, geologic units beneath the cell, or both. The amount of settlement depends on the characteristics of the solid waste and the underlying geological units.

Settlement analysis

Calculate for each landfill cell:

- the total consolidation of underlying geological units
- the total waste settlement
- differential settlement beneath the flattest sections of the liner system and maximum differential settlement beneath the liner footprint
- maximum differential settlement of the cover system
- slope allowance required to compensate for differential settlement of leachate drainage layers and collection pipes, and
- final cover slope allowances required to compensate for estimated differential settlement

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Settlement tolerances

Post-settlement slopes for leachate collection systems and cover systems should meet original design criteria

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Geotextile filter analysis

A geotextile filter should provide adequate cross-plane permeability and soil retention. Therefore, the geotextile's void spaces need to be compatible with adjoining materials. Analyze geotextile filters following the table below.

Step	Action
1	Specify a design factor of safety and calculate: • the required flow rate through the geotextile filter, and • the apparent opening size of the geotextile from the soil gradation
2	Specify appropriate geotextile testing (e.g., apparent opening size, permittivity)
3	Determine allowable flow rate. Use partial factors of safety to account for soil clogging, creep reduction of void spaces, and biological clogging
4	Consider other critical properties including: • chemical compatibility with landfill contaminants • survivability (during packaging, transportation, handling, and installation), and • ultraviolet-light resistance

Step	Action
5	Specify a particular geotextile product, or specify the required properties (e.g., apparent opening size and permittivity)

Geomembrane liner system

The geomembrane must have appropriate physical properties to withstand physical and environmental stresses during construction and long-term use. Analyze the critical design parameters following the procedure below

Step	Action
1	Calculate and specify a design factor of safety for construction and operation related stresses (i.e., tensile, shear, impact, and puncture stresses). Stress sources include anchorage, geomembrane weight, waste-weight, foundation subsidence, waste settlement, construction equipment operation, and contact subgrade and backfill materials (e.g., drainage layers)
2	Specify geomembrane testing procedures for critical properties (e.g., tensile strength, seam strength, tear resistance, puncture resistance, impact resistance, geomembrane friction, etc.). Use partial factors of safety to account for discrepancies between laboratory tests and field conditions
3	Consider other critical properties including: • chemical compatibility with leachate and gas • survivability during packaging, transportation, handling, and installation • ultraviolet light resistance, and • coefficient of thermal expansion (required slack in the geomembrane and acceptable temperature ranges for installation)
4	Specify a particular geomembrane product, or the minimum allowable geomembrane properties

Primary LCRS performance evaluation

Design the primary leachate collection and removal system (LCRS) using redundant features and conservative factors of safety to enhance its reliability. Evaluate critical design parameters using the following assumptions and analysis:

- Precipitation impinging directly on the drainage layer; the drainage layer is saturated; precipitation equals the wettest month's average rainfall. Calculate the hydraulic head for these conditions. The hydraulic head should not exceed 12 inches [30-cm] or the thickness of the drainage layer at any point in the LCRS, and
- All leachate collection pipes fail with the final cover is in place; surface water infiltration enters the drainage layer at a rate equal to the HELP Model estimate; the drainage layer is saturated; precipitation equals the wettest monthly total. Calculate hydraulic head for these conditions. The hydraulic head should not exceed 12 inches [30-cm] or the thickness of the drainage layer at any point in the LCRS.

Secondary LCRS performance evaluation

Evaluate the performance of the proposed secondary LCRS design by calculating the following:

- Leakage detection sensitivity: ". . . the smallest primary liner leakage rate which can be detected."
- Leakage collection efficiency: the ratio of the leakage collected at the secondary LCRS sump divided by the leakage entering the secondary LCRS and
- Leak detection time: the time required for leachate to travel from the point of entering the secondary LCRS to a collection sump

References: Background Document: Bottom Liner Performance in Double-Lined Landfills and Surface Impoundments, EPA/530-SW-87-013, U.S.EPA, 1987, 301 pgs.
Background Document: Proposed Liner and Leak Detection Rule, EPA 530-SW-87-015, U.S.EPA, 1987, 526 pgs.

Cover system drainage layer performance

Evaluate drainage layer performance and reliability by using the HELP Model or other appropriate method(s) to calculate the maximum hydraulic head buildup within this layer.

LCRS filtration analysis

Demonstrate that the conveyance systems for the primary, and secondary LCRSs and the final cover drainage system are designed to prevent clogging. Use analysis and calculations to show that:

- geotextile filter layers will adequately retain solids and pass liquids (see page 7-28), and
- granular filter layers will adequately retain solids and pass liquids (use analytical methods on pages 19 - 20 of Technical Guidance Document: Final Covers on Hazardous Waste Landfills and Surface Impoundments, U.S. EPA, EPA/530-SW-89-047, July 1989, and page 7-68 of Lining of Waste Containment and Other Impoundment Facilities, U.S. EPA, EPA/600/2-88/052, September 1989, or other appropriate techniques.

Structural stability of leachate pipes

Generate structural calculations to show that leachate collection pipes will withstand:

- static and dynamic loading from construction equipment;
- maximum potential loading from vehicular traffic;
- maximum static loading from the completed landfill; and
- stresses from long-term differential consolidation of the landfill foundation.

Manhole foundation bearing capacity

Calculate the bearing capacity of manhole foundations. Demonstrate that the bearing capacity will support anticipated loads without damaging the liner system. Consider differential-settlement induced down-drag forces that may occur where compressible waste and rigid manholes meet.

Leachate storage capacity

Calculate the storage capacity of the leachate impoundment, accounting for all in puts and outputs. Demonstrate that leachate storage impoundments or holding tanks will provide:

- adequate storage capacity for the maximum leachate flows; assume the leachate collection system maintains less than 12 inches [30-cm] of leachate depth
- adequate storage capacity to manage leachate as planned and to satisfy any seasonal limitations, and
- sufficient freeboard to contain leachate and prevent overflows, assuming a 24-hour, 25-year storm

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Leachate treatment and disposal

Calculate the efficiency of the proposed treatment system considering the following factors:

- design criteria, including regulatory requirements;
- availability of representative leachate for testing;
- untreated (influent) leachate characteristics, (i.e., quantity and quality);
- temporal and spatial variability of leachate characteristics;
- method(s) of leachate disposal;
- periodic design modifications (certain treatment processes may be phased in to accommodate variable leachate quality and hydraulic loading);
- proposed unit treatment processes and associated technologies;
- potential temperature variations in leachate and ambient air;
- nutrient addition requirements (e.g., phosphorous and/or nitrogen addition may be required to enhance biological treatment.

Surface water control

Evaluate the effectiveness of the surface water control system for conditions throughout the landfill's development and operation. Use a 24-hour, 25-year or more severe storm if extreme impacts could result from control system failure.

Obtain storm recurrence information from the Weather Bureau's Technical Paper 40, Rainfall Frequency Atlas of the United States for Durations for 30 Minutes to 100 Years. Alternatively, analyze local meteorological data to estimate storm intensity. Use the Rational Method, the Soil Conservation Service (SCS) method (i.e., Urban Hydrology for Small Watersheds, SCS Technical Release #55, June 1986 (TR-55)) or other recognized methods to estimate design-storm-related peak flows.

Demonstrate by analysis, that:

- Diversion and conveyance structures (e.g., berms and channels) are designed to divert all stormwater run-on away from the landfill footprint (assume peak discharge from the 25-year storm). Use standard analytical methods recommended by the US Dept. of Transportation (Federal Highway Administration), the US Army Corps of Engineers, the US Dept. of Agriculture (Soil Conservation Services) or other appropriate engineering methods.
- Sedimentation and detention facilities will retain peak runoff flows from the 25-year storm , trap sediment effectively, and comply with the facility's NPDES permit. Use the SCS methods (TR-55) to develop inflow hydrographs for sedimentation/detention structures.
- Active landfill cells have adequate capacity to contain stormwater and leachate during a 24-hour, 25-year storm.

Post-closure surface water control

Analyze requirements for post-closure surface water runoff control. Assuming 24-hour, 25-year storm conditions, demonstrate that:

- culvert and drainage channel cross-sections and slopes will pass design-storm-generated flow volumes
- surface water control facilities will minimize runoff velocities and related energy, and erosion of the landfill cover and drainage channels
- all drainage channels will convey flow at or below the maximum permissible (mean) velocities. Select the proper channel section for the appropriate hydraulic condition, and
- site maintenance will be minimized.

Note: Use standard engineering methods and procedures such as described in the Engineering Field Manual for Conservation Practice, U.S. Soil Conservation Service, 1984; SCS Engineering Handbook #5; Open Channel Hydraulics, V. T. Chow, 1959; Handbook of Hydraulics, 3d. edition, King, 1939; or other published references and specifications.

Cover soil erosion

Use the U.S.D.A. Universal Soil Loss Equation to estimate the erosion loss from the proposed final cover system. U.S. EPA guidance recommends a maximum soil loss of < 2 tons/acre/day. Values for the Universal Soil Loss Equation parameters can be obtained from the U.S. Soil Conservation Service's (SCS) Technical Guidance Document available at local SCS offices.

Landfill gas control system

Calculate or estimate the following design parameters:

- landfill gas production (peak and total production over the life of the landfill)
- gas well spacings and depths
- individual extraction-well flow rates
- system-wide collection efficiency
- maximum allowable headloss criterion
- minimum allowable vacuum pressure at the remotest extraction well.
- headloss from wells to the blower
- total accumulative flow rate within the collection pipes and headers
- required sizes for collection pipes and vacuum-motor-blowers, and flare units (if applicable)
- requirements for blower backup capabilities, and phased expansion of the mechanical equipment complex (i.e., blowers, flares, etc.) disposal or recovery systems and the collection system.

7.14 Additional Resources

Landfill technologies, design, and construction practices	Draft Technical Manual for Solid Waste Disposal Facility Criteria - 40 CFR Part 258, U.S.EPA, April 1992. Seminars - Requirements for Hazardous Waste Landfill Design, Construction and Closure, CERI-88-33; U.S.EPA; Center for Environmental Research Information, Cincinnati, OH 45268, 1988. Lining of Waste Containment and Other Impoundment Facilities, EPA/600/2-88/052, U.S.EPA, Risk Reduction Engineering Laboratory, Cincinnati, OH 45268, September 1988. Design, Construction, and Evaluation of Clay Liners for Waste Management Facilities, EPA/530/SW-86/007F, U.S.EPA, Office of Solid Waste and Emergency Response, Washington, DC 20460, November 1988.
Designing with geosynthetics	Koerner, Robert M., Designing With Geosynthetics, 2nd Edition, Prentice-Hall Publ. Co., Englewood Cliffs, NJ, 1990, 652 pgs.
Landfill cover systems	Seminars-Design and Construction of RCRA/CERCLA Final Covers, CERI 90-50, U.S.EPA, Office of Research and Development, Washington, DC 20460, 1990. Technical Guidance Document: Final Covers on Hazardous Waste Landfills and Surface Impoundments, EPA/530-SW-89-047, U.S.EPA, Office of Solid Waste and Emergency Response, Washington, DC 20460, July 1989. Proceedings of the 4th GRI Seminar on the topic of Landfill Closures: Geosynthetics, Interface Friction and New Developments, Geosynthetic Research Institute, Philadelphia, PA 19104, December 1990, 260 pgs.

Leachate treatment

Thornton, Richard J., and Blanc, Fredrick C., Leachate Treatment by Coagulation and Precipitation, proceedings of the American Society of Civil Engineers, Vol. 99, No. EE4, August 1973.

Chian, E. S. K., and De Walle, F. B., 1976, Sanitary Landfill Leachates and their Treatment, ASCE Environmental Engineering Division, No. EE2.

Chian, E. S. K., and De Walle, F. B., 1977, Evaluation of Leachate Treatment, Vols. I and II, Washington, DC: U.S. EPA, EPA-600/2-77-186.

Boyle, W. C., and Ham, R. K., 1974, Treatability of Leachate from Sanitary Landfills, Journal of Water Poll. Control Federation, Vol. 46, No. 5.

De Walle, F. B., and Chian E. S. K., 1977, Leachate Treatment by Biological and Physical-Chemical Methods, Proceedings of the Third Annual Solid Waste Research Symposium, U.S. EPA, March 14-16, 1977.

Robinson, H. D., and Maris, P. J., 1985, The Treatment of Leachates from Domestic Waste in Landfill Sites, Journal of Water Poll. Control Federation, January 1985, pp. 30-38.

Nelson, P. O., and Storhaug, R., 1985, Treatment of Leachate in Aerated Lagoons, Lab-Scale Study, Oslo, Norway, Norwegian Institute for Water Research, Report No. 0-84022.

Landfill gas control

EMCON Associates, 1980, Methane Generation and Recovery from Landfills, Ann Arbor Science, Ann Arbor, Michigan, p. 139.

Ham, R. K., et al., 1979, Recovery, Processing, and Utilization of Gas from Sanitary Landfills, Cincinnati, OH: U.S. EPA 600/2-79-001.

Section 8: Facility Construction Program

8.1 Introduction

Objective

The objective of the construction program is to translate the Department-approved engineering design into a completed facility that meets or exceeds the design plan specifications and performance objectives.

Elements

The facility construction program should include the following elements:

- an organized, qualified construction project team
- Department-approved design drawings and specifications for each phase of landfill development
- a Construction Quality Control (CQC) program
- a Construction Quality Assurance (CQA) program, and
- Construction Certification Reports based on an evaluation of CQC and CQA documentation which certify that construction was completed in accordance with Department-approved plans and specifications

How to respond

Submit the information below to the Department for each phase of landfill development (i.e., construction of new cells, cell closure, or environmental control facilities).

Document	When to submit
CQA plan	prior to initiating construction
soil liner test pad evaluation report	prior to beginning construction of the soil liner
construction certification report	after completing each phase of construction

Reference: OAR 340-93-140 and OAR 340-93-150 provide information on construction documents

In this section

This section describes the major construction project elements, including:

- construction project team
- construction guidelines
  - soil test pad
  - soil liner
  - excavation and subgrade preparation
  - geosynthetic liners
  - leachate and gas collection systems
- quality control program
- quality assurance plan
- construction certification reports

Differences in materials

The physical properties of natural earth materials are generally more variable than the properties of manufactured materials (e.g., geomembranes) which are produced under factory controlled conditions. Accordingly, these guidelines concentrate more on methods for earth-materials construction.

8.2 Construction Project Team

Project team organization

Organize the project team in terms of "Owner", "Designer", and "Constructor" or other equivalent divisions of responsibility. Regardless of the contractual arrangement used, the Owner, Designer, and Constructor functions are discrete, independent responsibilities.

Establishing the team

Establish and document the construction project team organization, including:

- a list of key project team members and their roles and responsibilities
- the minimum required experience for each project team member
- key project team members, their qualifications, and phone numbers and addresses
- an organizational flow chart identifying members of the project team, lines of authority, and lines of communication between the various team members

Team roles

The table below shows a typical construction project team.

Team Member	Role
Project Manager	Individual who represents the owner and is responsible for the overall coordination and management of the project activities
Owner	Party who initiates the project and is responsible for establishing and directing the project to completion
Owner's Team	Persons who advise and assist the owner in specialized areas and, if applicable, person(s) to whom the owner delegates authority to act on the owner's behalf
Construction Quality Assurance (CQA) Consultant	Party(s), who is part of the Owner's Team, and independent from the Project Manager, Constructor and Manufacturer. The CQA Consultant is responsible for observing, conducting and documenting activities related to the quality assurance of materials and construction on behalf of the Owner
Designer	Party whose primary role is to conceive, plan and provide quality design solutions in response to the owner's stated requirements
Design Team	Experienced staff and subcontractors who are responsible for various aspects of the design

Team Member	Role
Constructor	May be a contractor. Party responsible for planning, managing, and accomplishing the construction activities
Construction Team	Construction staff, material and equipment suppliers, specialty sub-contractors assembled by the Constructor

Note: For smaller projects, multiple functions can be accomplished by a single individual

Basis for organization

"Successful construction projects are conceived, planned, designed, and built by a project team consisting of an owner, design professional, and constructor. Quality is achieved when each team member's obligations are fulfilled competently and in a timely fashion, in cooperation with the other members." (ASCE Manual No. 73.)

8.3 Construction Guidelines - Soil Test Pad

Purpose of soil test pad

The purpose of a test pad(s) is to model the construction of the full-scale liner to verify that proposed construction materials and methods will produce the desired compaction and in-situ hydraulic conductivity. The assessment will enable the Project Team to establish final requirements for soil processing, placement and compaction.

Requiring a test pad

The design specifications should require the Constructor to complete a successful test pad evaluation before constructing the full-scale soil liner. An additional test pad should be prepared and evaluated for each significant change in construction materials, equipment, or methodology.

Construction procedures

Construct soil test pads according to the table below.

Step	Action
1	Use the same soil material, CQC program, and construction equipment and methods that will be used for the full-scale liner
2	Classify representative soil samples according to the Unified Soil Classification System (ASTM D2487)
3	Evaluate soil samples to define an acceptable range of water content and dry unit weight. Use careful judgment in interpreting laboratory hydraulic conductivity values, (i.e., there may be up to 1 order-of-magnitude difference between laboratory and field values) Reference: Daniel, D. E., and Benson, C. H. (1990), "Water Content - Density Criteria for Compacted Soil Liners," *Journal of Geotechnical Engineering*, Vol. 116, No. 12, pp. 1811 -1830.
4	Construct the test pad at least four times the width of the widest piece of equipment to be used
5	Construct the test pad long enough to allow the compaction equipment to attain normal operating speed before reaching the test area
6	Construct at least four compacted lifts

Achieving low hydraulic conductivity

The most important factors in achieving hydraulic conductivity criteria are:

- using suitable soil materials
- using appropriate construction equipment
- placing the soil at the correct water content
- properly preparing the surface between lifts
- achieving density specifications by using appropriate compaction equipment and procedures, and
- protecting completed lifts from damage

Duties of CQA consultant

Suggested duties of the Construction Quality Assurance (CQA) consultant include:

- Observe, approve and document the suitability of the prepared subgrade
- Observe, approve and document soil material selected for construction
- Observe and record during soil placement and compaction:
  - weather conditions
  - the construction equipment and methods used (e.g., equipment type and specifications, lift thickness before and after compaction, number of compactor passes, compactor speed), and
  - the CQC program
- Test the physical properties that will be used to evaluate construction of the full-scale soil barrier, including at least four water content (ASTM D2216) and four density (ASTM D1556) tests per compacted lift
- Collect at least four undisturbed samples from each compacted lift immediately adjacent to where physical properties are tested, and from those samples obtain at least four undisturbed test specimens from varying depths in the compacted lift. Test the specimens in the laboratory for hydraulic conductivity (ASTM D5084) to determine any correlation between laboratory hydraulic conductivity, tested physical properties, and in-situ hydraulic conductivity
- Repair or observe the repair of all holes left by density testing and soil sample collection
- Conduct field tests to determine in-situ hydraulic conductivity. The Department recommends at least one sealed double ring infiltrometer test (ASTM D5093 or equivalent method)
- Dig at least four (4) test pits in the test area, inspect for evidence of voids, large pores between remnant clods, signs of poor bonding between lifts, and other visible problems, and
- Prepare a report documenting the test pad(s) evaluation

Test pad evaluation report

The CQA consultant should prepare and submit to the Department a soil liner test pad evaluation report that includes:

- a summary of test data
- data analysis
- conclusions and recommendations regarding test pad performance and full-scale soil barrier construction.
- a detailed description of the construction materials, equipment and methods to be employed for full-scale liner construction

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Report review procedures

The Project Manager and Designer should evaluate the CQA Consultant's report and the test pad's conformance to the design specifications.

If the test pad's performance	then
conforms to design specifications	construct the full-scale soil liner using the same construction methods, equipment, and materials
fails design specifications	require the Constructor to construct and evaluate another test barrier using modified construction material, equipment, and methods

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Alternative to test pad assessment

The project schedule may not allow time to complete the test pad evaluation before the soil liner is constructed. If this situation arises, demonstrate to the Department that a full evaluation of the test pad is not needed to verify that the liner will meet the specifications.

Demonstration content

The demonstration should:

- show, with laboratory testing, that the proposed soil-liner material easily meets the specified hydraulic conductivity
- permit Department representatives to observe construction of the test pad and excavation of test pits
- show that the lifts are adequately bonded together and that soil clods are adequately remolded (few inter-clod voids or macro-pores should be visible)
- use the same materials, methods, and equipment to construct the soil liner, and
- recognize that completed liner segments may need re-construction or modifications if the soil test pad fails to meet the design specifications

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8.4 Construction Guidelines -- Soil Liner

Test pad results

The Project Manager and Designer should use the test pad modeling results to establish final requirements for liner construction and performance (specified compaction and hydraulic conductivity criteria).

Factors in establishing final construction requirements

In establishing final construction requirements, the Project Manager and Designer should carefully consider the following construction variables:

- properties of the low-permeability soils to be used for liner construction
- method of excavating and processing the soil prior to placement
- pre-compaction thickness and conditioning methods (e.g., disking, pulverizing, moisture adjustment)
- compaction equipment type, weight and length of feet (for footed rollers)
- compactor operations (number of compactor passes and maximum compactor speed)
- protection of compacted lifts that may be exposed to the elements
- scarification and moisture control between lifts
- mixing of bentonite and other soil additives

Key construction elements

Establish a construction program that has the following elements:

- systematic construction quality control (CQC) such that the resulting liner meets or exceeds the test pad's performance
- a CQA Consultant to monitor the construction and ensure that completed soil liners meet or exceed specifications, and
- provisions to protect completed soil liners from the effects of weather and other construction activities

Modifications to construction specifications

As the Constructor and CQA Consultant gain construction experience and "get a feel" for the soils, it may become desirable to modify certain construction criteria. Such adjustments should be made as described in the table below.

If the modification is	then	Examples
"functionally inferior"	obtain Department authorization prior to implementation	modifications including less compactive effort, reduced quality control, and increased lift thicknesses that potentially result in diminished hydraulic and strength properties
"functionally superior"	continue with construction	modifications, such as increased compactive effort, increased quality control, thinner lift thicknesses, that potentially reduce the hydraulic conductivity and enhance strength properties

8.5 Construction Guidelines -- Excavation and Subgrade Preparation

Excavation, stockpiling, and processing

Perform earthwork activities in accordance with the table below.

Step	Action
1	Segregate excavated soils according to their properties
2	Process excavated soils as necessary to meet required material specifications (e.g., pulverizing the soil to break down clods or screening the soil to remove large particles)
3	Place excavated/processed soils into compatible stockpiles of uniform material
4	Provide erosion control measures for excavation and stockpiling activities
5	Adjust the moisture content as necessary before using excavated or stockpiled soils (i.e., water needs to penetrate clods so they can be remolded)

Subgrade preparation

Construction procedures for liner or cover system subgrades should address the following factors:

- control of differential settlement
- removal of soft spots
- quality control testing (density, moisture content, soil classification, soil gradation)

8.6 Construction Guidelines -- Geosynthetic Materials

Typical geosynthetic materials

Landfill construction typically involves many applications for geosynthetic materials, including:

- geomembranes in liners and covers
- geotextiles as filters, cushions, and soil separators
- geogrids for slope and foundation support, and
- drain-nets for drainage

Installation specifications

Install geosynthetic materials in conformance with the specifications for:

- function and desired properties
- minimum testing and acceptance
- testing and acceptance procedures
- damage prevention, and
- installation procedures

Testing and acceptance procedures

Establish conformance testing and acceptance requirements that include the following procedures:

- The Constructor or Manufacturer should provide the Project Manager the Manufacturer's quality control certification (i.e., verification that the geosynthetic material meets project specifications)
- The Constructor or Manufacturer of a geomembrane should provide quality control certificates issued by the resin supplier, quality control certificates for each roll produced and certification that the supplied geomembrane and extrudate have the same material properties, and
- The Constructor or CQA Consultant should conduct sampling and conformance testing in accordance with ASTM D4759 "Standard Practice for Determining the Specification Conformance of Geosynthetics" to verify the manufacturer's certification

Damage prevention

Prevent damage to the geosynthetic material by using appropriate techniques for delivery packaging, labeling, transportation, handling and storage.

Installation procedure

Install the geosynthetic material as the specifications prescribe for:

- site preparation prior to placement of geosynthetic
- geosynthetics handling, placing, anchoring, seam overlaps, and post-installation inspection
- geomembrane seam welding (including preparation of geomembrane sheets and seaming equipment), weather and temperature constraints for seaming
- geomembrane wrinkles, folds, and bridging
- seam quality control testing and inspection
- repairing inadequate seams and damaged geomembranes, and
- covering or otherwise protecting geomembranes after installation to prevent damage

8.7 Construction Guidelines -- Leachate and Gas Systems

Leachate system construction

Construct the primary and secondary leachate collection and removal system(s) (LCRSs) according to specified requirements for:

- the performance objectives for each system component (i.e., for granular drainage material the hydraulic conductivity to be achieved)
- desired material properties (e.g., hydraulic conductivity, grain size distribution, non-carbonate rock for granular drainage material or inside diameter for LCRS piping)
- the required thickness for granular drainage and filter layers, and
- constructor requirements for LCRS work execution including:
  - slopes allowances to compensate for projected differential settlement
  - protection of liners during placement of overlying granular drainage materials
  - pre-operational cleaning and maintenance of the LCRS, and
  - demonstrating LCRS pipe continuity (e.g., pull a ball or other uniform object through the pipes)

Gas system construction

Construct the landfill gas control system according to the specified requirements for:

- construction staging and coordination with landfill operation and development
- connection of system components to and penetrations through geomembrane covers and other geosynthetics
- safety precautions for the Constructor's field crews and others who may be exposed (directly or indirectly) to landfill gas
- gas production and control system performance, and
- operational objectives

8.8 Quality Control Program

CQC defined

Construction quality control (CQC) refers to those actions taken by Manufacturers, Fabricators, or the Constructor to confirm that products and work quality meet the requirements of the contract. CQC includes inspections and testing of all furnished, constructed, and installed components. These activities are independent of construction quality assurance (CQA) activities.

CQC program

Establish detailed construction quality control (CQC) requirements for materials and workmanship, to show the Constructor how to furnish products and execute work. CQC should include systematic inspections and measures to control the quality of construction and to ensure conformance with the project specifications and contract requirements.

8.9 Quality Assurance Plan

CQA plan

Prepare a detailed construction quality assurance (CQA) plan that verifies and documents proper construction of facility components. The CQA plan should describe the proposed measures for monitoring the quality of materials and work performance. CQA plan elements pertaining to foundations, subgrades, embankments, soil barriers, geosynthetics, LCRSs, and landfill gas control systems should be developed and administered by a Professional Engineer with current Oregon registration and experience in the technical area.

CQA defined

CQA is an overview and inspection program consisting of systematic observations and tests to ensure that the final product meets design specifications. CQA plans, design plans and specifications, observations, and tests are used to provide quantitative criteria for evaluating final product acceptability.

Plan contents

The CQA plan should include site-specific information on the following topics:

- staff roles, responsibility, authority and communication
- qualifications of CQA consultant
- qualifications of construction team
- inspection activities
- geosynthetic construction
- earthwork construction
- documentation

Roles and responsibilities

The CQA plan should describe the role, responsibility, and authority of each party involved in executing the CQA plan. The plan should include an organizational flow diagram outlining the management structure, lines of communication, chain-of-command, and implementation procedures.

Qualifications of CQA consultant

The CQA plan should describe the technical expertise of the CQA consultant. The CQA consultant should represent the Owner's interests as an independent, qualified party and is responsible for observing, evaluating, and documenting quality of materials and construction.

Qualifications of construction team

The CQA plan should establish minimum qualifications for earthwork contractors, geosynthetic installers and geosynthetic material manufacturers.

Inspection activities

The CQA plan should outline the observations and tests that will be used to evaluate conformance with all design criteria, plans, and specifications for each project component.

Geosynthetic construction

The CQA plan should describe the responsibilities of the CQA consultant. Suggested duties include:

- monitoring geosynthetic material delivery, unloading and on-site storage and transport
- selecting geosynthetic material (destructive samples) for conformance testing
- determining the acceptability of geosynthetics according to ASTM D4759 "Standard Practice for Determining the Specification Conformance of Geosynthetics"
- monitoring the deployment of geosynthetics
- monitoring geosynthetic seaming operations
- monitoring and documenting CQC testing procedures (i.e., non-destructive seam testing, field tensiometer testing)
- monitoring and documenting geomembrane CQA testing (i.e., destructive seam sampling and testing, repair operations, sample labeling)
- documenting any on-site activities that could result in damage to the geosynthetics
- maintaining appropriate lines of communication with other project team members as specified in the CQA plan

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Earthwork construction

The CQA plan should describe procedures associated with earthwork, including:

- grading
- foundations
- embankments
- soil liners and covers
- granular drainage and filter layers
- excavations and backfill
- top soil (vegetative) layers
- road building, and
- soil processing (e.g., mixing with bentonite)

CQA of earthwork

CQA activities should include:

- earthwork monitoring
- earthwork sampling and testing
- evaluating prospective liner materials, and
- evaluating constructed soil liners

Earthwork monitoring

The CQA consultant should oversee all key phases of earthwork to monitor and document that materials and procedures meet the design specifications. The CQA consultant's oversight should include:

- borrow soils properties and performance
- test pad construction and performance
- borrow soils stockpiling methods
- raw material processing
- foundation and sub-grade preparation
- soil layer thickness and protection of underlying layers
- repair of any holes (e.g., from grade stakes) or other construction-related damage
- soil-liner construction (soil density, moisture content, permeability, equivalency to test pad construction)
- identification and repair of penetrations of the soil liner (e.g., penetrations resulting from CQC/CQA testing)
- protection of completed soil liner sections
- all other earthwork components (i.e., granular drainage or gas venting layers, operations layer, protective layers and topsoil layer)
- identification and modification of activities that could damage liners or drainage layers

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Earthwork sampling and testing

The CQA plan should describe sampling parameters and procedures for each discrete earthwork activity including testing frequency, rationale for selecting test locations, and acceptance and rejection criteria.

The QA Consultant should observe all aspects of earthwork, and personally perform the soil sampling and testing to develop a "feel" for the material. This hands-on involvement may improve the QA Consultant's observational skills and judgment, ultimately translating into better quality assurance.

Evaluating prospective liner materials

The CQA plan should specify parameters and testing frequencies for evaluating soils intended for liner construction. Test samples obtained from the borrow area, processing area, stockpile area or final placement area, provided:

- the samples meet low-permeability specifications, and
- the soil is suitable for or can be conditioned for compaction

Liner soil testing

The table below lists recommended parameters and testing frequencies for evaluating prospective soil liner material.

Parameter being tested	Test method reference	Testing frequency	Recommended performance
Percent fines (passing a No. 200 sieve)	ASTM D1140	1 per 1000 cy and 1 test each day soil is excavated or placed	$\geq$ 50%
Percent gravel (dry-weight retained on the No. 4 sieve)	ASTM D422	1 per 1000 cy and 1 test each day soil is excavated or placed	$\leq$ 10%
Atterberg limits	ASTM D4318	1 per 1000 cy and 1 test each day soil is excavated or placed	Plasticity Index $\geq$ 10%
Water content	ASTM D3017 ASTM D4643 ASTM D2216 (at least every 5th sample)	1 per 1000 cy and 1 test each day soil is excavated or placed	-----
Moisture/Density/ Permeability relationships	ASTM D698 ASTM D1557 ASTM D5084	1 per material type	

Note: Other equivalent tests may be used

Reference: Use relationships to define an acceptable range of Water Content and Dry Density Unit Weight, in accordance with procedures described by Daniel, and Benson, C. H. (1990), "Water Content - Density Criteria for Compacted Soil Liners," Journal of Geotechnical Engineering, Vol. 116, No. 12, pp. 1811 - 1830.

Evaluating the constructed soil liner

The CQA plan should specify parameters and testing frequencies for evaluating compacted soil liners. The plan should allow testing frequencies to be increased at the discretion of the CQA consultant.

Recommended parameters and frequencies

The table below lists recommended parameters and testing frequencies for evaluating constructed soil liners.

Parameter being tested	Test method reference	Testing frequency	Recommended performance

Water content	ASTM D3017 ASTM D4643 ASTM D2216(at least every 5th sample)	5/acre/compacted lift	
Density	ASTM D2922 ASTM D1556(at least every tenth sample)	5/acre/compacted lift	Nuclear density test should measure soil density near the bottom of each compacted lift; calibrate nuclear gauges to a known density each day of use
Thickness	Elevation monitoring	50 feet center to center or minimum 6 points per grade at top of first compacted lift and top of completed soil liner	

Note: Other equivalent tests may be used

Documentation

The CQA plan should specify detailed reporting requirements for the CQA activities, including:

- daily record keeping (observation and test data sheets)
- problem reporting and corrective measures data sheets
- project Manager and Designer acceptance reports (for errors, inconsistencies, and other problems)
- final documentation including as-built drawings, and
- the signature or initials of the person maintaining the records and generating the reports

8.10 Construction Certification Reports

Submittal

Construction Certification Reports must be submitted to the Department each time a landfill development phase is completed and/or before a newly constructed waste management unit (a landfill cell or leachate impoundment) is activated. The report should document and certify that all required components and structures have been constructed in compliance with the permit requirements and approved design specifications.

Reference: OAR 340-93-150

Report content

Construction certification reports should include the following elements:

- an executive summary describing how well the project went and major problems encountered
- a summary of all construction and CQA activities
- a summary of all CQA observations, daily inspection/photo/video logs, and test data sheets
- problem identification/corrective measures
- designer's acceptance reports for errors and inconsistencies
- deviations from design and material specifications, including justifying documentation, and copies of change orders and recorded field adjustments
- certificates of acceptance (e.g., acceptance of subgrade for geomembrane liner installation)
- as-built drawings and photographs, including record surveys of soil liner and granular drainage layer thicknesses
- a certification statement(s) and signatures legally representing the CQA Consultant, Designer and Owner, one of the which is that of a professional engineer registered in Oregon, and
- a copy of the notation on the deed to the facility property for all closed cells, as required by 40 CFR 258.60(i)

8.11 Additional Resources

Low-permeability soil liner	Daniel, D. E. (1987), "Earthen Liners For Land Disposal Facilities," Geotechnical Practice for Waste Disposal '87 Proceedings, ASCE, Geotechnical Special Publication No. 13., pp. 21-39; Daniel, D. E., and Benson, C. H. (1990), "Water Content - Density Criteria for Compacted Soil Liners," Journal of Geotechnical Engineering, Vol. 116, No. 12, pp. 1811 - 1830; U.S. EPA (1988), Design, Construction, and Evaluation of Clay Liners for Waste Management Facilities, EPA/530/SW-86/007F; U.S. EPA (1988), Lining of Waste Containment and Other Impoundment Facilities, EPA/600/2-88/052, Chapter 9; and U.S. EPA (1989), Seminar Publication: Requirements for Hazardous Waste Landfill Design, Construction, and Closure, EPA/625/4-89/022, Chapter 6.
Geosynthetics -- construction quality control	U.S. EPA (1988), Lining of Waste Containment and Other Impoundment Facilities, EPA/600/2-88/052, Chapter 9; and. U.S. EPA (1989), Seminar Publication: Requirements for Hazardous Waste Landfill Design, Construction, and Closure, EPA/625/4-89/022, Chapter 6. For guidance on seaming geomembranes: U.S. EPA (1991), Technical Guidance Document: Inspection Techniques for the Fabrication of Geomembrane Field Seams, EPA/530/SW-91/051.
Leachate Collection and Removal	U.S. EPA (1988), Lining of Waste Containment and Other Impoundment Facilities, EPA/600/2-88/052, Chapter 9.

Construction Quality Assurance

U.S. EPA (1988), Lining of Waste Containment and Other Impoundment Facilities, EPA/600/2-88/052, Chapter 10;

U.S. EPA (1985), Construction Quality Assurance for Hazardous Waste Land Disposal Facilities, Public Comment Draft, EPA/530-SW-85-021;

Daniel, D. E., "Summary Review of Construction Quality Control for Compacted Soil Liners," Waste Containment Systems: Construction, Regulation, and Performance, R. Bonaparte (ed.), ASCE, New York, pp. 175 - 189; and

Chemical Waste Management, Inc. (June 15, 1990), Quality Assurance Manual For The Installation Of Geosynthetic Lining Systems.

General reference

For further information on construction principles and procedures, and project organization see ASCE (1990), Quality in the Constructed Project, ASCE Manual No. 73.

Section 9: Landfill Operations

9.1 Introduction

Operations plan

Develop an operations plan that describes the facility's operation and maintenance and incorporates the facility's planned development and specific design elements.

Reference: OAR 340-94-040(11)(b)

Operations and maintenance manual

Once new landfill units or related facilities are constructed and activated, prepare a detailed operations and maintenance (O&M) manual. The O&M manual should incorporate pertinent information from the following sources:

- operations plan
- final design documents
- post-construction documents
- hands-on operating experience, and
- equipment manufacturers

How to respond

During the design phase of the project, prepare an operations plan that integrates the site development plan, the facility design elements, and the operational elements described in this subsection. Submit the plan to DEQ for review and approval.

Once the landfill unit and related facilities are constructed and activated, prepare the O&M manual. Incorporate the operations plan elements, construction documents, and equipment manufacturers and suppliers data. Prepare separate O&M manuals for complex systems, such as leachate treatment systems, landfill gas control systems. Make the O&M manual available to operating personnel and place a copy of the manual(s) in the facility operating record.

O&M manual content

The O&M manual should be a practical document intended for day-to-day use by on-site operations personnel that:

- reflects the scope and content of field operations
- provides clear and detailed direction to landfill operating personnel
- addresses all topics identified in the operations plan
- includes a detailed table of contents
- includes definitions of all technical terminology, and
- is assembled as a loose-leaf binder to facilitate periodic revisions

Updating operations documents

Update the operations plan and the O&M manual as necessary to reflect significant facility expansions or changes in site operations and equipment.

In this section

This section describes the operational elements that should be addressed in the operations plan, including:

- general operations
- disposal operations -- waste handling
- disposal operations -- management of working area
- special waste management
- ancillary operations
- inspection and maintenance
- operating record
- contingency
- incremental post-closure operations, and
- personnel

9.2 General Operations

Security

Establish security measures to prevent unauthorized entry, waste disposal, and unsafe scavenging practices.

Signs

For public-use landfills, post signs bearing the following information:

- facility name
- business address and telephone number of the facility owner/operator (person or municipality)
- an emergency telephone number
- hours of operation
- current permit number, and
- a list of general types of materials which will be accepted or not accepted

Access hours and controls

Establish operating hours and man-made or natural barriers to:

- discourage entry by unauthorized persons
- limit access to the site to times when an attendant is on duty
- prevent unauthorized vehicular traffic and illegal dumping of wastes, and
- protect human health and the environment.

Reference: OAR 340-94-040(9) and 340-94-040(11)(h)

Aesthetics

Screen the active landfill area from public view.

Access roads

Construct and maintain on-site access roads to minimize traffic hazards, dust and mud and to provide reasonable all-weather access. Specify the maximum sustained grade of an access road. Construct stream crossings using culverts or other structures that do not increase the potential for flooding or excessive soil erosion. Incorporate roadway design in the detailed engineering drawings and specifications (Section 7).

Open burning

Prevent uncontrolled and/or unauthorized open burning.

Endangered species	Establish operating procedures to prevent the harming, killing, capturing or collecting of any endangered or threatened species, or to the direct or indirect alteration of critical habitat for those species. Protect any such species.
Floodplain integrity	Determine if facilities are located in the 100-year floodplain. The facility must not restrict the flow of a 100-year flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste.
Sewage disposal	Manage on-site sewage in accordance with Department-approved plans.

9.3 Disposal Operations -- Waste Handling

Weighing	Install equipment for weighing incoming loads or establish procedures for estimating weight by volume of waste loads. Account for the amount of incoming waste.
Scavenging controls	Prevent uncontrolled and unauthorized removal of solid waste. Material recovery activities must not create adverse health or environmental impacts.
Waste acceptability procedures	Establish waste acceptance procedures that include the following elements: • A random inspection program at the facility for detecting and preventing the disposal of regulated hazardous wastes, polychlorinated biphenyl wastes or any other unacceptable wastes as specified in the permit or determined by the Department. • Waste screening to control prohibited waste and special wastes which require prior Department approval. • Procedures used wherever prohibited or special wastes could enter the facility, including the working face, transfer stations, direct haulers, and landfill scale houses. • Procedures for managing prohibited wastes detected in landfilled waste. • Measures to handle unusual peak waste loads which may exceed the facility's capacity. References: 40 CFR 258.20 describes the requirements for a random inspection program; OAR 340-93-040 defines prohibited wastes
Liquid wastes	Prevent the disposal of bulk or non-containerized liquid waste and meet the requirements of 40 CFR 258.28(b).
Out of state wastes	For imported wastes, establish procedures to follow prohibitions or restrictions.
Salvage	Recover salvage materials in a planned and controlled manner. Reference: OAR 340-94-040(11)(k)

Litter control

Control litter by establishing good waste compaction practices, a small working face, and physical controls (e.g., permanent and portable fences), and cleanup procedures to prevent on and off-site windblown litter accumulations.

Reference: OAR 340-94-040(11)(l)

Vector and bird control

Control or prevent on-site populations of flies, rodents, other disease vectors, and birds.

References: OAR 340-94-040(10); 40 CFR 258.10

Inclement weather operations

Develop procedures for inclement weather operation, including provisions for:

- all-weather roads, wet-weather, and alternate disposal areas
- operating in extreme dry weather conditions or when dust emissions are excessive
- operating during other severe climatic conditions such as severe winds or snow, and
- notifying customers when severe climatic conditions require closure of disposal facilities

Reference: OAR 340-94-040(11)(b)(D)

Leachate system

Establish operation and maintenance procedures for the leachate management system and if applicable, the alternative leachate disposal system, scheduling of key activities during landfill development. Prepare a separate, detailed O&M manual for complex leachate treatment systems. Address the topics in the table below, as applicable.

System component	Topics to be addressed
Leachate Collection	Leachate collection system operation and performance Leachate level measurement techniques, frequency, location, for normal and wet weather operations Measures to prevent clogging and physical damage of collection system components
Leachate Storage	Odor control Leachate level monitoring Prevention of leachate releases to the environment (such as overflows or leaks) Liner system maintenance

System component	Topics to be addressed
Leachate Treatment/ Disposal	Influent and effluent testing Treatment efficiencies Treatment process adjustments and monitoring

Landfill gas control

Manage landfill gas to prevent subsurface migration of methane.
Describe detailed operation and maintenance procedures for the landfill gas control system in the facility O&M manual. Prepare a separate O&M manual for complex gas control systems.

References: OAR 340-94-040(5) and 40 CFR 258.23

Surface water control

Establish measures to prevent stormwater run-on onto active portions of the landfill and to control runoff. Incorporate a copy of the storm water pollution control plan into the operations plan.

Reference: Clean Water Act Sections 208, 319, and 402 involving wetlands; NPDES requirements in 40 CFR 258.26 and 258.27

Groundwater control

Operate and maintain the groundwater control system and associated equipment. Groundwater control measures may include dewatering systems (e.g., under drains and wells) and barrier systems (e.g., slurry walls, geomembrane walls) accompanied by pumps, manholes, buried piping, catch basins, outlets, and other equipment requiring operation and maintenance.

9.4 Disposal Operations -- Management of Working Area

Compatibility

Landfill disposal operations should be compatible with engineered structures and environmental control and monitoring systems, and should be consistent with the Site Development Plan and other aspects of facility operations.

Waste unloading

Develop waste unloading procedures for incoming vehicles and inspection procedures to identify and isolate prohibited or unacceptable wastes. Establish the size of the refuse unloading area from the following:

- incoming waste quantities
- number, size, and type of delivery vehicles
- compacting equipment requirements, and
- litter control and other environmental considerations

First layer of fill

Establish precautions to protect the geomembrane liner when the first layer of waste is placed and compacted in lined disposal areas. The first operations layer should be "select waste". Consider the following factors in establishing appropriate safeguards:

- the thickness and physical characteristics of the initial waste layer
- the availability of desirable "select waste" materials
- the thickness and physical characteristics of the drainage and operations layers
- whether the landfill cell design incorporates special-purpose geosynthetic materials (e.g., geotextiles) for added protection of the liner, and
- the type of equipment used to place and compact the initial waste layer

Definition: “Select waste” includes household waste but not demolition or land-clearing debris or other materials that may damage the liner system

Leachate minimization

Minimize leachate generation with appropriate landfill development and operations techniques.

Active face

Specify the nominal size of the active working face, and establish compatible waste unloading and filling procedures. Consider the following in determining the size of the working face:

- The width of the working face should only be wide enough to accommodate waste unloading and compaction equipment operation
- The cell height and length should be selected based on the daily volume of refuse received, and
- Cell end slopes should be kept as steep as possible (20 to 30 degrees)

Compaction

Establish procedures for waste spreading and compaction including layer thickness, maximum lift height, daily cell configuration and slopes, compaction equipment and compactive effort (i.e., minimum number of compactor passes over each layer of waste), and the intended density of solid waste.

Recommendation: The Department recommends that waste be spread in thin (about 1-foot-thick) layers and compacted with 3 to 5 passes of the compactor on slopes of about 3 horizontal to 1 vertical. The most effective compaction occurs with the compactor operating on a level surface.

Benefits of compaction

Proper compaction of solid waste at landfills can provide several important benefits including:

- conserving landfill space
- minimizing and controlling litter
- reducing daily cover efforts and cost
- reducing total and differential settlement of the waste and associated closure and post-closure costs, and
- creating a more aesthetic operation

Daily cover

Place "daily cover" on all exposed solid waste at the end of each operating day, or more often if necessary to control problems such as fly propagation, blowing litter, vectors, and fires. Place at least six inches of earthen material on exposed solid waste at the end of each working day, unless alternative cover designs or procedures are approved by the Department.

Reference: 40 CFR 258.21 describes requirements for daily cover

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Alternative daily cover

Alternative cover materials must provide the same level of control as earthen material. Example alternative covers include the following materials:

- Geosynthetic tarps (e.g., geotextiles and geomembranes)
- Spray-on foams
- Slurry products
- Inert waste materials (e.g., shredded tires, foundry sands)

Specifications should be established for cover material type, minimum thickness and frequency of application. Cover material sources and stockpile requirements should be identified.

Reference: 40 CFR 258.21(b) or (c), and OAR 340-94-040(8) describe the requirements for obtaining approval of alternate daily cover

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Intermediate cover

Place "intermediate cover" on the top and side slopes of an advancing lift which will not receive additional waste for at least two months. Design the intermediate cover to control surface water infiltration, disease vectors, fires, odors, blowing litter and scavenging. Intermediate cover should consist of at least one foot of compacted low-permeability soil. A geomembrane cover may also be required in areas where average annual rainfall exceeds 25 inches.

Interim cover

Place “interim cover” on segments of the landfill that reach final elevations before final cover installation. During the rainy season, place interim cover immediately after a cell reaches final elevations. Design the interim cover to minimize surface water infiltration, and potentially to serve as part of the foundation for the final cover system. Develop specifications for the interim cover's configuration, material properties (e.g. permeability), thickness, installation schedule and techniques, and raw-material sources.

9.5 Special Waste Management

Special waste management plan

Develop a Special Waste Management Plan including procedures for special waste acceptance, characterization, handling, storage, recordkeeping and disposal.

Contents

The plan should include the following elements:

- an analysis of special waste management alternatives
- a rationale for the proposed disposal alternative
- the physical and chemical characteristics of each waste
- the proposed (EPA and DEQ-approved) procedures for waste sampling, testing, and analysis
- an evaluation of whether the waste is compatible with the landfill (or other impoundment) liner and leachate management systems
- procedures to document and record daily and annual waste quantities (weight or volume), and waste sources and generating processes

Potential hazards

The table below descries the potential hazards associated with some wastes that may require special handling for disposal.

Potential hazard	Example waste
personnel safety hazards	asbestos
odor and vector problems	large dead animals
excessive leachate generation	sewage sludge
excessive settlement in the landfill	yard debris
puncturing or tearing the landfill liner	construction and demolition debris
fire hazards	tire chips
increasing the toxicity of landfill leachate	cleanup materials contaminated with hazardous substances

Reference: OAR 340-94-040(11)(b)(J)

Examples: special wastes

Special wastes include but are not limited to, the following specific items:

- asbestos
- treated infectious waste
- large animal carcasses
- hazardous-substance contaminated cleanup materials
- septage
- sewage sludges and grit
- industrial waste sludges
- industrial solid wastes
- ash
- construction and demolition waste, and
- over 25 gallons of petroleum-bearing wastes such as used oil filters, oil-absorbent materials, tank bottoms or oil sludges

9.6 Ancillary Operations

Recycling

Provide a place and opportunity for collecting source separated recyclable material. Specify the procedures to be followed in accepting recyclable materials at the facility.

Reference: OAR 340-93-160

Truck washing

Design truck washing facilities to reuse or recycle the waste water, or to discharge it to a sanitary sewer or leachate treatment system. Describe the following:

- truck washing facilities and the circumstances for their use, and
- methods for managing wash water

Required permits: Discharges to the land or to waters of the state require a National Pollutant Discharge Elimination System (NPDES) or a Water Pollution Control Facilities (WPCF) permit. The type of permit will be determined on a site-specific basis by the Department's Water Quality staff.

Operations equipment

Acquire and maintain adequate operations equipment. Select equipment for its type, important physical and mechanical specifications (i.e., ground pressure, length of compactor wheel cleats),. identify any operating restrictions (e.g., preventing compacting equipment contact with the liner), quantity and purpose. Maintain standby equipment for use in the event of breakdown or maintenance of primary equipment.

Note: The equipment types should be consistent with facility design, construction, and operational criteria

Electrical distribution system

Maintain the electrical distribution system at the facility to ensure proper function of metering points, transformers, disconnects, breakers, connections, and other power-system appurtenances.

9.7 Inspection and Maintenance

Schedule

Develop detailed inspection and maintenance procedures and a schedule for all facility components and items which require periodic inspection. Describe the activities to be conducted on a regularly scheduled basis.

Inspection form

Develop a standard inspection form to guide implementation and reporting. Form use should help maintain procedural and informational consistency.

Preventive program

Establish a preventative inspection and maintenance program schedule for all equipment and facilities including those in the table below.

Equipment/facility	Examples
personnel safety equipment	fire extinguishers
operating equipment	scrapers, dozers, compactors, loaders
support facilities	scale house, scales, public receiving area, administrative buildings
environmental control systems	landfill gas collection system, leachate collection and treatment systems sedimentation basins, cover system, liner system
environmental monitoring systems	groundwater monitoring wells, landfill gas monitoring probes, leachate monitoring sumps
transportation system	access roads, directional signs

9.8 Operating Record

Regulatory reference

Establish and maintain an operating record. Develop procedures to describe how the operating record will be established and maintained.

Reference: 40 CFR 258.29

Location

Retain the operating record near the facility or in an alternative location approved by the Department. Specify the location in the operations plan.

Content

Include the following information in the Operating Record:

Content	Regulatory source
Any required location restriction demonstrations (airport safety, floodplains, seismic impact zones or unstable areas)	40 CFR Part 258 Subpart B
Inspection records, training procedures and notification procedures included in the facility's hazardous waste screening program	40 CFR Part 258.20
Gas monitoring results and any required gas remediation plans	40 CFR Part 258.23
Documentation that the landfill meets design criteria if leachate or gas condensate is placed in the facility	40 CFR Part 258.40(a)(2)
Any demonstration, certification, finding, monitoring, testing, or analytical data (groundwater monitoring including detection and assessment monitoring, selection of a remedy and implementation of a corrective action program)	40 CFR Part 258 Subpart E
Closure and post-closure care plans and any monitoring, testing or analytical data	40 CFR Part 258 Subpart F
Any cost estimates and financial assurance documentation	40 CFR Part 258 Subpart G; OAR 340-94-140
For a landfill claiming the small community exemption, any information required by that paragraph to demonstrate compliance with the small community exemption	40 CFR Part 258.1(f)(2)

9.9 Contingency

Contingency plan scenarios

Develop a contingency plan that includes procedures for responding to the following scenarios:

- on-site personal injuries
- leachate releases
- surface water or groundwater contamination
- landfill gas migration and associated fire and explosion hazards
- liquid spills
- fires (e.g., equipment fires, "hot load" fires, disposal site fires, building fires)
- explosions, accidents, and other emergencies
- detection of leachate in any secondary leachate collection and removal system
- leachate storage facility at or above capacity
- tank and surface impoundment spills or leakage, and
- storms and inclement weather

Notification list

Create an emergency notification list in the contingency plan (e.g., contact person, address, telephone number) and procedures for:

- emergency assessment
- communication
- identification of emergency response organization
- identification of community, civil authorities and regulatory personnel, and
- reporting.

Layout map

Prepare a site layout map showing:

- facilities
- fire hydrant locations
- individual building floor plans showing locations of fire extinguishers, first aid kits and stations, exits and communication equipment, and
- other relevant site features

Fire prevention and control

Establish comprehensive procedures for fire prevention and control of equipment and solid waste fires.

Equipment fire prevention

Equipment fires generally are started by an electrical failure or fluid leak and oil and grease that spreads on the machine and on nearby refuse. Preventative maintenance on the machines will reduce the potential for leakage of flammable fluids. Routine cleaning of equipment will further contribute to fire prevention. Furnish a fire extinguisher with each piece of equipment. Consider automatic fire control systems for dozers and compactors.

Solid waste fire prevention

Landfills fires can be started by "hot loads," spontaneous combustion, unknown combustible materials subjected to sparks, and by equipment fires. On-site personnel must always be on the lookout for "hot loads" and flammable materials. Subsurface fires resulting from spontaneous combustion can be difficult to locate and extinguish. Extinguish near-surface fires by covering the area with dirt. If the fire is deep, excavating the burning material may be necessary. Follow appropriate personnel safety precautions in all of these situations. Inaccessible fires require a different strategy. Extinguish these fires by cooling the burning mass in-place, or reduce available oxygen by closing cracks and fissures, or by adjusting the gas control system operations.

9.10 Incremental Post-Closure Operations

Continuous closure

Landfill development is a continuous construction and operations activity. As areas are prepared to receive future waste, active areas are being filled and completed areas are closed. At large landfills this cycle may be repeated many times prior to final facility closure.

Relation to other plans

The site development plan provides for phased construction, operations, and closure. Final facility closure and post-closure are addressed in the closure, post-closure, and financial assurance plans.

Beginning of post-closure

The 30-year post-closure care period starts after final facility closure, not after each incremental closure. Incremental closure may involve one or more landfill modules. Final facility closure and the "worst-case closure" scenario (Subtitle D closure) involve the cessation of landfill operations.

Reference: OAR 340-94-130; Section 11 of this guidance

Inspection and maintenance

Establish routine inspection and maintenance procedures for completed landfill modules and activities to protect the integrity of the final cover system and other closure-related facilities.

Inspection and repair components

Establish procedures and a schedule for inspection, repair, and closed modules. The following critical components should be addressed:

- final cover
- surface water drainage system
- erosion and sedimentation control system
- landfill gas monitoring and control system
- leachate collection and removal system
- access control (e.g., security fence, gates, locks), and
- access roads (for inspection and maintenance)

9.11 Personnel

Operations staff

Establish an adequate operations staff and systematic qualifications, responsibilities and duties, and lines of authority.

Training topics

Train operations personnel in landfill development, construction and operation, as applicable. Training should emphasize the following:

- how to inspect waste loads and identify hazardous waste or PCB waste containers and labels
- hazardous waste handling procedures
- safety precautions, employee protective clothing and equipment, health
- first aid, 40 hour OSHA, and emergency procedures
- landfill operational practices
- record keeping, and
- permit requirements and regulatory compliance

Documentation

Place training documentation in the operating record.

Reference: 40 CFR Part 258.29

9.12 Additional Resources

References

U.S. EPA "Solid Waste Disposal Facility Criteria - Technical Manual", October 9, 1993

Section 10: Environmental Monitoring

10.1 Introduction

Purpose

Environmental monitoring is required to evaluate the performance of engineered environmental control systems (e.g., liners, leachate and gas control systems) and to assess potential environmental impacts and public health and safety risks from any contaminant releases.

How to respond

Prepare and submit an Environmental Monitoring Plan (EMP) report to the Department for review and approval. Upon approval, all environmental monitoring must be conducted in accordance with the EMP, including any conditions of the approval.

The plan should be stamped by an Oregon Registered Geologist with experience in environmental monitoring.

Regulatory framework

The following regulations govern environmental monitoring:

- 40 CFR Part 258, Solid Waste Disposal Facility Criteria
- OAR 340 Division 94, Solid Waste Management
- OAR 340 Division 40, Groundwater Quality Protection.

Monitoring overview

The progression of activities and submittals related to the environmental monitoring include the following:

Stage	Activity	Guidance section
1	Site characterization	2 and 3
2	Engineering design	7
3	Interim monitoring	10.1
4	Environmental monitoring plan monitoring	10
5	Establishing permit specific concentration limits	10.15
6	Long-term monitoring	10.15

Complete the site characterization and engineering design stages prior to development of the EMP. Use the information on facility hydrology, geology, and hydrogeology in preparing the plan.

Interim monitoring

Interim monitoring may be required by the permit. Interim monitoring is conducted after site characterization until an approved EMP is implemented. Any interim monitoring requirements will be specified in the permit.

Plan updates

The monitoring program extends through the post-closure period of the landfill. Updates to the monitoring plan may be required for:

- facility development
- landfill expansion
- the addition of a new cell
- changes in the groundwater flow
- major changes in operations
- additional sampled media, or
- anytime the Department requires changes or additions to the program, such as installation of new wells or changes in sampling parameters

In this section

This section describes the elements that should be addressed in the Environmental Monitoring Plan, including:

- Environmental Monitoring Network Design
  - Groundwater
  - Surface Water
  - Leachate
  - Vadose Zone
  - Landfill Gas
  - Air Quality
- Groundwater Monitoring Network Construction
- Sampling and Analysis
- Data Analysis and Evaluation
  - Setting Permit Specific Concentration Limits
- Reporting
- Action Requirements, Assessment and Corrective Action

10.2 Environmental Monitoring Network Design

Monitoring network

The environmental monitoring network consists of several components designed to detect and characterize facility impacts through groundwater, surface water, vadose zone, leachate, and gas monitoring. The network's individual monitoring components should be compatible with each other and with site characteristics, the landfill design, and other facility operations.

Design considerations

Site characterization, engineering design, and the environmental monitoring network are interdependent elements of landfill development. Conceptual models of site hydrology, geology, and groundwater should be developed to define the physical and environmental criteria needed for designing the monitoring system.

EMP contents

The network system design section of the EMP should:

- describe how the monitoring network will characterize facility impacts through the monitoring of:
  - groundwater
  - surface water
  - leachate
  - vadose zone
  - landfill gas
  - private wells, and
  - any other appropriate environmental monitoring
- Identify new and existing wells and piezometers intended for the monitoring network. Justify the number of wells and well location, depths, and horizontal and vertical spacing
- Identify all sampling locations on a location map that shows:
  - the unique identification number of all sample locations
  - surrounding features, including manmade, natural features, and contours
  - the location and boundary of the facility
  - all landowners within one-half mile radius of the solid waste boundary
  - a North arrow
  - any USGS benchmarks

Map size: The location map should be at a scale of not more than 1" = 200' and contour intervals not to exceed 5'.

Professional surveying

The map should be prepared and stamped by a registered land surveyor or civil engineer. Surveyed well locations should:

- provide a horizontal accuracy of 0.2 feet (0.06 meters)
- provide the elevation of the land surface with a vertical accuracy of 0.1 feet (0.03 meters)
- provide the marked level at the top of the well casing with a vertical accuracy of 0.01 feet (0.003 meters)
- use National Geodetic Vertical Datum of 1929 as the vertical elevation control, and the Oregon State Plane Coordinate System (ORS 93.330) as the horizontal control, and
- describe the location in latitude and longitude coordinates accurate to 0.1 seconds of latitude and longitude

10.3 Monitoring Network Design -- Groundwater

Objective of groundwater monitoring

Monitor groundwater to provide reliable and representative information on:

- aquifer characteristics
- groundwater flow directions, and
- chemical and physical characteristics of groundwater being monitored

Network design

Describe the groundwater monitoring network, including:

- the number, location, spacing, depth, and screen interval of monitoring wells for each potentially impacted aquifer
- methods to provide background data and/or to intercept potential contaminant flow paths
- site-specific geology/hydrogeology as defined by site characterization
- the lateral and vertical extent of any existing contaminant plumes and their expected transport
- landfill configuration and size
- purpose of each well (detection, background, characterization)
- aquifer(s) monitored
- relationship to facility operations and other monitoring components (i.e., potential for landfill gas migration)

Well network

The network should adequately characterize each monitored aquifer or water bearing zone. The groundwater monitoring network should include a sufficient number of the following types of wells:

- background wells
- detection wells
- compliance wells, and
- piezometers (as appropriate)

Types of wells The table below discusses the types of groundwater monitoring wells that may be part of the monitoring program.

Well type	Description
Characterization wells	Designed to collect information to characterize the geology, hydrogeology and groundwater chemistry used for designing the facility and a long term monitoring program. Usually installed during the site characterization phases of the project. If located in desirable locations, may later be proposed for the long term monitoring program.
Background wells	Designed to characterize background water quality at the facility. Typically located upgradient from the waste disposal facility, but other configurations (i.e., cross gradient) may be approved by the Department if geologic, hydrogeologic or other conditions do not allow for a satisfactory upgradient location. Should be screened in the same water bearing zone(s) as the downgradient detection and compliance wells.
Detection wells	Designed to intercept pathways of contaminant migration from the facility. Usually installed at the downgradient edge of the solid waste disposal boundary to immediate detect any releases of contamination. Always located inside the compliance boundary. May coincide with the point of compliance.
Compliance wells	Designed to monitor the quality of groundwater downgradient from the landfill passing through the facility's compliance boundary. The compliance boundary is the point where groundwater must be at or below the permit specific concentration limits established for that facility. The default compliance boundary is the waste management boundary unless otherwise approved by the Department.
Piezometers	Used to measure groundwater elevations for determining hydraulic gradients and/or flow directions across the facility. Should be screened in the appropriate intervals to determine the vertical and horizontal groundwater gradients in the monitored aquifers.

Note: At new facilities, characterization of background water quality may be required before waste is accepted at the facility or new unit of landfill cell. Groundwater collected at both background and downgradient prior to accepting waste may be used to establish pre-operation background groundwater quality.

10.4 Monitoring Network Design -- Surface Water

Objective of surface water monitoring

Monitor surface water potentially impacted by leachate releases, contaminated groundwater seepage, or surface water run-off.

Related requirements

Surface water monitoring may be required by the Department's Water Quality program through National Pollutant Discharge Elimination System (NPDES) or Water Pollution Control Facility (WPCF) permits and/or through the solid waste permit.

Network design

Describe the surface water monitoring network, including:

- proposed upstream, downstream, and potential point of discharge locations for surface water monitoring
- provisions for minimum monitoring and reporting requirements of any facility NPDES or WPCF permit
- justification for the number and location of sampling points
- provisions to provide a permanent marker at each sampling station (i.e., survey marker) to establish re-usable sampling locations
- a description of any flow measuring devices, recording equipment, or staff gauges that may be installed at the sampling site

Sample location considerations

The proposed sampling locations should consider:

- potential or existing contaminant migration pathways
- overland flow paths defined by topographic maps and visual observation
- site drainage patterns and surface water management controls
- potential groundwater discharge points to surface water, and
- streamflow, contaminant dilution, and chemical behavior

Potential discharge sources

Landfills may produce the following surface water discharges:

- leachate seeps or other drainage
- contaminated groundwater, including springs, seeps, or underflow to surface water
- overflow of lagoons
- malfunction of leachate conveyance system

10.5 Monitoring Network Design -- Leachate

Objective of leachate monitoring

Monitor the landfill leachate's existing characteristics and changes in quality during landfill development. Monitor the primary leachate collection system's effectiveness (e.g., head level). Monitor the secondary leachate collection system for primary liner failure and the presence of liquid.

Network design

The EMP should describe the leachate monitoring network, including:

- a proposal and justification for the number, location, depths, spacing, and type(s) of leachate monitoring points to monitoring leachate quality, quantity, and the presence of liquid in the secondary leachate collection system
- proposed construction details, materials, and methods of installation for any new monitoring devices
- documentation/description of the construction and design of existing monitoring points
- scaled construction diagram of each device or typical device, and
- sampling or testing methods proposed during construction

Sampling locations

Leachate sampling locations could include:

- sumps, manholes, or other access points to the leachate collection system, if the site is equipped with such a system
- sampling points within the waste at locations that will yield representative samples, and account for the heterogeneities of the waste material and leachate
- sampling from landfill gas wells that penetrate leachate saturated waste zones, or
- vertical or horizontal wells specifically installed within the waste for sampling leachate

Design precautions

Consider the following precautions in the design of the leachate monitoring network:

- Leachate lagoons and holding ponds are not good monitoring points for characterizing raw leachate quality. The leachate can be diluted by rainfall and/or undergo chemical/quality changes during removal, exposure to the atmosphere, storage, and intentional treatment processes.
- Groundwater and surface water may infiltrate into the leachate collection system and dilute the leachate. These influences usually occur seasonally.
- Variations in the waste and leachate. Leachate quality can vary temporally and spatially due to differences in the composition, age, and disposal method.

10.6 Monitoring Network Design -- Vadose Zone

Objective of vadose zone monitoring

Detect leachate releases by monitoring the moisture content and quality of the pore water beneath the facility.

Network design

Describe the vadose zone monitoring network, including:

- the type of device, function, and site monitoring application
- the proposed number, location, depths, spacing, and type(s) of vadose zone monitoring devices
- proposed construction details, materials, and methods of installation
- scaled construction diagram of each device or typical device, and
- sampling or testing methods proposed during construction

Basis for design

Design the vadose zone monitoring network to reflect the following:

- landfill cell and leachate collection and conveyance system design
- site-specific unsaturated zone characteristics (soils, lithology, hydrology) as determined during the site characterization phases
- soil types, layers (stratigraphy), and characteristics including permeability, saturated and unsaturated hydraulic conductivity, particle size and distribution, and other chemical and physical characteristics, and
- water flow in the vadose zone beneath the landfill liner

Location considerations

Install monitoring devices beneath those areas where the liner is most likely to leak, such as sumps, collection laterals, or major liner seams. Other sensitive areas include low spots where water accumulates and locations where low permeable materials were removed during construction.

Monitoring methods

Example vadose zone monitoring methods are discussed in the table below.

Method	Description
collection lysimeters	• Lined basin installed beneath the landfill liner similar to a localized leachate collection system • Direct method of collecting soil water for chemical analysis • Collection of quantity and quality data from a discrete area

suction lysimeters	• Perform poorly in arid regions • Limited to extract samples from soils at tensions no greater than 1 or 2 atmospheres
other examples	• vapor probes - monitor/extract the soil gas for chemical analysis • ion probes - measure the ion concentrations • conductivity probes - measure the conductivity • tensiometers - measure the moisture content in the unsaturated zone • TDRs These methods monitor the soil water quality indirectly, by measuring other mediums (soil gas) or parameters, such as moisture content or conductivity, that can be used to predict water chemistry.

Note: These may not be the only available methods. Other methods may be proposed to meet the site's monitoring needs.

10.7 Monitoring Network Design -- Landfill Gas

Objective of landfill gas monitoring

Monitor for landfill gas migration at the facility boundary and within on-site structures. Design the landfill gas monitoring network to meet the following objectives:

- evaluate the performance of landfill gas control measures
- provide accurate, representative field measurements of methane and oxygen concentrations and static pressure
- monitor the efficiency of landfill gas recovery and control systems, and
- monitor the effectiveness of gas migration control wells

Network design

Describe the landfill gas monitoring network, including:

- proposed perimeter landfill gas monitoring probes to at least the same depth as the landfill's base elevation
- at least one proposed shallow probe between the landfill and each on-site structure with a maximum depth of 20 feet (6.1 meters)
- site-plan drawings showing proposed landfill gas monitoring probe locations
- design drawings showing proposed landfill gas monitoring probe depths, screened intervals and construction details
- the rationale for proposed monitoring probe locations, depths, and designs
- procedures for integrating gas monitoring system installation and operation with landfill development, and
- proposed operation and maintenance procedures

Probe construction

Probes should have maximum screened intervals of 30 feet (9.15 meters). For monitoring intervals greater than 30 feet, multiple-completion probes or probe clusters are required. Separate monitoring capabilities should be provided for each successive 30-foot interval.

Design considerations

The number and location of landfill gas probes is dependent on:

- subsurface conditions at the site
- hazards to surrounding land use
- public safety risks
- location and design of facility structures
- other underground structures or conduits
- landfill gas generation rates and migration potential, and
- the size and configuration of the landfill

Landfill gas composition

Landfill gas is composed of:

- approximately 50-60 percent methane
- approximately 40-50 percent carbon dioxide, and
- trace amount of VOC and other organic and inorganic gases

Hazards of landfill gas

Methane is combustible and explosive at concentrations of 5 - 15 percent by volume in air. Some of the trace gases, including VOCs, are toxic. Other hazards associated with landfill gas include the:

- accumulation of explosive concentrations of methane in on-site or off-site structures
- exposure of workers on or near landfills to high concentrations of toxic gasses
- exposure of workers to atmospheres lacking sufficient oxygen due to its displacement by landfill gas
- potential source of air emissions and water pollution, and
- potential impacts to groundwater from gas-born VOCs that can dissolve into solution under wet soil conditions

10.8 Monitoring Network Design -- Air Quality

Objective of air quality monitoring	Monitor point sources and diffuse area-wide sources for potential air contaminants. Point sources may include gas combustion flares. Diffuse area-wide sources may include raw landfill gas or fugitive dust from construction.
Contaminants	Potential air contaminants may include methane, odorous compounds, particulates, and volatile organic compounds.
NSPS	New source performance standards (NSPS) for municipal solid waste landfills have been issued to control emissions of non-methane organic compounds from large landfills. Landfills with a design capacity of 2.5 Mg (2.75 million tons) and emissions of non-methane organic compounds in excess of 50 Mg (55 tons per year) are subject to NSPS and may be required to implement control technologies.
Requirements	Contact the Department's Air Quality Program for monitoring and permit requirements.

10.9 Groundwater Monitoring Network Construction

EMP contents

Describe how wells will be constructed and evaluated to continually meet construction requirements and ensure accurate, representative samples are obtained, including:

- evaluation of monitoring network
- evaluation of monitoring points
- procedures for installation of new monitoring points
- plans for routinely evaluating monitoring points

Construction standards

New and existing monitoring wells proposed for the monitoring program should:

- be constructed to meet the construction criteria defined in
  - OAR 690 Division 240, and
  - the Department's August 24, 1992, Groundwater Monitoring Well Drilling, Construction and Decommissioning Guidelines
- be compatible with site-specific hydrogeologic conditions including physical, chemical, and hydraulic properties of the monitored zones
- use construction techniques that are protective of groundwater resources by preventing:
  - the introduction of surface contaminants, and
  - the vertical migration of contaminants between water bearing zones
- be designed for maximum well efficiency and minimum turbidity when sampling
- designed to last throughout the landfill's active life and post-closure period

Note: Multiple well screens or depth completions in a single borehole are not acceptable, unless approved by the department. Wells may only be screened in a single aquifer and zone.

Evaluation of monitoring network

Describe and evaluate the current status and integrity of the monitoring network as a whole.

Evaluation of monitoring points

Describe the current status and integrity of each monitoring point within the network. Evaluate monitoring wells to determine whether each is capable of obtaining representative samples. An Oregon Registered Geologist must certify this evaluation. Wells not capable of obtaining representative samples must be recommended to be decommissioned, and, if required by the Department, replaced. Provide records of the installation of existing monitoring wells including construction details and lithologic logs.

Procedures for installing new monitoring points

Install new monitoring points in accordance with the construction standards. Describe installation procedures, including:

- drilling methods, type of drilling equipment, drilling fluids, and methods to isolate surface soils and/or shallow water zones during borehole drilling and construction
- handling and decontamination of well material and equipment
- methods for subsurface sampling, including sampling intervals and provisions for collecting samples and describing color, texture, composition, moisture content, evidence of contamination and other relevant characteristics
- storage, testing, and disposal of drilling fluids and drill cuttings
- size (diameter) and depth of the borehole
- construction methods and materials, including the size and type of casing and screen, screened interval, and type and placement of filter pack and annular seal
- well development methods and procedures
- borehole geophysical methods to log the monitoring well, and
- field testing methods for aquifer characteristics

Note: Prepare a scaled construction diagram of each monitoring well

Plans for evaluating monitoring points

Describe procedures for routinely evaluating each monitoring point within the network to ensure that each point is capable of providing representative samples throughout the active and post-closure periods of the landfill.

10.10 Sampling and Analysis

EMP contents

Propose a sampling and analysis plan for collecting valid and representative groundwater, surface water, vadose zone, leachate, and landfill gas samples that will produce reliable and credible analytical results. The EMP should include:

- training provisions
- identification of devices
- sample point inspection procedures
- sampling procedures, and
- monitoring parameters and schedule

Training provisions

Describe how sampling personnel will be trained to use the sampling and analysis procedures.

Identification of devices

Provide the location, depth, and construction details of all environmental monitoring devices. Provide all monitoring point locations on a scaled, accurate map by monitoring type and identification numbers.

Sample point inspection

Describe procedures for inspecting and reporting on each monitoring point and the immediate surrounding area during sampling. Inspect each environmental monitoring point for:

- structure
- security features such as locks, cap, protective casing
- unusual conditions
- identification, and
- anything that could influence the collection of representative data or signify changing conditions.

Sampling procedures

Describe site-specific field sampling procedures for each monitoring type:

- field recordkeeping procedures
- field meter operation and calibration
- sampling order
- water level measurements
- sample equipment and collection methods
- purging equipment and method (include well volume calculation, field parameter monitoring, pump intake placement, disposal of purge water);
- sample containers and labeling
- sample filtration and preservation
- sample preservation and holding times
- sample transport/shipment
- equipment decontamination
- chain of custody
- proposed field and reporting forms

Monitoring parameters and schedule

Prepare a summary of sample parameters, frequency, and schedule, including the following:

- monitoring parameters
- approved analytical methods
- detection limits (for parameters that have a federal or state standards, the detection limit should be no more than 10% of the standard, or the rationale for setting such a detection limit should be explained)
- container type and volume
- preservative
- holding time
- sampling frequency and schedule

Typical monitoring parameters and sampling schedule for each type of environmental monitoring is discussed below.

Parameters and frequency

The following table discusses typical parameters and frequency that could be required for each type of monitoring. This is intended for general guidance purposes only. Parameters and frequency will be determined on a site-specific basis.

Media	Discussion and considerations
Groundwater	• Appropriate monitoring parameters will be based on site-specific hydrogeologic characteristics, leachate and landfill gas characteristics, regulatory requirements, anticipated contaminant mobility and persistence and contaminant concentrations relative to ambient groundwater conditions. • Quarterly monitoring of groundwater will usually be required until nine valid data points have been collected for background determination, statistical analysis, and establishment of permit-specific concentration limits.
Surface water	• Minimum monitoring and reporting requirements are specified in the Stormwater Discharge (NPDES) permit issued by the Department's Water Quality Program. • Sampling parameters should be good indicators of potential leachate discharge • Monitoring of groundwater discharges to surface water (i.e., seeps, drainages, springs) will usually require routine quarterly sampling. The monitoring parameters and schedule will be based on site-specific hydrogeology, surface hydrology and other environmental factors.
Vadose	Vadose zone monitoring parameters and sampling frequencies will vary depending on the type of monitoring devices used, site specific environmental and hydrogeologic conditions
Leachate	Leachate monitoring and frequency will be similar to the groundwater monitoring program, described above. Leachate quantity (flow rates) should be measured on a daily basis when leachate generation is occurring.
Secondary LCS	The secondary leachate collection system should be monitored on a routine basis for the presence of any liquids. If liquids are present, samples should be taken immediately and analyzed for leachate constituents.
Landfill gas	The monitoring schedule should be based on the following site specific factors: • soil conditions • hydrogeologic conditions • facility design and development history • location of facility structures and property boundaries • surrounding land use and location of off-site structures • changing site conditions which may affect gas generation and migration (e.g., barometric pressure, temperature, soil moisture, snow cover etc.) Minimum sampling frequency is quarterly. If possible monitoring should be conducted during periods when strong barometric lows are anticipated.
Air	Contact the Department's Air Quality Division

Groups defined Monitoring group parameters are defined in the table below.

<table>
<tr><th>Group</th><th>Parameters</th><th>Notes</th></tr>
<tr><td>1a - Field indicators</td><td>Elevation of water level
Specific Conductance
pH
Dissolved Oxygen
Temperature
Eh</td><td>These parameters must be measured in the field at the time samples are collected, either down-hole in situ, in a flow-through well, or immediately following sample recovery, with instruments calibrated to relevant standards</td></tr>
<tr><td>1b - Leachate indicators</td><td>Hardness (as $CaCO_3$)
Total Dissolved Solids
Total Alkalinity (as $CaCO_3$)
Total Suspended Solids
Specific Conductance (lab)
Chemical Oxygen Demand
pH (lab)
Total Organic Carbon</td><td>Sample handling, preservation, and analysis are determined by requirements for each individual analyte: EPA or AWWA Standard Methods techniques must be followed.</td></tr>
<tr><td>2a - Common anions and cations</td><td>Calcium (Ca)
Manganese (Mn)
Sulfate (SO_4)
Magnesium (Mg)
Ammonia (NH_4)
Chloride (Cl)
Sodium (Na)
Carbonate (CO_3)
Nitrate (NO_3)
Potassium (K)
Bicarbonate (HCO_3)
Silica (SiO_2)
Iron (Fe)</td><td>Groundwater samples: Dissolved concentrations must be measured. Samples must be field-filtered and field-preserved according to standard DEQ and/or EPA guidelines and analyzed by appropriate EPA or AWWA Standard Methods techniques. Results must be reported in mg/L and meq/L.</td></tr>
<tr><td>2b - Trace metals</td><td>Antimony (Sb)
Chromium (Cr)
Selenium (Se)
Arsenic (As)
Cobalt (Co)
Silver (Ag)
Barium (Ba)
Copper (Cu)
Thallium (Tl)
Beryllium (Be)</td><td>Groundwater samples:
<table>
<tr><th>If the Total Suspended Solids concentration is...</th><th>then analyze for...</th></tr>
<tr><td>less than or equal to 100 mg/L in the sample</td><td>total concentrations (unfiltered)</td></tr>
<tr><td>greater than 100 mg/L in the sample</td><td>both total (unfiltered) and dissolved (field-filtered)</td></tr>
</table></td></tr>
</table>

Group	Parameters	Notes
	Lead (Pb)	
	Vanadium (V) Cadmium (Cd) Nickel (Ni) Zinc (Zn)	Samples must be field-preserved according to standard DEQ and/or EPA guidelines and analyzed by EPA Method 6010 or Department-approved equivalent. Results must be reported in mg/L.
3 - Volatile organic compounds	Analysis for all compounds detectable by EPA Method 8260 or EPA Method 524.2, including a library search to identify any unknown compounds present.	Method 8260 comprises the volatile organic constituents parameter group. Facilities that want to use Methods 8010 and 8020 as an alternative must obtain approval by the Department prior to use.
4 - Assessment monitoring parameters	Analysis for all compounds detectable by the following EPA methods: Semi-volatile Organic Constituents, according to EPA Method 8270 Mercury, according to EPA Method 7470 Cyanide, according to EPA Method 9010 Nitrite	All Method 8270 analyses must include a library search to identify any unknown compounds present
5 - additional surface water and leachate parameters	Total Kjeldahl Nitrogen Total Coliform Bacteria Total Phosphorus Fecal Coliform Bacteria Orthophosphate E. Coli Biological Oxygen Demand Total Halogenated Organics	In addition to Group 5, surface water samples should also be collected for Groups 1a, 1b, 2a (total concentrations) and 2b (total concentrations). In addition to Group 5, leachate samples should also be collected for Groups 1a, 1b, 2a (total concentrations), 2b (total concentrations) 3 and semi-volatile organics (EPA 8270).

10.11 Field QA/QC

EMP contents

Describe Field QA/QC procedures, including provisions for:

- documentation
- sample blanks and duplicates
- field blanks
- trip blanks
- equipment blanks
- duplicates

Documentation

Describe procedures to document sample collection, storage, including:

- maintenance of adequate field records and chain of custody
- recording sample collection data on field data sheets
- documenting sampling activities (collection, equipment calibration, decontamination) on field data sheets
- documenting any unusual conditions that may effect samples or any deviations from the normal sampling protocol
- proper labeling, storage and shipment

Sample blanks and duplicates

Describe how sample blanks and duplicates will be used to detect contamination coming from sample containers, preservation, equipment, storage, transport, and site conditions.

Field blanks

Describe procedures for managing field blanks. Field blanks should be collected and handled in the same manner as the sample group for which it is collected. Field blanks should be collected once per sampling day or once for every ten samples, whichever is more frequent.

Trip blanks

Describe procedures to ensure tat trip blanks are completed if volatile organic compounds (VOCs) are to be analyzed. Trip blanks are prepared by the laboratory at the same time and location for the sampling event. Trip blanks accompany the sample containers to and from the sample event. One trip blank for VOCs should be prepared for each sample shipment container.

Equipment blanks

Describe how equipment blanks will be used for non-dedicated sampling equipment requiring decontamination. De-ionized water is passed through the sampling equipment to the appropriate sample container. Equipment blanks are required for every sample parameter, once per sampling day or once for every ten samples, whichever is more frequent.

Duplicates

Describe procedures to collect duplicates under the same conditions as the original sample and treated the same as the sample parameter group. A duplicate for all analytes should be collected once per sample day or once every ten samples, whichever is more frequent.

10.12 Lab QA/QC

EMP contents

Describe laboratory QA/QC procedures, including:

- a written laboratory QA/QC plan from the laboratory conducting the analysis; each time the laboratory is changed, or a new lab is contracted, a new QA/QC plan is required
- routine equipment calibration to standards of known concentration on a schedule appropriate for the analytes of concern and analytical methods used
- analysis of laboratory method blanks, laboratory duplicates and matrix spikes for all analytes at a frequency of once per sampling event or once per day of analysis, whichever is more frequent
- analysis and reporting of the percent recovery of surrogate spikes in each sample analyzed for organic analytes

Reference: Contact the Department's laboratory (503-229-5983) for additional or updated laboratory QA/QC requirements.

10.13 Data Evaluation

EMP contents describe site specific procedures for

- comparing groundwater sampling results to applicable standards
- performing statistical analyses, and
- identifying and addressing any field of lab data that did not meet lab quality objectives

Review of results Review the groundwater analytical results after each groundwater sampling event:

If data show results...	Then...
above permit-specific concentration limits (if established)	1. notify the Department within 10 days of receipt of laboratory results, and 2. perform resampling within 15 days and evaluate results as described below *Note: If this is a known release, previously confirmed to the Department in writing, resampling is not required*
indicating a significant change in water quality at any monitoring point Examples of significant changes: Detection of a VOC or other hazardous constituent not previously detected in background Exceedance of a Table 1 or 3 value listed in OAR 340-40, unless the background water quality is above these numerical limits Exceedance of a Safe Drinking Water Standard Exceedance of an Action Limit Detection of a compound in an order of magnitude higher than background	1. notify the Department within 10 days of receipt of laboratory results, and 2. perform resampling within 15 days and evaluate results as described below *Note: If this is a known release, previously confirmed to the Department in writing, resampling is not required*
neither of the above	continue groundwater monitoring with next scheduled sampling event

Resampling results

Upon receipt of data from resampling, the results should be reviewed according to the following table

If resampling data show results	Then
that confirm the exceedance of a permit-specific concentration limit	1. notify the Department within 10 days of receipt of laboratory data, or within 60 days of the sample date (whichever comes sooner) 2. begin assessment monitoring 3. submit a Remedial Investigation workplan for Department approval within 90 days of the date of resampling; the plan must specify how the objectives of OAR 340-40-040(3) will be met by the proposed investigation
that confirm the significant change in water quality results noted in the routine sampling event	1. notify the Department within 10 days of receipt of laboratory data, or within 60 days of the sample date (whichever comes sooner) 2. submit a plan within 30 days (unless another time period is authorized) for developing an assessment program with the Department; this may include the monitoring of Group 4 parameters, in addition to routine detection monitoring
that do not confirm the results noted in the routine sampling event	1. continue with routine monitoring 2. discuss the data from the routine sampling event and the resampling results in the next annual environmental monitoring report

10.14 Reporting

Objective

Present the environmental monitoring data to the Department in an organized and clear format. Evaluate and interpret data to

- determine regulatory and permit compliance
- determine if leachate impacts have occurred
- assess the effectiveness of any corrective actions
- monitor potential health and environmental effects, and
- prepare and submit an annual monitoring report

EMP content

Propose an the annual environmental report that will:

- discuss the results of all environmental monitoring performed during the year
- discuss the results of the previous year's Data Analysis and Evaluation
- itemize any activities resulting from the exceedance of a relevant standard or significant change in water quality, such as resampling, submittal of a Preliminary Assessment, or Assessment Monitoring
- discuss any preventative measures and the results of such actions, if applicable
- assess the current status of the environmental monitoring network
- provide updated information for each sampling event and monitored unit, depicting groundwater flow rates and directions, and piezometric water contours
- summarize Sampling and Analysis, Field QA/QC, and Lab QA/QC techniques implemented during the year
- provide copies of applicable information, including field data, laboratory analytical reports and chain-of-custody reports; all data must be cross-referenced and labeled with the designated field sampling location
- provide summary tables of the year's monitoring data by location and parameter
- provide updated time series and box plots for appropriate parameters
- provide results of a major anion-cation balance for each groundwater monitoring well sampled for major anions and cations
- provide an executive summary

Statement of compliance

A one-page cover letter must accompany the Annual Environmental Monitoring Report that:

- compares the analytical results with the relevant monitoring standards (see Section 10.13)
- states whether or not federal or state standards were exceeded for the relevant media
- states whether or not a significant change in water quality occurred

The cover letter must be signed and stamped by an Oregon Registered Geologist with experience in hydrogeological investigations.

Data presentation

Below are some suggested formats for presenting the environmental monitoring data. Specific requirements may be discussed in the solid waste permit:

Presentation Type	Description
Tables	Data tables work well for summarizing analytical data and statistical parameters. For analytical and water level data: • arrange table by monitoring point identification number, parameter, and/or sampling event • present each type of monitoring data separately (i.e.; leachate, groundwater, surface water) • group groundwater data according to well designation (upgradient, downgradient) For statistical data: • arrange in individual tables by parameter and location • arrange sampling points on one axis and sample date on the other axis. Report statistical results in table body.
Time series charts	Useful for illustrating seasonal variations and changes in data over time. Prepare as follows: • plot a separate chart for each parameter of interest • plot all monitoring points for comparison on one graph • plot concentration on vertical axis using a consistent scale and equal spacing • plot time on the horizontal axis using a consistent scale and equal spacing • represent PSCL value as a line on graph • identify parameter, sample location, and other pertinent features on the graph

Presentation Type	Description
Box plots	Evaluate spatial variability of a parameter. Useful for illustrating data dispersion or variability of a data set or between data sets about the median value. Prepare as follows: • construct individual plots for each well and each parameter • plot boxes from multiple wells for a single constituent on a single grid for comparison • plots should include median, interquartile range, and maximum and minimum values • represent PSCL value as a line on the grid • clearly identify parameter and sample location *See the statistical references and guidelines in Section 10.12 below for details on the preparation, use, and interpretation of box plots.*
Potentiometric contour maps	Useful for plotting and contouring water level data to illustrate elevations, flow directions and gradients. Maps should include: • measuring point • date and season • elevation • contour interval • scale Plot different aquifers of interest on different maps and maps for each season or sample event. Incorporate surface water elevations with shallow aquifer elevations, if appropriate, and include leachate elevation levels. Do not include measurements of shallow and deep portions of the an aquifer on the same potentiometric map unless complete hydraulic communication has previously been established and there is no discernible vertical gradient
Other graphical methods	Other useful graphical methods for presenting and interpreting data include: • hydrographs • scatter plots • cross sections • histograms • trilinear diagrams • ion-concentration diagrams, and • contour maps Consult the Department hydrogeologist for the appropriate methods to use for individual facilities.

Note: Electronic copy of data should be provided. Acceptable electronic formats include Excel, Lotus 123, and Quatro Pro.

Water quality reporting concentrations

Water quality concentrations should be reported in milligram per liter (mg/L) for most organic and inorganic parameters; both mg/L and milliequivalents per liter (meq/L) for common anions and cations; micro-ohms per centimeter (uohms/cm) for specific conductance; s.u. for pH; degrees centigrade for temperature; and nephelometric turbidity units (NTU) for turbidity.

Typical annual report

A typical annual report includes the following information:

Section	Content
Background Information and Data Reporting	• site background information • presentation of water/leachate level data and groundwater flow rates using contour maps, tables, and graphs • summary of all field data, laboratory analytical reports, chain of custody reports, all cross-referenced with the field sampling locations • data validation (i.e.; cation/anion balance, comparison of blanks and duplicates, identify data problems or discrepancies, review of detection limits and holding times) • time series graphs • summary tables of the year's monitoring data by location and parameter
Water Quality Statistical Analysis	Box plots for the purpose of: • establishing background water quality and proposing permit-specific concentration limits • comparing monitoring results to compliance concentrations to determine if a release has occurred • assessing whether any corrective/preventative actions have been effective in reducing contaminant concentrations or controlling leachate releases to the environment
Data Interpretation and Evaluation	• evaluation of data quality trends in each monitoring point for each parameter, and a determination if any significant changes have occurred • review of statistical methods for background water quality and identifying potential impacts • a comparison of water quality in the downgradient monitoring points to upgradient/background monitoring points • comparison of data quality to any PSCLs that have been established • comparison of groundwater quality data to existing federal and state groundwater standards • assessment of whether any corrective or preventive actions have been effective in reducing or controlling releases • assessment of the effectiveness of any closure measures undertaken • list of any activities resulting for an identified exceedance

Section	Content
Conclusions and Recommendations	• summary of the data collection, evaluation, and results of all environmental monitoring performed during the year • discussion of any impacts, trends in data, and violations of PSCLs, exceedences of a standard, or significant changes • any recommendations for the monitoring program • identify any impacts and action requirements • discussion of the current status of the environmental monitoring network • executive summary

10.15 Establishing Permit-Specific Concentration Limits (PSCLs)

Contents

This section of the guidance discusses PSCLs and how to establish them. The requirement for proposing PSCLs will be included in the permit. References and guidelines on how to go about determining PSCLs are provided below. A proposal to establish PSCLs does not need to be included in the EMP, only provisions that it will be done in accordance with the permit requirements.

Definition: PSCL

OAR 340-40-010(3) defines a concentration limit as the maximum acceptable concentration of a contaminant allowed in groundwater at a Department specified compliance point.

Objective

To establish regulatory compliance concentration limits for pollutants of concern at the facility's compliance boundary. An exceedence of these limits would trigger concern and require some type of regulatory, assessment, preventive and/or corrective actions.

Regulatory reference

OAR 340-40-030(3) requires that PSCLs be specified in the permit for new and existing facilities.

Data requirements

Data requirements for establishing PSCLs are:

- a minimum of nine acceptable and valid data points for each parameter from the approved background well or wells is required for setting PSCLs.
- PSCLs are required for selected parameters that will be included in the long-term monitoring program at the site. These parameters will either be specified in the permit or should be discussed with the Department's hydrogeologist.
- statistical methods and calculations for determining PSCLs and background are provided in the references discussed below.

Setting PSCLs

Different methods are allowed for setting PSCLs at new and existing facilities.

PSCLs for existing facilities

PSCLs may be established anywhere between background water quality (as calculated below) and the reference/guidance levels in Tables 1, 2, and 3 of OAR 340-40. For parameters not in Tables 1, 2, or 3, background must be used for the PSCL.

PSCLs at new facilities

PSCLs must be established at the background water quality.

PSCL calculations

Calculations must follow one of the five methods listed in 40 CFR Part 258.53.

PSCL references

Available references for statistical guidelines and setting PSCLs include:

- Dessellier, Bruce, January 12, 1993, Draft Memorandum to Solid Waste Permits and Compliance, Subject: Statistical Guidance Memo for all RCRA Sites, Oregon Department of Environmental Quality
- USEPA, June 1992, Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Addendum to Interim Final Guidance

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Reduction in monitoring or parameters

Quarterly groundwater monitoring is typically required until nine valid data points are collected for each parameter. Once PSCLs are established, the permittee may request a reduction in the sampling frequency or parameter list. This request must be made, in writing, to the Department.

Long-term monitoring

Once PSCLs are established, the permittee may be required to propose an updated monitoring program for the wells to be monitored, the list of indicator parameters, new sampling frequency, and schedule. This should be discussed with the Department's hydrogeologist. Other limits, such as Action Limits, may be established in the permit. If warranted, Action Limits may be established for Table 3 (OAR 340-40) or other non-table, non-hazardous parameters depending upon site specific background concentrations.

10.16 Action Requirements, Assessment, and Corrective Action

Objective

Follow and implement the necessary notification, reporting, assessment and corrective actions required by 40 CFR Part 258 and OAR 340-40 when a contaminant release is identified at a facility during routine monitoring.

Assessment monitoring

Assessment monitoring is required if routine groundwater monitoring indicates a statistically significant increase above background in one or more of the constituents in Appendix I of the 40 CFR 258, or from an approved alternate list (40 CFR 258.54 (a)(2)) as is the case in Oregon. Individual permits may specify assessment monitoring requirements. Assessment monitoring should be discussed with the Department's hydrogeologist.

Preliminary assessment plan

The Department's Groundwater Quality Protection Rules require submittal of a plan for developing a preliminary assessment within 30 days after a confirmed exceedance of a PSCL, an Action Limit, or a significant change in water quality (as defined above), unless the Department approves another time schedule. The assessment should evaluate the source, extent, and potential migration of the contaminants.

Corrective action

Corrective action is required if an assessment monitoring parameter is detected at a concentration in excess of the PSCL or if the preliminary assessment determines that remedial action is necessary to maintain groundwater quality. Corrective action could consist of the following steps:

- perform a remedial investigation to determine the need for remedial action including a characterization of the contamination, characterization of the facility, and an endangerment assessment
- conduct a feasibility study that includes but is not limited to the development and evaluation of remedial action options
- select and implement the most appropriate remedial action

The specifics of the remedial investigation/feasibility study should be discussed with and approved by the Department prior to implementation.

Gas monitoring limits

Review gas monitoring results after each monitoring event for exceedences of methane limits. If methane levels exceed the specified limits the owner or operator must:

- immediately take necessary steps to protect human health and safety and notify the Department
- within 7 days of detection (unless the Department approves an alternative schedule), enter the methane levels in the operating record and describe the steps taken to protect human health and safety

Within 60 days of detection (unless the Department approves an alternative schedule) implement a remediation plan for the methane releases, incorporate the plan into the operating record, and notify the department that the plan has been implemented. The plan should describe the nature and extent of the problem and the proposed remedy.

Air quality and surface water

Follow specific air quality, water quality, and solid waste permit requirements.

10.17 Additional Resources

References

Oregon Department of Environmental Quality, October 27, 1989. Oregon Administrative Rules, Chapter 340, Division 40, Groundwater Quality Protection.

Oregon Department of Environmental Quality, August 24, 1992. Groundwater Monitoring Well Drilling, Construction, and Decommissioning.

Oregon Water Resources Department, July 1995. Administrative Rules, Chapter 690, Division 240, Construction, Maintenance and Abandonment of Monitoring Wells, Geotechnical Holes, and Other Holes in Oregon.

U.S. EPA, October 9, 1991. 40 CFR Parts 257 and 258, Solid Waste Disposal Facility Criteria; Final Rule.

U.S. EPA, November 1993. Technical Manual for Solid Waste Facility Criteria - 40 CFR part 258.

Oregon DEQ, March 1994, Water Quality Division. Draft Groundwater Monitoring Plan - Part B: Guidelines.

Washington Department of Ecology, June 1987, Solid Waste Landfill Design Manual.

Dessellier, Bruce, August 3, 1992, Draft Memorandum to Solid Waste Permits and Compliance, Subject: Statistical Guidance Memo For all RCRA Sites, Part 1. Oregon Department of Environmental Quality.

U.S.EPA, 1992, Statistical Analysis to Groundwater Monitoring Data at RCRA Facilities - Addendum to Interim Guidance.

Section 11: Closure and Post-Closure

11.1 Introduction

Regulatory reference

Minimum requirements for closure plans and post-closure plans for MSW landfills are specified in the Department's Financial Assurance Rule, OAR 340-94-100 through 145. The closure and post-closure requirements for Subtitle D landfills differ from those of non-Subtitle D MSW landfills (i.e., closing facilities).

Types of plans

There are two separate categories of closure and post-closure plans:

Subtitle D ("worst case") Closure and Post-closure Plans are based on a hypothetical "worst case" scenario for closure and post-closure costs. This scenario establishes a conservative basis for estimating financial assurance funding requirements.

The Final Engineered Site Closure and Post-closure Plans are linked to the Closure Permit which must be obtained at least 5 years prior to anticipated final closure. The Final Engineered plans reflect the intended closure design. The Final Engineered plans contain all the elements of and replace the Subtitle D plans.

How to respond: Subtitle D facilities

Landfills subject to Subtitle D should:

- prepare a "Worst-case" (Subtitle D) Closure Plan and a “Worst-case" (Subtitle D) Post-closure Plan for determining appropriate costs for financial assurance planning. Place the plans in the facility operating record and notify the Director of that action
- prepare a Final Engineered Closure Plan and a Final Engineered Post-closure Plan and submit them to the Department five years before the anticipated final closure date
- revise financial assurance cost estimates based on the final engineered plans

How to respond: Closing facilities

Non-Subtitle D facilities (closing facilities) are within the five-year final closure window and therefore should:

- prepare a Final Engineered Closure Plan and a Final Engineered Post-closure Plan and submit the plans to the Department at the date specified in the permittee's closure permit
- determine closure and post-closure costs for financial assurance planning, based on the Final Engineered Closure and Post-closure Plans

---

Approval

The Final Engineered Site Closure Plan and Final Engineered Site Post-Closure Plan must be submitted to the Department for review and written approval.

In this section

This section describes the contents of the closure and post-closure plans.

11.2 Closure Plans

Subtitle D "Worst-Case" Closure Plan

The Subtitle D "Worst-Case" Closure Plan should include all elements specified in 40 CFR 258.60:

- a description of the steps necessary to close all landfill cells at any point during their active life
- a description of the final cover system
- an estimate of the largest area of the landfill ever requiring a final cover
- an estimate of the maximum inventory of wastes ever on site over the active life of the landfill
- a schedule for completing all activities necessary to satisfy the closure criteria in 40 CFR 258.60

Final Engineered Site Closure Plan

The Final Engineered Site Closure Plan should supplement all the elements of the "Worst Case" Closure Plan by adding the following:

- detailed design plans and specifications for the closure improvements, including final cover system, gas control system, runoff/run-on control system, leachate treatment and disposal system
- an updated final grading (topographic) plan for the site
- an end use plan
- a landscaping plan
- an assessment of long-term settlement and its potential effects on the integrity of the closure
- a detailed description of the design, function, and operation of all environmental control systems
- a description (plan) of how and when the facility will be closed (i.e., the procedures that will be used to ensure that facility operations are compatible with closure objectives and requirements)
- a detailed description of the environmental monitoring system;
- a schedule for implementing the closure plan
- a detailed closure cost estimate, and
- other information requested in the closure permit or otherwise required to comply with all applicable DEQ and federal regulations

Previously submitted information

If some of the required information has been previously submitted, review and updated it to reflect current conditions and any proposed changes in the closure program.

11.3 Post-Closure Plans

"Subtitle D" Post-closure Plans

The "Subtitle D" Post-closure Plan should identify and describe the post-closure activities required to properly monitor and maintain the closed landfill site. This post-closure plan should address all elements specified in 40 CFR 258.61 and include procedures for the following:

- maintaining the integrity and effectiveness of the final cover system
- maintaining and operating the leachate collection, treatment, and disposal systems
- maintaining and operating the environmental monitoring systems
- conducting Environmental quality monitoring (groundwater, surface water, landfill gas, leachate, air, etc.)
- maintaining and operating the landfill gas control system
- maintaining and operating the surface water runoff/run-on control systems
- providing overall, site-wide monitoring and security, and
- establishing appropriate uses of the property during the post-closure care period

Final Engineered Post-closure Plan

Incorporate in the Final Engineered Post-closure plan all elements of the "Subtitle D" post-closure plan, along with detailed closure design information. Include the following:

- a detailed schedule for post-closure monitoring, inspection, and maintenance and repairs
- detailed operation and maintenance procedures for all environmental monitoring and control systems that will be in active use during the post-closure period, and
- any other information required to comply with DEQ and federal regulations

Previously submitted information

Review and update any previously submitted post-closure informaiton to reflect current conditions and any proposed changes in closure or post-closure activities.

11.4 Additional Resources

References

Technical Manual for Solid Waste Disposal Criteria - 40 CFR Part 258, Subpart F (Chapter 6). U.S. EPA, November 1993.

Section 12: Financial Assurance

12.1 Introduction

Purpose of financial assurance

Proper financial planning early in the development of landfill facilities is required to ensure that adequate funding will be available to cover the cost of closure(s), post-closure care, and any corrective action activities.

Coverage

Maintain financial assurance to cover the costs of:

- closure of the landfill
- post-closure monitoring and maintenance of the landfill facilities, and
- any corrective action required by the Department

Exemptions

Exempt landfills must satisfy the exemption criteria in OAR 340-94-140(2) and meet the waste acceptance and final cover deadlines below:

Landfill type	that stopped receiving waste by...	and completed installation of final cover by...
any landfill	October 9, 1993	October 9, 1994
"small landfill" [40 CFR 258.1(e)(2)]	April 9, 1994	October 9, 1994
"very small landfill serving certain small communities" [40 CFR Part 258.1(f)(1)]	October 9, 1997	October 9, 1998

How to respond

Respond to applicable financial assurance requirements, as determined by the table below.

If the facility is...	Then...
subject to Subtitle D	place a financial assurance plan in the facility operating record and submit to the Department a copy of the mechanism and certification that the plan meets requirements
seeking an exemption	demonstrate to the Department that the facility meets the exemption criteria

Updating financial assurance

Review and update the cost estimates and the financial assurance annually during the operating life and post-closure care period, or until the corrective action is completed, as applicable. Place annual adjustments to the financial assurance plan in the facility operating record. Submit a certification to the Department that the annual update has been completed.

Review date: The annual review should occur on the anniversary of the date when the financial assurance plan was placed in the facility operating record and the certification was submitted to the Department, or at the end of the corporation's fiscal year if the mechanism is the corporate guarantee.

Schedule

The appropriate schedule for providing financial assurance will depend on each facility's operating status, size, anticipated closure date, and need for corrective action. Refer to OAR 340-94-140(3) for detailed schedule requirements associated with "worst case " closure plans, "Subtitle D" post-closure plans, Final Engineered Site Closure and Post-closure Plans and corrective action.

Cost calculations

For permittees meeting the criteria in 40 CFR Part 258.75 (a) through (c), the current value of future costs should be calculated using a discount rate no greater than the Department's current reference rate. The Department will determine the reference rate annually during the month of June. It shall be in effect for the fiscal year beginning the first day of July immediately following the determination date and ending on June 30 of the following calendar year. Refer to OAR 340-94-140 (4)(a) for detailed information.

Permittees can use discounting to determine costs only if they:

- certify that the closure date is certain and there are no foreseeable circumstances that will change the estimate of site life
- comply with all applicable permit requirements
- submit a statement from a registered engineer certifying that cost estimates are complete and accurate.

Contact: Department of Environmental Quality (503) 229-5378

12.2 Financial Assurance Plan

Contents of financial assurance plan

The financial assurance plan should contain the following elements:

- cost estimates for third-party closure, post-closure, corrective action (if required) and any other requirements the Department may impose as a condition of issuing a closure permit, closing the site, implementing post-closure care activities, or implementing corrective action
- the source of the cost estimates
- a detailed description of the form of the financial assurance and a copy of the financial assurance mechanism
- a method and schedule for acquiring and managing the required financial assurance funds
- a proposal for disposing of any excess moneys received or interest earned on moneys received for financial assurance
- adequate accounting procedures to insure that funds are collected in the correct amounts and used only for authorized purposes
- certification to the Director of DEQ that the financial assurance mechanism meets all state and federal requirements (at the time a financial assurance mechanism is submitted to the Department and when a financial assurance plan is placed in the facility operating record)
- annual updates of the cost estimates and financial assurance

Cost estimate

The financial assurance plan should include written cost estimates for the Final Engineered Site Closure Plan and Final Engineered Post-closure Plan, or the "worst case" closure and Subtitle D post-closure scenarios, as applicable.

Basis for estimate

Estimate costs based on detailed engineering analyses or construction contractor bids and itemize costs for expenses such as the following:

- mobilization of equipment
- construction materials
- construction activities
- overhead
- engineering and other consulting services
- operation and maintenance of environmental monitoring and control systems
- environmental monitoring and associated laboratory analyses
- general site maintenance activities
- miscellaneous expenses, contingencies, etc.

Considerations: closure estimate

Estimate closure costs based on the Final Engineered Site Closure Plan with consideration of the following factors:

- amount and type of solid waste deposited in the site
- the effectiveness of any buffer zones designed to protect adjacent land and drinking water sources
- the cost of the site's engineered closure improvements (i.e., final cover system, run-on/runoff control systems, other environmental control and monitoring systems, etc.)
- planned future use of the disposal site property
- the extent of site area closed prior to final closure of the entire site
- any other closure conditions imposed by the Department

Considerations: post-closure estimate

Estimate post-closure costs based on the Final Engineered Post-closure Plan. Consider the following factors:

- a minimum post-closure care period of 30 years after the date of final facility closure
- annual costs associated with the operation and maintenance of any required environmental control and monitoring systems
- any other conditions imposed by the Department relating to post-closure care of the site

Considerations: corrective action

Estimate costs based on site-specific corrective action activities outlined in a Corrective Action Report (see 40 CFR Part 258.73). Estimate in current dollars and account for the cost of hiring a third party to perform the corrective action. Account for the total costs of corrective action activities for the entire corrective action period.

Form of financial assurance

Describe in detail the form of the financial assurance, using one of the allowable mechanisms. Include a copy of the mechanism in the plan.

Mechanisms for closure and post closure

Use any of the following forms of financial assurance for closure and post-closure activities:

Form of financial assurance	Requirements specified in...
trust fund	OAR 340-94-145(5)(a)
surety bond	OAR 340-94-145(5)(b) or OAR 340-94-145(5)(c)

irrevocable letter of credit	OAR 340-94-145(5)(d)
closure or post-closure insurance policy	OAR 340-94-145(5)(e)
corporate guarantee from a private corporation	OAR 340-94-145(5)(f)
local government financial test	OAR 340-94-145(5)(g)
local government guarantee	OAR 340-94-145(5)(h)
alternative form	OAR 340-94-145(5)(i); third party certification and prior approval of the form by the Department is required

Mechanisms for corrective action

Use any of the following forms of financial assurance for corrective action:

Form of financial assurance	Requirements specified in...
trust fund	OAR 340-94-145(5)(a)
performance surety bond	OAR 340-94-145(5)(c)
irrevocable letter of credit	OAR 340-94-145(5)(d)
corporate guarantee from a private corporation	OAR 340-94-145(5)(f)
local government financial test	OAR 340-94-145(5)(g)
local government guarantee	OAR 340-94-145(5)(h)
alternative form	OAR 340-940145(5)(i); third party certification and prior approval of the form by the Department is required

Method of acquiring and managing funds

Describe in detail the method and schedule for providing for or accumulating the appropriate amount of funds to ensure proper closure and post-closure care or implementation of corrective action, as applicable. The financial assurance mechanisms for closure, post-closure care and corrective action must ensure the funds will be available in a timely fashion when needed.

Excess moneys

Include a proposal for disposing of any excess moneys received or interest earned on moneys received for financial assurance. [OAR 340-94-140(4)(e)]

Collection of funds

Establish adequate accounting procedures to ensure that the disposal site operator does not:

- collect funds in excess of the amount specified in the financial assurance plan, or
- use the funds for any purpose other than required by OAR 340-94-140(1)

12.3 Additional Resources

Reference	Federal Reserve Statistical Release H.15 (519) Selected Interest Rates. Department of Commerce, Bureau of Economic Analysis, Survey of Current Business.
Contact	Department of Commerce Bulletin Board: (202) 482-1986.

EXHIBIT 8
MAP AND LIST OF ADJACENT AND NEARBY PROPERTIES

LEGEND

- PROPERTY WITH LANDFILL OPERATIONS
- PROPERTY ADJACENT TO LANDFILL OPERATIONS
- PROPERTY ADJACENT TO ADJACENT PROPERTY

NORTH

SCALE IN FEET

0 1,000 2,000

REFERENCE

AERIAL PHOTOGRAPH, TOPOGRAPHIC INFORMATION FROM AERIAL SURVEY AND GRID BY COOPER AERIAL SURVEYS COMPANY; DATE OF PHOTOGRAPHY: OCTOBER 07, 2021.

REGISTERED PROFESSIONAL ENGINEER
92360PE
OREGON
JULY 13, 2011
JEFF A. SHEPHERD
EXPIRES: 06/30/2026

REVISION RECORD

NO	DATE	DESCRIPTION

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VALLEY LANDFILLS, INC.
COFFIN BUTTE LANDFILL
CONDITIONAL USE PERMIT APPLICATION
CORVALLIS, OR 97330

BENTON COUNTY TAX LOTS & ZONING

DATE:	JULY 2024
DRAWN BY:	JS
DWG SCALE:	AS SHOWN
CHECKED BY:	JAS
PROJECT NO:	322-142
APPROVED BY:	JAS

DRAWING NO.: 2

P:\320-0001\322-142\-CADD\Dwg\SW01\322142-SW01-2-Benton County Tax Lots Exhibit.dwg[2] LS(8/13/2024 - jshaw) - LP: 8/13/2024 8:31 AM

NO.	TAX LOT NO.	OWNER NAME	CURRENT ZONING
1	104070000100	OREGON STATE GAME COMMISSION	OS
2	104070000300	R B WEBBER DEVELOPMENT LLC	EFU
3	104070000400	WILFONG TRISHA M	RR-5
4	104070000500	BURDOCK GARLAND R	RR-5
5	104070000601	RINKER TRISTA M	RR-5
6	104070000700	CLEARY BRYCE LAWRENCE	RR-5
7	104070000800	SCOTT DARCI L	RR-5
8	104070000900	WHITE JASON BYRON & JULIE B	RR-5
10	104070001100	AMADOR MARIBEL	RR-5
11	104070001200	LEAVENWORTH EDYNE	RR-5
12	104080000100	OREGON STATE GAME COMMISSION	OS
13	104170000100	OREGON STATE GAME COMMISSION	OS
18	104180000100	OREGON STATE GAME COMMISSION	OS
19	104180000101	CONSUMERS POWER INC	OS
20	104180000102	BUREAU OF LAND MANAGEMENT	OS
21	104180000200	PELTIER REAL ESTATE CO	FC
22	104180000201	POWELL LYNN MAY & HEALD NATHAN LESLIE	FC
23	104180000202	GOETZINGER DALE L & MONA G	RR-5
24	104180000300	DUBIKIN ALEXANDRE & POLUSHKIN GLIKERIA	FC
25	104180000301	VALLEY LANDFILLS INC	FC
26	104180000400	DUBIKIN ALEXANDRE & POLUSHKIN GLIKERIA	RR-5
27	104180000500	YOUNG CAROLYN	RR-5
28	104180000600	YOUNG CAROLYN	RR-5
29	104180000700	HOCKEMA JOSEPH E & JASMINE L	RR-5
30	104180000701	HOCKEMA JOSEPH E & JASMINE L	RR-5
31	104180000800	OREGON STATE FISH & WILDLIFE	FC
32	104180000801	VALLEY LANDFILLS INC	FC
33	104180000900	VALLEY LANDFILLS INC	FC
34	104180001000	VALLEY LANDFILLS INC	FC
35	104180001101	VALLEY LANDFILLS INC	FC
36	104180001102	VALLEY LAND FILLS INC	FC
37	104180001103	PHILLIPS SAMUEL F & CHERYL G	FC
38	104180001104	VALLEY LANDFILLS INC	FC
39	104180001105	PELTIER REAL ESTATE CO	EFU
40	104180001106	VALLEY LANDFILLS INC	LS
41	104180001107	VALLEY LANDFILLS INC	LS
42	104180001108	VALLEY LANDFILLS INC	LS
43	104180001200	VALLEY LANDFILLS INC	FC
44	104190000100	OREGON STATE GAME COMMISSION	OS
45	104190000200	BRADLEY LOWELL THOMAS & MARY ERIN	RR-10
46	104190000301	HOLDORF CATHERINE E, TR	EFU
47	104190000400	TAMPICO RIDGE LLC	RR-10
48	104190000402	KIPPER ROBERT J & JULIE A, TR	RR-10
49	104190000500	GEIER JOEL E & REBECCA S SHERMAN	RR-10
50	104190000600	CRESS MERRILL	RR-10
51	104190000700	MORRELL JEFFREY J & PATRICIA D	RR-10
52	104190001700	CLAPP CYNTHIA R	EFU & RR-10
53	104190001800	KEN & SARAH EDWARDSSON RL TRUST	EFU
54	104190001801	SLABAUGH ROGER L & MICHELLE V	EFU
55	104190001900	HERNANDEZ VICTOR	EFU
56	10419B000300	PELTIER REAL ESTATE CO	RR-10

NO.	TAX LOT NO.	OWNER NAME	CURRENT ZONING
57	10419B000400	CARLIN KATHERYN L, TR	RR-10
58	10419B000500	FRAZIER STEVEN & DAVIS LUE ANN	RR-10
59	10419B000600	GIBBS LANCE A	RR-10
60	10419B001200	BARBARA FICK LIVING TRUST	RR-10
61	10419B001300	BARBARA FICK LIVING TRUST	RR-10
62	10419B001301	VALLEY LANDFILLS INC	RR-10
63	10419B001500	CATHERINE E HOLDORF LIVING TRUST	RR-10
64	10419B001600	VALLEY LANDFILLS INC	RR-10
65	10419D000100	POSTLEWAIT JACOB EDWARD & ELIZABETH REGA	RR-10
66	10419D000200	HOLMES RICHARD H & CHARLCY L	RR-10
109	10419DD03700	YANEZ ERIC & BETHANY J	RR-5
110	10419DD03800	LOPEZ OMAR GENARO	RR-5
111	10419DD03900	ANTONIO & ELIZABETH AMANDI REVOCABLE LIV	RR-5
112	10419DD04000	ANTONIO & ELIZABETH AMANDI REVOCABLE LIV	RR-5
119	104200000300	OREGON STATE GAME COMMISSION	OS
339	105130000100	R B WEBBER DEVELOPMENT LLC	EFU
340	105130000200	DAVID & DEBRA HACKLEMAN TRUST	FC
341	105130000201	DAVID & DEBRA HACKLEMAN TRUST	FC
342	105130000202	BERKLUND HARRISUE, TR	FC
343	105130000203	BERKLUND HARRISUE, TR	FC
344	105130000300	DENOMA JOHN T JR & SEARS DONNA J	FC
345	105130000301	SEARS ROLLIN & DONNA JEANNE	FC
346	105130000400	BRISKEY JOINT REVOCABLE LIVING TRUST	FC
347	105130000500	DAVID A PLANT TRUST	EFU
348	105130000501	MARCUM DONALD R JR	EFU
349	105130000502	LINDSEY RICHARD T & KAREN J	EFU
350	105130000600	WINN TERRILL JAMES & APRIL DOVE	EFU
351	105130000601	GOETZINGER DALE L & MONA G	EFU
352	105130000700	OSC	FC
353	105130000800	VALLEY LANDFILLS INC	EFU
354	105130000900	VALLEY LANDFILLS INC	EFU
355	105130000901	VALLEY LANDFILLS INC	EFU
356	105130000902	VALLEY LANDFILLS INC	EFU
357	105130001000	VALLEY LANDFILLS INC	LS
361	105140000105	HARLAN ANNE M	EFU
362	105140000107	EDWARD L PORTZ & JOANN PORTZ TRUST	EFU
365	105140000111	HARLAN ANNE M	EFU
385	105140001400	BUCKOVIC FAMILY TRUST	EFU
411	105230000100	OREGON STATE BOARD HIGHER ED	FC
412	105240000101	JOHNSON DEBORA LEE, TR	EFU
413	105240000102	JOHNSON DEBORA LEE, TR	EFU
414	105240000103	VALLEY LANDFILLS INC	EFU
415	105240000104	LABRASSEUR GEORGE F & YOLANDE	EFU
416	105240000105	MASON FAMILY LIVING TRUST	EFU
417	105240000106	HOLDORF CATHERINE E, TR	EFU
418	105240000190	STAHL DEE M & WAYNE A	EFU
419	105240000200	VALLEY LANDFILLS INC	EFU
420	105240000300	OREGON STATE BOARD HIGHER ED	FC
421	105240000400	FLAK TIMOTHY A & LIND GINA M	RR-10
437	104190000401	SEARLS JAMES CLUETT	RR-10

REFERENCE

AERIAL PHOTOGRAPH, TOPOGRAPHIC INFORMATION FROM AERIAL SURVEY AND GRID BY COOPER AERIAL SURVEYS COMPANY; DATE OF PHOTOGRAPHY: OCTOBER 07, 2021.

REGISTERED PROFESSIONAL ENGINEER
92360PE
OREGON
JULY 13, 2011
JEFF A. SHEPHERD
EXPIRES: 06/30/2026

REVISION RECORD

NO	DATE	DESCRIPTION

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VALLEY LANDFILLS, INC.
COFFIN BUTTE LANDFILL
CONDITIONAL USE PERMIT
APPLICATION
CORVALLIS, OR 97330

BENTON COUNTY TAX LOTS & ZONING

DATE:	JULY 2024
DWG SCALE:	AS SHOWN
PROJECT NO:	322-142
DRAWN BY:	JS
CHECKED BY:	JAS
APPROVED BY:	JAS

DRAWING NO.:
2A

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EXHIBIT 9
MAP DEFINING THE ANALYSIS AREA SHOWING ODOR COMPLAINTS

LEGEND

- ODOR COMPLAINTS FROM 2021
- ODOR COMPLAINTS FROM 2023
- ODOR COMPLAINTS FROM 2024

NO.	YEAR	MONTH
1	2021	OCTOBER
2		NOVEMBER
3	2023	NOVEMBER
4		DECEMBER
5		DECEMBER
6	2024	JANUARY
7		FEBRUARY
8		FEBRUARY
9		FEBRUARY
10		FEBRUARY
11		FEBRUARY
12		FEBRUARY
13		MARCH
14		MARCH
15		MARCH
16		MARCH
17		MARCH
18		APRIL
19		APRIL
20		APRIL
21		JULY
22		JULY
23		JULY
24		AUGUST
25		AUGUST

NORTH

SCALE IN FEET

0 3,000 6,000

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EXPIRES: 06/30/2026

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VALLEY LANDFILLS, INC.
COFFIN BUTTE LANDFILL
CONDITIONAL USE PERMIT
APPLICATION
CORVALLIS, OR 97330

EXHIBIT 9 - MAP OF THE ANALYSIS AREA

DATE:	JULY 2024
DRAWN BY:	JS
DWG SCALE:	AS SHOWN
CHECKED BY:	JAS
PROJECT NO:	322-142
APPROVED BY:	JAS

DRAWING NO.: A

P:\320-0001\322-142\-CADD\Dwg\SHEET\322142-SHEET-EXHIBIT 9-Map of the Analysis Area.dwg[M] LS(10/21/2024 - jshaw) - LP: 10/21/2024 2:33 PM

EXHIBIT 10

AERIAL IMAGE OF TOPOGRAPHY AND ROADS SURROUNDING THE LANDFILL AREA

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LEGEND

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0 3,000 6,000
SCALE IN FEET

NORTH

REGISTERED PROFESSIONAL ENGINEER
JEFF A. SHEPHERD
OREGON
JULY 13, 2010
92360PE
EXPIRES: 06/30/2026

DRAWING NO.: A

EXHIBIT 10 - AERIAL IMAGE OF TOPOGRAPHY AND ROADS SURROUNDING THE COFFIN BUTTE LANDFILL

DATE:	JULY 2024	DRAWN BY:	JS
DWG SCALE:	AS SHOWN	CHECKED BY:	JAS
PROJECT NO:			322-142
APPROVED BY:			JAS

VALLEY LANDFILLS, INC.
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REVISION RECORD

NO	DATE	DESCRIPTION

EXHIBIT 11
NOISE STUDY

REPUBLIC SERVICES COFFIN BUTTE LANDFILL
NOISE STUDY

September 25, 2023

Prepared For:

Civil & Environmental Consultants, Inc.

Prepared By:

THE GREENBUSCH GROUP, INC.

1900 West Nickerson Street Suite 201
Seattle, Washington 98119

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1.0 EXECUTIVE SUMMARY

This Noise Study includes a summary of existing sound levels measured near the proposed expansion area, sound levels produced by equipment currently being used at the landfill, and discussion of applicable regulatory criteria. To assess sound emissions of fill operations in the new area, predictions were made for both beginning grade and maximum future grade conditions. Predicted sound levels included in this Noise Study comply with applicable regulatory criteria without the inclusion of noise mitigation. Although not required to comply with code limits, it is recommended that all backup alarms used on the site be replaced with ambient sensing broadband backup alarms, if permitted by safety regulations.

2.0 INTRODUCTION

This Noise Study evaluates sound levels associated with the proposed expansion of the Republic Services Coffin Butte Landfill (project) located at 28972 Coffin Butte Road in Corvallis, Oregon. The proposed expansion is located on the south side of Coffin Butte Road, directly south of the existing landfill area.

In addition to the landfill expansion, a new 2,160 square foot employee building, scale house access road on the north side of Coffin Butte Road, access road on the south side of the proposed expansion area, and relocation of leachate ponds to support the landfill are proposed.

Equipment operating in the expansion area is anticipated to be similar to existing landfill operations: dozers, excavators, and compactors to move debris, tipping machines used to unload haul vehicles, and truck traffic.

This Noise Study includes a summary of sound level measurements made of existing operations and equipment, measurements of existing sound levels near the expansion area, predicted sound levels from future operations in the expansion area, and an analysis of compliance with regulatory criteria.

3.0 NOMENCLATURE

The auditory response to sound is a complex process that occurs over a wide range of frequencies and intensities. The decibel level, or “dB,” is a form of shorthand that compresses this broad range of intensities into a convenient numerical scale. The decibel scale is logarithmic. For example, using the decibel scale, a doubling or halving of energy causes the sound level to change by 3 dB; it does not double or halve the perceived loudness as might be expected.

The minimum sound level variation perceptible to a human observer is generally around 3 dB. A 5 dB change is clearly perceptible, and an 8 to 10-dB change is associated with a perceived doubling or halving of loudness. Common sound pressure levels are reported in Table 3.1. Mathematical descriptors have been developed to provide better assessment of sounds that vary over time and the human response to them.

- Equivalent Sound Level, L_{eq}, is the level of a constant sound having the same energy content as the actual time-varying level during a specified interval. The L_{eq} is used to characterize complex, fluctuating sound levels with a single number. Typical intervals for L_{eq} are hourly, daily, and annually.
- Maximum Sound Level, L_{max}, is the maximum recorded root mean square (rms) sound level for a given time interval or event. L_{max} can be defined for two time weightings, "slow" and "fast." "Slow" uses 1-second time constant, and "fast" uses a 125-millisecond time constant. For transient events of very short duration, L_{max} "fast" will be greater than L_{max} "slow." L_{max} "fast" is used throughout this report.
- Percentage Sound Level, $L_{(n)} – L_{(n)}$, is the sound level that is exceeded n percent of the time; for example, L_{08} is the level exceeded 8% of the time. L_{25} is the sound level exceeded 25% of the time.
- Sound Power Level, PWL or L_wA (A-weighted PWL), is the amount of energy per second generated by a source, measured in watts. The sound power level (PWL) is a decibel representation with a reference value of 1 pico-watt (pW). Sound power is independent of distance, path, or influence from any nearby surfaces.
- Sound Pressure Level, SPL, correlates with what is heard by the human ear. SPL is defined as the squared ratio of the sound pressure with reference to 20 micropascal (µPa). Sound pressure is affected by distance, path, barriers, directivity, etc. All sound pressure levels referenced in this document utilize this reference pressure.

Table 3.1 A-Weighted Levels of Common Sounds, dBA

Sound	Sound Level	Approximate Relative Loudness[1]
Jet Plane at 100 feet	130	128
Rock Music with Amplifier	120	64
Thunder, Danger of Permanent Hearing Loss	110	32
Boiler Shop, Power Mower	100	16
Orchestral Crescendo at 25 feet	90	8
Busy Street	80	4
Interior of Department Store	70	2
Ordinary Conversation at 3 feet	60	1
Quiet Car at Low Speed	50	1/2
Average Office	40	1/4
City Residence, Interior	30	1/8
Quiet Country Residence, Interior	20	1/16
Rustle of Leaves	10	1/32
Threshold of Hearing	0	1/64

1. As compared to ordinary conversation at 3 feet

Source: US Department of Housing and Urban Development, Aircraft Noise Impact Planning Guidelines for Local Agencies, November 1972

4.0 REGULATORY CRITERIA

The project is located within unincorporated Benton County and noise emissions are subject to the Benton County Code (BCC). However, the BCC does not include sound limits applicable to the site. Therefore, sound level limits default to requirements of the Oregon Administrative Rules (OAR).

OAR 340-035-0035 regulates sound emissions from commercial and industrial sound sources and are based on whether the site was previously used as a commercial or industrial site. The site has been used as an industrial site for over 20 years to support existing landfill operations and currently has two leachate ponds, soil stockpiles, and trucks hauling leachate. Based on existing operations at the site it is our understanding that the expansion area will be considered a new industrial or commercial sound source located on a previously used site and will be subject to OAR 340-035-0035(1)(A).

Under OAR 340-035-0035(1)(A) sound levels from the proposed operations could not exceed the levels shown in OAR 340-35-035 Table 8 (see Table 4.1). Additionally, if there is reasonable cause to believe these requirements do not adequately protect the health, safety, or welfare of the pubic, sound levels generated by the proposed operations would be subject to the octave band sound limits specified in OAR 340-35-035 Table 10 (see Table 4.2).

Sounds level limits identified in OAR 340-35-035 Table 8 and OAR 340-35-035 Table 10 are only enforced at noise sensitive properties, which are defined in OAR 340-035-0015(38) as follows:

"'Noise Sensitive Property' means real property normally used for sleeping, or normally used as schools, churches, hospitals or public libraries. Property used in industrial or agricultural activities is not Noise Sensitive Property unless it meets the above criteria in more than an incidental manner."

Measurement locations used to enforce these sound limits are 25 feet towards the noise source from the point of the noise sensitive building nearest the noise source, or at the point on the noise sensitive property line nearest the noise source, whichever is further from the noise source.

Table 4.1 OAR Hourly Sound Limits, dBA

Noise Metric	7:00 AM to 10:00 PM	10:00 PM to 7:00 AM
L_{50}	55	50
L_{10}	60	55
L_{01}	75	60

Source: OAR 340-35-035 Table 8

Table 4.2 OAR Octave Band Sound Limits, dB

Time	Frequency, Hz								
	31.5	63	125	250	500	1,000	2,000	4,000	8,000
7:00 AM to 10:00 PM	68	65	61	55	52	49	46	43	40
10:00 PM to 7:00 AM	65	62	56	50	46	43	40	37	34

Source: OAR 340-35-035 Table 10

OAR 340-035-0035(5) provides the following exemptions from OAR 340-35-035 Table 8 and Table 10 sound limits:

- Emergency equipment not operated on a regular or scheduled basis (OAR 340-035-0035(5)(a))
- Warning devices not operating continuously for more than 5 minutes (OAR 340-035-0035(5)(b))
- Sounds created by the tires or motor used to propel any road vehicle complying with the noise standards for road vehicles (OAR 340-035-0035(5)(c))
- Sounds created by bells, chimes, or carillons (OAR 340-035-0035(5)(e))

In addition to the regulations for commercial and industrial noise sources defined in OAR 340-35-0035, OAR 340-035-0030 includes policies for motor vehicle sound emissions (including road and off-road vehicles) and sound limits at noise sensitive properties when motor vehicles operate on private property within 1,000 feet of noise sensitive properties.

OAR 340-035-0015 defines motor vehicles, road vehicles, and off-road recreational vehicles as follows:

"'Motor Vehicle' means any vehicle which is, or is designed to be self-propelled or is designed or used for transporting persons or property. This definition excludes airplanes, but includes watercraft."

"'Off-Road Recreational Vehicle' means any motor vehicle, including watercraft, used off public roads for recreational purposes. When a road vehicle is operated off-road the vehicle shall be considered an off-road recreational vehicle if it is being used for recreational purposes."

"'Road Vehicle' means any motor vehicle registered for use on public roads, including any attached trailing vehicles."

OAR 340-035-0030(1)(d)(B) provides the following exemptions from the sound limits shown in OAR 340-35-030 Table 5, which apply to noise sensitive properties within 1,000 feet of vehicle operations:

- Motor vehicles initially entering or leaving property which is more than 1,000 feet from the nearest noise sensitive property or quiet area (OAR 340-035-0030(1)(d)(B)(ii))
- Motor vehicles operating on public roads (OAR 340-035-0030(1)(d)(B)(iii))
- Motor vehicles operating off-road for non-recreational purposes (OAR 340-030-0030(1)(d)(B)(iv))

Warning devices used on motor vehicles are exempt from all noise regulations under OAR 340-035-0030(3)(b).

Although OAR exemptions could be interpreted as exempting haul truck activities throughout the site given haul trucks are considered "road vehicles" and are operating off-road for non-recreational purposes, the Noise Study includes an evaluation of potential effects from trucking operations at nearby noise sensitive properties.

Increases to existing sound levels are not governed under the OAR for new industrial or commercial noise sources on previously used sites. However, this analysis includes an

assessment of increases to existing sound levels to address concerns expressed by the community. Increases to existing sound levels are compared with OAR regulatory criteria for new industrial and commercial noise sources on previously unused sites, which prohibits increasing exiting L_{10} or L_{50} statistical noise levels by more than 10 dB.

Based on OAR regulatory criteria and measured ambient sound levels (see Section 5.1 for additional information) the resulting sound limits for the project are shown in Table 4.3. The operating hours of the landfill are 4:30 AM to 5:30 PM on weekdays and 7:30 AM to 5:30 PM on Saturdays. Therefore, both daytime and nighttime sound limits shown in Table 4.3 apply. This analysis assumes on-site operations do not vary between daytime and nighttime hours and assesses compliance using the more stringent nighttime sound limits in Table 4.3.

Table 4.3 Project Sound Limits, (L_{01} / L_{10} / L_{50}), dBA

Location	Time	OAR Table 8 Limits (X)	Existing Sound Levels[1]	Existing Sound Levels + 10 dB (Y)	Project Limit (lowest of X and Y)
Location 1	Daytime	75 / 60 / 55	-[2] / 39 / 32	- / 49 / 42	75 / 49 / 42
	Nighttime	60 / 55 / 50	- / 28 / 22	- / 38 / 32	**60 / 38 / 32**
Location 2	Daytime	75 / 60 / 55	- / 41 / 38	- / 51 / 48	75 / 51 / 48
	Nighttime	60 / 55 / 50	- / 33 / 29	- / 43 / 39	**60 / 43 / 39**
Location 3[3]	Daytime	75 / 60 / 55	- / 58 / 53	- / 68 / 63	75 / 60 / 55
	Nighttime	60 / 55 / 50	- / 50 / 36	- / 60 / 46	**60 / 55 / 46**
Location 4	Daytime	75 / 60 / 55	- / 46 / 39	- / 56 / 49	75 / 56 / 49
	Nighttime	60 / 55 / 50	- / 35 / 29	- / 45 / 39	**60 / 45 / 39**
Noise Sensitive Properties	Daytime	75 / 60 / 55	-	-	75 / 60 / 55
	Nighttime	60 / 55 / 50	-	-	**60 / 55 / 50**

1. OAR 340-035-0035(1)B only prohibits L_{10} and L_{50} ambient sound levels from being exceeded by 10 dB
2. Indicates a non-applicable value
3. Measured sound levels may be influenced by the existing power plant, which will remain in place during the expansion

5.0 SOUND LEVEL MEASUREMENTS

Sound levels were measured near noise sensitive properties in the vicinity of the proposed expansion area to document the existing acoustic environment. Measurements were also made of existing operations at the current site for use in the analysis. Equipment used during the measurements are identified in Table 5.1.

Table 5.1 Measurement Equipment

Make and Model	Description	Serial Number
Svantek SV307	Sound Level Analyzer	78647
Svantek ST30	Microphone	82351
Svantek SV307	Sound Level Analyzer	78633
Svantek ST30	Microphone	103657
Svantek SV307	Sound Level Analyzer	106247
Svantek ST30	Microphone	111967
Svantek SV307	Sound Level Analyzer	78646
Svantek ST30	Microphone	114514
Larson Davis CAL200	Acoustic Calibrator	18605
Svantek 971	Sound Level Analyzer	51818
Svantek SV18	Preamplifier	49561
Aco Pacific 7052E	Microphone	62522
Larson Davis CAL200	Acoustic Calibrator	9512

All equipment was calibrated at a certified laboratory within one year of the measurement date. Field calibrations were made before and immediately after the measurements were completed. Environmental windscreens were used on all microphones during the measurements.

5.1 Existing Sound Levels

Existing sound levels were measured at three locations near noise sensitive properties between Friday October 15 and Tuesday October 19, 2021, and at a fourth location between Thursday January 13 and Saturday January 22, 2022. Wind conditions during the October measurements ranged from calm to 10 miles per hour and were generally from the south. Temperatures ranged between 40- and 69-degrees Fahrenheit. Precipitation ranged from 0 to 0.15 inches per day. Wind conditions during the January measurements ranged from calm to 12 miles per hour and were typically from the south. Temperatures during the January measurements ranged between 33- and 57-degrees Fahrenheit and precipitation ranged from 0 to 0.26 inches per day.

The four Svantek SV307 sound level analyzers shown in Table 5.1 were used to measure the existing acoustic environment. At all measurement locations, equipment collected hourly and 1-second 1/3 octave L_{eq}, broadband L_{max} sound levels at both 1-second and hourly intervals, and 1-hour L_n data were also measured. To help identify local noise sources, audio recordings were made when sound levels exceeded 40 dBA at Locations 1 and 2, 50 dBA at Location 3, and 65 dBA at Location 4. The locations of the measurements are illustrated in Figure 5.1 and photos of the measurement equipment are shown in Figure 5.2 through Figure 5.5.

Figure 5.1 Measurement Locations

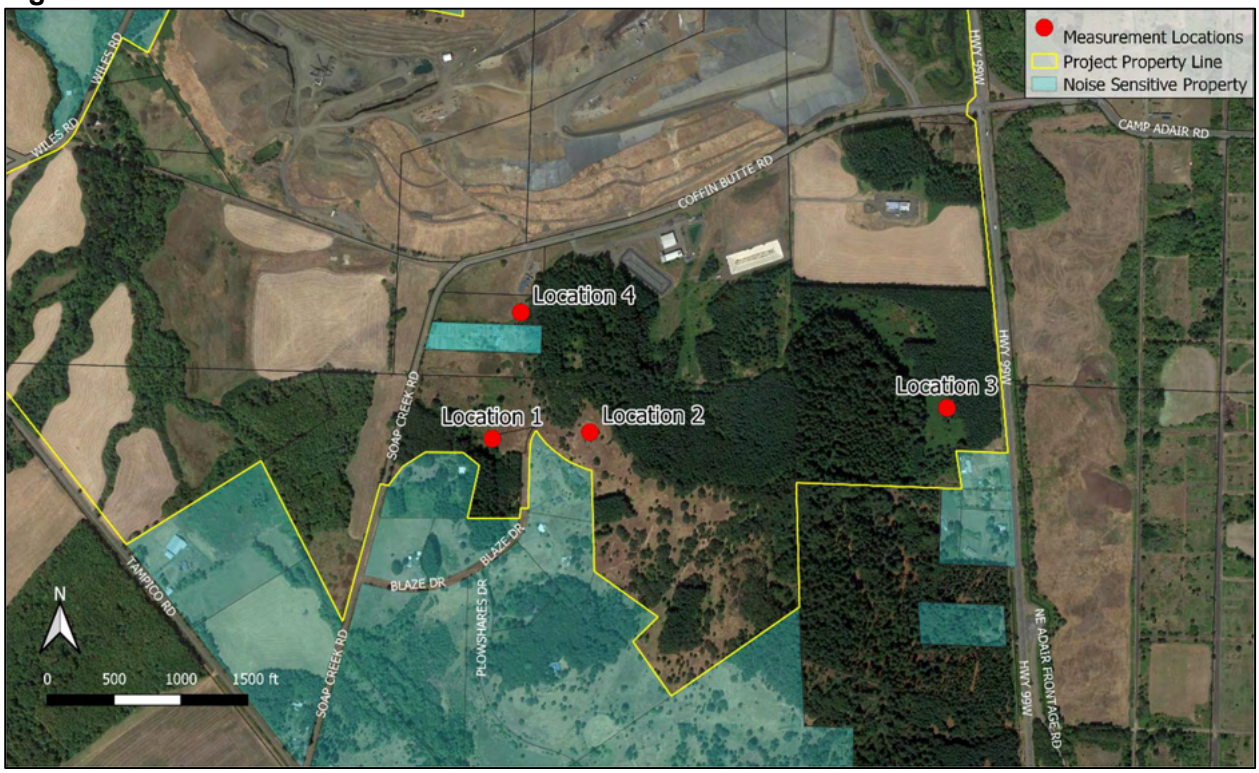


Figure 5.2 Location 1

Figure 5.3 Location 2

Figure 5.4 Location 3

Figure 5.5 Location 4

The range and median hourly L_{10} and L_{50} sound levels at each measurement location are shown in Table 5.2 and graphically in the Appendix. It should be noted that due to equipment connectivity issues, some hours of data were incomplete. Levels in this document only include data collected over complete hours. Times when data was not recorded over a complete hour are identified in the Appendix.

Table 5.2 Measured Hourly Sound Levels, Low-High (Median)

Measurement Location	Daytime, dBA		Nighttime, dBA	
	L_{10}	L_{50}	L_{10}	L_{50}
Location 1	28-54 (39)	21-51 (32)	22-52 (28)	15-50 (22)
Location 2	33-53 (41)	30-50 (38)	27-49 (33)	26-48 (29)
Location 3	53-60 (58)	45-56 (53)	38-59 (50)	27-53 (36)
Location 4	30-55 (46)	26-47 (39)	26-51 (35)	24-46 (29)

Measured median L_{10} and L_{50} sound levels were below OAR sound limits at all measurement locations. Dominant sound sources at the measurement locations included birds, other nature sounds, and vehicle traffic on Soap Creek Road, Coffin Butte Road, and Highway 99 West. Sound levels were generally louder at locations closer to Highway 99 West and traffic noise became more prevalent. The existing on-site power plant may have contributed to the measured sound levels at Location 3.

5.2 Equipment Sound Levels

Sound levels from existing equipment and operations at the landfill were measured the morning of October 15, 2021, using the Svantek 971 sound level analyzer. Measurements were made of individual pieces of equipment including, excavators, dozers, compactors, tippers, and haul trucks, at distances of 15 feet to 75 feet.

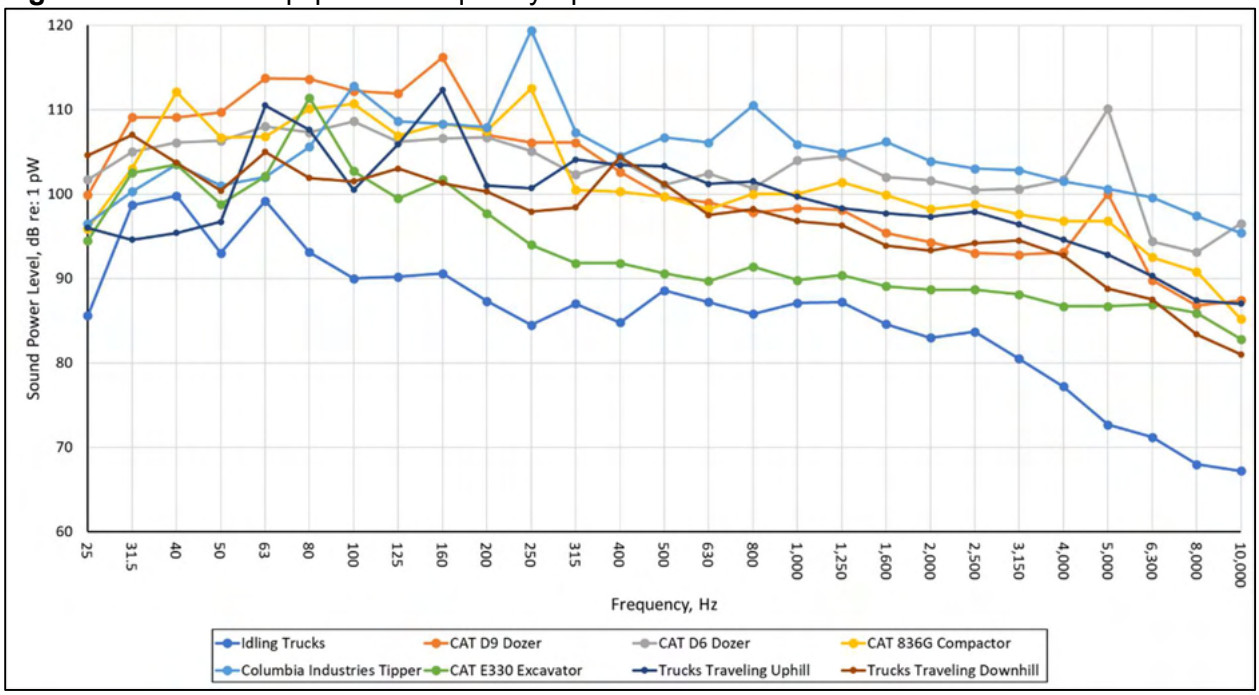
For mobile equipment and equipment not operating continuously, reported sound levels only include the loudest portions of the measurements. Because the data was collected at a variety of distances, measured sound pressure levels were used to compute equipment sound power levels, which are independent of distance. Measurement distances, sound pressure levels, and calculated sound power levels are shown in Table 5.3. A graph showing the frequency spectrum of the equipment is shown in Figure 5.6.

Table 5.3 Equipment Sound Levels, L_{eq}

Equipment	Measurement Distance, Feet	Sound Pressure Level, dBA	Sound Power Level, L_wA
CAT D9 Dozer	75	75	110
CAT D6 Dozer[1]	75	80	115
CAT 836G Compactor	45	81	111
Columbia Industries Tipper	30	90	117
CAT 330 Excavator	60	68	102
Idling Trucks	25	70	96
Trucks Traveling Uphill[2]	15	89	110
Trucks Traveling Downhill[3]	26	81	108

1. Reported sound levels are the logarithmic average of two measurements
2. Reported sound levels are the logarithmic average of eight measurements
3. Reported sound levels are the logarithmic average of five measurements

Figure 5.6 On-Site Equipment Frequency Spectrum



6.0 ANALYSIS

The primary tool used to predict sound levels at neighboring properties from proposed future operations was the 3-D computer noise modeling software environment, Cadna/A. Cadna/A utilizes the CADNA (Control of Accuracy and Debugging for Numerical Applications) computation engine developed by the Pierre et Marie Curie University of Paris. The models used for this project utilized the International Organization for Standardization 9613 Part II algorithms, implemented in the Cadna/A software, which accounted for the effects of distance, topography, and surface reflections.

The modeling process is typically accurate within 3 dB. Conservative assumptions were used in the model created for this project to ensure sufficient design margin within the predicted sound levels, allowing for direction comparison with project criteria.

Locations of equipment and future on-site topography were determined from drawings provided by Civil and Environmental Consultants, Inc. Offsite topographical information was based on LIDAR images of the area. Property line locations, zoning information, and locations of structures were determined from Benton County Geographical Information System (GIS) data.

To account for changes to the topography in the expansion area over time, both the beginning of landfill operations, when the site is nearly empty (Scenario 1), and when on-site operations are nearing completion and the site is nearly full (Scenario 2) were modeled. Near the beginning of operations, the middle of the expansion area will be approximately 260 feet above sea level and near the end of operations the expansion area will be approximately 450 feet above sea level.

Equipment measured on October 15, 2021, was modeled within the proposed expansion area. Operations within the expansion area are expected to be similar to existing operations and generate similar sound levels. In Scenario 1, equipment was placed near the southern portion of

the expansion area to produce conservative results at noise sensitive properties located south of the site. Equipment in Scenario 2 were distributed along at the highest point of the expansion area. Trucks using the landfill were modeled entering from Highway 99 West, using the scale house, proceeding to the expansion area, and returning to Highway 99 West. The hourly vehicle counts included in the noise models are shown in Table 6.1 and all vehicles were modeled traveling at 15 miles per hour.

OAR sound limits are based on hourly L_{01}, L_{10}, and L_{50} percentile sound levels. Percentile sound levels present modeling challenges due to variability in the duration of equipment operations, changes in sound levels produced by the equipment, and times when multiple pieces of equipment may operate simultaneously. This analysis predicts hourly L_{01} and L_{50} percentile sound levels as follows:

- L_{01} was modeled with all equipment operating simultaneously and each piece of equipment generating the loudest one-second sound level produced during the on-site equipment measurements. The L_{01} captures loud, transient events, such as banging truck gates and loud noises from unloading. Calculated pass-by levels were used to estimate the L_{01} sound level from trucks at individual properties. These predicted levels were then combined with predicted sound levels from other on-site equipment. While L_{01} sound levels themselves are not appropriately combined in this way, it represents a conservative prediction for L_{01} sound levels from the site.
- L_{50} is modeled with the assumption that L_{50} sound levels are similar to measured L_{eq} equipment sound levels. Equipment was modeled generating the loudest 1-second L_{eq} sound levels produced by each piece of equipment during the on-site measurements with a usage factor applied. The percentage of an hour that each piece of equipment produces the loudest sound levels (acoustical usage factors) were applied based on Federal Highway Administration (FHWA) Construction Noise Control Specification 721.560 and estimated operating times noted during the on-site equipment measurements.

Equipment types and quantities included in the noise models are shown in Table 6.1.

Table 6.1 Modeled Equipment

Equipment	Quantity	Usage Factor (%)[1]
CAT D9 Dozer	1	40
CAT D6 Dozer	1	40
CAT 836G Compactor	2	50
Columbia Industries Tipper	1	50
CAT 330 Excavator	1	40
Idling Trucks	4	100
Landfill Trucks[2]	47/hour	100

1. Based on information in the FHWA Construction Noise Control Specification 721.560 and operating times noted during on-site measurements.
2. Sound levels from trucks traveling uphill were used in the models.

Figure 6.1 Modeled Equipment Locations – Scenario 1

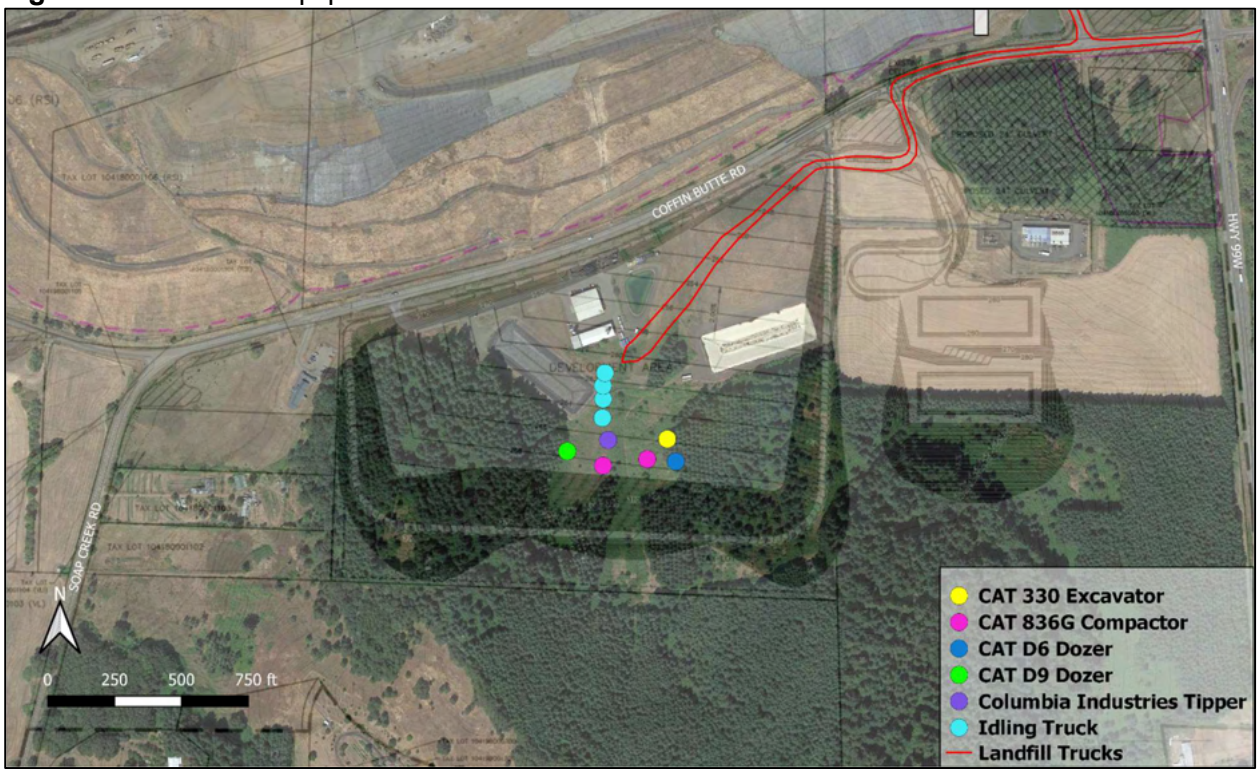
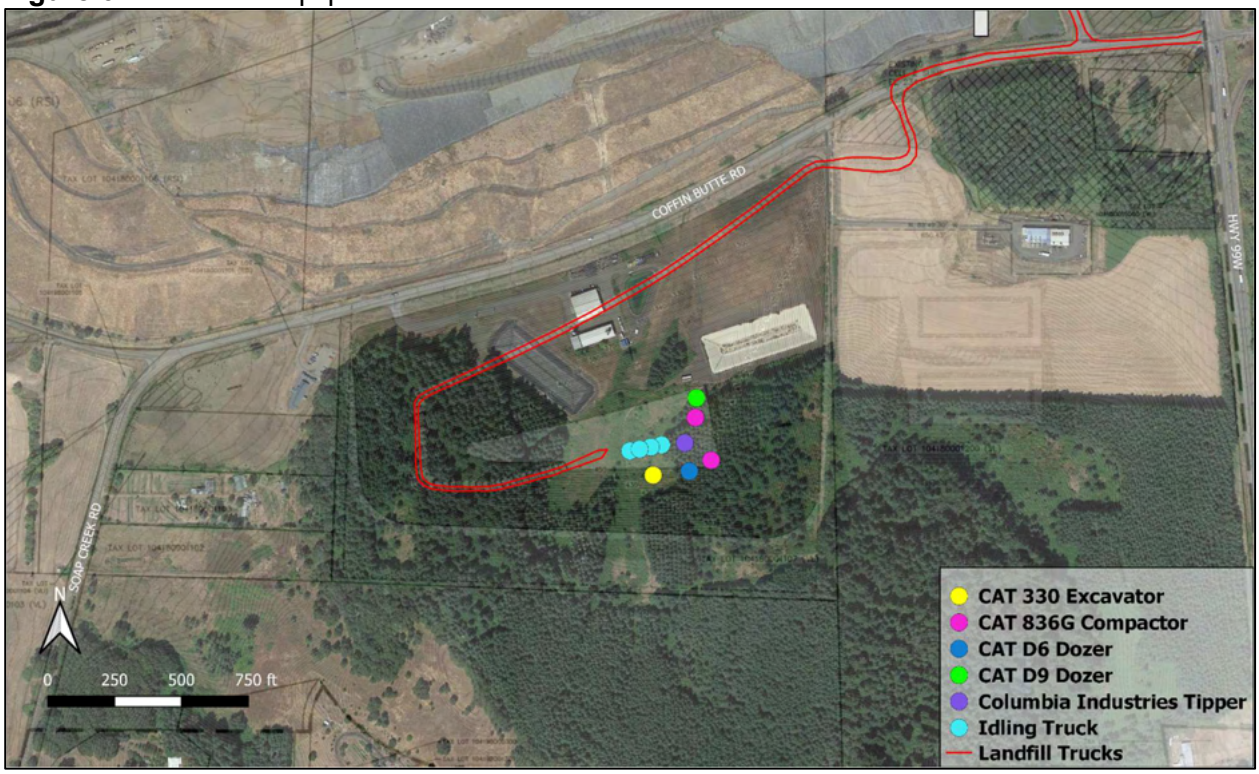


Figure 6.2 Modeled Equipment Locations – Scenario 2



7.0 MODELING RESULTS

Predicted sound levels included in this document represent the loudest sound levels anticipated at receiving noise sensitive properties and at the locations where existing sound levels were measured. The evaluation point locations are shown in Figure 7.1. These predicted sound levels represent on-site operations only and do not include contributions from off-site sound sources or safety devices such as backup alarms.

Figure 7.1 Evaluation Point Locations

Predicted unmitigated broadband sound levels from Scenario 1 are shown in Table 7.1 and predicted sound levels in each octave band are shown in Table 7.2.

Table 7.1 Predicted Unmitigated Broadband Sound Levels – Scenario 1, dBA

Location	Project Limits[1]		Predicted Sound Level		Satisfies OAR Limits?	
	L_{01}[3]	L_{50}	L_{01}	L_{50}	L_{01}	L_{50}
Location 1[2]	-	32	-	27	-	Yes
Location 2[2]	-	39	-	35		
Location 3[2]	-	46	-	39		
Location 4[2]	-	39	-	39		
North	60	50	44	42	Yes	Yes
South			36	35		
West			41	39		
East			42	40		
Southeast			38	36		

1. Based on nighttime OAR sound limits and 10 dB increase to existing sound levels
2. See Figure 5.1 for locations where existing sound levels were measured
3. OAR increases to existing sound levels only apply to L_{10} and L_{50} sound levels

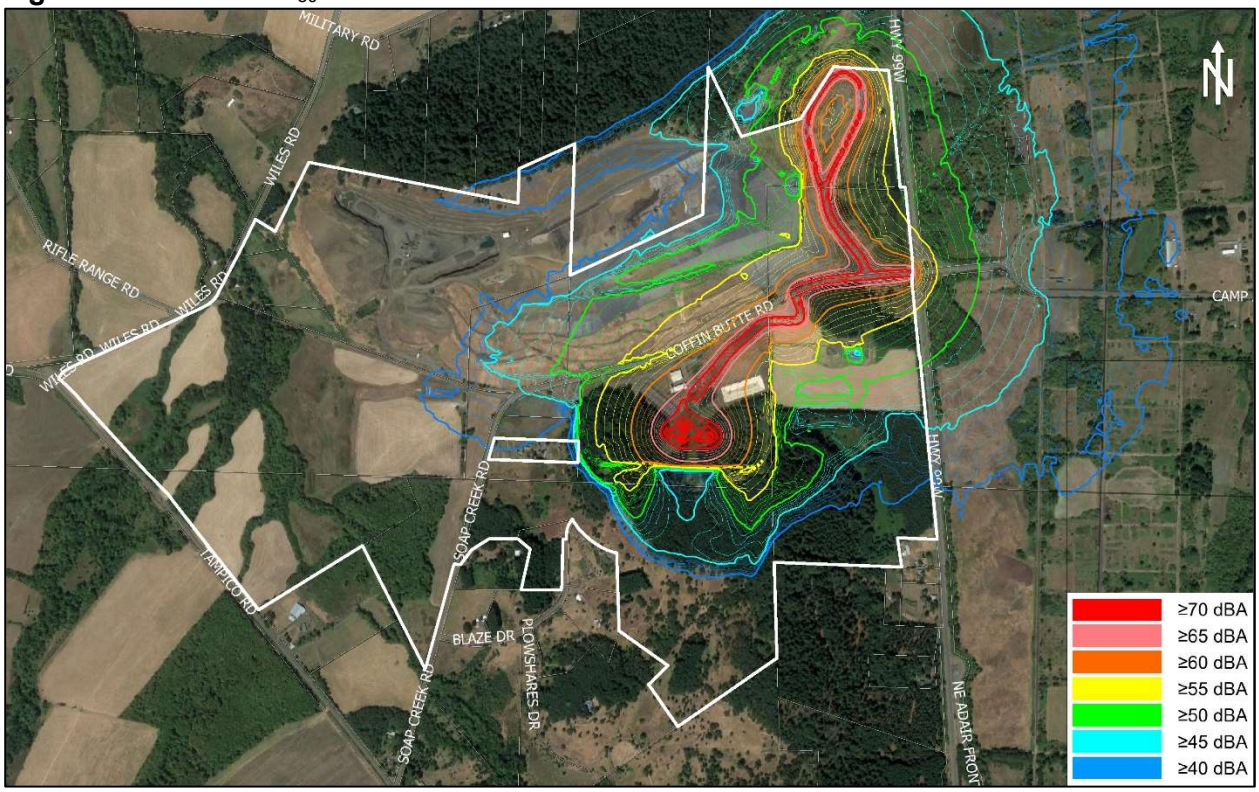
Table 7.2 Predicted Unmitigated L_{50} Octave Band Sound Levels – Scenario 1, dB

	Frequency, Hz								
	31.5	**63**	**125**	**250**	**500**	**1,000**	**2,000**	**4,000**	**8,000**
OAR Sound Limits[1]	**65**	**62**	**56**	**50**	**46**	**43**	**40**	**37**	**34**
Location									
Location 1	36	38	36	30	23	21	14	1	-
Location 2	44	46	44	39	32	27	20	10	-
Location 3	38	46	45	37	38	33	26	6	-
Location 4	47	49	48	43	35	30	21	10	-
North	41	47	44	39	39	39	30	7	-
South	41	44	43	37	33	28	19	1	-
West	46	48	47	43	35	30	23	13	-
East	42	53	42	37	39	37	29	2	-
Southeast	36	44	42	35	35	31	24	1	-
Satisfies OAR Limits?	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**

1. Based on OAR 340-35-035 Table 10

As shown in Table 7.1 and Table 7.2 sound levels from Scenario 1 are anticipated to comply with OAR sound limits at all nearby noise sensitive properties and locations where existing sound levels were measured. Predicted sound levels are also below the median ambient sound levels measured during times when existing landfill operations were taking place. Predicted sound contours five feet above grade from Scenario 1 are shown in Figure 7.2.

Figure 7.2 Predicted L_{50} Sound Level Contours – Scenario 1



Predicted broadband sound levels from Scenario 2 are shown in Table 7.3 and predicted sound levels in each octave band are shown in Table 7.4. Sound levels at the locations where existing sound levels were measured are not included because existing sound level when the site is filled are not known.

Table 7.3 Predicted Unmitigated Broadband Sound Levels – Scenario 2, dBA

Location	Project Limits[1]		Predicted Sound Level		Satisfies OAR Limits?	
	L_{01}	L_{50}	L_{01}	L_{50}	L_{01}	L_{50}
North	60	50	45	43	Yes	Yes
South			47	43		
West			51	45		
East			43	41		
Southeast			40	37		

1. Based on nighttime OAR sound limits

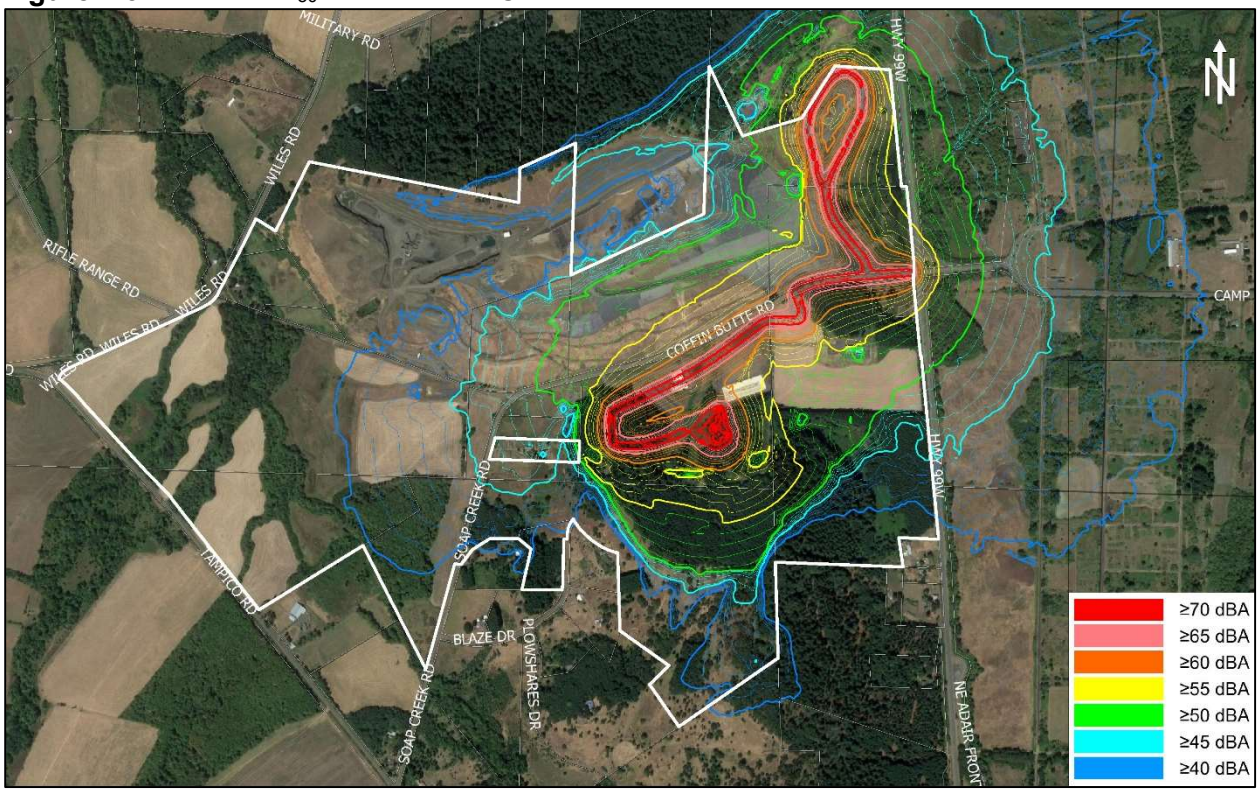
Table 7.4 Predicted Unmitigated L_{50} Octave Band Sound Levels – Scenario 2, dB

	Frequency, Hz								
	31.5	**63**	**125**	**250**	**500**	**1,000**	**2,000**	**4,000**	**8,000**
OAR Sound Limits[1]	**65**	**62**	**56**	**50**	**46**	**43**	**40**	**37**	**34**
Location									
North	42	48	45	40	40	40	32	9	-
South	45	52	49	43	40	38	33	20	-
West	45	52	52	44	44	40	35	26	4
East	47	54	43	38	39	38	29	2	-
Southeast	42	46	44	38	36	31	24	2	-
Satisfies OAR Limits?	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**

1. Based on OAR 340-35-035 Table 10

Sound levels from the end of operations are anticipated to comply with OAR sound limits at all nearby noise sensitive properties. Predicted unmitigated sound contours five feet above grade from Scenario 2 are shown in Figure 7.3.

Figure 7.3 Predicted L_{50} Sound Level Contours – Scenario 2



Predicted sound levels from trucks using the landfill and on-site equipment comply with OAR sound limits at all nearby noise sensitive properties under both modeling scenarios. Anticipated sound levels from landfill operations under Scenario 2 are higher than those from Scenario 1 due to the increased elevation of the site as it becomes filled, which decreases the effectiveness of the screening provided by the hillside south of the site, and rerouting trucks to travel up the

north, west, and south slopes of the expansion area. Although not required to comply with codified sound limits, it is recommended that all backup alarms used on the site be replaced with ambient sensing broadband backup alarms, if permitted by safety regulations.

8.0 APPENDIX

8.1 Location 1 Ambient Sound Levels

Bolded and underlined values shown in Table 8.1 and Table 8.2 represent hours when the landfill was operating.

Table 8.1 Hourly L_{10} Sound Levels - Location 1, dBA

Start of Hour	L_{10}				
	Friday 10/15/2021	Saturday 10/16/2021	Sunday 10/17/2021	Monday 10/18/2021	Tuesday 10/19/2021
12:00 AM		27	24	48	25
1:00 AM		26	23	42	27
2:00 AM		23	23	36	25
3:00 AM		22	24	33	25
4:00 AM		24	23	**33**	**32**
5:00 AM		30	26	**39**	**41**
6:00 AM		30	27	**40**	**42**
7:00 AM		**34**	34	**46**	**44**
8:00 AM		**40**	37	**45**	**46**
9:00 AM		**39**	43	**46**	**47**
10:00 AM		**40**	42	**44**	**46**
11:00 AM		**44**	36	**42**	**45**
12:00 PM		**41**	37	**43**	
1:00 PM	**43**	**38**	36	**45**	
2:00 PM	-	**39**	38	**44**	
3:00 PM	**41**	**42**	35	**44**	
4:00 PM	**42**	**38**	35	**44**	
5:00 PM	**39**	**41**	39	**45**	
6:00 PM	38	36	35	39	
7:00 PM	35	38	32	33	
8:00 PM	31	31	54	28	
9:00 PM	30	31	54	29	
10:00 PM	28	29	52	31	
11:00 PM	26	28	49	27	

Note: "-" denotes hours when a complete hour of data was not collected

Table 8.2 Hourly L_{50} Sound Levels - Location 1, dBA

Start of Hour	L_{50}				
	Friday 10/15/2021	Saturday 10/16/2021	Sunday 10/17/2021	Monday 10/18/2021	Tuesday 10/19/2021
12:00 AM		22	20	45	18
1:00 AM		21	20	37	20
2:00 AM		18	20	30	19
3:00 AM		15	20	27	18
4:00 AM		19	19	**26**	**23**
5:00 AM		21	21	**30**	**36**
6:00 AM		23	23	**32**	**38**
7:00 AM		**27**	26	**39**	**40**
8:00 AM		**33**	31	**40**	**39**
9:00 AM		**33**	37	**40**	**41**
10:00 AM		**34**	33	**38**	**39**
11:00 AM		**32**	31	**35**	**39**
12:00 PM		**31**	32	**37**	
1:00 PM	**34**	**31**	30	**37**	
2:00 PM	-	**31**	30	**37**	
3:00 PM	**34**	**32**	28	**33**	
4:00 PM	**33**	**32**	30	**32**	
5:00 PM	**31**	**31**	29	**29**	
6:00 PM	31	30	27	24	
7:00 PM	31	32	29	23	
8:00 PM	27	29	32	21	
9:00 PM	24	27	51	22	
10:00 PM	23	24	50	22	
11:00 PM	22	23	46	20	

Note: "-" denotes hours when a complete hour of data was not collected

Figure 8.1 Hourly L_{10} Sound Levels over Measurement Period - Location 1

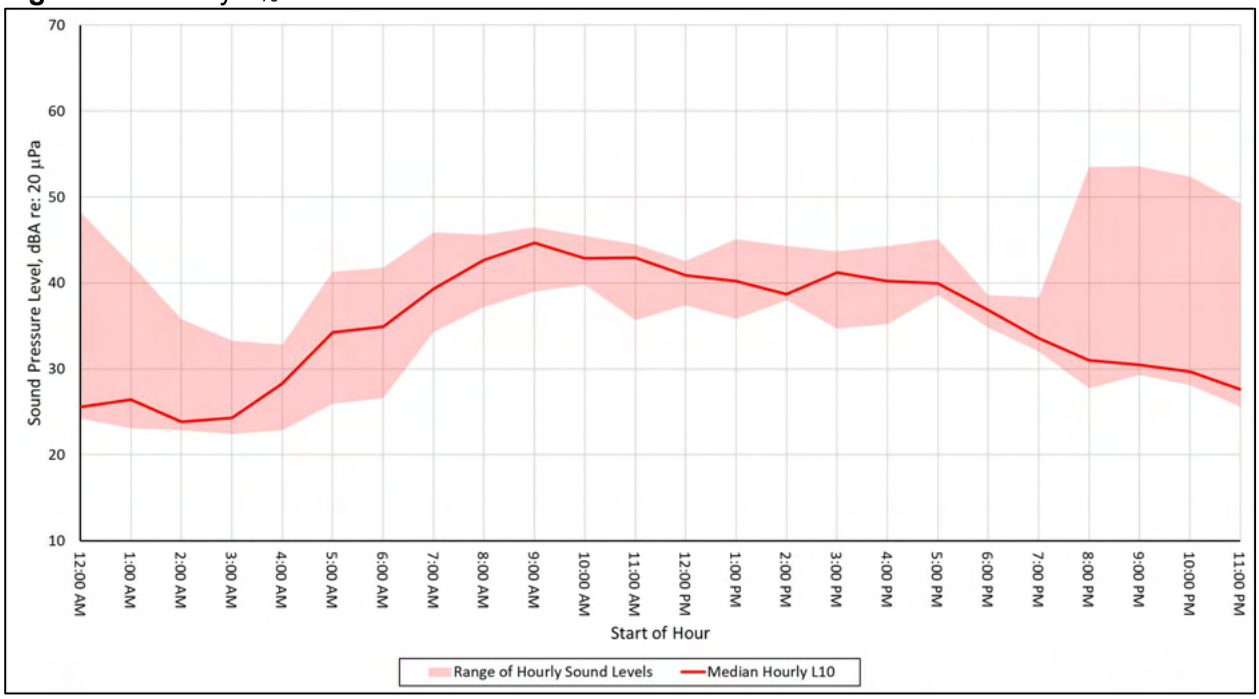
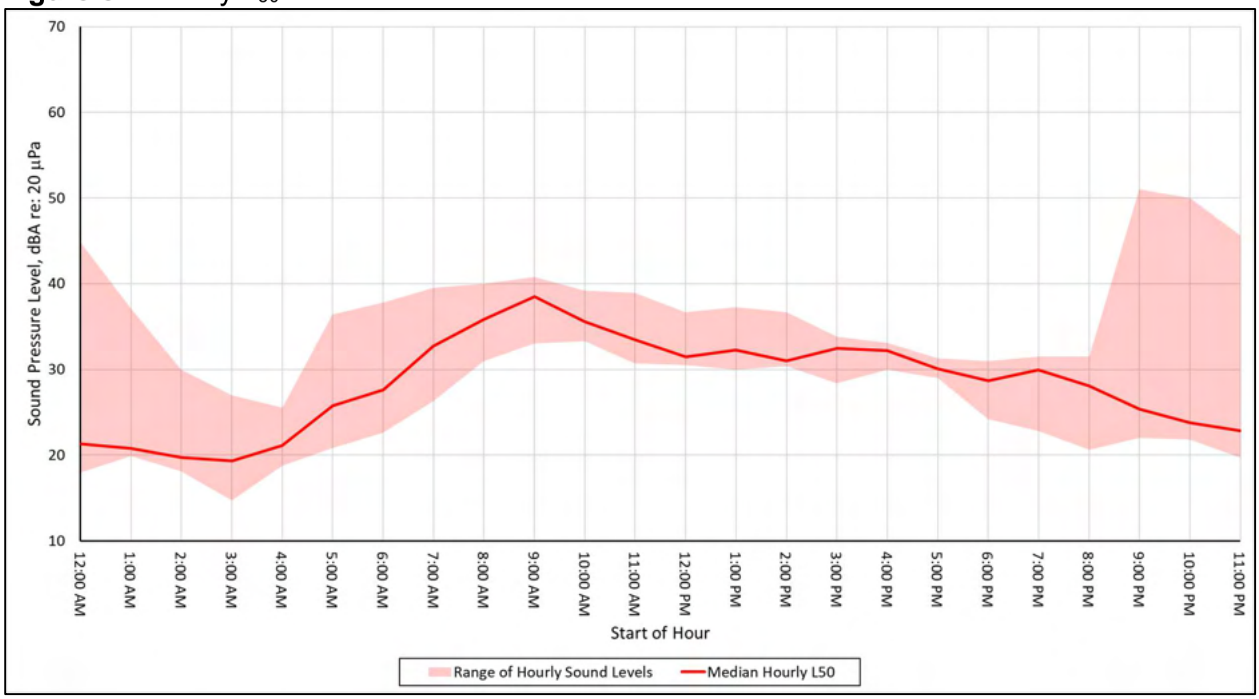


Figure 8.2 Hourly L_{50} Sound Levels over Measurement Period - Location 1



8.2 Location 2 Ambient Sound Levels

Bolded and underlined values shown in Table 8.3 and Table 8.4 represent hours when the landfill was operating.

Table 8.3 Hourly L_{10} Sound Levels - Location 2, dBA

Start of Hour	L_{10}				
	Friday 10/15/2021	Saturday 10/16/2021	Sunday 10/17/2021	Monday 10/18/2021	Tuesday 10/19/2021
12:00 AM		-	30	45	30
1:00 AM		34	30	37	33
2:00 AM		30	28	31	30
3:00 AM		27	30	29	29
4:00 AM		31	28	**31**	**33**
5:00 AM		37	33	**37**	**39**
6:00 AM		-	38	**40**	**41**
7:00 AM		**39**	41	**42**	**42**
8:00 AM		-	42	**42**	**42**
9:00 AM		-	41	**41**	**41**
10:00 AM		**41**	43	**41**	**43**
11:00 AM		-	46	**41**	**43**
12:00 PM		-	47	**41**	
1:00 PM	**44**	**43**	44	**41**	
2:00 PM	-	-	45	**41**	
3:00 PM	**39**	-	43	**43**	
4:00 PM	**40**	**42**	39	**45**	
5:00 PM	**39**	**43**	40	**44**	
6:00 PM	40	40	42	39	
7:00 PM	-	42	38	37	
8:00 PM	38	39	53	35	
9:00 PM	37	37	51	33	
10:00 PM	34	36	49	35	
11:00 PM	33	36	46	31	

Note: "-" denotes hours when a complete hour of data was not collected

Table 8.4 Hourly L_{50} Sound Levels - Location 2, dBA

Start of Hour	L_{50}				
	Friday 10/15/2021	Saturday 10/16/2021	Sunday 10/17/2021	Monday 10/18/2021	Tuesday 10/19/2021
12:00 AM		-	29	43	28
1:00 AM		28	29	35	30
2:00 AM		26	27	29	28
3:00 AM		26	29	27	28
4:00 AM		27	27	**28**	**30**
5:00 AM		29	29	**34**	**36**
6:00 AM		-	35	**38**	**39**
7:00 AM		**33**	38	**40**	**41**
8:00 AM		-	39	**40**	**40**
9:00 AM		-	38	**39**	**39**
10:00 AM		**37**	39	**38**	**41**
11:00 AM		-	43	**37**	**40**
12:00 PM		-	43	**38**	
1:00 PM	**37**	**38**	41	**38**	
2:00 PM	-	-	42	**39**	
3:00 PM	**34**	-	41	**39**	
4:00 PM	**35**	**36**	36	**40**	
5:00 PM	**34**	**35**	37	**40**	
6:00 PM	37	36	39	36	
7:00 PM	-	39	36	35	
8:00 PM	35	36	48	33	
9:00 PM	33	34	50	30	
10:00 PM	30	34	48	31	
11:00 PM	29	32	44	28	

Note: "-" denotes hours when a complete hour of data was not collected

Figure 8.3 Hourly L_{10} Sound Levels over Measurement Period - Location 2

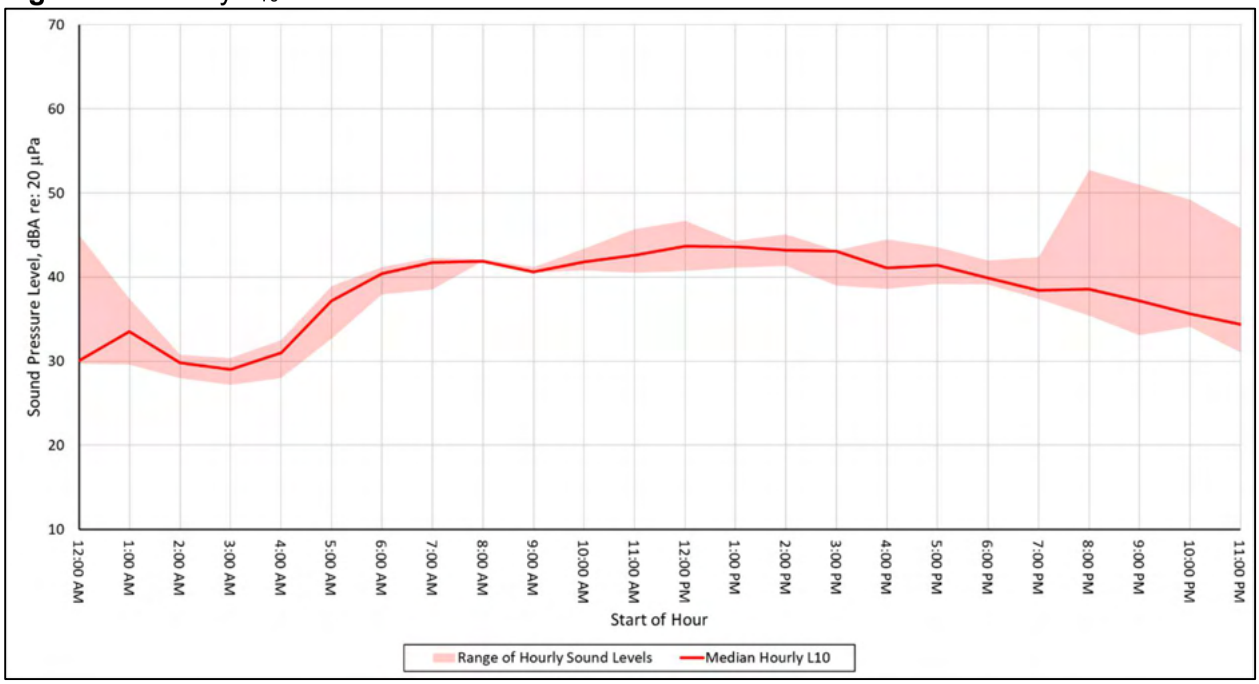
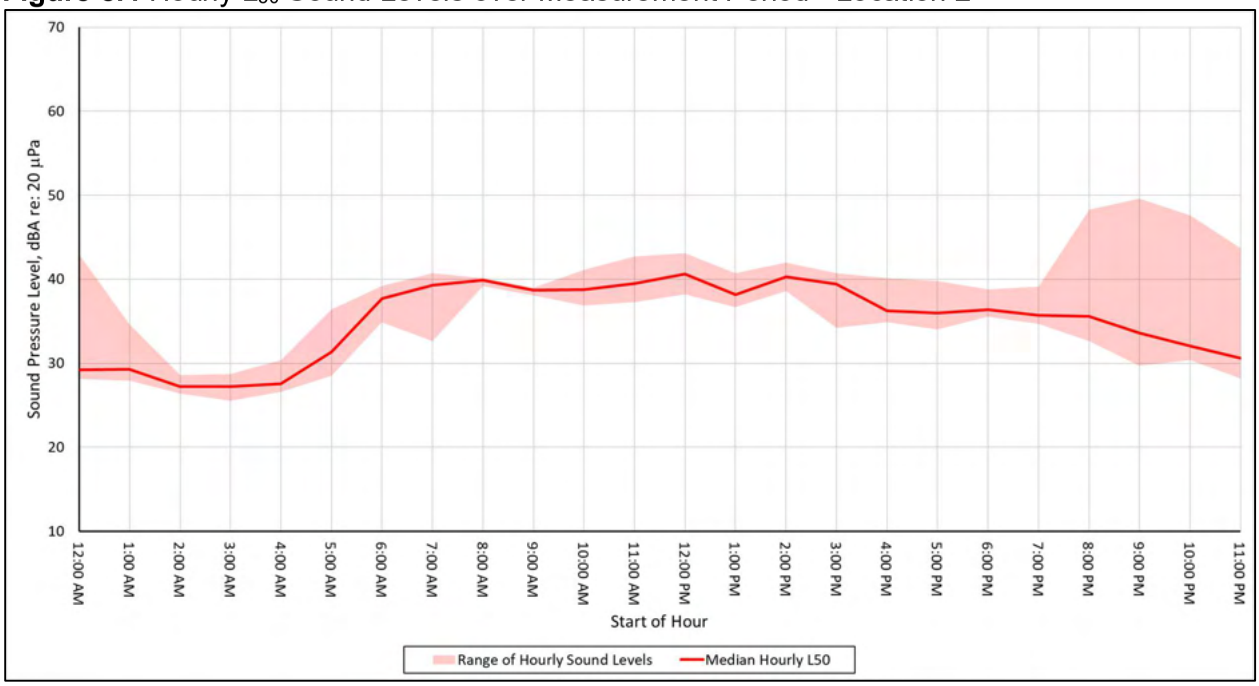


Figure 8.4 Hourly L_{50} Sound Levels over Measurement Period - Location 2



8.3 Location 3 Ambient Sound Levels

Bolded and underlined values shown in Table 8.5 and Table 8.6 represent hours when the landfill was operating.

Table 8.5 Hourly L_{10} Sound Levels - Location 3, dBA

Start of Hour	L_{10}				
	Friday 10/15/2021	Saturday 10/16/2021	Sunday 10/17/2021	Monday 10/18/2021	Tuesday 10/19/2021
12:00 AM		53	50	47	45
1:00 AM		51	48	43	48
2:00 AM		46	43	43	39
3:00 AM		42	38	48	46
4:00 AM		49	46	**53**	**51**
5:00 AM		51	50	**57**	**56**
6:00 AM		55	51	**59**	**58**
7:00 AM		**55**	54	**60**	**59**
8:00 AM		**57**	56	**59**	**58**
9:00 AM		-	56	**60**	**59**
10:00 AM		**59**	57	**60**	**58**
11:00 AM		**59**	58	**59**	
12:00 PM		**59**	58	**59**	
1:00 PM		**59**	58	**58**	
2:00 PM	**60**	**59**	58	**58**	
3:00 PM	**60**	**59**	58	**60**	
4:00 PM	-	**59**	58	**60**	
5:00 PM	**59**	**59**	57	**60**	
6:00 PM	-	57	57	58	
7:00 PM	56	56	56	56	
8:00 PM	-	55	54	55	
9:00 PM	56	53	53	54	
10:00 PM	55	52	51	52	
11:00 PM	52	51	50	49	

Note: "-" denotes hours when a complete hour of data was not collected

Table 8.6 Hourly L_{50} Sound Levels - Location 3, dBA

Start of Hour	L_{50}				
	Friday 10/15/2021	Saturday 10/16/2021	Sunday 10/17/2021	Monday 10/18/2021	Tuesday 10/19/2021
12:00 AM		42	34	41	29
1:00 AM		38	30	37	32
2:00 AM		28	27	34	29
3:00 AM		28	28	32	31
4:00 AM		34	29	**35**	**36**
5:00 AM		37	31	**49**	**47**
6:00 AM		46	35	**53**	**52**
7:00 AM		**47**	45	**55**	**55**
8:00 AM		**51**	48	**54**	**53**
9:00 AM		-	50	**54**	**52**
10:00 AM		**54**	52	**54**	**53**
11:00 AM		**55**	53	**54**	
12:00 PM		**56**	54	**54**	
1:00 PM		**54**	54	**53**	
2:00 PM	**55**	**55**	54	**53**	
3:00 PM	**56**	**55**	53	**54**	
4:00 PM	-	**55**	53	**56**	
5:00 PM	**56**	**55**	52	**56**	
6:00 PM	-	52	51	54	
7:00 PM	51	50	50	50	
8:00 PM	-	48	47	47	
9:00 PM	49	45	48	46	
10:00 PM	48	43	44	39	
11:00 PM	36	42	42	33	

Note: "-" denotes hours when a complete hour of data was not collected

Figure 8.5 Hourly L_{10} Sound Levels over Measurement Period - Location 3

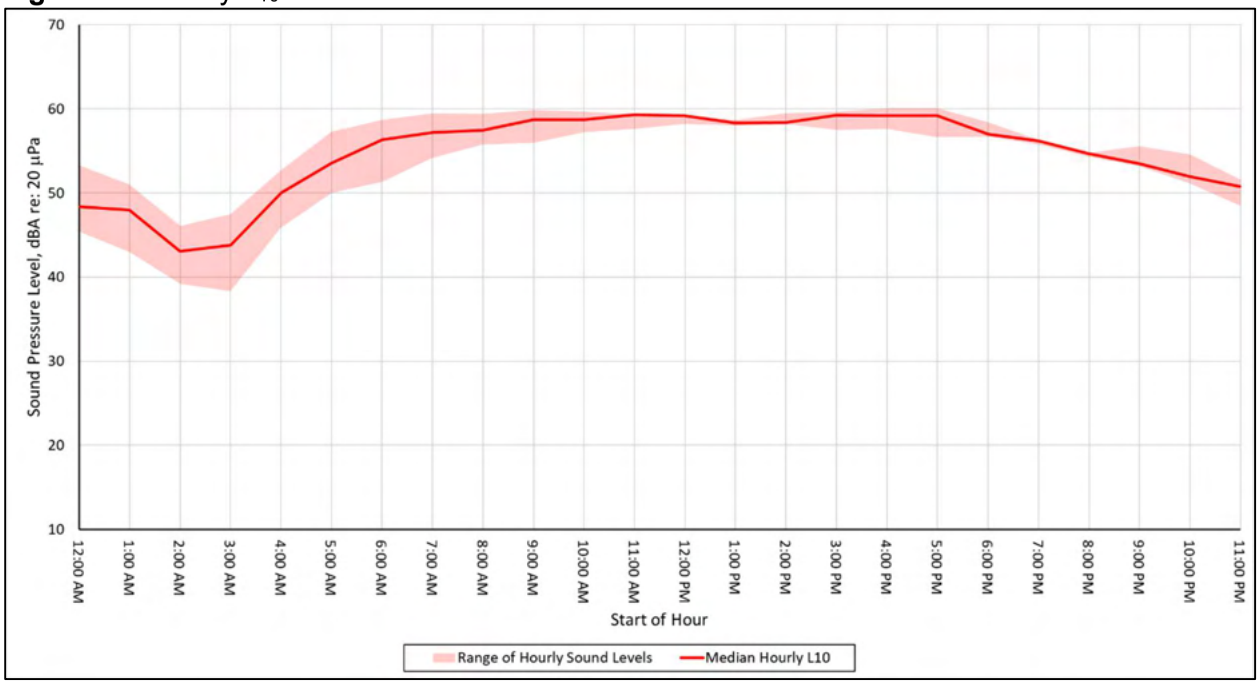
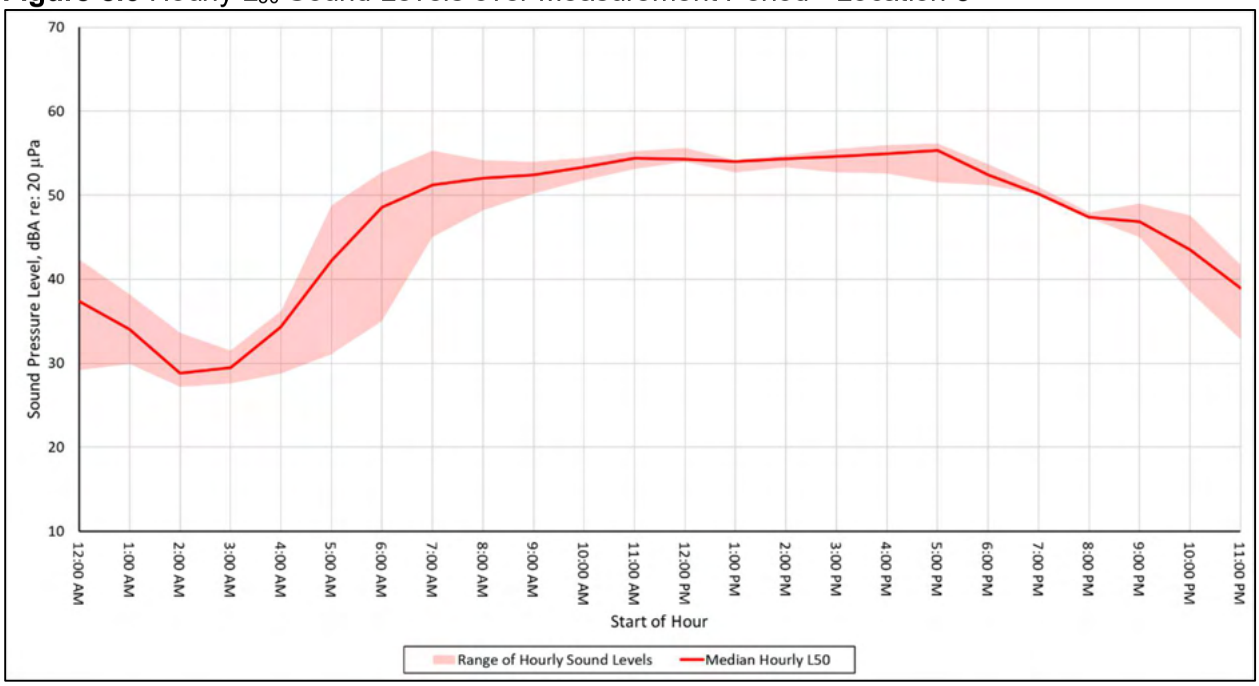


Figure 8.6 Hourly L_{50} Sound Levels over Measurement Period - Location 3



8.4 Location 4 Ambient Sound Levels

Bolded and underlined values shown in Table 8.5 and Table 8.6 represent hours when the landfill was operating.

Table 8.7 Hourly L_{10} Sound Levels - Location 4, dBA

Start of Hour	L_{10}									
	Thursday 1/13/2022	Friday 1/14/2022	Saturday 1/15/2022	Sunday 1/16/2022	Monday 1/17/2022	Tuesday 1/18/2022	Wednesday 1/19/2022	Thursday 1/20/2022	Friday 1/21/2022	Saturday 1/22/2022
12:00 AM		44	34	31	27	33	31	45	46	33
1:00 AM		41	36	28	27	36	31	44	43	30
2:00 AM		38	31	30	26	31	27	37	41	32
3:00 AM		38	30	32	27	33	28	35	39	33
4:00 AM		**39**	27	31	**29**	**33**	**37**	**42**	**41**	31
5:00 AM		**45**	27	32	**42**	**44**	**47**	**48**	**47**	29
6:00 AM		**44**	27	31	**46**	**46**	**51**	**46**	**48**	29
7:00 AM		**52**	**33**	33	**50**	**49**	**49**	**52**	**53**	**38**
8:00 AM		**55**	**42**	37	**54**	**51**	**51**	**51**	**54**	**46**
9:00 AM		**55**	**41**	36	**52**	**50**	**53**	**53**		**45**
10:00 AM		**55**	**40**	38	**53**	**48**	**51**	**54**	**53**	**46**
11:00 AM		**52**	**41**	36	**50**	**49**	**52**	**52**	**54**	**45**
12:00 PM		**53**	**42**	40	**50**	**47**	**51**	**52**	**54**	**43**
1:00 PM	**53**	**49**	**39**	38	**50**	**47**	**51**	**53**	**54**	**45**
2:00 PM	**53**	**51**	**42**	38	**50**	**47**	**52**	**52**	**50**	**46**
3:00 PM	**50**	**50**	**40**	39	**49**	**48**	**49**	**53**	**50**	
4:00 PM	**48**	**48**	**41**	39	**45**	**45**	**48**	**50**	**47**	
5:00 PM	**43**	**46**	**39**	39	**43**	**44**	**45**	**47**	**44**	
6:00 PM	44	47	40	36	40	38	39	49	46	
7:00 PM	41	47	40	34	36	30	40	48	43	
8:00 PM	46	45	41	33	32	30	41	48	43	
9:00 PM	43	41	38	32	35	37	41	46	39	
10:00 PM	40	39	35	28	33	28	40	45	35	
11:00 PM	45	37	30	33	37	32	42	45	33	

Note: "-" denotes hours when a complete hour of data was not collected

Table 8.8 Hourly L_{50} Sound Levels - Location 4, dBA

Start of Hour	L_{50}									
	Thursday 1/13/2022	Friday 1/14/2022	Saturday 1/15/2022	Sunday 1/16/2022	Monday 1/17/2022	Tuesday 1/18/2022	Wednesday 1/19/2022	Thursday 1/20/2022	Friday 1/21/2022	Saturday 1/22/2022
12:00 AM		40	30	27	24	26	27	42	42	29
1:00 AM		39	29	25	25	25	26	40	40	27
2:00 AM		34	27	26	24	25	25	35	38	29
3:00 AM		34	25	28	24	25	24	34	35	29
4:00 AM		**34**	24	27	**25**	**27**	**30**	**34**	**37**	28
5:00 AM		**40**	24	27	**34**	**34**	**38**	**43**	**41**	26
6:00 AM		**39**	24	27	**37**	**39**	**46**	**42**	**42**	26
7:00 AM		**44**	**28**	26	**40**	**41**	**41**	**41**	**46**	**30**
8:00 AM		**45**	**33**	28	**42**	**43**	**43**	**42**	**46**	**39**
9:00 AM		**45**	**32**	29	**42**	**42**	**44**	**43**		**38**
10:00 AM		**45**	**31**	30	**44**	**40**	**43**	**44**	**45**	**39**
11:00 AM		**43**	**31**	28	**41**	**41**	**41**	**42**	**45**	**35**
12:00 PM		**43**	**32**	29	**41**	**40**	**42**	**42**	**45**	**34**
1:00 PM	**47**	**40**	**31**	28	**41**	**39**	**42**	**43**	**45**	**37**
2:00 PM	**46**	**43**	**33**	30	**40**	**39**	**42**	**43**	**41**	**35**
3:00 PM	**45**	**41**	**33**	29	**38**	**39**	**41**	**43**	**41**	
4:00 PM	**40**	**36**	**31**	31	**35**	**38**	**37**	**40**	**39**	
5:00 PM	**36**	**38**	**30**	31	**30**	**33**	**34**	**39**	**38**	
6:00 PM	39	43	37	32	31	29	35	46	43	
7:00 PM	37	43	38	30	30	27	37	46	40	
8:00 PM	40	41	38	28	27	27	38	46	40	
9:00 PM	37	37	35	28	26	28	38	44	34	
10:00 PM	37	36	32	25	26	25	37	42	32	
11:00 PM	41	33	27	28	26	27	39	41	29	

Note: "-" denotes hours when a complete hour of data was not collected

Figure 8.7 Hourly L_{10} Sound Levels over Measurement Period - Location 4

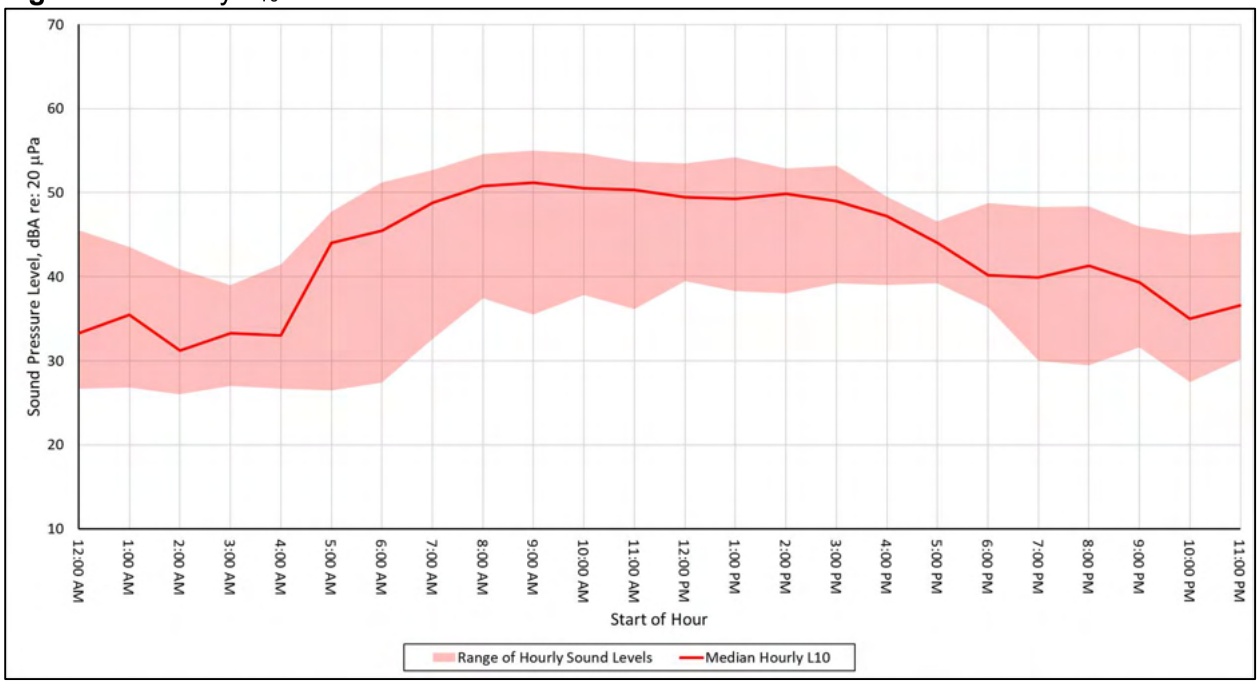


Figure 8.8 Hourly L_{50} Sound Levels over Measurement Period - Location 4

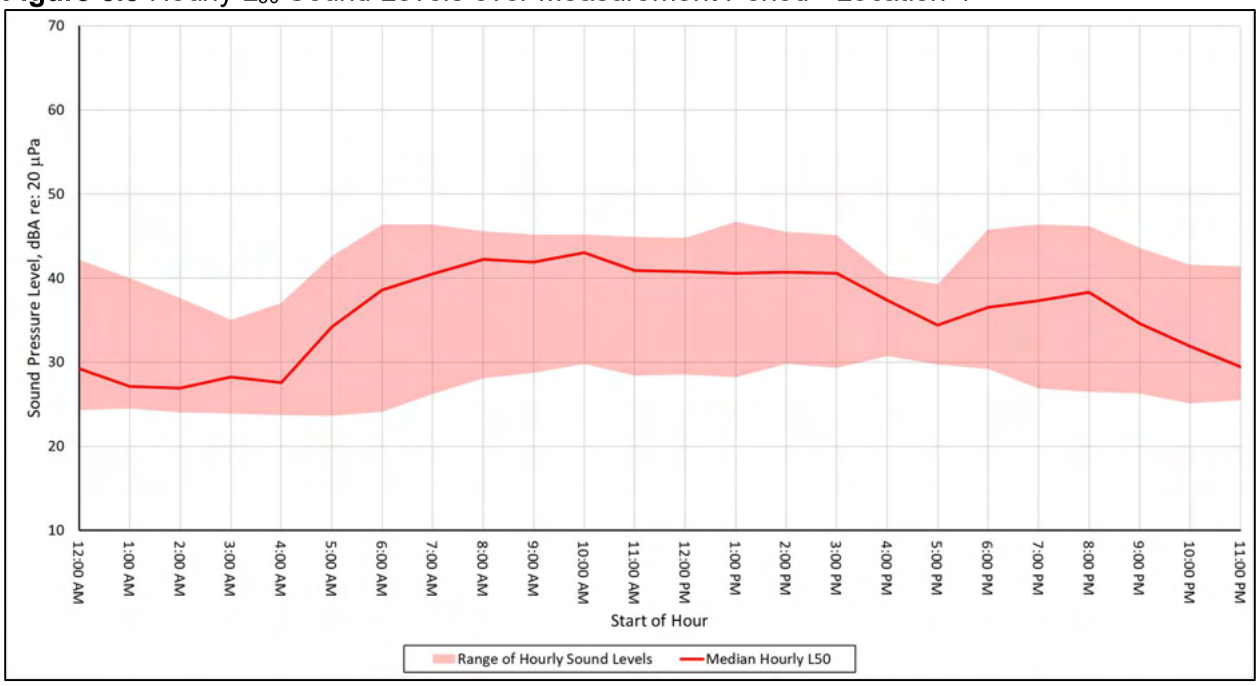


EXHIBIT 12
WEAVER CONSULTING GROUP FINDINGS ON ODOR

Weaver Consultants Group

7340 E. CALEY AVENUE, SUITE 110
CENTENNIAL, COLORADO 80111
PHONE: (720) 529-0132
FAX: (720) 529-0137

MEMORANDUM

To:	Ian Macnab Valley Landfills, Inc.	**Date:**	April 26, 2024
From:	Melissa Green Matt Stutz, P.E. Weaver Consultants Group	**Project No:**	0120-174-50-47-00
Re:	Findings on Odor Coffin Butte Landfill		

On December 7, 2021, the Planning Commission of the Benton County Community Development Department issued findings with respect to the proposed Coffin Butte Landfill (CBLF) Expansion. Valley Landfills, Inc. requested Weaver Consultants Group (WCG) to respond to the Planning Commission findings related to odor as it relates to air quality. WCG provides professional services to the solid waste industry across the nation, including the pacific northwest. WCG provides regulatory permitting and regulatory compliance services specific to air quality regulations at CBLF. CBLF is regulated under the US Environmental Protection Agency (USEPA) and the Oregon Department of Environmental Quality (ODEQ) and operates under an air quality permit issued by ODEQ. The purpose of this memorandum is to respond to the findings related to odor. WCG has provided the specific finding in ***italic bold*** font followed by WCG's response.

Planning Commission Findings:

Odor: Methane emission rules do not capture the impacts to the character and use of the area because many people testified that the smell inhibits them from going outside and enjoying the use of their property. Property owners within miles of the site stated they could smell the landfill. The current mitigation of an earthen cap over cells does not mitigate smell and smell reflects emissions of other gases such as Volatile Organic Compounds (VOCs) and hydrogen sulfide. The same mitigation is proposed for the expansion and if it currently does not mitigate the odor then it cannot be used as a mitigation for the future and be expected to minimize the concern.

Weaver Consultants Group offers the following to address landfill odors in general as well as providing site-specific data and information for CBLF, which documents metrics and submittals provided to the ODEQ.

Landfilling of solid waste is a generally accepted practice in the US. The practice is such that as waste is received at CBLF, it is immediately placed in the active area of the landfill. A landfill in total may have an area of 100 acres or more in overall size, but the area where the waste is placed

on a given day is much smaller. For CBLF, this day-to-day active area is less than ½-acre. Through the daily landfilling process, odors can be present in the active area and are similar to the odors of waste disposed of from residential households. To manage this, a 6-inch layer of soil or alternative daily cover (ADC) is spread at the end of each day over the top of the ½-acre active area. Typically, the active areas do not change in size with an expansion; rather, the active area will move depending on the operational need of the landfill. Therefore, the expansion should not increase the odor impacts of the active area as compared to the existing operation.

The reference to the use of "earthen cap over cells", also known as daily and intermediate soil cover, to mitigate odors has been proven in all climatic regions to be an effective means in mitigating odor. This 6-inch soil layer is found in the USEPA regulations, the ODEQ regulations, and is also referenced in the Solid Waste Association of North America (SWANA) Technical Policies Manual. SWANA is a non-profit organization who utilizes experts across North America to develop best practices for landfills. Additional information will be provided surrounding this soil cover layer later in this document.

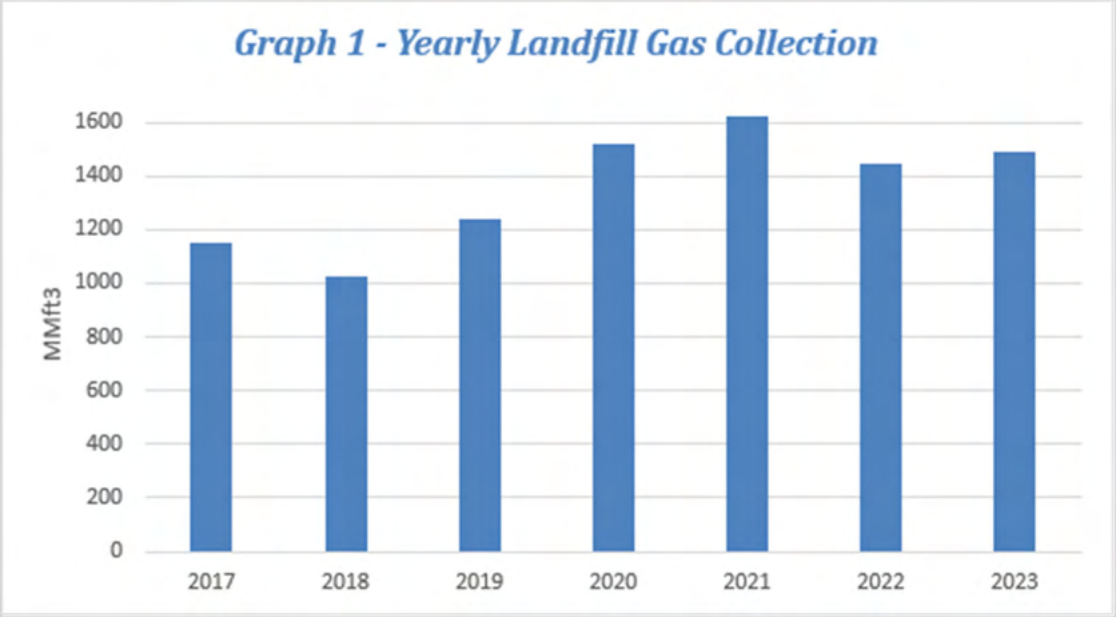
Landfill Gas Collection and Control

CBLF actively extracts landfill gas (LFG) out of the landfill in an effort to assist in controlling the mitigation of LFG. The following sections outline site-specific data related to this in addition to other odor control measures used at the landfill.

Over time, the waste placed in a landfill begins to decompose. One of the bi-products of this decomposition is a biogas referred to as LFG. LFG gas is generally considered to be 50% methane and 50% carbon dioxide. However, there are some trace compounds like hydrogen sulfide and VOCs generated within the landfill. To collect the LFG, the CBLF has a landfill gas collection and control system (GCCS). The GCCS is the main component and in conjunction with daily and intermediate soil cover is used for mitigating the potential odors. The installation of the GCCS is regulated by both the USEPA and the ODEQ. As outlined in the landfill expansion, the GCCS will continue to be used and expanded with the landfill.

Oregon currently has one of the most stringent landfill emissions standards in the United States. The current GCCS at the site includes over 350 collection points. Under the USEPA and ODEQ air regulations, landfills are required to install LFG extraction wells where waste is in place more than 5 years. However, CBLF installs LFG extraction wells every year typically in waste that is at most 1 year old to minimize off-site odors.

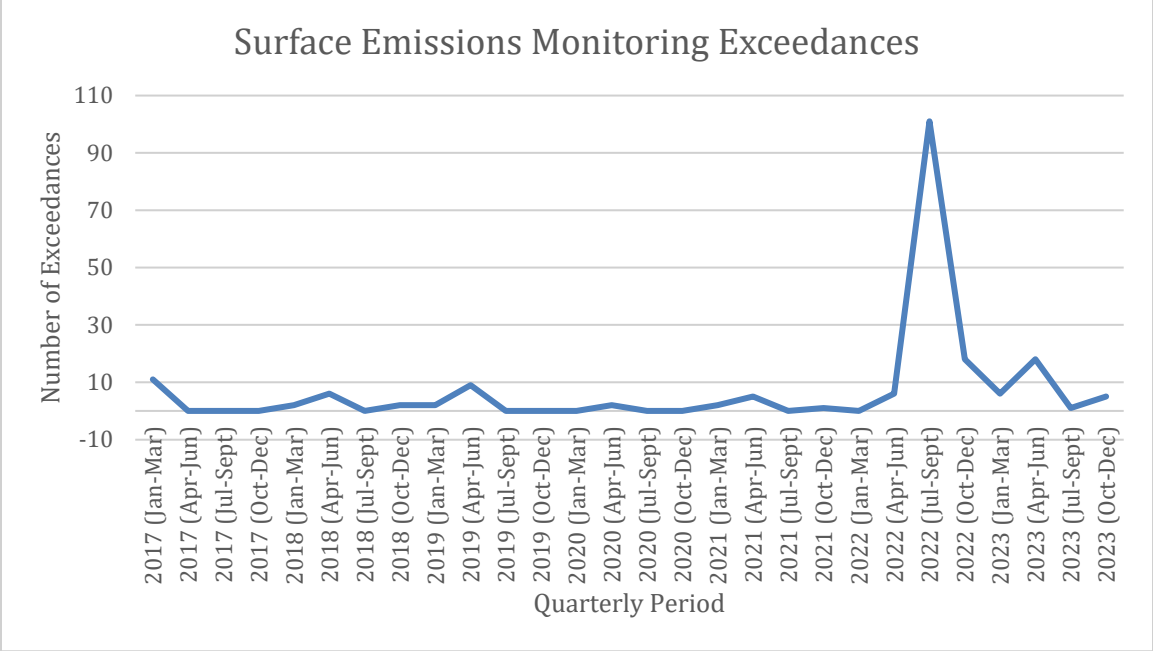
In an effort to understand the impact of the GCCS collection system on the landfill, WCG reviewed the LFG collection rates to look for trends. The following graph shows annual collected LFG.



As depicted in the graph, the gas collection has increased from 2018 to 2021. In 2022 the gas collection slightly decreased but then increased in 2023. These slight variances in gas collection are to be expected as gas generation and gas collection are dependent on several variables that include environmental and biological conditions.

Surface Emission Monitoring

To document the performance of the GCCS efficiency, CBLF has a comprehensive surface emissions monitoring (SEM) program. This SEM program consists of walking the surface of the landfill each quarter with a handheld meter which is held 2-4 inches from the landfill's surface. The meter continuously samples the air from the landfill surface to determine areas where LFG might be emitted. Should LFG be detected at 500 parts per million (ppm) methane above background, corrective action is taken, and the area is repaired and re-monitored. This method allows verification of how well CBLF is collecting and controlling LFG and reducing the potential of off-site odors. A review of the SEM data for CBLF shows that there have been very few instances where LFG was detected coming from the landfill's surface. The following graph provides data for each quarter since 2017 with the associated number of exceedances that occurred during the SEM. In the third quarter of 2022, the landfill commenced compiling with the new Oregon Administrative Rule Chapter 340 Division 239 for Landfill Gas Emissions that implemented new SEM requirements such as integrated monitoring. CBLF implemented corrective action on the exceedance locations and the quarterly exceedances have decreased in the SEM events since third quarter 2022.



Soil Cover

As mentioned previously, the landfill soil cover acts as a filter for LFG that are not collected by the GCCS. The portion of uncollected gas must first pass through the landfill's cover soils before being emitted. As it passes through these cover soils, the gases are reduced by oxidative and biological processes. Numerous studies have shown that a significant portion of the hydrogen sulfide (H_2S) in the uncollected gas is converted to sulfide minerals within the cover soils and therefore not released. [1]

USEPA has recognized the effects of methane oxidation in determining LFG emissions and has incorporated cover soil oxidation into calculations. These USEPA regulations recognize that up to 35% of methane in LFG that reaches the soil may be oxidized and therefore not emitted. A review of the soil cover logs for the facility indicate that soil covers or ADCs have been in continual use at the site.

[1] Cristine Plaza, Qiyong Xu, Timothy Townsend, Gabriel Bitton, Matthew Booth, *Evaluation of alternative landfill cover soils for attenuating hydrogen sulfide from construction and demolition (C&D) debris landfills*, Journal of Environmental Management, Volume 84, Issue 3(2007).

Y. Ding, Chaun Yu Cai, J. Xiong, A. Qian, J. Wei, B. Hu, W. Wu, Z. Han, H. Zhang, W. Ni, *Evaluation of Alternative Cover Materials for Reducing Hydrogen Sulfide Emission from Municipal Solid Waste (MSW) Landfills*, Transactions of the ASABE. 59. 949-957. 10.13031/trans.59.11711 (2016).

Ruo He , Fang-Fang Xia, Yun Bai, Jing Wang, Dong-Sheng Shen, *Mechanism of H2S removal during landfill stabilization in waste biocover soil, an alternative landfill cover*, Journal of Hazardous Materials, 217–218:67–75 (March 2012).

As an added measure, CBLF incorporates the use of a plastic liner over the top of various landfill areas which are not in use. The plastic liner provides an added measure of barrier against potential migrating odors.

CBLF has installed final cover in addition to the soil cover on nearly 40% of the landfill surface to assist in reducing off-site odors. Final cover is a multilayered system of various materials which are primarily used to reduce the amount of stormwater that will enter a landfill after closing and control the migrations of LFGs. Landfills are not required to install final cover until the landfill is no longer accepting waste. However, CBLF has installed final cover well before it is required regulatorily.

Site Odor Monitoring

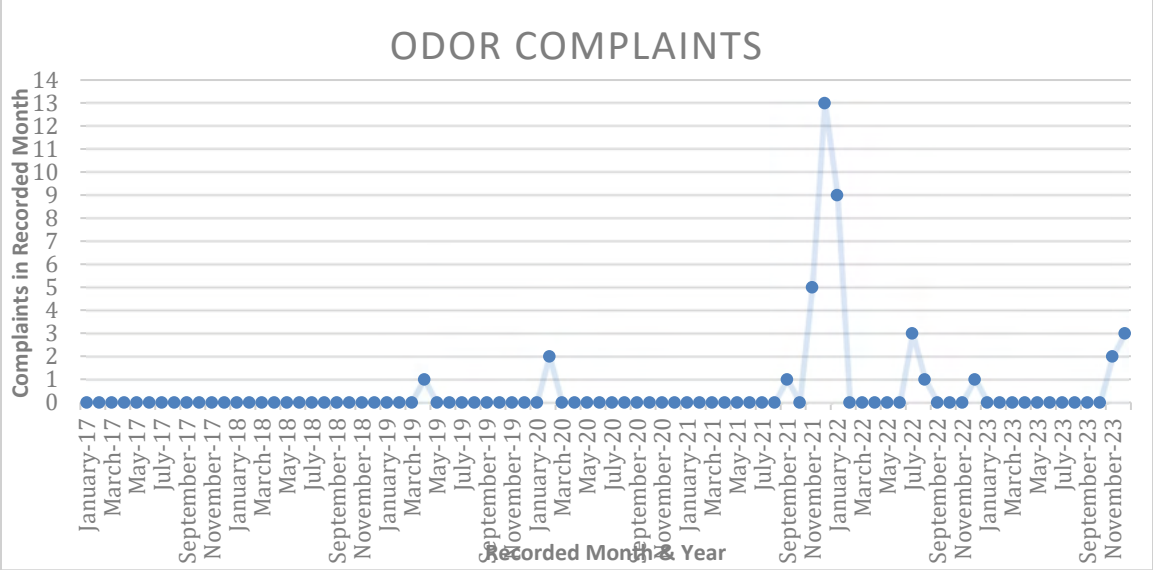
The site performs daily odor monitoring. This monitoring includes driving a loop starting at the office, travel west to Tampico, and then north of Coffin Butte Landfill, south on Highway 99, and then back to the site on Tampico. Landfill leaders complete an online Odor Management Training course and site employees complete annual training on odor monitoring. CBLF maintains a site-specific odor management plan that is updated annually or as needed. The plan includes, but is not limited to, information such as actions to take when odors are detected, identifying sources of odor, and methods for controlling odors at the site. A routine odor inspection is completed during every odor patrol. The inspections include, but are not limited to, information such as local weather data (temperature, wind direction, etc.), if any odors were detected, and odor details (such as location, type, distance from facility, possible sources, etc.). Complaints are documented and are investigated as soon as reasonably possible. Complaints and inspections are reviewed monthly by the Environmental Compliance Team.

In addition, the site also tracks and reports odor complaints it receives monthly. The following is a review of the odor complaints received at the site over time.

The following graph incorporates two sets of data:

1. Complaints received at the local level;
2. Complaints received at ODEQ.

One variable the graph does not show is the timing of the complaints.



Conclusion

Based on the review of the information above, CBLF's compliance with USEPA and ODEQ regulations, the implementation of industry best practices, and the data provided indicates that there has not been a significant impact to human health and environment related to LFGs or odors. An evaluation of key landfill control measures and data points do not indicate a widespread release of LFG or odors. The CBLF trends indicate the following:

- There was an increase in total gas collected from 2022 to 2023.
- Besides the spike that occurred in third quarter 2022 which appears to be related to the implementation of new SEM requirements, the surface emission exceedances are consistently low.
- The number of odor complaints from January 2017 until September 2021 was four, while there were 27 complaints from November 2021 until January 2022 which appear to be related to the public comment of the proposed landfill expansion From February 2022 through December 2023, the odor complaints once again ranged from 0 to 3 per month.
- The on-site data and the offsite data suggest that CBLF works to aggressively and actively implement measures to control potential off-site odors to the community.

EXHIBIT 13
NOVEMBER 19, 2021 MEMORANDUM FROM IAN MACNAB REGARDING ODOR, METHANE AND HYDROGEN SULFIDE

Date: November 19, 2021

To: Benton County Planning Department
From: Ian Macnab, Environmental Manager, Coffin Butte Landfill

Re: Coffin Butte Landfill Conditional Use Permit Application LU-21-047 – Odor, Methane and Hydrogen Sulfide

The purpose of this memorandum is to provide additional information on how odor, methane and hydrogen sulfide are controlled at Coffin Butte Landfill. These three items are highly interconnected and to a large degree act as one. They are all different constituents of landfill gas and are primarily regulated by the site's Title V air permit. See attachment A for a copy of the permit.

Beginning at Table 1, the permit lists the emissions units that are regulated at the landfill. Nuisance conditions, including odors or offsite dust, are regulated on page 5 of the permit.

Table 3 conditions 13.4 – 13.12 and 13.24 are all requirements to ensure landfill gas (methane) is collected and odors (hydrogen sulfide) reduced. It includes requirements for:

- Recordkeeping
- Installing a gas collection system sufficient for calculated gas flow rates
- Operation of the collection system
- Operation of the flare to destroy gas not utilized by the power plant

For each permit condition the table also references the appropriate federal regulations (40 CFR 60.75X) the landfill is subject to.

Beginning on the bottom of page 15 and continuing through page 19 the permit describes the Plant Site Emission Limits (PSELs). PSELs regulate how much can be emitted, how emissions are calculated and how emissions are monitored. Hydrogen sulfide is included with other sulfur compounds in the SO_2 category.

Finally, starting on page 20, the permit lists reporting requirements to DEQ and EPA. The expansion area would have all the same air permit requirements and limitations.

Additionally, regarding hydrogen sulfide, we have laboratory data from 2019 showing very low to non-detect levels of this compound in Coffin Butte's landfill gas. See attachment B for the laboratory report. The three samples taken directly from our gas collection system infrastructure measured:

- Sample 1 – 8.6 ppmv
- Sample 2 – non-detect
- Sample 3 – non-detect

As reference, EPA AP-42 Compilation of Air Pollutant Emission Factors, which is used for calculating landfill hydrogen sulfide emissions for Title V air permits uses an assumed value of 36 ppmv. Our emissions were well below this assumed value. Additionally, these samples were taken directly from the landfill gas pipeline. Actual emissions to the air from the surface of the landfill will be much lower as they would be highly diluted by ambient air.

As far as reduction in odors from the use of cover, that is addressed in our DEQ solid waste permit. See attachment C. The permit references that the permit is in accordance with ORS 459 and OAR Chapter 340.

Section 9.5 address daily cover and states:
"At the end of each working day the permittee must cover all solid waste with a six inch, or thicker, layer of compacted soil or DEQ-approved, alternative daily cover."

Section 9.6 addresses interim cover section and states:
"As specified in the DEQ-approved design and operation plans, the permittee must place and maintain interim cover over fill areas that will not receive additional waste for an extended period of time [i.e., greater than 120 days] and actively revegetate, in a DEQ-approved manner, any interim cover that will remain exposed for more than two years."

Coffin Butte is subject to regular DEQ inspections of the site and our compliance with permit conditions 9.5 and 9.6 are shown by our inspection

results. We have not been issued a violation for failure to properly cover with daily or intermediate cover.

Landfills are highly regulated by state and federal agencies. We submit reports on a monthly, quarterly, semi-annually, and annual basis depending on the permit requirements. Copies of these reports are provided to Benton County on a quarterly basis for their review.

Attachments:
A – Coffin Butte DEQ Title V Permit
B – 2019 Hydrogen Sulfide Test Report
C – Coffin Butte DEQ Solid Waste Permit

Attachment A

OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY
OREGON TITLE V OPERATING PERMIT

Western Region-Salem Office
750 Front Street NE, Suite 120
Salem, OR 97301-1039
Telephone (503) 378-8240

Issued in accordance with the provisions of ORS 468A.040
and based on the land use compatibility findings included in the permit record.

ISSUED TO:

Valley Landfills, Inc.
28972 Coffin Butte Road
Corvallis, OR 97330

INFORMATION RELIED UPON:

Application Number: 23594
Received: 01/30/09

PLANT SITE LOCATION:

Coffin Butte Landfill
Highway 99 & Coffin Butte Road
Corvallis, OR 97330

LAND USE COMPATIBILITY STATEMENT:

Issued by: Benton County
Dated: 03/06/97

ISSUED BY THE DEPARTEMENT OF ENVIRONMENTAL QUALITY

Claudia Davis

Claudia Davis, Western Region Air Quality Manager

OCT 30 2009

Date

Nature of Business: Municipal Solid Waste Landfill

SIC: 4953

RESPONSIBLE OFFICIAL

Title: General Manager
Alternate: Vice President

FACILITY CONTACT PERSON

Name: Brian May
Title: General Manager
Phone: (541) 745-2018

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LIST OF ABBREVIATIONS THAT MAY BE USED IN THIS PERMIT

ACDP	Air Contaminant Discharge Permit	NA	Not applicable
Act	Federal Clean Air Act	NESHAP	National Emission Standard for Hazardous Air Pollutants
ASTM	American Society of Testing and Materials	NMOC	Nonmethane organic compounds
Btu	British thermal unit	NO_x	Nitrogen oxides
CFR	Code of Federal Regulations	NSPS	New Source Performance Standards
CO	Carbon monoxide		
CPMS	Continuous parameter monitoring system	O_2	Oxygen
		OAR	Oregon Administrative Rules
DEQ	Department of Environmental Quality	ODEQ	Oregon Department of Environmental Quality
dscf	Dry standard cubic feet	ORS	Oregon Revised Statutes
EF	Emission factor	O&M	Operation and maintenance
EPA	US Environmental Protection Agency	Pb	Lead
		PCD	Pollution control device
EU	Emissions unit	PM	Particulate matter
FCAA	Federal Clean Air Act	PM_{10}	Particulate matter less than 10 microns in size
FSA	Fuel sampling and analysis		
gr/dscf	Grain per dry standard cubic feet (1 pound = 7000 grains)	ppm	Parts per million
		PSEL	Plant Site Emission Limit
HAP	Hazardous Air Pollutant as defined by OAR 340-244-0040	SIP	State Implementation Plan
		SO_2	Sulfur dioxide
HCFC	Halogenated Chloro-Fluoro-Carbons	SSM	Startup, shutdown, malfunction
		ST	Source test
H_2S	Hydrogen sulfide	VE	Visible emissions
ID	Identification number or label	VMT	Vehicle miles traveled
I&M	Inspection and maintenance	VOC	Volatile organic compounds
LFG	Landfill gas		

Modified EPA Method 9: As used in this permit "Modified EPA Method 9" is defined as follows:

> Opacity must be measured in accordance with EPA Method 9. For all standards, the minimum observation period must be six minutes, though longer periods may be required by a specific rule or permit condition. Aggregate times (e.g., 3 minutes in any one hour) consist of the total duration of all readings during the observation period that are equal to or greater than the opacity percentage in the standard, whether or not the readings are consecutive. Each EPA Method 9 reading represents 15 seconds of time. [See also the definition of "Opacity" in OAR 340-208-0010]

PERMITTED ACTIVITIES

1. Until such time as this permit expires or is modified or revoked, the permittee is allowed to discharge air contaminants from those processes and activities directly related to or associated with air contaminant source(s) in accordance with the requirements, limitations, and conditions of this permit. [OAR 340-218-0010 and 340-218-0120(2)]

2. All conditions in this permit are federally enforceable except as specified below:

   2.a. Conditions 6 through 12, G5, and G9 (OAR 340-248-0005 through 0180) are only enforceable by the state. [OAR 340-218-0060]

EMISSIONS UNIT (EU) AND POLLUTION CONTROL DEVICE (PCD) IDENTIFICATION

3. The emissions units regulated by this permit are the following [OAR 340-218-0040(3)]:

Table 1. EU and PCD IDENTIFICATION

Emission Unit Description	EU ID	Pollution Control Device Description	PCD ID
Landfill Gas Control System	Control	Open Flare	FL
Fugitive Landfill Gas, Cell 0	F-LFG1	None	NA
Fugitive Landfill Gas, Cells 1 to 4	F-LFG2	Landfill gas collection and extraction system	LFGCES-1
Vehicle traffic on paved roads	PIR	Water application	NA
Vehicle traffic on unpaved roads	UPR	Chemical suppressant and water application	NA
Tipper	TIP	None	NA
Petroleum contaminated soils	PCS	None	NA
Aggregate Insignificant activities:	AI		
Cell development, operation, and closing		None	NA
Wastewater treatment system operation		Baghouse	DC-1
Leachate collection and wastewater treatment		None	NA
Portable light plant		None	NA
Trash pumps		None	NA
Generator		None	NA

EMISSION LIMITS AND STANDARDS, TESTING, MONITORING, AND RECORDKEEPING REQUIREMENTS

The following tables and conditions contain the applicable requirements along with the testing, monitoring, and recordkeeping requirements for the emissions units to which those requirements apply.

Facility-wide Requirements

Table 2. Facility wide emission limits and standards

Applicable Requirement	Condition Number	Pollutant/ Parameter	Limit/Standard	Averaging Time	Testing Condition	Monitoring Condition
340-208-0210(2)	4	Fugitive emissions	Minimize	NA	NA	5
340-208-0300	6	Air contaminants	No nuisance	NA	NA	8
340-208-0450	7	PM >250μ	No fallout	NA	NA	8
340-248-0280(10)	9	Asbestos disposal	Handling procedures	Recordkeeping	NA	10
340-248-0280(11)	11	Asbestos cover	Maintain cover	Recordkeeping	NA	12

Fugitive Emissions

4. Applicable Requirement: The permittee must not allow or permit any materials to be handled, transported, or stored; or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished; or any equipment to be operated, without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions must include, but not be limited to the following: [OAR 340-208-0210(2)]

   4.a. use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land;
   4.b. application of asphalt, oil, water, or other suitable chemicals on unpaved roads, materials stockpiles, and other surfaces which can create airborne dusts;
   4.c. full or partial enclosure of materials stockpiles in cases where application of oil, water, or chemicals are not sufficient to prevent particulate matter from becoming airborne;
   4.d. installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials;
   4.e. adequate containment during sandblasting or other similar operations; and,
   4.f. covering, at all times when in motion, open bodied trucks transporting materials likely to become airborne.

5. Monitoring Requirement: At least once each week for a minimum period of 30 minutes, the permittee must visually survey the plant for any sources of excess fugitive emissions using EPA Method 22. For the purpose of this survey, excess fugitive emissions are considered to be any visible emissions generated by fugitive sources that leave the plant site boundaries. The person conducting the observation does not have to be EPA Method 9 certified. However, the individual should be familiar with the procedures of EPA Method 9, including using the proper location to observe visible emissions. If sources of visible emissions are identified, the permittee must: [OAR 340-218-0050(3)(a)]

   5.a. immediately take corrective action to minimize the fugitive emissions, including but not limited to those actions identified in Condition 4; or,
   5.b. conduct a Modified EPA Method 9 test within 24 hours;
   5.c. Recordkeeping: The permittee must maintain records of the fugitive emissions surveys, corrective actions (if necessary), and/or the results of any modified EPA Method 9 tests.

Nuisance Conditions

6. Applicable Requirement: The permittee must not cause or allow air contaminants from any source to cause a nuisance. Nuisance conditions will be verified by Department personnel. [OAR 340-208-0300] This condition is enforceable only by the State.

7. Applicable Requirement: The permittee must not cause or permit the emission of any particulate matter larger than 250 microns in size at sufficient duration or quantity, as to create an observable deposition upon the real property of another person. The Department will verify that the deposition exists and will notify the permittee that the deposition must be controlled. [OAR 340-208-0450] This condition is enforceable only by the State.

8. Monitoring Requirement: The permittee must maintain a log of each air quality complaint received by the permittee during the operation of the facility and must provide the Western Region-Salem Office of the Department with written notification within 5 days of all nuisance complaints regarding fugitive dust, odors, or particulate deposition received. Documentation shall include date of contact, time of observed nuisance condition, description of nuisance condition, location of receptor, status of plant operation during the observed period, and time of response to complainant. A plant representative must immediately investigate the condition following the receipt of the nuisance complaint and a plant representative must provide a response to the complainant within 24 hours, if possible. This condition is only enforceable by the State. [OAR 340-218-0050(3)(a)]

Asbestos Disposal and Cover

9. Applicable Requirement: The permittee must meet the asbestos-containing material handling and disposal requirements and procedures specified in OAR 340-248-0280(10) for active waste disposal sites. This condition is only enforceable by the state.

10. Monitoring Requirement: The permittee must monitor the asbestos-containing material handling and disposal procedures, provide notifications, and record the information required as specified in OAR 340-248-0280(10) for active waste disposal sites. This condition is only enforceable by the State.

11. Applicable Requirement: The permittee must meet the asbestos-containing material disposal and cover standards specified in OAR 340-248-0280(11) for inactive waste disposal sites. This condition is only enforceable by the State.

12. Monitoring Requirement: The permittee must monitor the asbestos-containing disposal and cover requirements and provide notifications as specified in OAR 340-248-0280(11) for inactive waste disposal sites. This condition is only enforceable by the State.

Facility Wide Requirements

13. The following requirements apply facility wide, including, but not limited to, the solid municipal waste landfill, unless an alternate requirement is specifically stated for a particular emissions unit.

Table 3. Summary of NSPS and NESHAP requirements:

Condition	Applicable Requirement	Description (for clarification purposes only, enforceable as listed under 'applicable requirement')	Monitoring and Analysis Procedure or Test Method	Monitoring, Recordkeeping, and Reporting Requirement
13.1	40 CFR 60.7(a)(4); 40 CFR 60.7(b); 40 CFR 60.7(f)	Notification and recordkeeping.	Maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the affected facility. Maintain a file of all measurements and performance testing measurements and all other information required by this part recorded in a permanent form suitable for inspection.	Permittee shall furnish prior written or e-mail notification of any physical or operational change which may increase the emission rate of any air pollutant (such as taking operating gas collection wells off line) to which a standard applies to: ODEQ, Western Region – Salem Office 750 Front Street NE, Suite 120 Salem, OR 97301-1039 [40 CFR 60.4(a)]
13.2	40 CFR 60.11(d)	Maintain and operate any affected emission unit with good air pollution control practice for minimizing emissions.	None specified.	No additional monitoring required.
13.3	40 CFR 60.12	Circumvention.	None specified.	No additional monitoring required.
13.4	40 CFR 60.752(b)(2)(ii)(A); 40 CFR 60.753(a); 40 CFR 60.755(b) (Landfill NSPS Subpart WWW)	Install, within 60 days, and operate active collection system wells that collect gas from each area, cell, or group of cells in the landfill in which solid waste has been placed for: (1) 5 years or more if active, OR (2) 2 years or more if closed or at final grade.	None specified.	No additional monitoring required.

Condition	Applicable Requirement	Description (for clarification purposes only, enforceable as listed under 'applicable requirement')	Monitoring and Analysis Procedure or Test Method	Monitoring, Recordkeeping, and Reporting Requirement
13.5	40 CFR 60.752(b)(2)(ii)(A) (Landfill NSPS Subpart WWW)	Install an active collection system that is designed to handle the maximum expected gas flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control or treatment system equipment.	To calculate maximum expected gas flow rate: $Q_m = \sum_{i=1}^{n} 2kL_o M_i \left(e^{-kt_i}\right)$ where, Q_m=maximum expected gas generation flow rate, m^3/yr k=methane generation rate constant, $year^{-1}$ L_o=methane generation potential, m^3/Mg solid waste M_i=mass of solid waste in the ith section, Mg t_i=age of the ith section, years [40 CFR 60.755(a)(1)(ii)]	Submit monthly report to: ODEQ, Western Region – Salem Office 750 Front Street NE, Suite 120 Salem, OR 97301-1039 Monthly report shall include the date of installation and the location of each well or collection system expansion added. [40 CFR 60.757(f)]
13.6	40 CFR 60.752(b); 40 CFR 60.754(a); 40 CFR 60.757(b); 40 CFR 60.4(a) (Landfill NSPS Subpart WWW)	Calculate the NMOC emission rate for the landfill. If the calculated NMOC emission rate is less than 50 Mg/yr, the permittee shall recalculate the NMOC emission rate and submit emission reports to the Department until such time as the calculated NMOC emission rate is ≥ 50 Mg/yr, or the landfill is closed.	Calculate the NMOC emission rate: $M_{NMOC} = \sum_{i=1}^{n} 2kL_oM_i(e^{-kt_i})(C_{NMOC})(3.6x10^{-9})$ where, M_{NMOC}=Total NMOC emission rate from the landfill (Mg/yr) k=methane generation rate constant=0.05 yr^{-1} or as determined using Tier 3 per 40 CFR 60.754 (a)(4) L_o=methane generation potential=170 m^3/Mg solid waste M_i=mass of solid waste in the ith section (Mg) t_i=age of the ith section (yr) C_{NMOC}=4000 ppm per 40 CFR 60.754(a)(3) $3.6x10^{-9}$=conversion factor The mass of the nondegradable solid waste may be subtracted from the total mass of solid waste in a particular section of the landfill when calculating the value for M_i if properly documented. [40 CFR 60.754(a)(1)(i)]	The permittee shall submit an NMOC emission rate report to: ODEQ, Western Region – Salem Office 750 Front Street NE, Suite 120 Salem, OR 97301-1039 (1) annually, OR (2) if the estimated NMOC emission rate as reported in the annual report is less than 50 Mg/yr in each of the next 5 consecutive years, the permittee may elect to submit an estimate of the NMOC emission rate for the next 5-year period in lieu of the annual report. If option (2) is chosen, this estimate shall be revised at least once every 5 years. If the actual waste acceptance rate exceeds the estimated waste acceptance rate in any year reported in the 5-year estimate, a revised 5-year estimate shall be submitted to ODEQ at the address given above. The revised estimate shall cover the 5-year period beginning with the year in which the actual waste acceptance rate exceeded the estimated waste acceptance rate. The NMOC emission rate report shall include the current amount of solid waste-in-place and the estimated waste acceptance rate for each year of the 5 years for which an NMOC emission rate is estimated. The NMOC emission rate report shall include all the data, calculations, sample reports and measurements used to estimate the annual or 5-year emissions. ODEQ may request such additional information as may be necessary to verify the reported NMOC emission rate. [40 CFR 60.4(a); 40 CFR 60.757(b)]
13.7	40 CFR 60.752(b)(2)(ii)(A); 40 CFR 60.759(a); 40 CFR 60.759(b) (Landfill NSPS Subpart WWW)	Install an active collection system that is designed to collect gas at a sufficient extraction rate, sited at a sufficient density throughout all gas producing areas, and designed to minimize off-site migration of subsurface gas.	None specified.	Keep for the life of the collection system an up-to-date, readily accessible plot map showing each existing and planned collector in the system and providing a unique identification location label for each collector. Keep up-to-date, readily accessible records of the installation date and location of all newly installed collectors. [40 CFR 60.758(d)]

Condition	Applicable Requirement	Description (for clarification purposes only, enforceable as listed under 'applicable requirement')	Monitoring and Analysis Procedure or Test Method	Monitoring, Recordkeeping, and Reporting Requirement
13.8	40 CFR 60.753(b) (Landfill NSPS Subpart WWW)	Operate the LFG control system with negative pressure at each well-head except under the following conditions: (1) fire or increased well temperature; OR, (2) use of a geomembrane or synthetic cover; OR, (3) a decommissioned well. Passive gas collection wells do not have to meet this condition when approved in writing by the Department. Gas collection wells operating under an Alternative Operating and Monitoring Plan approved in writing by the Department do not have to meet this condition.	None specified.	Measure gauge pressure in the gas collection header at each individual well, monthly. If a positive pressure exists, action shall be initiated to correct the exceedance within 5 calendar days. If negative pressure cannot be achieved without excess air infiltration within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial measurement of positive pressure. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. [40 CFR 60.755(a)(3)] The annual report shall include record of instances when positive pressure occurred. [40 CFR 60.753(b)(1)]
13.9	40 CFR 60.753(c) (Landfill NSPS Subpart WWW)	Operate each interior wellhead in the LFG collection system with: (1) LFG temperature <55°C; AND, (2) either: (a) N_2 < 20%; OR, (b) O_2 < 5%. Passive gas collection wells do not have to meet this condition when approved in writing by the Department. Gas collection wells receiving a variance in writing from the Department concerning temperature do not have to meet this condition. Gas collection wells operating under an Alternative Operating and Monitoring Plan approved in writing by the Department do not have to meet this condition.	N_2 by RM 3C; O_2 by RM 3A, except that: (1) regulatory limit is between 20% and 50% of the span; AND, (2) data recorder not required; AND, (3) only 2 calibration gases are required; AND, (4) calibration error check not required; AND, (5) allowable sample bias, zero drift, and calibration draft are ±10%. Install a sampling port and a thermometer or other temperature measuring device at each wellhead. [40 CFR 60.756(a)]	Measure the N_2 or O_2 concentration in the LFG, and the temperature of the LFG at each individual well, on a monthly basis. If a well exceeds one of the operating parameters, action shall be initiated to correct the exceedance within 5 calendar days. If correction of the exceedance cannot be achieved within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial exceedance. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. [40 CFR 60.756(a); 40 CFR 60.755(a)(5)]

Condition	Applicable Requirement	Description (for clarification purposes only, enforceable as listed under 'applicable requirement')	Monitoring and Analysis Procedure or Test Method	Monitoring, Recordkeeping, and Reporting Requirement
13.10	40 CFR 60.753(d) (Landfill NSPS Subpart WWW)	Operate LFG collection system so that the methane concentration is <500 ppm above background at the surface of the landfill.	Conduct surface testing around the perimeter of the collection area along a pattern that traverses the landfill at 30 meter intervals and where visual observations indicate elevated concentrations of LFG, such as distressed vegetation and cracks or seeps in the cover per the surface monitoring design plan and topographical map of the monitoring route. Instrument specifications and procedures for surface monitoring devices: (1) portable analyzer shall meet the instrument specifications provided in section 3 of RM 21, except that "methane" shall replace all references to VOC; AND, (2) calibration gas shall be methane, diluted to a nominal concentration of 500 ppm in air; AND, (3) instrument evaluation procedures of section 4.4 of RM 21 shall be used; AND, (4) calibration procedures provided in section 4.2 of RM 21 shall be followed immediately before commencing a surface monitoring survey. [40 CFR 60.755(d)] Conduct surface monitoring with a portable monitor meeting the specifications provided. The background concentration shall be determined by moving the probe inlet upwind and downwind outside the boundary of the landfill at a distance of at least 30 meters from the perimeter wells. Surface emission monitoring shall be performed in accordance with section 4.3.1 of RM 21, except that the probe inlet shall be placed within 5 to 10 cm of the ground. Monitoring shall be performed during typical meteorological conditions. [40 CFR 60.755(c)]	Monitor for cover integrity on a monthly basis. Implement cover repairs as necessary. [40 CFR 60.755(c)(5)] Conduct surface monitoring on a quarterly basis. Any reading of ≥500 ppm above background at any location shall be recorded as a monitored exceedance and actions below taken. As long as the specified actions are taken, the exceedance is not a violation of these operational requirements. The location of each monitored exceedance shall be marked and the location recorded. Cover maintenance or adjustments to the vacuum of the adjacent wells to increase the gas collection in the vicinity of each exceedance shall be made and the location shall be re-monitored within 10 calendar days of detecting the exceedance. Any location that initially showed an exceedance but has a methane concentration <500 ppm methane above background at the 10-day re-monitoring, shall be re-monitored 1 month from the initial exceedance. If the 1-month re-monitoring shows a concentration <500 ppm above background, no further monitoring of that location is required until the next quarterly monitoring period. If the re-monitoring of the location shows a second exceedance, additional corrective action shall be taken and the location shall be monitored again within 10 days of the second exceedance. If the re-monitoring shows a third exceedance for the same location, a new well or other collection device shall be installed within 120 calendar days of the initial exceedance, OR an alternative remedy to the exceedance, such as upgrading the blower, header pipes or control device, and a corresponding timeline for installation may be submitted to the Administrator for approval. No further monitoring of that location is required until remedy has been taken. [40 CFR 60.755(c)] Submit monthly report to: ODEQ, Western Region – Salem Office 750 Front Street NE, Suite 120 Salem, OR 97301-1039 Monthly report shall include the location of each exceedance of the 500 ppm methane concentration and the concentration recorded at each location for which an exceedance was recorded in the previous month. [40 CFR 60.757(f)]
13.11	40 CFR 60.753(e) (Landfill NSPS Subpart WWW)	Operate the collection system such that all collected gases are vented to the control system. In the event the LFG collection and control is inoperable, the gas mover system shall be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere shall be closed within 1 hour.	None specified.	Records shall be kept of all periods when the LFG collection and control system is inoperable, the gas mover system is shut down, or the valves in the collection and control system are closed.

Condition	Applicable Requirement	Description (for clarification purposes only, enforceable as listed under 'applicable requirement')	Monitoring and Analysis Procedure or Test Method	Monitoring, Recordkeeping, and Reporting Requirement
13.12	40 CFR 60.753(f) (Landfill NSPS Subpart WWW)	Operate the LFG control and treatment system at all times when the collected gas is routed to the system.	None specified.	No additional monitoring required.
13.13	40 CFR 60.755(e) (Landfill NSPS Subpart WWW)	The provisions of the NSPS apply at all times, except during periods of start-up, shutdown, or malfunction, provided that the duration of start-up, shutdown, or malfunction shall not exceed 5 days for collection systems.	None specified.	No additional monitoring required.
13.14	40 CFR 60.757(a)(3); 40 CFR 60.4(a) (Landfill NSPS Subpart WWW)	An amended design capacity report shall be submitted to the Department providing notification of any increase in the design capacity of the landfill.	None specified.	If triggered, the permittee shall submit an amended design capacity report to: ODEQ, Western Region – Salem Office 750 Front Street NE, Suite 120 Salem, OR 97301-1039 [40 CFR 60.4(a)]
13.15	40 CFR 60.758(a) (Landfill NSPS Subpart WWW)	Keep, for at least 5 years, up-to-date, readily accessible, on-site records of: (1) the maximum design capacity; AND, (2) the current amount of solid waste in-place; AND, (3) the year-by-year waste acceptance rate. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable.	None specified.	No additional monitoring required.
13.16	40 CFR 60.758(b) (Landfill NSPS Subpart WWW)	Keep up-to-date, readily accessible records for the life of the control equipment of the following data, as measured during the initial performance test or compliance determination: (1) maximum expected gas generation flow rate as calculated in condition 15.5, AND, (2) the density of wells, horizontal collectors, surface collectors, or other gas extraction devices; And, (3) the average combustion temperature measured at least every 15 minutes and averaged over the same time period of the performance test; AND, (4) the percent reduction of NMOC determined as specified in conditions 16 and 17. Records of subsequent tests or monitoring shall be maintained for a minimum of 5 years. Records of the control device vendor specifications shall be maintained until removed.	None specified.	No additional monitoring required.
13.17	40 CFR 60.758(c) (Landfill NSPS Subpart WWW)	Keep for 5 years, up-to-date, readily accessible continuous records of the equipment operating parameters specified to be monitored in the NSPS as well as up-to-date, readily accessible records for periods of operation during which the parameter boundaries established during the most recent performance test are exceeded.	None specified.	No additional monitoring required.

<table>
<tr><th>Condition</th><th>Applicable Requirement</th><th>Description (for clarification purposes only, enforceable as listed under 'applicable requirement')</th><th>Monitoring and Analysis Procedure or Test Method</th><th>Monitoring, Recordkeeping, and Reporting Requirement</th></tr>
<tr><td>13.18</td><td>40 CFR 61.154(a), (c), (d)

(Asbestos NESHAP Subpart M)</td><td>In any active waste disposal site where asbestos-containing waste material has been deposited: (1) no visible emissions to the outside air; OR, (2) cover with ≥6 inches of compacted nonasbestos-containing material at the end of each operating day; OR, (3) cover with a chemical dust suppression agent (not to include any used, spent, or other waste oil) at the end of each operating day.</td><td>None specified.</td><td>No additional monitoring required.</td></tr>
<tr><td>13.19</td><td>40 CFR 61.154(b)

(Asbestos NESHAP Subpart M)</td><td>Areas of disposal of asbestos-containing waste material must: (1) have a natural barrier that adequately deters access by the general public; OR, (2) cover with ≥6 inches of compacted nonasbestos-containing material at the end of each operating day; OR, (3) install warning signs and fencing that meet the following: (a) display signs at all entrances and at intervals of ≤330 feet; AND, (b) signs posted such that legend is easily read; AND, (c) 20" x 14" upright format signs; AND, (d) sign legend, size, and style at least equal to (spacing between lines must be at least equal to the height of the upper text line):
<table>
<tr><th>Legend</th><th>Notation</th></tr>
<tr><td>Asbestos Waste Disposal Site.</td><td>1 inch Sans Serif, Gothic, or Block</td></tr>
<tr><td>Do Not Create Dust</td><td>¾ inch Sans Serif, Gothic, or Block</td></tr>
<tr><td>Breathing Asbestos is Hazardous to Your Health.</td><td>14 point Gothic</td></tr>
</table>
AND, (e) fenced in a manner adequate to deter access by the general public.</td><td>None specified.</td><td>No additional monitoring required.</td></tr>
</table>

Condition	Applicable Requirement	Description (for clarification purposes only, enforceable as listed under 'applicable requirement')	Monitoring and Analysis Procedure or Test Method	Monitoring, Recordkeeping, and Reporting Requirement
13.20	40 CFR 61.154(e) (Asbestos NESHAP Subpart M)	Maintain waste shipment records for all asbestos-containing waste material received.	None specified.	Waste shipment records shall include: (1) name, address, and telephone number of the waste generator; AND, (2) name, address, and telephone number of the transporter(s); AND, (3) volume of waste; AND, (4) presence of improperly enclosed (leak-tight containers) or uncovered; AND, (5) date of waste receipt. Send a copy of the signed waste shipment record to the waste generator within 30 days of receipt of the waste. If significant amount of improperly enclosed or uncovered waste, report in writing (with copy of waste shipment record) to the Department for the waste generator (as indicated in the waste shipment record), ODEQ, Western Region – Salem Office 750 Front Street NE, Suite 120 Salem, OR 97301-1039 by the following working day. Submit reports (with copy of waste shipment record) of unreconciled waste quantity discrepancies within 15 days of waste receipt to ODEQ, at the address listed above. [40 CFR 61.154(e)(1), (2)]
13.21	40 CFR 61.154(f) (Asbestos NESHAP Subpart M)	Maintain, until closure, records of the location, depth and area, and quantity in cubic meters (cubic yards) of asbestos-containing waste material within the disposal area on a map or diagram of the disposal area.	None specified.	No additional monitoring required.
13.22	40 CFR 61.154(i) (Asbestos NESHAP Subpart M)	Furnish upon request, and make available during normal business hours for inspection by ODEQ, all records required by the Asbestos NESHAP.	None specified.	No additional monitoring required.
13.23	40 CFR 61.154(j) (Asbestos NESHAP Subpart M)	Notify ODEQ in writing at least 45 days prior to excavating or otherwise disturbing any asbestos-containing waste material that has been deposited at the site and is covered.	None specified.	Notification shall include: (1) scheduled starting and completion dates; AND, (2) reason for disturbing waste; AND, (3) emission control procedures to be implemented; AND, (4) location of any temporary storage site and the final disposal site. [40 CFR 61.154(j)]

Condition	Applicable Requirement	Description (for clarification purposes only, enforceable as listed under 'applicable requirement')	Monitoring and Analysis Procedure or Test Method	Monitoring, Recordkeeping, and Reporting Requirement
13.24	40 CFR 60.752(b)(2)(iii)(A) and 40 CFR 60.18 (Landfill NSPS Subpart WWW)	1. Route excess landfill gas not utilized by IC engines to an open flare (Emissions Unit Control) designed and operated in accordance with 40 CFR 60.18. 2. The flare shall be designed for and operated with no visible emissions except for periods not to exceed a total of 5 minutes during any 2 consecutive hours. [40 CFR 60.18(c)(1)] 3. The flare shall be operated with a flame present at all times. [40 CFR 60.18(c)(2)] 4. The flare shall be designed for and operated with an exit velocity less than 60 ft/sec. [40 CFR 60.18(c)(4)(i)] 5. The flare shall be operated at all times when excess landfill gas not utilized by IC engines is being vented to it. [40 CFR 60.18(e)]	Install, calibrate, maintain, and operate according to the manufacturer's specifications the following equipment: (1) a heat sensing device, such as an ultraviolet beam sensor or thermocouple, at the pilot light or the flame itself to indicate the continuous presence of a flame; and (2) a device that records flow to or bypass of the flare. The owner or operator shall either: (i) install, calibrate, and maintain a gas flow measuring device that shall record the flow to the flare at least every 15 minutes; or (ii) secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. [40 CFR 60.756(c)] Reference Method 22 shall be used to determine the compliance with the visible emissions standard. The observation period is 2 hours. [40 CFR 60.18(f)(1)] The net heating value of the gas being combusted in the flare shall be calculated by the equation in 40 CFR 60.18 (f)(3). The actual exit velocity of the flare shall be determined by dividing the volumetric flowrate (in units of standard temperature and pressure) as determined by Reference Methods 2, 2A, 2C,or 2D as appropriate by the unobstructed (free) cross sectional area of the flare tip. [40 CFR 60.18(f)(4)]	Monitoring 1. Operate the heat sensing device or thermocouple. [40 CFR 60.756(c)(1)] 2. Record the gas flow to the flare at least every 15 minutes or visually inspect the seal or closure mechanism at least monthly. [40 CFR 60.756(c)(2)] Recordkeeping 1. Records of the flare vendor specifications until removal of the flare. [40 CFR 60.758(b)] 2. Up-to-date, readily accessible records for the life of the flare of: a. visible emissions readings b. heat content determinations c. flow rate or bypass flow rate measurements d. exit velocity determinations e. continuous records of the flare pilot flame or flare flame monitoring f. all periods of operations during which the pilot flame or the flare flame is absent [40 CFR 60.758(b((4) and (c)(4)]

Condition	Applicable Requirement	Description (for clarification purposes only, enforceable as listed under 'applicable requirement')	Monitoring and Analysis Procedure or Test Method	Monitoring, Recordkeeping, and Reporting Requirement
13.25	40 CFR 63.6(e)(3) (Landfill NESHAP Subpart AAAA)	Develop and implement a written Startup, Shutdown, and Malfunction Plan (SSM Plan) by no later than January 16, 2004.	None specified.	Maintain written SSM Plan on site. If the SSM Plan fails to address, or inadequately addresses, a malfunction, revise the SSM Plan within 45 days after the event to include procedures for operating and maintaining the source during similar malfunctions, and a program of corrective actions for similar malfunctions. [40 CFR 63.6(e)((3)(viii)] Recordkeeping 1. Maintain records for each SSM Plan event which occurs. [40 CFR 63.10(b)(2)(i)] 2. Retain a copy of each previous (superceded) version of the SSM Plan for at least 5 years. [40 CFR 63.6(e)(3)(v)] Reporting 1. Report semiannually all SSM Plan actions that are consistent with the SSM Plan. [40 CFR 63.10(d)(5)(i)] 2. Notify DEQ within 2 days if an SSM event is not consistent with the SSM Plan and follow up with a letter within 7 days of the event. [40 CFR 63.6(e)(3)iv)]

EMISSIONS UNITS PIR AND UPR

Table 4. Summary of requirements for Emissions Units PIR and UPR:

Applicable Requirement	Condition Number	Pollutant/ Parameter	Limit/Standard	Averaging Time	Testing Condition	Monitoring Condition
340-208-0110(2)	14	Visible emissions	20% opacity	3 min. aggregate in 60 minutes	NA	15

14. Applicable Requirement: The permittee must not cause or allow the emissions of any air contaminant into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is equal to or greater than 20% opacity, excluding uncombined water, from emissions units PIR and UPR. [OAR 340-208-0110(2) and 340-208-0110(3)(a)]

15. Monitoring Requirement: At least weekly, the permittee must visually survey the facility using EPA Method 22 for any sources of excess fugitive emissions. For the purpose of this survey, excess fugitive emissions are considered to be any visible emissions that leave the down wind plant site boundaries. The person conducting this survey does not have to be EPA Method 9 certified. However, the individual should be familiar with the procedures of EPA Method 9, including using the proper location to observe visible emissions. If sources of excess fugitive emissions are identified during the survey, the permittee shall perform one of the following:

15.a. immediately take corrective action to minimize the fugitive emissions; or,

15.b. conduct a modified EPA Method 9 test on the device(s) causing the opacity problem within 24 hours.

15.c. Recordkeeping: The permittee must maintain records of all inspections and any corrective action performed.

EMISSIONS UNIT TIP

Table 5. Summary of requirements for Emissions Unit TIP:

Applicable Requirement	Condition Number	Pollutant/ Parameter	Limit/Standard	Averaging Time	Testing Condition	Monitoring Condition
340-208-0110(2)	16	Visible emissions	20% opacity	3 min. aggregate in 60 minutes	NA	20
340-226-0210(1)(b)	17	PM/PM_{10}	0.1 gr/dscf	Avg. of 3 test runs	NA	20

16. Applicable Requirement: The permittee must not cause or allow the emissions of any air contaminant into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is equal to or greater than 20% opacity, excluding uncombined water, from emissions unit TIP. [OAR 340-208-0110(2) and 340-208-0110(3)(a)]

17. Applicable Requirement: The permittee must not cause or allow the emission of particulate matter in excess of 0.1 grain per standard cubic foot from emissions unit TIP. [OAR 340-226-0210(1)(b)]

Insignificant Activities Requirements

18. The Department acknowledges that insignificant emissions units (IEUs) identified by rule as either categorically insignificant activities or aggregate insignificant emissions as defined in OAR 340-200-0020 exist at facilities required to obtain an Oregon Title V Operating Permit. IEUs must comply with all applicable requirements. In general, the requirements that could apply to IEUs are incorporated as follows:

18.a. OAR 340-208-0110 (20% opacity)
18.b. OAR 340-228-0210 (0.1 gr/dscf corrected to 12% CO_2 or 50% excess air for fuel burning equipment)
18.c. OAR 340-226-0210 (0.1 gr/dscf for non-fugitive, non-fuel burning equipment)
18.d. OAR 340-226-0310 (process weight limit for non-fugitive, non-fuel burning process equipment).

Unless otherwise specified in this permit or an applicable requirement, the Department is not requiring any testing, monitoring, recordkeeping, or reporting for the applicable emissions limits and standards that apply to IEUs. However, if testing were performed for compliance purposes, the permittee would be required to use the test methods identified in the definitions of "opacity" and "particulate matter" in OAR 340-208-0010 and perform the testing in accordance with the Department's Source Sampling Manual.

PLANT SITE EMISSION LIMITS

19. Applicable Requirement: The plant site emissions must not exceed the following limits for any 12 consecutive calendar month period: [OAR 340-222-0040 through OAR 340-222-0043]

Pollutant	Plant Site Emission Limit (Tons/yr)
PM	24
PM_{10}	14
CO	99
NO_x	39
SO_2	39
VOC	39
NMOC	49

19.a. The PSEL is based on the actual predicted emissions for the current operating conditions at the facility. A permit modification is required before the PSEL may be increased.

20. Monitoring Requirement: The permittee must determine compliance with the Plant Site Emission Limits established in Condition 19 of this permit by conducting monitoring in accordance with the following procedures, test methods, and frequencies: [OAR 340-218-0050(3)]

20.a. The permittee must monitor and maintain records of the following process parameters:

Table 6. PSEL Monitoring

Emissions Unit(s)	Process Parameter	Units	Measurement Frequency	Measurement Method
F-LFG1	Municipal solid waste in place in Cell 0	Mg or tons	Annually	Records
F-LFG2	Municipal solid waste in place in Cells 1, 2A/2B, 2C/2D, and 3	Mg or tons	Annually	Records
Landfill	Municipal solid waste accepted at landfill	Mg or tons	Annually	Records
F-LFG1 & F-LFG2	Landfill gas generated in each system	$MMft^3$/month, $MMft^3$/yr	Annually using EPA model calculation	Records
F-LFG2	Landfill gas collected and sent to IC engines and % methane	$MMft^3$/month, $MMft^3$/yr	Monthly/Annually	Records
PIR	Number of total vehicles on paved roads	Number	Monthly/Annually	Records
UPR 1	Number of total vehicles on unpaved road 1	Number	Monthly/Annually	Records
UPR 2	Number of commercial vehicles on unpaved road 2	Number	Monthly/Annually	Records
TIP	Number of hours operated	Hours	Monthly/Annually	Records
PCS	Petroleum contaminated soil received	Tons	Monthly/Annually	Records
Open Flare	Landfill gas collected and sent to open flare and % methane	$MMft^3$/month, $MMft^3$/yr	Monthly/Annually	Records

20.b. Emission factors for calculating pollutant emissions:

Table 7. Emission Factors

Emission Units(s)	Pollutant	Emission Factor	Emission Factor Units	Emission Factor Verification Testing	
				Yes/no	Test Method
F-LFG1	CO	10.3	lb/MMft^3 fugitive landfill gas	No	NA
	VOC	51.9	lb/MMft^3 fugitive landfill gas	No	NA
	NMOC	133.2	lb/MMft^3 fugitive landfill gas	No	NA
F-LFG2	CO	10.3	lb/MMft^3 fugitive landfill gas	No	NA
	VOC	51.9	lb/MMft^3 fugitive landfill gas	No	NA
	NMOC	133.2	lb/MMft^3 fugitive landfill gas	No	NA
PIR	PM	0.140	lb/vehicle	No	NA
	PM_{10}	0.027	lb/vehicle	No	NA
UPR 1	PM	0.010	lb/vehicle	No	NA
	PM_{10}	0.004	lb/vehicle	No	NA
UPR 2	PM	0.098	lb/vehicle	No	NA
	PM_{10}	0.021	lb/vehicle	No	NA
Open Flare	PM/PM_{10}	8.5	lb/MMft^3 combusted landfill gas	No	NA
	CO	110.0	lb/MMft^3 combusted landfill gas	No	NA
	NO_x	20.0	lb/MMft^3 combusted landfill gas	No	NA
	SO_2	8.4	lb/MMft^3 combusted landfill gas	No	NA
	VOC	1.16	lb/MMft^3 combusted landfill gas	No	NA
	NMOC	2.71	lb/MMft^3 combusted landfill gas	No	NA
TIP	PM/PM_{10}	0.253	lb/hr	No	NA
	CO	0.768	lb/hr	No	NA
	NO_x	3.57	lb/hr	No	NA
	SO_2	0.236	lb/hr	No	NA
	VOC/ NMOC	0.289	lb/hr	No	NA
PCS	VOC/ NMOC	0.033	lb/ton PCS	No	NA

20.c. For the emissions unit F-LFG1 listed in Table 8, the permittee must determine monthly and 12-month rolling emissions by multiplying the Process Parameter by the emission factor listed above for each pollutant. Calculations must be completed within 30 days of the end of each month.

E = (F-LFG1 generated) * EF *K

where:

E = Emissions, tons
EF = Emission factor, pounds/units
K = conversion constant: 1 ton/2000 lbs

20.d. For the emissions unit F-LFG2 listed in Table 8, the permittee must determine monthly and 12-month rolling emissions by multiplying the Process Parameter by the emission factor listed above for each pollutant. Calculations must be completed within 30 days of the end of each month.

E = (F-LFG2 generated – F-LFG2 collected to IC engines and flare) * EF * K

where:

E = Emissions, tons
EF = Emission factor, pounds/units
K = conversion constant: 1 ton/2000 lbs

20.e. For the emissions unit Open Flare listed in Table 7, the permittee must determine monthly and 12-month rolling emissions by multiplying the Process Parameter by the emission factor listed above for each pollutant. Calculations must be completed within 30 days of the end of each month.

E = (Open flare collected) * EF *K

where:

E = Emissions, tons
EF = Emission factor, pounds/units
K = conversion constant: 1 ton/2000 lbs

20.f. For the emissions units PIR, UPR 1, UPR 2, TIP, and PCS listed in Table 7, the permittee must calculate monthly and 12-month rolling emission by multiplying the Process Parameter by the emission factor listed above for each pollutant. Calculations must be completed within 30 days of the end of each month.

E = MP * EF * K

where:

E = Emissions, tons
MP = Monitored parameter, units/month or units/year
EF = Emission factor, pounds/units
K = conversion constant: 1 ton/2000 lbs

20.g. The emission factors listed in Condition 20.b. are not enforceable limits unless otherwise specified in this permit. Compliance with PSELs must only be determined by the calculations contained in Conditions 20.c. through 20.f of this permit using the measured process parameters recorded during the reporting period and the emission factors contained in Condition 20.b.

21. The permittee must determine compliance with Condition 19 (Plant Site Emission Limits) by summing the emissions calculated in Condition 20 for each emissions unit for each month and each 12-month rolling period, and adding the Aggregate Insignificant emissions of 1 ton per year by pollutant, and comparing the resulting emissions to the Plant Site Emission Limits in Condition 19.

GENERAL TESTING REQUIREMENTS

22. Unless otherwise specified in this permit, the permittee must conduct all testing in accordance with the Department's Source Sampling Manual. [OAR 340-212-0120 and 40 CFR 60.8]

22.a. Unless otherwise specified by a state or federal regulation, the permittee must submit a source test plan to the Department at least 30 days prior to the date of the test. The test plan must be prepared in accordance with the Source Sampling Manual and address any planned variations or alternatives to prescribed test methods. The permittee should be aware that if significant variations are requested, it may require more than 30 days for the Department to grant approval and may require EPA approval in addition to approval by the Department.

22.b. Only regular operating staff may adjust the processes or emission control device parameters during a compliance source test and within two (2) hours prior to the tests. Any operating adjustments made during a compliance source test, which are a result of consultation during the tests with source testing personnel, equipment vendors, or consultants, may render the source test invalid.

22.c. Unless otherwise specified by permit condition or Department approved source test plan, all compliance source tests must be performed as follows:

22.c.i. at least 90% of the design capacity for new or modified equipment;
22.c.ii at least 90% of the maximum operating rate for existing equipment; or
22.c.iii. at 90 to 110% of the normal maximum operating rate for existing equipment. For purposes of this permit, the normal maximum operating rate is defined as the 90th percentile of the average hourly operating rates during a 12 month period immediately preceding the source test. Data supporting the normal maximum operating rate must be included with the source test report.

22.d. Each source test must consist of at least three (3) test runs and the emissions results must be reported as the arithmetic average of all valid test runs. If for reasons beyond the control of the permittee a test run is invalid, the Department may accept two (2) test runs for demonstrating compliance with the emission limit or standard.

22.e. Source test reports prepared in accordance with the Department's Source Sampling Manual must be submitted to the Department within 45 days of completing any required source test, unless a different time period is approved in the source test plan submitted prior to the source test.

GENERAL MONITORING AND RECORDKEEPING REQUIREMENTS

General Monitoring Requirements:

23. The permittee must not knowingly render inaccurate any required monitoring device or method. [OAR 340-218-0050(3)(a)(E)]

24. Methods used to determine actual emissions for fee purposes must also be used for compliance determination and can be no less rigorous than the requirements of OAR 340-218-0080. [OAR 340-218-0050(3)(a)(F)]

25. Monitoring requirements must commence on the date of permit issuance unless otherwise specified in the permit or an applicable requirement. [OAR 340-218-0050(3)(a)(G)]

General Recordkeeping Requirements

26. The permittee must maintain the following general records of testing and monitoring required by this permit: [OAR 340-218-0050(3)(b)(A)]

26.a. the date, place as defined in the permit, and time of sampling or measurements;
26.b. the date(s) analyses were performed;
26.c. the company or entity that performed the analyses;
26.d. the analytical techniques or methods used;
26.e. the results of such analyses;
26.f. the operating conditions as existing at the time of sampling or measurement; and
26.g. the records of quality assurance for continuous monitoring systems (including but not limited to quality control activities, audits, calibration drift checks).

27. Unless otherwise specified by permit condition, the permittee must make every effort to maintain 100 percent of the records required by the permit. If information is not obtained or recorded for legitimate reasons (e.g., the monitor or data acquisition system malfunctions due to a power outage), the missing record(s) will not be considered a permit deviation provided the amount of data lost does not exceed 10% of the averaging periods in a reporting period or 10% of the total operating hours in a reporting period, if no averaging time is specified. Upon discovering that a required record is missing, the permittee must document the reason for the missing record. In addition, any missing record that can be recovered from other available information will not be considered a missing record. [OAR 340-214-0110, 340-212-0160, and 340-218-0050(3)(b)]

28. Recordkeeping requirements must commence on the date of permit issuance unless otherwise specified in the permit or an applicable requirement. [OAR 340-218-0050(3)(b)(C)]

29. Unless otherwise specified, the permittee must retain records of all required monitoring data and support information for a period of at least five (5) years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings (or other original data) for continuous monitoring instrumentation, and copies of all reports required by the permit. All existing records required by the previous Oregon Title V Operating Permit must also be retained for five (5) years from the date of the monitoring sample, measurement, report, or application. [OAR 340-218-0050(b)(B)]

REPORTING REQUIREMENTS

General Reporting Requirements

30. Excess Emissions Reporting The permittee must report all excess emissions as follows: [OAR 340-214-0300 through 340-214-0360]

30.a. Immediately (within 1 hour of the event) notify the Department of an excess emission event by phone, e-mail, or facsimile; and

30.b. Within 15 days of the excess emissions event, submit a written report that contains the following information: [OAR 340-214-0340(1)]

30.b.i. The date and time of the beginning of the excess emissions event and the duration or best estimate of the time until return to normal operation;

30.b.ii. The date and time the owner or operator notified the Department of the event;

30.b.iii. The equipment involved;

30.b.iv. Whether the event occurred during planned startup, planned shutdown, scheduled maintenance, or as a result of a breakdown, malfunction, or emergency;

30.b.v. Steps taken to mitigate emissions and corrective action taken, including whether the approved procedures for a planned startup, shutdown, or maintenance activity were followed;

30.b.vi. The magnitude and duration of each occurrence of excess emissions during the course of an event and the increase over normal rates or concentrations as determined by continuous monitoring or best estimate (supported by operating data and calculations);

30.b.vii. The final resolution of the cause of the excess emissions; and

30.b.viii. Where applicable, evidence supporting any claim that emissions in excess of technology-based limits were due to any emergency pursuant to OAR 340-214-0360.

30.c. In the event of any excess emissions which are of a nature that could endanger public health and occur during non-business hours, weekends, or holidays, the permittee must immediately notify the Department by calling the Oregon Accident Response System (OARS). The current number is 1-800-452-0311.

30.d. If startups, shutdowns, or scheduled maintenance may result in excess emissions, the permittee must submit startup, shutdown, or scheduled maintenance procedures used to minimize excess

emissions to the Department for prior authorization, as required in OAR 340-214-0310 and 340-214-0320. New or modified procedures must be received by the Department in writing at least 72 hours prior to the first occurrence of the excess emission event. The permittee must abide by the approved procedures and have a copy available at all times.

30.e. The permittee must notify the Department of planned startup/shutdown or scheduled maintenance events.

30.f. The permittee must continue to maintain a log of all excess emissions in accordance with OAR 340-214-0340(3). However, the permittee is not required to submit the detailed log with the semi-annual and annual monitoring reports. The permittee is only required to submit a brief summary listing the date, time, and the affected emissions units for each excess emission that occurred during the reporting period. [OAR 340-218-0050(3)(c)]

31. Permit Deviations Reporting: The permittee must promptly report deviations from permit requirements that do not cause excess emissions, including those attributable to upset conditions, as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. "Prompt" means within 15 days of the deviation. Deviations that cause excess emissions, as specified in OAR 340-214-0300 through 340-214-0360 must be reported in accordance with Condition 23.

32. All required reports must be certified by a responsible official consistent with OAR 340-218-0040(5);[OAR 340-218-0050(3)(c)(D)]

33. Reporting requirements must commence on the date of permit issuance unless otherwise specified in the permit. [OAR 340-218-0050(3)(c)(E)]

Addresses of regulatory agencies are the following, unless otherwise instructed:

DEQ – Western Region
750 Front Street NE, Suite 120
Salem, OR 97310
(503) 378-8240

DEQ – Air Quality Division
811 SW Sixth Avenue
Portland, OR 97204
(503) 229-5359

Air Operating Permits
US Environmental Protection Agency
Mail Stop OAQ-108
1200 Sixth Avenue
Seattle, WA 98101

Semi-annual and Annual Reports

34. The permittee must submit three (3) copies of reports of any required mon ring at least every 6 months, completed on forms approved by the Department. Six month periods are uary 1 to June 30, and July 1 to December 31. One copy of the report must be submitted to the EPA a two copies to the DEQ regional office. All instances of deviations from permit requirements must be cl rly identified in such reports: [OAR 340-218-0050(3)(c)(A) and 340-218-0080(6)(d)]]

34.a. The first semi-annual report is be due on July 30 and must include the semi-annual compliance certification, OAR 340-218-0080.

34.b. The annual report is due on February 15 and must consist of the following:

34.b.i. the emission fee report; [OAR 340-220-0100]
34.b.ii. a summary of the excess emissions upset log; [OAR 340-214-0340]
34.b.iii. the second semi-annual compliance certification; [OAR 340-218-0080]
34.b.iv. the annual emission inventory report for the prior calendar year;
34.b.v. greenhouse gas emissions in accordance with Division 215 of OAR Chapter 340. [OAR 340-215-0040(3)(a)]

35. The semi-annual compliance certification must include the following (provided that the identification of applicable information may cross-reference the permit or previous reports, as applicable): [OAR 340-218-0080(6)(c)]

35.a. The identification of each term or condition of the permit that is the basis of the certification;

35.b. The identification of the method(s) or other means used by the owner or operator for determining the compliance status with each term and condition during the certification period, and whether such methods or other means provide continuous or intermittent data. Such methods and other means must include, at a minimum, the methods and means required under OAR 340-218-0050(3). *Note: Certification of compliance with the monitoring conditions in the permit is sufficient to meet this requirement, except when the permittee must certify compliance with new applicable requirements that are incorporated by reference into the permit. When certifying compliance with new applicable requirements that are not yet in the permit, the permittee must provide the information required by this condition.* If necessary, the owner or operator also must identify any other material information that must be included in the certification to comply with section 113(c)(2) of the FCAA, which prohibits knowingly making a false certification or omitting material information;

35.c. The status of compliance with terms and conditions of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent. The certification must be based on the method or means designated in OAR 340-218-0040(6)(c)(B). The certification must identify each deviation and take it into account in the compliance certification. The certification must also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion or exceedance, as defined under OAR 340-200-0020, occurred; and

35.d. Such other facts as the Department may require to determine the compliance status of the source.

36. Notwithstanding any other provision contained in any applicable requirement, the owner or operator may use monitoring as required under OAR 340-218-0050(3) and incorporated into the permit, in addition to any specified compliance methods, for the purpose of submitting compliance certifications. [OAR 340-218-0080(6)(e)]

Monthly Reports

37. The permittee must report the following information for the preceding month within 30 days of the end of each calendar month to the Western Region-Salem office of the Department:

37.a. The cover integrity monitoring results and repairs, if necessary, as required by Condition 13.10;

37.b. The results of the quarterly surface methane monitoring, if conducted during the month, and corrective actions taken as required by Condition 13.10;

37.c. Any other information regarding upsets, maintenance required, or operational problems encountered during the month on the landfill gas collection or control systems;

37.d. Information concerning the installation date and location of any newly installed wells or expansion of the landfill gas collection system as required by Condition 13.7;

37.e. The amount of landfill gas collected and treated in both the IC engines and the flare;

37.f. The total operating hours of the IC engines and flare during the month; and,

37.g. Log of air quality complaints received during the month under Condition 8.

EMISSION FEES

38. Emission fees will be based on the Plant Site Emission Limits in Condition 19, unless the permittee elects to report actual emissions for one or more permitted processes/pollutants using the procedures in OAR 340 Division 220. If the permittee reports actual emissions for one or more permitted processes/pollutants, the permitted emissions for the remaining permitted processes/pollutants will be based on the following table: [OAR 340-220-0090]

Emission Source Description	Permitted Process Code (DEQ Codes)	PM_{10} (tons)	SO_2 (tons)	NO_x (tons)	VOC (tons
Roads	FS-1	3.1			
Open Flare	GS-1	2.2	2.2	5.2	0.3
Fugitive LFG	FS-2				11.0
Petroleum Cont. Soil	FS-2				0.8
Tipper	GS-1	0.3	0.2	3.6	0.3
AI	GS-1	1.0	1.0	1.0	1.0

NON-APPLICABLE REQUIREMENTS

39. State and Federal air quality requirements (e.g., rules and regulations) currently determined not applicable to the permittee are listed below along with the reason for the non-applicability: [OAR 340-218-0110]

Applicable Requirement	Reason Code
OAR Chapter 340:	
Division 202	
All rules	I
Division 204	
All rules	I
Division 206	
0050	C
0060 through 0070	I
Division 208	
0500 through 0610	D
Division 210	
0100 through 0120	B
Division 212	
0200 through 0280	J
Division 214	
0200 and 0220	C
0400 through 0430	B
Division 218	
0050(4)	B
0050(8)	H
0060	I
0070	I
0090	B
0100	B
0250	I
Division 222	
0042	C
0060	H
Division 224	
0050	C
0060	C
Division 225	
0045	C
Division 226	
0400	H
Division 228	
0100 through 0130	F
0300 through 0530	B
0600 through 0678	B
Division 230	
All rules	E
Division 232	
All rules	C
Division 234	
All rules	B
Division 236	
All rules	B
Division 240	
All rules	C
Division 242	
All rules	C
Division 248	
0210 through 0230	B
Division 250	
All rules	I
Division 252	
All rules	I
Division 254	
All rules	E
Division 256	
All rules	B
Division 257	
All rules	E
Division 258	
All rules	B
Division 260	
All rules	B
Division 262	
All rules	B
Division 264	
0100	D
0120 through 0170	D
0190	E
Division 266	
All rules	B
40 CFR	
Part 55	B
Part 57	B
Part 60, except subparts A, WWW, and appendixes	B
Part 61, except subparts A, M, and appendices	B
Part 63, except subparts A, AAAA, and appendices	B
Part 68	B
Part 72 through 76	B
Part 77	B
Part 78	B
Part 82, except subpart F	B
Part 85 through 89	B

Reason code definitions:

A this pollutant is not emitted by the facility
B the facility is not in this source category
C the facility is not in a special control/nonattainment area
D the facility is not in this county
E the facility does not have this emissions unit
F the facility does not use this fuel type

G the rule does not apply because no changes have been made at the facility that would trigger these procedural requirements
H this method/procedure is not used by the facility
I this rule applies only to DEQ and regional authorities
J there are no emissions units with add-on control devices or the pre-controlled potential emissions are less than 100 tons per year or the emissions units with add-on control devices and pre-controlled emissions greater than 100 tons per year are subject to emissions standards promulgated after November of 1990

GENERAL CONDITIONS

G1. General Provision

Terms not otherwise defined in this permit have the meaning assigned to such terms in the referenced regulation.

G2. Reference materials

Where referenced in this permit, the versions of the following materials are effective as of the dates noted unless otherwise specified in this permit:

a. Source Sampling Manual; January 23, 1992 - State Implementation Plan Volume 3, Appendix A4;
b. Continuous Monitoring Manual; January 23, 1992 - State Implementation Plan Volume 3, Appendix A6; and
c. All state and federal regulations as in effect on the date of issuance of this permit.

G3. Applicable Requirements [OAR 340-218-0010(3)(b)]

Oregon Title V Operating Permits do not replace requirements in Air Contaminant Discharge Permits (ACDP) issued to the source even if the ACDP(s) have expired. For a source operating under a Title V permit, requirements established in an earlier ACDP remain in effect notwithstanding expiration of the ACDP or Title V permit, unless a provision expires by its terms or unless a provision is modified or terminated following the procedures used to establish the requirement initially. Source specific requirements, including, but not limited to TACT, RACT, BACT, and LAER requirements, established in an ACDP must be incorporated into the Oregon Title V Operating Permit and any revisions to those requirements must follow the procedures used to establish the requirement initially.

G4. Compliance [OAR 340-218-0040(3)(n)(C), 340-218-0050(6), and 340-218-0080(4)]

a. The permittee must comply with all conditions of this permit. Any permit condition noncompliance constitutes a violation of the Federal Clean Air Act and/or state rules and is grounds for enforcement action; for permit termination, revocation and re-issuance, or modification; or for denial of a permit renewal application. Any noncompliance with a permit condition specifically designated as enforceable only by the state constitutes a violation of state rules only and is grounds for enforcement action; for permit termination, revocation and re-issuance, or modification; or for denial of a permit renewal application.
b. Any schedule of compliance for applicable requirements with which the source is not in compliance at the time of permit issuance is supplemental to, and does not sanction noncompliance with the applicable requirements on which it is based.
c. For applicable requirements that will become effective during the permit term, the source must meet such requirements on a timely basis unless a more detailed schedule is expressly required by the applicable requirement.

G5. Masking Emissions:

The permittee must not install or use any device or other means designed to mask the emission of an air contaminant that causes or is likely to cause detriment to health, safety, or welfare of any person or otherwise violate any other regulation or requirement. [OAR 340-208-0400] This condition is enforceable only by the State.

G6. Credible Evidence:

Notwithstanding any other provisions contained in any applicable requirement, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any such applicable requirements. [OAR 340-214-0120]

G7. Certification [OAR 340-214-0110, 340-218-0040(5), 340-218-0050(3)(c)(D), and 340-218-0080(2)]

Any document submitted to the Department or EPA pursuant to this permit must contain certification by a responsible official of truth, accuracy and completeness. All certifications must state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and, complete. The permittee must promptly, upon discovery, report to the Department a material error or omission in these records, reports, plans, or other documents.

G8. Open Burning [OAR Chapter 340, Division 264]

The permittee is prohibited from conducting open burning, except as may be allowed by OAR 340-264-0020 through 340-264-0200.

G9. Asbestos [40 CFR Part 61, Subpart M (federally enforceable), OAR Chapter 340-248-0005 through 340-248-0180 (state-only enforceable) and 340-248-0205 through 340-248-0280]

The permittee must comply with OAR Chapter 340, Division 248, and 40 CFR Part 61, Subpart M when conducting any renovation or demolition activities at the facility.

G10. Stratospheric Ozone and Climate Protection [40 CFR 82 Subpart F, OAR 340-260-0040]

The permittee must comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, Recycling and Emissions Reduction.

G11. Permit Shield [OAR 340-218-0110]

a. Compliance with the conditions of the permit is deemed compliance with any applicable requirements as of the date of permit issuance provided that:

   i. such applicable requirements are included and are specifically identified in the permit, or
   ii. the Department, in acting on the permit application or revision, determines in writing that other requirements specifically identified are not applicable to the source, and the permit includes the determination or a concise summary thereof.

b. Nothing in this rule or in any federal operating permit alters or affects the following:

   i. the provisions of ORS 468.115 (enforcement in cases of emergency) and ORS 468.035 (function of department);
   ii. the liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;

iii. the applicable requirements of the national acid rain program, consistent with section 408(a) of the FCAA; or
iv. the ability of the Department to obtain information from a source pursuant to ORS 468.095 (investigatory authority, entry on premises, status of records).

c. Sources are not shielded from applicable requirements that are enacted during the permit term, unless such applicable requirements are incorporated into the permit by administrative amendment, as provided in OAR 340-218-0150(1)(h), significant permit modification, or reopening for cause by the Department.

G12. Inspection and Entry [OAR 340-218-0080(3)]

Upon presentation of credentials and other documents as may be required by law, the permittee must allow the Department of Environmental Quality, or an authorized representative (including an authorized contractor acting as a representative of the EPA Administrator), to perform the following:

a. enter upon the permittee's premises where an Oregon Title V Operating Permit program source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
b. have access to and copy, at reasonable times, any records that must be kept under conditions of the permit;
c. inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
d. as authorized by the FCAA or state rules, sample or monitor, at reasonable times, substances or parameters, for the purposes of assuring compliance with the permit or applicable requirements.

G13. Fee Payment [OAR 340-220-0010, and 340-220-0030 through 340-220-0190]

The permittee must pay an annual base fee and an annual emission fee for particulates, sulfur dioxide, nitrogen oxides, and volatile organic compounds. The permittee must submit payment to the Department of Environmental Quality, Business Office, 811 SW 6th Avenue, Portland, OR 97204, within 30 days of the date the Department mails the fee invoice or August 1 of the year following the calendar year for which emission fees are paid, whichever is later. Disputes must be submitted in writing to the Department of Environmental Quality. Payment must be made regardless of the dispute. User-based fees will be charged for specific activities (e.g., computer modeling review, ambient monitoring review, etc.) requested by the permittee.

G14. Off-Permit Changes to the Source [OAR 340-218-0140(2)]

a. The permittee must monitor for, and record, any off-permit change to the source that:

i. is not addressed or prohibited by the permit;
ii. is not a Title I modification;
iii. is not subject to any requirements under Title IV of the FCAA;
iv. meets all applicable requirements;
v. does not violate any existing permit term or condition; and
vi. may result in emissions of regulated air pollutants subject to an applicable requirement but not otherwise regulated under this permit or may result in insignificant changes as defined in OAR 340-200-0020.

b. A contemporaneous notification, if required under OAR 340-218-0140(2)(b), must be submitted to the Department and the EPA.

c. The permittee must keep a record describing off-permit changes made at the facility that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those off-permit changes.
d. The permit shield of Condition G9 does not extend to off-permit changes.

G15. Section 502(b)(10) Changes to the Source [OAR 340-218-0140(3)]

a. The permittee must monitor for, and record, any section 502(b)(10) change to the source, which is defined as a change that would contravene an express permit term but would not:

i. violate an applicable requirement;
ii. contravene a federally enforceable permit term or condition that is a monitoring, recordkeeping, reporting, or compliance certification requirement; or
iii. be a Title I modification.

b. A minimum 7-day advance notification must be submitted to the Department and the EPA in accordance with OAR 340-218-0140(3)(b).
c. The permit shield of Condition G9 does not extend to section 502(b)(10) changes.

G16. Administrative Amendment [OAR 340-218-0150]

Administrative amendments to this permit must be requested and granted in accordance with OAR 340-218-0150. The permittee must promptly submit an application for the following types of administrative amendments upon becoming aware of the need for one, but no later than 60 days of such event:

a. legal change of the registered name of the company with the Corporations Division of the State of Oregon, or
b. sale or exchange of the activity or facility.

G17. Minor Permit Modification [OAR 340-218-0170]

The permittee must submit an application for a minor permit modification in accordance with OAR 340-218-0170.

G18. Significant Permit Modification [OAR 340-218-0180]

The permittee must submit an application for a significant permit modification in accordance with OAR 340-218-0180

G19. Staying Permit Conditions [OAR 340-218-0050(6)(c)]

Notwithstanding conditions G16 and G17, the filing of a request by the permittee for a permit modification, revocation and re-issuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

G20. Construction/Operation Modification [OAR 340-218-0190]

The permittee must obtain approval from the Department prior to construction or modification of any stationary source or air pollution control equipment in accordance with OAR 340-210-0200 through OAR 340-210-0250.

G21. New Source Review Modification [OAR 340-224-0010]

The permittee may not begin construction of a major source or a major modification of any stationary source without having received an air contaminant discharge permit (ACDP) from the Department and having satisfied the requirements of OAR 340, Division 224.

G22. Need to Halt or Reduce Activity Not a Defense [OAR 340-218-0050(6)(b)]

The need to halt or reduce activity will not be a defense. It will not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

G23. Duty to Provide Information [OAR 340-218-0050(6)(e) and OAR 340-214-0110]

The permittee must furnish to the Department, within a reasonable time, any information that the Department may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. Upon request, the permittee must also furnish to the Department copies of records required to be retained by the permit or, for information claimed to be confidential, the permittee may furnish such records to the Department along with a claim of confidentiality.

G24. Reopening for Cause [OAR 340-218-0050(6)(c) and 340-218-0200]

a. The permit may be modified, revoked, reopened and reissued, or terminated for cause as determined by the Department.
b. A permit must be reopened and revised under any of the circumstances listed in OAR 340-218-0200(1)(a).
c. Proceedings to reopen and reissue a permit must follow the same procedures as apply to initial permit issuance and affect only those parts of the permit for which cause to reopen exists.

G25. Severability Clause [OAR 340-218-0050(5)]

Upon any administrative or judicial challenge, all the emission limits, specific and general conditions, monitoring, recordkeeping, and reporting requirements of this permit, except those being challenged, remain valid and must be complied with.

G26. Permit Renewal and Expiration [OAR 340-218-0040(1)(a)(D) and 340-218-0130]

a. This permit expires at the end of its term, unless a timely and complete renewal application is submitted as described below. Permit expiration terminates the permittee's right to operate.
b. Applications for renewal must be submitted at least 12 months before the expiration of this permit, unless the Department requests an earlier submittal. If more than 12 months is required to process a permit renewal application, the Department must provide no less than six (6) months for the owner or operator to prepare an application.
c. Provided the permittee submits a timely and complete renewal application, this permit will remain in effect until final action has been taken on the renewal application to issue or deny the permit.

G27. Permit Transference [OAR 340-218-0150(1)(d)]

The permit is not transferable to any person except as provided in OAR 340-218-0150(1)(d).

G28. Property Rights [OAR 340-200-0020 and 340-218-0050(6)(d)]

The permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations, except as provided in OAR 340-218-0110.

G29. Permit Availability [OAR 340-200-0020 and 340-218-0120(2)]

The permittee must have available at the facility at all times a copy of the Oregon Title V Operating Permit and must provide a copy of the permit to the Department or an authorized representative upon request.

ALL INQUIRIES SHOULD BE DIRECTED TO:

Department of Environmental Quality
Air Quality Division
Western Region-Salem Office
750 Front Street NE, Suite 120
Salem, OR 97301-1039
(503) 378-8240

Air TECHNOLOGY Laboratories, Inc.

September 18, 2019

LA Cert #04140
EPA Methods TO3, TO14A, TO15, 25C/3C, RSK-175

TX Cert T104704450-14-6
EPA Methods TO14A, TO15

UT Cert CA0133332015-3
EPA Methods TO3, TO14A, TO15, RSK-175

Weaver Consultants Group
ATTN: Melissa Green
7340 E. Caley Ave., Ste. 110
Centennial, CO 80111

LABORATORY TEST RESULTS

Project Reference: Total Sulfur Content Composition and Heat Value Testing
Project Number: 0120-174-50-20-02
Lab Number: K080707-01/04

Enclosed are **revised** results for sample(s) received 8/07/19 by Air Technology Laboratories. This revision replaces the report dated 8/26/19 in its entirety. Samples were received intact. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

Report Narrative:

- Report revised to include a Level 4 raw data package, per client's request.
- Unless otherwise noted in the report, sample analyses were performed within method performance criteria and meet all requirements of the TNI Standards.
- The enclosed results relate only to the sample(s).

Preliminary results were e-mailed to Melissa Green on 8/22/19.

ATL appreciates the opportunity to provide testing services to your company. If you have any questions regarding these results, please call me at (626) 964-4032.

Sincerely,

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

Note: The cover letter is an integral part of this analytical report.

K080707a

AirTECHNOLOGY Laboratories, Inc.

18501 E. Gale Ave., Suite 130
City of Industry, CA 91748
Ph: 626-964-4032
Fx: 626-964-5832

CHAIN OF CUSTODY RECORD

TURNAROUND TIME
Standard ☑ 48 hours ☐
Same Day ☐ 72 hours ☐
24 hours ☐ 96 hours ☐
Other:

DELIVERABLES
EDD ☐
EDF ☐
LEVEL 3 ☐
LEVEL 4 ☐

PAGE: OF

Condition upon receipt:
Sealed Yes ☐ No ☐
Intact Yes ☐ No ☐
Chilled _____ deg C

Project No.: 0120-174-50-20-02
Project Name: Total sulfur content, composition and heat value testing
Report To: Melissa Green
Company: Weaver Consultants Group
Street: 7340 S Caley Ave Suite 110
City/State/Zip: Centennial, CO 80111
Phone& Fax: 720-529-0132
e-mail: MGreen@WCGrp.com

BILLING
P.O. No.: Same
Bill to:

ANALYSIS REQUEST

LAB USE ONLY	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	CONTAINER TYPE	D5504 (extended list)	D1945				
K080707-01	1 canister 5948	8/6/19	12:35	G	C	x	x				
-02	2 " 5960	8/6/19	12:49	G	C	x	x				
-03	3 " 6010	8/6/19	1:02	G	C	x	x	8/7/19			
-04	4 " 7131	8/6/19	1:15	G	C						

AUTHORIZATION TO PERFORM WORK: Corey Harkness	COMPANY: WCG	DATE/TIME: 8/6/19 11:00AM	
SAMPLED BY: Corey Harkness	COMPANY: WCG	DATE/TIME: 8/6/19 12:35 pm	
RELINQUISHED BY: Corey Harkness	DATE/TIME: 8/6/19 2:30pm	RECEIVED BY: FedEx	DATE/TIME: 8/6/19 2:30pm
RELINQUISHED BY: FedEx	DATE/TIME: 8/7/19	RECEIVED BY: [signature]	DATE/TIME: 8/7/19 0912
RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME

METHOD OF TRANSPORT (circle one): Walk-In (FedEx) UPS Courier ATLI Other _____

COMMENTS
only test sample 4 as a back-up

DISTRIBUTION: White & Yellow - Lab Copies / Pink - Customer Copy

Preservation: **H**=HCL **N**=None / Container: **B**=Bag **C**=Can **V**=VOA **O**=Other *Rev. 03 - 5/7/09*

Client:	Weaver Consultants Group
Attn:	Melissa Green
Project Name:	Total Sulfur Content Composition and Heat Value Testing
Project No.:	0120-174-50-20-02
Date Received:	08/07/19
Matrix:	Air
Reporting Units:	ppmv

ASTM D5504

Lab No.:	K080707-01		K080707-02		K080707-03			
Client Sample I.D.:	1		2		3			
Date/Time Sampled:	8/6/19 12:35		8/6/19 12:49		8/6/19 13:02			
Date/Time Analyzed:	8/8/19 14:54		8/8/19 15:12		8/8/19 15:29			
QC Batch No.:	190808GC3A1		190808GC3A1		190808GC3A1			
Analyst Initials:	CM/AS		CM/AS		CM/AS			
Dilution Factor:	4.2		4.6		4.6			
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv		
Hydrogen Sulfide	8.6	0.84	ND	0.92	ND	0.92		
Sulfur Dioxide	ND	0.84	ND	0.92	ND	0.92		
Carbonyl Sulfide	ND	0.84	ND	0.92	ND	0.92		
Methyl Mercaptan	2.3	0.84	ND	0.92	ND	0.92		
Ethyl Mercaptan	ND	0.84	ND	0.92	ND	0.92		
Dimethyl Sulfide	2.1	0.84	2.5	0.92	2.4	0.92		
Carbon Disulfide	ND	0.84	ND	0.92	ND	0.92		
Isopropyl Mercaptan	2.5	0.84	ND	0.92	ND	0.92		
t-Butylmercaptan	ND	0.84	ND	0.92	ND	0.92		
n-Propyl Mercaptan	ND	0.84	ND	0.92	ND	0.92		
Ethyl Methyl Sulfide	ND	0.84	ND	0.92	ND	0.92		
sec-Butyl Mercaptan	ND	0.84	ND	0.92	ND	0.92		
Thiophene	ND	0.84	ND	0.92	ND	0.92		
Isobutyl Mercaptan	ND	0.84	ND	0.92	ND	0.92		
Diethyl Sulfide	ND	0.84	ND	0.92	ND	0.92		
n-Butyl Mercaptan	ND	0.84	ND	0.92	ND	0.92		
Dimethyl Disulfide	ND	0.84	ND	0.92	ND	0.92		
2-Methylthiophene	ND	0.84	ND	0.92	ND	0.92		
3-Methylthiophene	ND	0.84	ND	0.92	ND	0.92		
Tetrahydrothiophene	ND	0.84	ND	0.92	ND	0.92		
2-Ethylthiophene	ND	0.84	ND	0.92	ND	0.92		
2,5-Dimethylthiophene	ND	0.84	ND	0.92	ND	0.92		
Diethyl Disulfide	ND	0.84	ND	0.92	ND	0.92		
Dimethyl Trisulfide	ND	0.84	2.5	0.92	ND	0.92		
Total Reduced Sulfur	15	0.84	5.0	0.92	2.4	0.92		

ND = Not Detected (below RL)
RL = Reporting Limit

Reviewed/Approved By: _____ Date 8/22/19

Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

AirTECHNOLOGY Laboratories, Inc.
18501 E. Gale Avenue, Suite 130 ♦ City of Industry, CA 91748 ♦ Ph: (626) 964-4032 ♦ Fx: (626) 964-5832

Client:	Weaver Consultants Group
Attn:	Melissa Green
Project Name:	Total Sulfur Content Composition and Heat Value Testing
Project No.:	0120-174-50-20-02
Date Received:	08/07/19
Matrix:	Air
Reporting Units:	ppmv

ASTM D5504

Lab No.:	Method Blank							
Client Sample I.D.:	-							
Date/Time Sampled:	-							
Date/Time Analyzed:	8/8/19 10:57							
QC Batch No.:	190808GC3A1							
Analyst Initials:	CM/AS							
Dilution Factor:	1.0							

ANALYTE	Result ppmv	RL ppmv						
Hydrogen Sulfide	ND	0.20						
Sulfur Dioxide	ND	0.20						
Carbonyl Sulfide	ND	0.20						
Methyl Mercaptan	ND	0.20						
Ethyl Mercaptan	ND	0.20						
Dimethyl Sulfide	ND	0.20						
Carbon Disulfide	ND	0.20						
Isopropyl Mercaptan	ND	0.20						
t-Butylmercaptan	ND	0.20						
n-Propyl Mercaptan	ND	0.20						
Ethyl Methyl Sulfide	ND	0.20						
sec-Butyl Mercaptan	ND	0.20						
Thiophene	ND	0.20						
Isobutyl Mercaptan	ND	0.20						
Diethyl Sulfide	ND	0.20						
n-Butyl Mercaptan	ND	0.20						
Dimethyl Disulfide	ND	0.20						
2-Methylthiophene	ND	0.20						
3-Methylthiophene	ND	0.20						
Tetrahydrothiophene	ND	0.20						
2-Ethylthiophene	ND	0.20						
2,5-Dimethylthiophene	ND	0.20						
Diethyl Disulfide	ND	0.20						
Dimethyl Trisulfide	ND	0.20						
Total Reduced Sulfur	ND	0.20						

ND = Not Detected (below RL)
RL = Reporting Limit

Reviewed/Approved By: _____ Date 8/22/19
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

AirTECHNOLOGY Laboratories, Inc.
18501 E. Gale Avenue, Suite 130 ♦ City of Industry, CA 91748 ♦ Ph: (626) 964-4032 ♦ Fx: (626) 964-5832

QC Batch No.: 190808GC3A1
Matrix: Air
Reporting Units: ppmv

ASTM D5504

Lab No.:	METHOD BLANK		LCS		LCSD			
Date/Time Analyzed:	8/8/19 10:57		8/8/19 10:22		8/8/19 10:40			
Analyst Initials:	CM/AS		CM/AS		CM/AS			
Date File:	08aug003		08aug001		08aug002			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Result ppmv	RL ppmv	% Rec.	Criteria	% Rec.	Criteria	% RPD	Criteria
Hydrogen Sulfide	ND	0.20	73	70-130%	73	70-130%	0.2	<30
Carbonyl Sulfide	ND	0.20	102	70-130%	102	70-130%	0.1	<30
Methyl Mercaptan	ND	0.20	97	70-130%	99	70-130%	1.8	<30
Ethyl Mercaptan	ND	0.20	102	70-130%	103	70-130%	0.9	<30
Dimethyl Sulfide	ND	0.20	90	70-130%	90	70-130%	0.1	<30
Carbon Disulfide	ND	0.20	87	70-130%	86	70-130%	0.8	<30
Dimethyl Disulfide	ND	0.20	96	70-130%	94	70-130%	1.4	<30

ND = Not Detected (below RL)
RL = Reporting Limit

Reviewed/Approved By: _____ Date 8/22/19
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

AirTECHNOLOGY Laboratories, Inc.
18501 E. Gale Avenue, Suite 130 ♦ City of Industry, CA 91748 ♦ Ph: (626) 964-4032 ♦ Fx: (626) 964-5832

Client: Weaver Consultants Group
Attn: Melissa Green

Client's Project: Total Sulfur Content Composition and Heat Value Testing
Project Number: 0120-174-50-20-02
Date Received: 8/7/2019
Matrix: Vapor
Units: % v/v

Natural Gas Analysis by ASTM-D1945/3588

Lab No.:		K080707-01		K080707-02		K080707-03					
Client Sample I.D.:		1		2		3					
Date/Time Sampled:		8/6/19 12:35		8/6/19 12:49		8/6/19 13:02					
Fixed Gas Date/Time Analyzed:		8/15/19 11:39		8/15/19 11:58		8/15/19 12:21					
Hydrocarbon Date/Time Analyzed:		8/8/19 10:01		8/8/19 10:23		8/8/19 11:08					
Analyst Initials:		CM/AS		CM/AS		CM/AS					
QC Batch #:		190808GC11A1		190808GC11A1		190808GC11A1					
Dilution Factor:		4.2		4.6		4.6					
ANALYTE	PQL	Results	RL	Results	RL	Results	RL				
Methane	0.0010	53	0.0042	53	0.0046	51	0.0046				
Ethylene	0.010	ND	0.042	ND	0.046	ND	0.046				
Ethane	0.010	ND	0.042	ND	0.046	ND	0.046				
Propane	0.010	ND	0.042	ND	0.046	ND	0.046				
Isobutane	0.010	ND	0.042	ND	0.046	ND	0.046				
n-Butane	0.010	ND	0.042	ND	0.046	ND	0.046				
Isopentane	0.010	ND	0.042	ND	0.046	ND	0.046				
n-Pentane	0.010	ND	0.042	ND	0.046	ND	0.046				
Hexanes	0.010	ND	0.042	ND	0.046	ND	0.046				
Heptanes	0.010	ND	0.042	ND	0.046	ND	0.046				
Oxygen/Argon	0.50	ND	2.1	ND	2.3	2.3	2.3				
Nitrogen	1.0	8.4	4.2	9.0	4.6	11	4.6				
Carbon Dioxide	0.010	37	0.042	37	0.046	35	0.046				
Gross Heat of combustion (BTU/FT3)	1.0	540	4.2	534	4.6	514	4.6				
Net Heat of combustion (BTU/FT3)	1.0	486	4.2	481	4.6	463	4.6				

PQL = Practical Quantitation Limit
ND = Not Detected (Below RL)
RL = PQL X Dilution Factor

Reviewed/Approved By: _____ Date: 8/20/19
Mark J. Johnson
Operations Manager

The cover letter is an integral part of this analytical report.

Client: Weaver Consultants Group
Attn: Melissa Green

Client's Project: Total Sulfur Content Composition and Heat Value Testing
Project Number: 0120-174-50-20-02
Date Received: 8/7/2019
Matrix: Vapor
Units: % v/v

Natural Gas Analysis by ASTM-D1945/3588

Lab No.:		K080707-01		K080707-02		K080707-03					
Client Sample I.D.:		1		2		3					
Date/Time Sampled:		8/6/19 12:35		8/6/19 12:49		8/6/19 13:02					
Fixed Gas Date/Time Analyzed:		8/15/19 11:39		8/15/19 11:58		8/15/19 12:21					
Hydrocarbon Date/Time Analyzed:		8/8/19 10:01		8/8/19 10:23		8/8/19 11:08					
Analyst Initials:		CM/AS		CM/AS		CM/AS					
QC Batch #:		190808GC11A1		190808GC11A1		190808GC11A1					
Dilution Factor:		4.2		4.6		4.6					
ANALYTE	PQL	Results	RL	Results	RL	Results	RL				
Methane	0.0010	53	0.0042	53	0.0046	51	0.0046				
Ethylene	0.010	ND	0.042	ND	0.046	ND	0.046				
Ethane	0.010	ND	0.042	ND	0.046	ND	0.046				
Propane	0.010	ND	0.042	ND	0.046	ND	0.046				
Isobutane	0.010	ND	0.042	ND	0.046	ND	0.046				
n-Butane	0.010	ND	0.042	ND	0.046	ND	0.046				
Isopentane	0.010	ND	0.042	ND	0.046	ND	0.046				
n-Pentane	0.010	ND	0.042	ND	0.046	ND	0.046				
Hexanes	0.010	ND	0.042	ND	0.046	ND	0.046				
Heptanes	0.010	ND	0.042	ND	0.046	ND	0.046				
Oxygen/Argon	0.50	ND	2.1	ND	2.3	2.3	2.3				
Nitrogen	1.0	8.4	4.2	9.0	4.6	11	4.6				
Carbon Dioxide	0.010	37	0.042	37	0.046	35	0.046				
Gross Heat of combustion (BTU/FT3)	1.0	540	4.2	535	4.6	514	4.6				
Net Heat of combustion (BTU/FT3)	1.0	486	4.2	481	4.6	463	4.6				

PQL = Practical Quantitation Limit
ND = Not Detected (Below RL)
RL = PQL X Dilution Factor

Reviewed/Approved By: _____ Date: 8/22/19
Mark J. Johnson
Operations Manager

The cover letter is an integral part of this analytical report.

QC Batch # 190808GC11A1
Matrix: Air
Units: % v/v

QC for Natural Gas Analysis by ASTM-D1945

Lab No.:	Blank		LCS		LCSD			
Fixed Gas Date/Time Analyzed:	8/15/19 9:56		8/15/19 10:16/15:40		8/15/19 10:35/15:55			
Hydrocarbon Date/Time Analyzed:	8/8/19 9:39		8/8/19 8:54		8/8/19 9:16			
Analyst Initials:	CM/AS		CM/AS		CM/AS			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	%Rec	Criteria	%Rec	Criteria	RPD	Criteria
Methane	ND	0.0010	102	70-130	101	70-130	0.6	<20
Ethane	ND	0.010	102	70-130	102	70-130	0.7	<20
Propane	ND	0.010	109	70-130	104	70-130	4.5	<20
Isobutane	ND	0.010	111	70-130	104	70-130	6.1	<20
n-Butane	ND	0.010	111	70-130	103	70-130	7.3	<20
Neopentane	ND	0.010	110	70-130	104	70-130	5.5	<20
Isopentane	ND	0.010	111	70-130	100	70-130	10.8	<20
n-Pentane	ND	0.010	110	70-130	100	70-130	9.8	<20
n-Hexane	ND	0.010	103	70-130	96	70-130	7.6	<20
n-Heptane	ND	0.010	113	70-130	88	70-130	25.0	<20
Oxygen/Argon	ND	0.50	101	70-130	100	70-130	0.8	<20
Nitrogen	ND	1.0	101	70-130	100	70-130	0.6	<20
Carbon Dioxide	ND	0.010	95	70-130	95	70-130	0.2	<20

ND = Not Detected (Below RL)
RL = PQL X Dilution Factor

Reviewed/Approved By: _____ Date: 8/22/19
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report.

Attachment C

SOLID WASTE DISPOSAL SITE PERMIT:

Municipal Solid Waste Landfill

Oregon Department of Environmental Quality
165 E. Seventh Ave., Suite 100
Eugene, OR 97401-3049
541-687-7465

Issued as authorized by ORS 459.245 and in accordance with the provisions of Oregon Revised Statutes Chapter 459, 459A, Oregon Administrative Rules 340 Divisions 64, 90, 93, 95, 96 and 97 and subject to the Land Use Compatibility Statement referenced below.

ISSUED TO:

Valley Landfills, Inc.
28972 Coffin Butte Road
Corvallis, OR 97330

541-745-5792

FACILITY NAME AND LOCATION:

Coffin Butte Landfill
28972 Coffin Butte Road
Corvallis, OR 97330

Section 13&18, T10S, R5&4W, Benton County

OWNER:

Valley Landfills, Inc.
28972 Coffin Butte Road
Corvallis, OR 97330

541-745-5792

OPERATOR:

Coffin Butte Landfill
28972 Coffin Butte Road
Corvallis, OR 97330

541-230-5546

ISSUED IN RESPONSE TO:

- Solid waste permit renewal application received Dec 6, 2019
- Land Use Compatibility Statement from Benton County dated Dec. 20, 2000.

The determination to issue this permit is based on findings and technical information included in the permit record.

ISSUED BY THE OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY

Brian Fuller
Material Management Manager
Western Region

July 28, 2020
Date

Permitted Activities

Until this permit expires or is modified or revoked, the permittee is authorized to establish, operate, and maintain a solid waste land disposal site in conformance with the requirements, limitations, and conditions set forth in this document, including all attachments.

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INTRODUCTION

This document is a solid waste permit issued by the Oregon Department of Environmental Quality in accordance with Oregon Revised Statutes (ORS) 459 and Oregon Administrative Rules (OAR), Chapter 340.

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PERMIT ADMINISTRATION

1.0 PERMIT ISSUANCE

1.1 Permittee

This permit is issued to Valley Landfills, Inc.

1.2 Permit number

This permit is DEQ Solid Waste Permit Number 306.

1.3 Permit term

The permit is issued on the date it is signed. The permit's expiration date is June 30, 2030.

1.4 Facility type

The facility is permitted as a municipal solid waste landfill.

1.5 Facility owner/ operator

The owner of this facility is:

Valley Landfills, Inc.
28972 Coffin Butte Road
Corvallis, OR 97330

The operator of this facility is:

Valley Landfills, Inc.
28972 Coffin Butte Road
Corvallis, OR 97330

1.6 Basis for permit issuance:

This permit is issued based upon the following documents submitted by the permittee:

- Solid waste permit application received Dec. 6, 2019
- Land Use Compatibility Statements from Benton County dated Dec. 20, 2000

1.7 Definitions

Unless otherwise specified, all terms are as defined in OAR 340-093-0030.

1.8 Legal control of property

The permittee shall at all times maintain legal control of the disposal site property; including maintaining a current permit, contract or agreement that allows the operation of the facility if the site is not owned by the permittee.

1.9 Submittal & notification address

Unless otherwise specified, all submittals and notifications to DEQ under this permit must be sent to:

Oregon Department of Environmental Quality
Manager, Materials Management Program
165 E Seventh Ave., Suite 100
Eugene, OR 97401-3049

Telephone: 541-687-7465

All submittals must include, at a minimum, one paper copy and one electronic copy in a format that is approved by the DEQ project manager. Note that some submittals may require more paper copies. Therefore, the permittee must confirm with the permit manager how many copies are necessary prior to submittal of a document.

Note: Whenever possible, the permittee should submit two-sided paper copies of all reports. DEQ may accept electronic submittals for portions of some reports, as approved in the Environmental Monitoring Plan or by DEQ.

2.0 DISCLAIMERS

2.1 Property rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights.

2.2 Department liability

DEQ, its officers, agents or employees do not sustain any liability on account of the issuance of this permit or on account of the construction, maintenance or operation of facilities pursuant to this permit.

3.0 AUTHORITY

3.1 Ten year permit

This permit is issued for a maximum of 10 years as authorized by Oregon Revised Statutes 459.245 (2).

3.2 Documents superseded

This document is the primary solid waste permit for the facility, superseding all of other solid waste permits issued for Coffin Butte Landfill by DEQ.

3.3 Permittee responsibility and liability

Conditions of this permit are binding upon the permittee. The permittee must conduct all facility activities in compliance with the provisions of the permit. The permittee is liable for all acts and omissions of the permittee's contractors and agents in carrying out the operations and other responsibilities pursuant to this permit.

3.4 Other compliance

This permit's issuance does not relieve the permittee from the responsibility to comply with all other applicable federal, state, or local laws or regulations, including the following solid waste requirements, and any future updates or additions to these requirements:

- Solid waste permit application received Dec. 6, 2019
- Oregon Revised Statutes, Chapters 459 and 459A
- Oregon Administrative Rules Chapter 340
- Any documents submitted by the permittee and approved by DEQ

3.5 DEQ access to disposal site

The permittee shall allow representatives of DEQ access to the disposal facility at all reasonable times for the purpose of making inspections, surveys, collecting samples, obtaining data and carrying out other necessary functions related to this permit.

Reference: OAR 340-093-0050(6).

3.6 Penalties

Violation of permit conditions will subject the permittee to civil penalties of up to $25,000 for each day of each violation.

Reference: ORS 459.995(1)(a)

4.0 PERMIT MODIFICATION

4.1 Five year review

In the permit's 4th to 6th year, DEQ will review the permit and amend it if necessary. DEQ will consider the following factors in making this determination:

- Compliance history of the facility
- Changes in volume, waste composition, or operations at the facility
- Changes in state or federal rules which should be incorporated into the permit

- A significant release of leachate or landfill gas to the environment from the facility
- Significant changes to a DEQ-approved site development plan, and/or conceptual design
- Other significant information or events

4.2 Permit modification

DEQ or the permittee may, at any time during the permit's term, propose to change the permit.

Once approved by DEQ, any permit-required plans become part of the permit by reference. DEQ may provide notice and opportunity for review of permit-required plans.

4.3 Modification and revocation by DEQ

DEQ may, at any time before the expiration date, modify, suspend or revoke this permit in whole or in part, in accordance with Oregon Revised Statutes 459.255, for reasons including but not limited to the following:

- Violation of any terms or conditions of this permit or any applicable statute, rule, standard or order of the Commission;
- Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts
- A significant change in the quantity or character of solid waste received or in the operation of the disposal site

4.4 Modification by permittee

The permittee must apply for a modification to this permit if there is a significant change in facility operations or a deviation from permitted activities.

4.5 Public participation

DEQ will issue a public notice to inform the public of any significant changes to the permit.

4.6 Changes in ownership or address

At least 10 days in advance, the permittee must report to DEQ any change in the facility's ownership or the permittee's or operator's name and/or address.

Reference: OAR 340-093-0070(6)(a)(A)

ALLOWABLE ACTIVITIES

5.0 AUTHORIZATIONS

5.1 Wastes authorized for receipt

This permit authorizes the facility to accept:

- Solid waste as defined in OAR 340-093-0030(91)
- The following waste, when special handling and management requirements for their disposal are included in a special waste management plan approved by DEQ:
    - Cleanup Materials Contaminated with Hazardous Substances as defined in OAR 340-093-0030(19), in accordance with OAR 340-093-0170
    - Waste requiring special management as defined in OAR 340-093-0190
    - Industrial solid wastes as defined in OAR 340-093-0030(53)

5.2 Authorization of other wastes

DEQ may authorize the permittee to accept other waste if:

- The permittee develops a Special Waste Management Plan and submits it to DEQ for review and approval;
- DEQ approves the Special Waste Management Plan
- The permittee can demonstrate that the materials are not hazardous waste, as defined by state and federal regulations or otherwise a threat to human health or waters of the state.

5.3 Tires for recycling

This permit authorizes the permittee to accept up to 100 whole tires at this facility for storage and removal.

This permit authorizes the permittee to accept up to 2,000 whole tires at this facility for storage and removal if the permittee maintains a continuous contract with a waste tire carrier to remove the tires from the site.

5.4 Salvaging and recycling

This permit authorizes the permittee to conduct salvaging and recycling in a controlled and orderly manner. The permittee must notify DEQ prior to changing salvaging and recycling operations. These operations must be described in the site Operations Plan.

6.0 PROHIBITIONS

6.1 Hazardous waste disposal

The permittee must not accept any regulated hazardous waste.

Reference: 40 CFR 258.20 (b).

In the event discovered waste is hazardous or suspected to be hazardous, the permittee must, within 24 hours, notify DEQ and initiate procedures to identify and remove the waste. Hazardous waste must be removed within 90 days, unless DEQ approves otherwise. The permittee's temporary storage and transportation practices must comply with DEQ rules.

6.2 Liquid waste disposal

The permittee must not accept liquid waste for disposal.

Definition: Liquid waste is waste that does not pass the paint filter test performed in accordance with EPA Method 9095B.

6.3 Vehicle disposal

The permittee must not accept discarded or abandoned motor vehicles, including trailers or mobile homes, for disposal.

6.4 Used oil disposal

The permittee must not accept used oil for disposal.

6.5 Battery disposal

The permittee must not accept lead-acid batteries for disposal.

6.6 Tire disposal

The permittee must not accept waste tires for disposal.

6.7 Recyclable material disposal

The permittee must not landfill or dispose of any source separated recyclable material brought to the disposal site.

Exception: If the source separated material is unusable or not recyclable it may be landfilled. DEQ must agree to such disposal and pre-approve the identified sources of unusable source separated material prior to its disposal.

6.8 Open burning

The permittee must not conduct any open burning at the site.

6.9 Electronic waste disposal

The permittee must not knowingly accept the following covered electronic devices for disposal:

- Computer monitors having a viewable area greater than four inches diagonally
- Televisions having a viewable area greater than four inches diagonally

- Desktop computers
- Portable computers

Reference: Oregon Revised Statutes 459.247 and 459A.300-365.

OPERATIONS AND DESIGN

7.0 OPERATIONS PLAN

7.1 Operations plan submittal

Within 270 days of the permit issue date, the permittee must review and submit any necessary updates to the site Operations Plan to DEQ for review and approval. The updated plan must be consistent with the conditions of this permit. A DEQ-approved plan becomes an integral part of the permit.

7.2 Plan content

The Operations Plan must describe facility operations, including the elements listed below, and demonstrate how the facility will comply with all regulatory and permit requirements:

General Topics	Describe plans or procedures for:
General operations	• Screening incoming waste to detect unauthorized or prohibited waste as required by 40 CFR 258.20(a) • Handling and removing unauthorized wastes discovered at the facility • Managing landfill gas • Managing landfill leachate in compliance with Subsection 9.15 • Recirculating landfill leachate & gas condensate in compliance with Subsections 5.5 and 9.15 • Monitoring landslide stability in compliance with Subsection 9.22 • Designing surface water and erosion control structures • Responding to non-compliance events or situations
Disposal operations	• Placing daily and interim cover • Detecting and preventing the disposal of regulated hazardous waste, and any other DEQ-prohibited waste • Disposing of putrescible waste • Disposal, handling and recordkeeping of cleanup materials contaminated with hazardous substances • Waste unloading and handling • Disposing of special waste • Using, stockpiling and tracking the receipt and use of waste approved for use as alternative daily cover • Reducing and controlling the risk of a landfill fire • Fill progression and phasing that is consistent with landslide stability recommendations, and takes into account other operational considerations
Special Waste Management Plan	• Identifying and characterizing special waste (i.e., waste which requires special management or waste streams not otherwise authorized by this permit) • Identifying the source of all special waste • Determining appropriate handling and disposal procedures • Documenting plan implementation, including waste characterization and location of waste disposition References: OAR 340-093-0190, OAR 340-094-0040[11][b][J]
Ancillary operations	• Waste unloading and handling • Solidifying liquid waste prior to disposal

General Topics	Describe plans or procedures for:
	• Handling and removal of waste tires • Placing and maintaining interim cover over inactive landfill areas • Managing transfer containers
Inspection and maintenance	• Washing equipment • Maintaining leachate and gas collection systems • Maintaining monitoring stations and devices • Periodically inspecting the continuity and integrity of primary leachate collection pipes • Maintaining surface water control structures
Operating record	• Establishing and maintaining the operating record
Contingency	• Backup methods for storing and/or disposing of leachate • Providing fire protection equipment, and arrangements made with local fire control agency • Notifying DEQ about emergencies and fires

7.3 Operations and maintenance manual

Within 60 days of the Operations Plan's approval the permittee must prepare and submit an updated Operations and Maintenance Manual which includes detailed inspection and maintenance procedures and an associated schedule for all facility components that require periodic inspection. The manual must include specific procedures for routine preventative maintenance and repairs and for response to emergency situations. The preventative inspection and maintenance program should address the following equipment and facilities: personnel safety equipment, operating equipment, support facilities, environmental control systems, environmental monitoring systems, and the transportation system. The permittee must keep a copy of the Operations and Maintenance Manual with the Operating Record, readily available for DEQ inspection and review.

7.4 Plan and manual updates

The permittee must update and revise both the Operations Plan and the Operations and Maintenance Manual as necessary to reflect current and future facility conditions and procedures.

The permittee must submit any associated revisions or updates to DEQ for review and approval.

7.5 Plan and manual compliance

The permittee must operate the facility in accordance with the approved Operations Plan and Operations and Maintenance Manual, and any amendments to these documents.

8.0 RECORDKEEPING AND REPORTING – OPERATIONS

8.1 Non-compliance reporting

The permittee must take immediate corrective action for any violations of permit conditions or DEQ rules and notify DEQ.

DEQ response: DEQ may investigate the nature and extent of the compliance problem and evaluate the adequacy of the permittee's corrective action plans.

8.2 Permit display

The permittee must display this permit where operating personnel can easily refer to it.

8.3 Access to records

DEQ must have access, when requested, to all records and reports related to the permitted facility.

8.4 Procedures

The permittee's recordkeeping and reporting procedures are as follows:

Step	Action
1	Keep the Operating Record at the facility or at another DEQ-approved location.
2	Place information required by 40 CFR 258.29 and this permit in the Operating Record.
3	During facility operations, record the daily amount of each waste type received and approved alternative daily cover - qualified waste used for daily cover. Record 0 if the waste is not received. *Identify the following waste types received and categorize them as either in- or out-of-state waste:* • Domestic solid waste and construction and demolition waste • Industrial solid waste • Asbestos • Contaminated cleanup materials (except materials counted as alternative daily cover qualified waste) • Approved alternative daily cover qualified waste received • Other (i.e., specify any waste type not included in the above list).
4	If applicable, every quarter, record the amount of each material recovered for recycling or other beneficial purpose.
5	Submit the information collected in Step 3 above on the Solid Waste Disposal Report/Fee Calculation form provided by DEQ. Pay solid waste fees as required by OAR 340-097. Date due: last day of the month following the end of the calendar quarter.
6	Submit the information collected in Steps 3 & 4 above to the Wasteshed Representative on DEQ provided or approved form. Date due: Jan. 25 of each year.
7	Retain copies of all records and reports for 10 years after their creation.
8	Update all records to reflect current conditions at the facility.

8.5 Submittal address

Send required submittals to:

Oregon Department of Environmental Quality
Materials Management Section
Environmental Solutions Division
700 NE Multnomah St., Suite 600
Portland OR 97232

503-229-5913

9.0 SPECIFIC OPERATING CONDITIONS

9.1 Discovery of prohibited waste

If the permittee discovers prohibited wastes, the permittee must notify DEQ within 24 hours and begin to isolate or remove the waste. In addition, the permittee must take digital photos of the prohibited waste to document its quantity, nature, identity and source.

Within 60 days following the discovery, the permittee must transport non-putrescible, non-hazardous prohibited waste to a disposal or recycling facility authorized to accept such waste, unless otherwise approved or restricted by DEQ. The permittee must obtain DEQ's written approval to store putrescible, non-hazardous, prohibited waste.

9.2 Spills notification

Oregon Revised Statue 466.635 and Oil and Hazardous Materials Emergency Response Requirements, Chapter 340, Division 142 require immediate notification to Oregon Emergency Response System (OERS) after taking any required emergency actions to protect human health and the environment when

oil or hazardous materials are spilled. The spill must be immediately reported to OERS at 1-800-452-0311 if the spill is of a reportable quantity. Reportable quantities include:

- *Any* amount of oil spilled to waters of the state
- Oil spills on land in excess of 42 gallons
- Two hundred pounds (25 gallons) or more of spilled pesticide residue
- Spills of hazardous materials that are equal to, or greater than, the quantity listed in the Code of Federal Regulations, 40 CFR Part 302 (List of Hazardous Substances and Reportable Quantities), and amendments adopted before July 1, 2002.

For a complete list of hazardous materials required to be reported, please refer to OAR 340-142-0050.

9.3 Access roads

The permittee must provide all-weather access roads from the landfill property line to the active operational area and the environmental monitoring stations, and maintain them in a manner that prevents traffic hazards, dust and mud.

The permittee must use appropriate means, including truck washing, as needed to prevent haul trucks from tracking mud on external roadways outside the landfill boundaries. Any truck washing activities must be conducted on a hard surface and any disposal of wastewater must be accomplished in a manner approved by DEQ.

9.4 Unloading area

The area(s) for unloading incoming waste must be clearly defined by signs, fences, barriers or other devices. The permittee must minimize width of the unloading area to the maximum extent practicable.

9.5 Daily cover

At the end of each working day the permittee must cover all solid waste with a six inch, or thicker, layer of compacted soil or with a DEQ-approved, alternative daily cover.

9.6 Interim cover

As specified in DEQ-approved design and operations plans, the permittee must place and maintain interim cover over fill areas that will not receive additional waste for an extended period of time [i.e., greater than 120 days] and actively revegetate, in a DEQ-approved manner, any interim cover that will remain exposed for more than two years.

9.7 Surface water structures

The permittee must maintain all stormwater drainage structures in good functional condition, report to DEQ any significant malfunctions or damage and complete repairs within 60 days of discovery the problem.

9.8 Stormwater pollution control plan

The permittee must update and implement the Storm Water Pollution Control Plan consistent with site conditions and the stormwater permit requirements. Refer to the National Pollutant Discharge Elimination System Stormwater Discharge Permit No. 1200-Z. In addition, the permittee must keep a current copy of the permit in the facility Operating Record.

9.9 Asbestos waste management

The permittee must offload and dispose of friable asbestos-containing solid waste as specified in DEQ-approved Operations Plan, Operations & Maintenance Manual, and in OAR 340-248.

9.10 Leachate management systems

The permittee must operate the disposal site in a manner that deters leachate production to the maximum extent practicable, and construct, operate and maintain in good functional condition all DEQ-approved leachate containment, collection, detection, removal, storage and treatment systems. The permittee must remove leachate continuously from all landfill leachate collection systems, to minimize fluid buildup on the bottom liner and prevent the hydraulic head (fluid depth) from exceeding one foot.

9.11 Leachate surface impoundments

The permittee must: 1) completely contain leachate stored within lined surface impoundments; 2) maintain a minimum dike freeboard of two (2) feet above the maximum leachate level in those impoundments unless otherwise approved by DEQ; 3) fence the impoundments to control public access; and 4) lock all gates when no attendant is on duty. In addition, the permittee must post clearly legible, visible signs that describe the surface impoundment's contents and display the words "no trespassing".

9.12 Litter control

The permittee must at all times minimize windblown litter and collect it quickly and effectively to prevent scattering, nuisance conditions and unsightliness.

9.13 Vector control

The permittee must minimize vectors in the active disposal area, including insects, rodents and birds.

9.14 Air emissions

The permittee must control air emissions, including dust, malodors, air toxics, etc. related to disposal site construction, operation and other activities, and comply with DEQ air quality standards.

9.15 Access control

The permittee must control public access to the landfill as necessary to prevent unauthorized entry and dumping.

9.16 Landfill entrance sign

A prominently displayed sign must indicate the following:

- The name of facility
- The emergency telephone number
- The days and hours of operation
- The authorized and prohibited waste
- The Solid Waste Permit number
- The operator's address
- The consequences to haulers if they attempt to dispose of prohibited materials
- Any other information critical to the safe and efficient operation of the facility.

9.17 Fire protection and reporting

The permittee must provide complete and sufficient protection equipment and facilities in accordance with DEQ-approved Operations Plan.

Arrangements must be made with the local fire control agency to immediately acquire their services when needed. The permittee must implement preventative measures to ensure adequate on-site fire control, as determined by the local fire control agency. Fires must be immediately and thoroughly extinguished.

Fires shall be reported to DEQ within 24 hours.

9.18 Water supply

The permittee must provide water in sufficient quantities for fire protection, dust suppression, establishment of vegetation, and other site operations requiring water.

9.19 Landfill gas management

The permittee must control landfill gas in accordance with the requirements of 40 CFR Parts 51, 52 and 60 and OAR 340-094-0060(4).

9.20 Landfill gas control system operation and maintenance

The permittee must operate and maintain the landfill gas control and monitoring systems in good working order as required to prevent nuisance odors, air emissions and landfill gas migration (see methane compliance limits in Section 18).

If critical landfill gas equipment is significantly damaged or compromised, the permittee must replace or repair that equipment, within 60 days of discovering the problem, and submit a written inspection report to DEQ.

10.0 SITE DEVELOPMENT AND DESIGN

10.1 Site development plan

Within 360 days of the permit issue date, the permittee must submit any necessary update to the long-term Site Development Plan to DEQ for review and approval. Once approved, the plan becomes an integral part of this permit.

Reference: The *Solid Waste Landfill Guidance, September 1996,* describes the basic elements of a Site Development Plan. Organizing the plan in accordance with the Guidance will expedite DEQ's review.

10.2 Baseline design criteria

New municipal landfill waste landfill disposal units must include the following engineering controls:

- A composite liner system, including a DEQ-approved geomembrane liner (at least 60 mils thick for high density polyethylene, and at least 30 mils thick for approved alternative geomembranes) and at least two feet of compacted soil with an in-place permeability of 1 X 10^{-7} cm/sec or less, or a DEQ-approved alternative liner pursuant to 40 CFR Part 258.40(a)(1);
- A primary leachate collection and removal system (LCRS) which fully covers the liner system and maintains a leachate depth of less than a one foot above the liner, per 40 CFR 258.40(a)(2). All leachate collection pipes must be serviceable by clean outs;
- A secondary leachate collection and removal system(s) designed to effectively monitor the overlying composite-liner system's performance and (1) detect and collect leachate at locations of maximum leak probability; and (2) prevent groundwater intrusion and related monitoring biases;
- A leachate collection sump(s) with a double composite liner system and a leak detection and removal system. Each composite liner must meet the minimum design criteria previously cited in this subsection;
- An operations layer that covers and protects the primary LCRS and liner system from physical damage; and
- A leachate surface impoundment (if applicable) with a double liner and leak detection and removal system. One liner must meet the minimum composite liner criteria described above.

10.3 Design plans

At least six months prior to the anticipated construction date for new disposal units, closure of existing units, or development of other ancillary facilities, the permittee must submit engineering design plans to DEQ for review and approval. The design plans must be prepared and stamped by a qualified Professional Engineer with current Oregon registration and specify and/or provide the following:

- All applicable performance criteria, construction material properties and characteristics, dimensions and slopes
- The design basis and all relevant engineering analyses and calculations

10.4 Construction requirements

The permittee must construct all improvements in accordance with:

- The approved plans and specifications
- Any DEQ imposed conditions of approval
- Any future DEQ approved amendments to the plans and specifications
- Construction work must begin within 18 months of plan approval

10.5 Construction documents

Prior to constructing any landfill engineering controls (e.g., final cover, new disposal unit, or other waste containment facilities or improvements), the permittee must submit complete construction documents and receive DEQ's written approval. The construction documents must:

- Define the construction project team
- Specify material and workmanship requirements to guide the constructor in executing work and furnishing products
- Include a Construction Quality Assurance Plan that describes how the project team will monitor the quality of materials and the constructor's work performance and assure compliance with project specifications and contract requirements.

Reference: Follow the current *Solid Waste Guidance* to expedite DEQ review of the construction documents.

10.6 Construction inspection

During construction of a new landfill disposal unit, final cover system, or any other landfill controls or engineered features, the permittee must provide DEQ with a summary and schedule of planned construction activities to facilitate DEQ's inspection and oversight.

10.7 Construction report submittal

Within 90 days of completing construction of a new landfill disposal unit, a final cover system, or other engineering controls, the permittee must submit to DEQ a Construction Certification Report prepared by a qualified independent party. The report must document and certify that the construction of all required components and structures complies with this permit and DEQ-approved design specifications.

10.8 Construction report content

The construction report must include:

- An executive summary describing the construction project and any major problems encountered
- A list of the governing construction documents
- A summary of all construction and construction quality assurance activities
- The manufacturer's written certifications that all geosynthetic materials conform with project specifications
- Test data documenting that soil materials conform with project specifications
- A summary of all construction quality assurance observations, including daily inspection records and test data sheets documenting that materials deployment and installation conform with project specifications
- A description of the problems encountered and the corrective measures implemented
- The designer's acceptance reports for errors and inconsistencies
- A list/description of any deviations from the design and material specifications, including justification for the deviations, copies of change orders and recorded field adjustments, and copies of DEQ's written approvals for deviations and change orders
- Signed certificates for subgrade acceptance prior to placement of soil liner and for acceptance of the soil liner prior to deployment of geomembrane liner
- Photographs and as-constructed drawings, including record surveys of the subgrade, soil liner, granular drainage layer and protective soil layer
- The certification statement(s) and signatures of the construction quality assurance consultant, designer, and facility owner. One of these representatives must be a professional engineer with current Oregon registration.

10.9 Approval to use new disposal units

The permittee must not dispose of solid waste in newly constructed disposal units until DEQ has accepted the Construction Certification. If DEQ does not respond to the Construction Certification Report within 30 days of its receipt, the permittee may place waste in the unit.

11.0 RECYCLING REQUIREMENTS

11.1 Materials

The permittee must provide a place for receiving the following recyclable materials:

☒	ferrous scrap metal	☒	mixed paper
☒	motor oil	☒	non-ferrous scrap metal (including aluminum)

☒	newspaper	☒	corrugated cardboard and kraft paper (brown paper bags)
☒	container glass	☒	tin cans

11.2 Receiving location

The place for receiving recyclable material must be located at the disposal site or at another location more convenient to the population served by the disposal site. The recycling center must be available to every person whose solid waste enters the disposal site.

11.3 Material use

All source separated recyclable materials must be reused or recycled.

11.4 Recycling information

The permittee must provide, to disposal site users, the following recycling information on printed handbills:

- The on-site or off-site location of the recycling center
- The recycling center's hours of operation
- A list of acceptable materials for recycling
- Instructions for preparing source separated recyclable material
- Reasons why people should recycle

11.5 Sign

A prominently displayed sign must indicate the following:

- The availability of recycling at the disposal site or another location

Note: The sign must indicate the recycling center location, if not at the disposal site

- The materials accepted at the recycling center
- The recycling center's hours of operation (if different than disposal site hours)

11.6 Storage

Unless DEQ approves otherwise, all recyclable materials, except car bodies, white goods and other bulky items must be stored in containers.

SITE CLOSURE

12.0 CLOSURE CONSTRUCTION AND MAINTENANCE

12.1 Worst-case closure plan development

Within 90 days of permit issuance, the permittee must develop a conceptual "worst-case" closure plan and a conceptual post-closure plan(s), obtain DEQ approval of the plan(s), and maintain up-to-date copies of these plan(s) in the facility file.

Reference: The plans must comply with 40 CFR, Part 258, Subpart F, and OAR 340-094-0110.

12.2 Notification

The permittee must notify DEQ and receive DEQ approval when the conceptual "worst-case" closure and conceptual post-closure care plans are updated and placed in the file.

12.3 Closure permit

In accordance with OAR 340-094-0100, the permittee must apply for a closure permit at least five years prior to the landfill's anticipated final closure.

12.4 Closure plan approval

At least six months prior to final closure of any portion of the landfill, the permittee must submit detailed engineering plans, specifications, and a closure schedule to DEQ for review and approval.

The design plans must be prepared and stamped by a qualified professional engineer with a current Oregon registration and specify and/or provide the following:

- All applicable performance criteria, construction material properties and characteristics, dimensions and slopes
- The design basis and all relevant engineering analyses and calculations

Reference: The *Solid Waste Landfill Guidance, September 1996,* describes Closure Plan preparation. Following that format will expedite DEQ review of the plan.

12.5 Closure schedule

The permittee must initiate and complete closure of each landfill disposal unit in accordance with 40 CFR 258.60(f)&(g), or an alternate schedule approved by DEQ.

12.6 Final cover

Unless DEQ approves otherwise, the final landfill cover must be:

- At least three feet thick {OAR 340-094-0120(2)(a)}
- Designed to minimize infiltration of precipitation as required by 40 CFR Part 258.60
- Graded to compensate for estimated differential settlement and maintain positive drainage. Final (post-settlement) slopes must range between two percent and 30 percent.

12.7 Vegetation

The permittee must establish and maintain a dense, healthy growth of native vegetation over the closed areas of the landfill consistent with the proposed final use.

12.8 Final cover maintenance.

The permittee must maintain the final surface contours of the landfill cover such that:

- Erosion is minimized and ponding of water is prevented
- The integrity of the cover system is preserved in accordance with the approved plans

The permittee must reconstruct the cover system with approved materials and grade and seed all areas that have settled or where water ponds, and all areas where the cover soil has been damaged or thinned by cracking or erosion. Areas where vegetation has not been fully established shall be fertilized, re-seeded and maintained. Any damage repair or other reconstruction of a geomembrane barrier component in the final cover system shall be conducted in accordance with a construction quality assurance plan approved by the DEQ.

12.9 Slope stability

The permittee must maintain the stability of the landfill slopes and the overall structural integrity of the landfill.

12.10 Deed record

Within 30 days after the disposal site's final closure, the permittee must record a notation on the deed to the facility property as required by 40 CFR 258.60(i) and OAR 340-094-0130(1)(a), and submit a copy of the notation on the deed to DEQ.

13.0 FINANCIAL ASSURANCE

13.1 Financial assurance plan

The permittee must submit an updated financial assurance plan to the DEQ for review and approval and provide financial assurance for the costs of site closure, post-closure care, and potential corrective action. In addition, the permittee must place the plan in the facility file.

Reference: The plan must be prepared in accordance with OAR 340-094-0140. Acceptable mechanisms are described in OAR 340-094-0145.

13.2 Financial assurance required.

The permittee must comply with applicable financial assurance criteria requirements prescribed by OAR 340-094-0140. The permittee must maintain an up-to-date Financial Assurance Plan in the facility Operating Record, and provide financial assurance for landfill closure, post-closure care and, if required, corrective action. The financial assurance provided must:

- Be in the amount required by OAR 340-094-0140(5)
- Be updated, annually, in accordance with OAR 340-094-0140(6)(e)
- Consist of a financial assurance mechanism complying with OAR 340-094-0145

13.3 Recertification of financial assurance.

The permittee must annually review and update their financial assurance in accordance with OAR 340-094-0140(6)(e).

By April 1 of each year, a notarized annual recertification of financial assurance must be submitted to DEQ demonstrating that this review has been completed. If a discount rate is used to estimate costs, the annual update must also include the certifications listed in OAR 340-094-0140(6)(d).

13.4 Use of financial assurance

The permittee must not use the financial assurance for any purpose other than to finance the permitted facility's approved closure, post-closure, and corrective action activities or to guarantee that those activities will be completed.

13.5 Continuous nature

The permittee must continuously maintain financial assurance for the facility until the permittee or other person owning or controlling the site is no longer required by DEQ to demonstrate financial responsibility for closure, post-closure care or corrective action.

ENVIRONMENTAL MONITORING

14.0 SITE CHARACTERIZATION

14.1 Workplan

At least 270 days prior to any new landfill construction or expansion beyond the currently characterized and approved footprint, the permittee must submit two (or more) copies of a detailed workplan to DEQ for review and approval. The workplan must summarize all site characterization completed to date, describe further site characterization that will be accomplished and include at least the following elements:

- A description of the landfill expansion
- A proposal for monitoring all relevant media within the expansion area
- An update to the Environmental Monitoring Plan that reflects all approved changes to the facility
- A detailed description of the planned investigation
- A detailed project schedule

14.2 Site characterization report

Within 180 days of DEQ's approval of the workplan, the permittee must submit at least two copies of the report to DEQ for review and approval. This report must be based on DEQ-approved workplan and any conditions of the approval. The report must be prepared and stamped an Oregon registered geologist or an Oregon registered engineering geologist. The permittee must submit the report and receive DEQ's approval before starting construction or operation of the new landfill area. Once approved, this report and any conditions of approval become an integral part of the permit.

Reference: The *Solid Waste Landfill Guidance, September 1996,* describes the applicable elements of a Site Characterization Report. Organizing the report in that manner will expedite DEQ's review of the plan.

15.0 ENVIRONMENTAL MONITORING PLAN

15.1 Environmental Monitoring Plan Submittal

Within 120 days when requested by DEQ, the permittee must submit an updated Environmental Monitoring Plan to DEQ for approval.

Major changes in updates to the original plan require that the entire plan be submitted as a stand-alone document; at a minimum, this must be done at least once every 10 years. The plan, or any updates to the plan, must be prepared and stamped by an Oregon registered geologist or an Oregon registered engineering geologist. Upon approval, this plan is incorporated into this permit by reference.

15.2 Environmental Monitoring Plan contents

The updated plan must include plans (other than monitoring that is already handled by an NPDES permit) implementing an environmental monitoring program that will characterize potential facility impacts, including leachate collection, containment, treatment and disposal. The updated plan may incorporate parts of the previous approved plan with any changes or additions since that time (i.e., approved permit-specific concentration limits, revised parameter lists, revised schedules and new wells).

The updated plan must include the following contents, as well as applicable elements from the reference document:

- Monitoring Network Design and Construction
- Sampling and Analysis Plan
- Field QA/QC Procedures
- Lab QA/QC Procedures
- Data Analysis and Evaluation
- Report Format and Executive Summary

Reference: The *Solid Waste Landfill Guidance, September 1996,* provides information on applicable elements of an Environmental Monitoring Plan. Following the organizational format provided in the Guidance will expedite DEQ review of the plan.

15.3 Environmental Monitoring Plan revisions and updates

The permittee must revise the current plan as necessary to reflect current and future environmental conditions, facility development and regulatory requirements. A geologist or certified engineering geologist, with current Oregon registration, must prepare and stamp the plan revisions and submit two copies (one printed and one electronic) to DEQ for review and approval.

15.4 Environmental Monitoring Plan public comment period

Plan changes may require a public comment period.

15.5 Long-term monitoring plan

After DEQ approves any Risk-Based Concentration Limits (RBCs), Permit-Specific Concentration Limits (PSCLs), Concentration Limit Variances (CLVs), Action Limits (ALs), or Site-Specific Limits (SSLs), the permittee must update the EMP to reflect the long-term monitoring program and submit the updated plan for DEQ review and approval.

Note: Also see this permit's requirements for establishing PSCLs, ALs, or SSLs and OAR 340-040-0030(4) for procedures to establish CLVs.

15.6 Leak Detection System

Any significant increase in flow rate in the leak detection system (or degradation of water quality) that have not been corrected (or significant progress made) within two years, also require an updated plan submittal. This plan update is required if a statistical analysis indicates that normal monitoring of detection and compliance sampling points have shown a degradation of water quality. The analysis should cover the period of time from before the changes to after the increased leakage (or degradation of water quality) occurred. The updated plan submittal must detail any proposed increases in frequency or parameter monitoring, as well as any additional monitoring points.

15.7 Additional monitoring points

The permittee must incorporate any new or replacement monitoring point or device into the Environmental Monitoring Plan and submit the updated plan to DEQ for review and approval.

15.8 Environmental Monitoring Plan Compliance

The permittee must conduct all environmental monitoring at the facility in accordance with the approved plan, including any conditions of approval, amendments and updates.

16.0 ENVIRONMENTAL SAMPLING REQUIREMENTS

16.1 Notification of sampling events

The permittee must notify DEQ, in writing, at least 10 working days prior to a scheduled sampling event.

16.2 Split sampling events

The permittee must split samples with DEQ at DEQ's request, and schedule split-sampling events with DEQ's laboratory at least 45 days ahead of time.

Oregon Department of Environmental Quality
Laboratory, Groundwater Monitoring Section
7202 NE Evergreen Parkway, Suite 150
Hillsboro, OR 97124
Phone: 503-693-5700 Fax: 503-693-4999

The permittee must conduct the following split sampling events with DEQ:

Fall or Spring 2024 (TBD)
Fall or Spring 2029 (TBD)
Other sampling events if requested by DEQ

16.3 Monitoring schedule

The permittee must refer to the approved EMP for environmental monitoring procedures. Quarterly monitoring benchmarks are defined below:

If sampling in the...	Schedule the sampling event	
	On, or after....	But on, or before...
Winter	Jan. 1	Feb. 28
Spring	April 1	May 31
Summer	July 1	Aug. 31
Fall	Oct. 1	Nov. 30

16.4 Monitoring after Environmental Monitoring Plan approval

The permittee must monitor the facility in accordance with: 1) the approved plan; 2) any conditions of DEQ's approval; and 3) any DEQ-approved amendments and updates.

16.5 Changes in sampling or split sampling

The permittee must submit a written request and obtain DEQ's written approval before changing the sampling program, including sampling frequency, parameters, or locations. Approved changes will become an integral part of the plan.

DEQ reserves the right to add to or delete from the list of scheduled sampling events, sampling locations, and sampling parameters, and to conduct unscheduled sampling or split sampling events.

If the split-sampling schedule changes, DEQ will try to notify the permittee at least 30 days prior to the next scheduled event.

17.0 ESTABLISHING PERMIT-SPECIFIC CONCENTRATION LIMITS (PSCLs), ACTION LIMITS (ALs), CONCENTRATION LIMIT VARIANCES (CLVs) AND SITE-SPECIFIC LIMITS (SSLs)

17.1 Gathering data

The permittee must monitor the designated background wells in accordance with the approved Environmental Monitoring Plan or propose an alternative intrawell approach. Site specific limits (SSLs) exist for several parameters at two wells and remedial action concentration limits exist for additional parameters at some other wells. Background monitoring shall continue until all necessary data sets have been collected, and may be used for creation of additional PSCLs, ALs and/or SSLs for parameters of concern. The permittee then must demonstrate to DEQ's satisfaction that the selected background-data set is valid and unaffected by facility releases.

17.2 Future disposal units or cells

Before using a new landfill unit or cell for waste disposal, the permittee must collect enough samples to determine background groundwater quality. Alternatively, the permittee may develop a program, to be approved by DEQ, for determining background groundwater quality with wells installed at the time of landfill cell construction.

17.3 Statistical analysis

To establish compliance concentration limits (PSCLs, ALs, and SSLs), the permittee must perform statistical evaluations of the monitoring results for each sampling event.

Use methods outlined in 40 CFR 258.53 or other DEQ accepted statistical methods.

References:

The permittee should use methods outlined in Environmental Protection Agency's "Statistical Analysis of Groundwater Monitoring at RCRA facilities" (March 2009) or other DEQ accepted statistical methods. DEQ's 2011 Guidance Document "Developing Concentration Limits at Permitted Solid Waste Facilities" provides some examples of acceptable methods.

17.4 Proposing PSCLs, ALs, and/or SSLs

The permittee must propose for DEQ's review and approval, a PSCL, AL or SSL pursuant to the guidelines specified in OAR 340-040. The proposal must address all required parameters. Once a statistically valid data set (at least nine acceptable data points) are established from the appropriate background well(s), the permittee may generate a PSCL, AL, or SSL for each designated, long-term monitoring parameter.

17.5 Changing PSCLs, ALs, and/or SSLs

If the permittee demonstrates to DEQ's satisfaction that background groundwater quality has significantly changed since the PSCL, AL or SSL was established, and if the change is unrelated to the permitted facility's influence, the permittee can propose to DEQ a revised level for the affected PSCL(s), AL(s) or SSL(s).

17.6 Establishing and changing CLVs

The permittee should refer to DEQ's Groundwater Quality Protection Rules [OAR 340-040-0030(4)] for guidance in establishing and changing Concentration Limit Variances (CLVs).

18.0 ENVIRONMENTAL MONITORING STANDARDS

18.1 Applicable regulatory standard

The permittee must not allow the release of any substance from the landfill into groundwater, surface water, or any other media which will result in a violation of any applicable federal or state air or water limit, drinking water rules, or regulations, beyond the solid waste boundary of the disposal site or an alternative boundary specified by DEQ. Refer to OAR 340-094-0080.

18.2 Compliance points

Compliance wells are defined in the most current site Environmental Monitoring Plan.

18.3 Review of results

The permittee must review the analytical results after each monitoring event according to the protocols established in the most currently approved site-specific Environmental Monitoring Plan.

18.4 Resampling results

Upon receipt of data from resampling, the permittee must review the analytical results according to the protocols established in the most currently approved site-specific Environmental Monitoring Plan.

18.5 Secondary leachate collection system (SLCS)

If the permittee observes liquids in the leak detection system, the permittee must respond in accordance with the approved plan procedures for sampling, analysis and reporting. If testing confirms landfill impacts

in the leak detection or secondary leachate collection system, and that system is compromised as a compliance point, DEQ may require the permittee to install additional detection or compliance wells and conduct further investigations.

The permittee must design each secondary leachate collection system-equipped landfill cell or sub-unit to allow for discrete sampling of the secondary leachate collection system without mixing, co-mingling or compositing of samples with other leachate sources.

18.6 Methane limits

The methane concentration must not exceed:

- Twenty-five percent of methane's Lower Explosive Limit in onsite structures (excluding gas control structures or gas recovery system components)
- Methane's Lower Explosive Limit at the facility property boundary

Note: Methane's Lower Explosive Limit is equal to a concentration of five percent by volume in air.

18.7 Methane exceedance

If methane levels exceed the specified limits, the permittee must:

1. Take immediate steps to protect human health and safety and notify DEQ within 24 hours
2. Within seven days of detection, confirm the measures taken to protect human health and safety (unless DEQ approves an alternative schedule), and describe the methane test results and response measures in the facility operating record
3. Within 60 days of the methane exceedance, develop and implement a remediation plan, incorporate the plan into the monitoring records, and submit a progress report to DEQ.

18.8 Certified environmental laboratory data

To assure the best possible data quality, DEQ requests that the permittee contract with environmental labs certified under the Oregon Environmental Laboratory Accredited Program (ORELAP) or the National Environmental Laboratory Accreditation Program (NELAP). The permittee should include a copy of the lab's certification with every data submittal. Use of an ORELAP or NELAP approved lab will facilitate DEQ's future review of Environmental Monitoring Plan updates, Annual Environmental Monitoring Reports, and RI/FS documents.

19.0 RECORDKEEPING AND REPORTING – ENVIRONMENTAL MONITORING

19.1 Annual Environmental Monitoring Report (AEMR)

Prior to March 31 of each year, the permittee must submit to DEQ two copies (one paper copy and one electronic copy) of an annual monitoring report for the previous calendar year's monitoring period. The report must conform to the format detailed in the approved plan and be prepared and stamped by a geologist or a certified engineering geologist, with current Oregon registration. Extensive ancillary information such as laboratory reports, and the historical analytical database, may be provided only in the electronic copy and not in the printed copy.

Note: The permittee should submit two-sided copies of all reports and may submit electronic submittals of reports.

19.2 Statement of compliance

The Annual Environmental Monitoring Report must include a brief (approximately one-page) cover letter that:

- Compares the analytical results with the relevant monitoring standards (RBCs, PSCLs, CLVs, ALs, or SSLs)
- Documents any exceedances of or federal or state standards for relevant media
- Documents any significant change in water quality, land quality, air quality or methane levels in monitored media

19.3 Annual Environmental Monitoring Report contents

The Annual Environmental Monitoring Report must reflect the facility's current conditions, present accurate data that correspond with the original field and lab data, and include the elements presented in the most recently approved plan.

19.4 Annual leachate treatment report

Prior to March 31 of each year, the permittee must submit an annual leachate monitoring report.

Reference: The report format should reflect DEQ's guidance: *Solid Waste Landfill Guidance*, September 1996, or the format presented in the most recently approved plan.

19.5 Annual leachate treatment report contents

This annual report must include the elements presented in the most recently approved plan.

Reference: The report format should reflect DEQ's guidance: *Solid Waste Landfill Guidance*, September 1996, or the format presented in the most recently approved plan.

19.6 Split sampling submittal

Within 90 days of any split sampling event, the permittee must submit the following information to DEQ's laboratory:

- A copy of all information pertinent to the sample collection handling, transport and storage, including field notes
- Copies of all laboratory analytical reports
- Copies of all laboratory Quality Assurance Quality Control reports
- A copy of the lab certification (ORLAP or NVLAP, see Certified Environmental Lab Data condition above)
- A hydrogeologic map of the site showing groundwater flow directions and water table contours
- Any other data or reports requested by DEQ

19.7 Lab address

Report all required split sampling information to:

Oregon Department of Environmental Quality
Laboratory, Groundwater Monitoring Section
7202 NE Evergreen Parkway, Suite 150
Hillsboro, OR 97124

Phone: 503-693-5700 Fax: 503-693-4999

19.8 DEQ response to split samples

If the permittee submits all required split sampling data and requests DEQ's results, DEQ's lab may provide, to the permittee, copies of the following information:

- DEQ's analysis of the split sample
- The QA/QC report
- The analytical report
- The field data sheets

20.0 ENVIRONMENTAL MONITORING NETWORK

20.1 Monitoring device installation

For future disposal units or cells, the permittee must install DEQ-approved background and detection and/or compliance wells at least 12 months before refuse disposal occurs in the new cells. A Site Characterization Report may also be required for any proposed new cell. DEQ may waive or modify this requirement if the permittee provides adequate justification for an alternative approach.

20.2 Monitoring stations and equipment

To assure that every sample is representative of the site's environmental conditions, the permittee must protect, operate, and maintain all environmental monitoring stations and equipment in accordance with DEQ's requirements.

20.3 Access to monitoring stations and equipment

To facilitate sample collection and/or inspection and maintenance activities, the permittee must maintain reasonable all-weather access to all monitoring stations and associated equipment.

20.4 Reporting equipment damage

Within 14 days of discovering any damaged monitoring equipment or station, the permittee must submit to DEQ a report describing the damage, the proposed repair or replacement measures, and the schedule to complete this work.

Example: a well's impaired function or altered position/location.

20.5 Monitoring well construction

The permittee must complete any monitoring well or gas monitoring probe abandonment (decommissioning), replacement, repair, or installation in a manner that complies with the Water Resources Rules, OAR 690-240, and with DEQ's *Guidelines for Groundwater Monitoring Well Drilling, Construction, and Decommissioning*, dated August 1992.

20.6 Reporting well construction and repairs

The permittee must document all monitoring well or gas probe repair and construction activities, including driller's logs, well location information, and construction information in a report prepared and stamped by a geologist or certified engineering geologist, with current Oregon registration. The permittee must submit the report to DEQ within 30 days of the action and include this documentation in the next Annual Environmental Monitoring Report.

20.7 Well decommissioning or replacement

The permittee must submit a written recommendation to DEQ prior to decommissioning or replacing any well or gas monitoring probe in the monitoring network. After receiving DEQ's approval, the permittee must decommission or replace any well or gas probe that meets the following criteria:

- The well or gas probe was installed in a borehole that hydraulically intersects two saturated stratas
- The permittee lacks supporting documentation demonstrating that the well or gas probe was properly installed and constructed
- The well or gas probe was damaged beyond repair or destroyed
- Other reasons as determined by either the permittee or DEQ

COMPLIANCE SCHEDULE

21.0 SUMMARY OF DUE DATES

21.1 Summary

The permittee must comply with the event-driven schedule shown below. This compliance schedule does not apply to many of the routine reporting requirements specified in other sections of the permit.

Due Date	Activity	See section...
120 days prior to new landfill construction or expansion	Submit updated Environmental Monitoring Plan	15.1 Environmental Monitoring Plan submittal
Within 90 days of permit issuance	Review and submit conceptual "worst-case" closure and post closure plan	12.1 Worst case closure plan development

April 1st of each year	Submit financial assurance plan and mechanism	13.3 Recertification of financial assurance
Within 360 days of permit issuance	Review and submit site development plan update	10.1 Site development plan
Within 270 days of permit issuance	Submit updated Operations Plan	7.1 Operations plan submittal
Within 60 days of Operations Plan approval	Submit updated Operations and Maintenance Manual	7.3 Operations and Maintenance Manual
By March 31 for each year	Submit an Annual Environmental Monitoring Report	19.1 Annual Environmental Monitoring Plan
By March 31 for each year	Submit an Annual Leachate Treatment Report	19.4 Annual leachate treatment report
SAMPLING:		
At least 10 working days prior to scheduled sampling event	Notify DEQ	16.1 Notification of sampling events
At least 45 days prior to split sampling event	Schedule split sampling event with DEQ laboratory	16.2 Split sampling events
Within 90 days of split sampling event	Submit required data/documents to DEQ laboratory	19.6 Split sampling submittal
EVENTS:		
Within 30 days of DEQ notification of need to install monitoring well or probe	Install groundwater monitoring well and/or probe	20.1 Monitoring device Installation
Within 30 days of any well construction	Submit well construction report	20.6 Reporting well construction and repairs
At least 6 months before any new disposal unit and/or closure construction	Submit engineering design plans and, if applicable, closure schedule	10.3 Design plans 12.4 Closure plan approval
At least 270 days prior to new construction or expansion	Submit a Site Characterization Report Workplan	14.1 Workplan
Within 180 days of DEQ approval of SCR workplan	Submit a Site Characterization Report	14.2 Site characterization report
Within 90 days after completion of any major construction	Submit Construction Certification Report	10.7 Construction report submittal
Within 18 months of plan approval	Begin construction	10.4 Construction requirements

ATTACHMENTS

22.0 ATTACHMENT

Attachments to the permit include:

Number	Description
1	Parameter Groups
2	Permit-specific concentration limits

22.1 Attachment 1: Parameter Groups

Overview

This attachment describes the environmental-monitoring parameter groups and associated requirements

Due to the duration of this permit, suggested analytical methods may change. If that is the case, use the most currently promulgated EPA method or DEQ-approved equivalent.

Note: Method means EPA SW 846 Method [suggested methods are in square brackets].

Group 1a: Field indicators

The field indicators parameter group includes the following parameters:

Elevation of water level	Specific Conductance
pH	Dissolved Oxygen
Temperature	Eh

With instruments calibrated to relevant standards, measure these parameters in the field when collecting samples. Acceptable methods include:

- Down-hole in situ
- In a flow-through well
- Immediately following sample recovery

Group 1b: Leachate indicators

The laboratory indicators parameter group includes the following parameters:

Total Dissolved Solids (TDS)
Total Suspended Solids (TSS)
Total Organic Carbon (TOC)
Chemical Oxygen Demand (COD)

Proper techniques for sample handling, preservation, and analysis are specific to each individual analyte: Follow appropriate EPA techniques or AWWA Standard Methods.

Group 2a: Common anions and cations

The common anions and cations parameter group includes the following parameters:

Calcium (Ca)	Manganese (Mn)
Sulfate (SO_4)	Magnesium (Mg)
Total Ammonia (NH_3+NH_4)	Chloride (Cl)
Sodium (Na)	Carbonate (CO_3)
Nitrate (NO_3)	Potassium (K)
Silicon (Si)	Bicarbonate (HCO_3)
Iron (Fe)	

Dissolved concentrations must be measured. Field-filter and field-preserve samples according to standard DEQ and/or EPA guidelines and analyze by appropriate EPA or AWWA Standard Methods techniques. Report results in mg/L and meq/L.

Group 2b: Trace metals

The trace metals parameter group includes the following parameters:

Antimony (Sb)	Chromium (Cr)	Selenium (Se)
Arsenic (As)	Cobalt (Co)	Silver (Ag)
Barium (Ba)	Copper (Cu)	Thallium (Tl)
Beryllium (Be)	Lead (Pb)	Vanadium (V)
Cadmium (Cd)	Nickel (Ni)	Zinc (Zn)

If the Total Suspended Solids concentration is...	analyze for...
less than or equal to 100.0 mg/L in the sample	total concentrations (unfiltered)
Greater than 100.0 mg/L in the sample	both total (unfiltered) and dissolved (field-filtered)

Field-preserve samples according to standard DEQ and/or EPA guidelines and analyze by EPA Method 6010C or DEQ-approved equivalent.

Group 3: Volatile organic constituents

Analyze for all compounds detectable by EPA Method 8260B (C- other method 8/06) or EPA Method 524.2, include a library search to identify any unknown compounds present. The volatile-organic-compounds parameter group is equivalent to the EPA Method 8260B list.

DEQ must pre-approve alternative methods like EPA Method 8021B

Group 4: Assessment monitoring

The assessment monitoring parameter group includes the following parameters:

Semi-volatile Organic Constituents, including Phenols, EPA Method 8270D
Mercury, EPA Method 7470A
Cyanide, EPA Method 9010C (manual distillation) or 9012B (automated distillation)
Nitrite

All Method 8270D analyses must include a library search to identify any unknown compounds present.

Group 5: Surface water and leachate

The surface water parameter group includes the following parameters:

Total Kjeldahl Nitrogen (TKN)	Total Coliform Bacteria [EPA Method 9131]
Total Phosphorus (P)	Fecal Coliform Bacteria [EPA Method 9131]
Orthophosphate (PO_4)	E. Coli
Biological Oxygen Demand (BOD)	

22.2 Attachment 2: Remedial Action Concentration Limits and Permit Specific Concentration Limits

In accordance with OAR 340-040-0050(2) and as defined in the site Record of Decision (dated October 2004); Remedial Action Concentration Limits are established for the "west side" monitoring points specified in Section 18.2 of this permit as follows:

Compound	RACL	Basis	COPC
Volatile Organic Compounds (µg/L)			
1,4-Dichlorobenzene (1,4-DCB)	75	MCL/RL	Yes
Tetrachloroethene (PCE)	5	MCL	Yes
Trichloroethene (TCE)	5	MCL/RL	Yes
Vinyl chloride	2	MCL/RL	Yes
Trace Metals (µg/L)			
Antimony	6	MCL	No
Arsenic	10	MCL	Yes
Barium	1,000	RL	No
Beryllium	4	MCL	No
Cadmium	5	MCL	Yes
Chromium	50	RL	No
Lead	50	RL	No
Nickel	100	MCL	No
Selenium	10	RL	No
Silver	50	RL	No
Thallium	2	MCL	No
Dissolved Metals (µg/L)			
Iron	300	SMCL	Yes
Manganese	50	SMCL	Yes
Inorganic Compounds (mg/L)			
Chloride	250	SMCL	Yes
Total Dissolved Solids (TDS)	500	SMCL	Yes

RACL: Remedial Action Concentration Limit

Basis: The lower of either Federal primary Maximum Contaminant Level (MCL) or State Reference Level (OAR 340-040-0020, Tables 1 through 3).

SMCL: Secondary MCL

COPC: Chemical of Potential Concern

In accordance with Section 17 of this permit, Permit-Specific Concentration Limits are established for the "east side" monitoring points specified in Section 18.2 of this permit as follows:

Site Specific Limits for MW 26 and 27
Assumes 2 Compliance Wells, 7 or 8 COCs, Semiannual Sampling

Indicator Parameters (Date set: 2011-2018)	Statistical Distribution	Prediction Limits (mg/L)		Retesting
		MW-26	MW-27	
Bicarbonate	Normal	175[a]	495	1 of 2
Chloride	Normal	6.2	15.0	1 of 2
TDS	Normal	246[a]	499	1 of 2
Calcium	Normal	32.0[a]	100	1 of 2
Iron	NP/Normal	4.5	17.6	1 of 2
Magnesium	Normal	10.1	46.0	1 of 2
Manganese	Normal	0.74	8.9	1 of 2
Sodium	Normal	30.0	44.4	1 of 2

Note: [a] surrogate value calculated from MW-22.
Retesting scenario achieves annual site wide false positive rate of 10% per EPA Unified guidance.

EXHIBIT 14
COFFIN BUTTE LANDFILL EXPANSION ODOR DISPERSION MODELING STUDY

Coffin Butte Landfill Expansion
Odor Dispersion Modeling Study

Coffin Butte Landfill
28972 Coffin Butte Road
Corvallis, OR 97330

SCS ENGINEERS

Project No. 24224358.00 | October 22, 2024

5963 La Place Court, Suite 207
Carlsbad, CA 92008
760-744-9611

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1.0 INTRODUCTION

The Coffin Butte Landfill (CBLF) is proposing to expand the waste disposal area of the landfill by using an existing property just south of Coffin Butte Road. The goal of this study was to conduct an odor dispersion modeling analysis that compares the existing and proposed operating scenarios for potential nuisance odor impacts. Since odor is a subjective human response, odor dispersion modeling was used to provide an objective approach towards understanding how on-site emissions of odor potentially impact off-site locations.

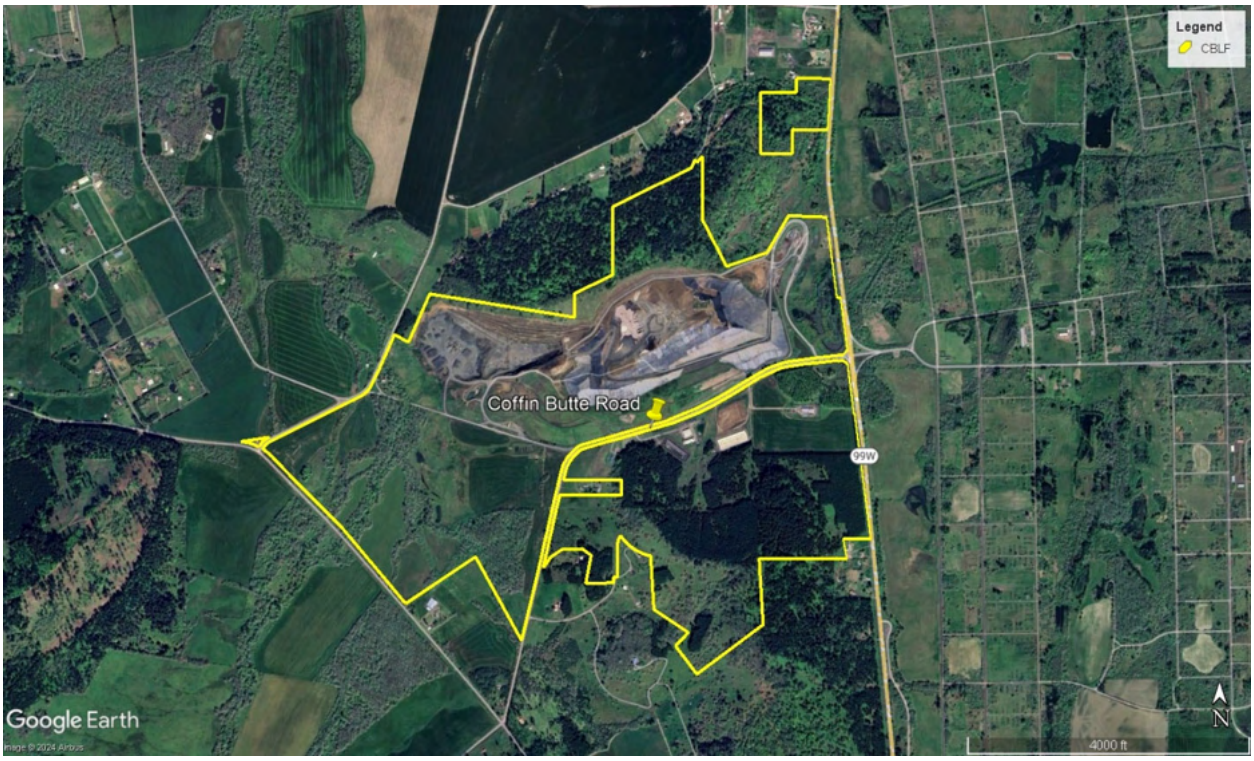
Following this Introduction, Section 2 provides a description of the facility. Section 3 describes the methodology used in this study while Section 4 summarizes the results. Section 5 then presents the conclusions. Finally, the appendices provide supporting documentation.

2.0 FACILITY DESCRIPTION

2.1 LOCATION

The CBLF is located at 28972 Coffin Butte Road in Corvallis, Oregon (Benton County). The facility is located just west of Highway 99W, approximately nine miles north of downtown Corvallis. Coffin Butte Road runs through the facility. See Figure 1 for the CBLF property boundary [1].

Figure 1. Facility Location

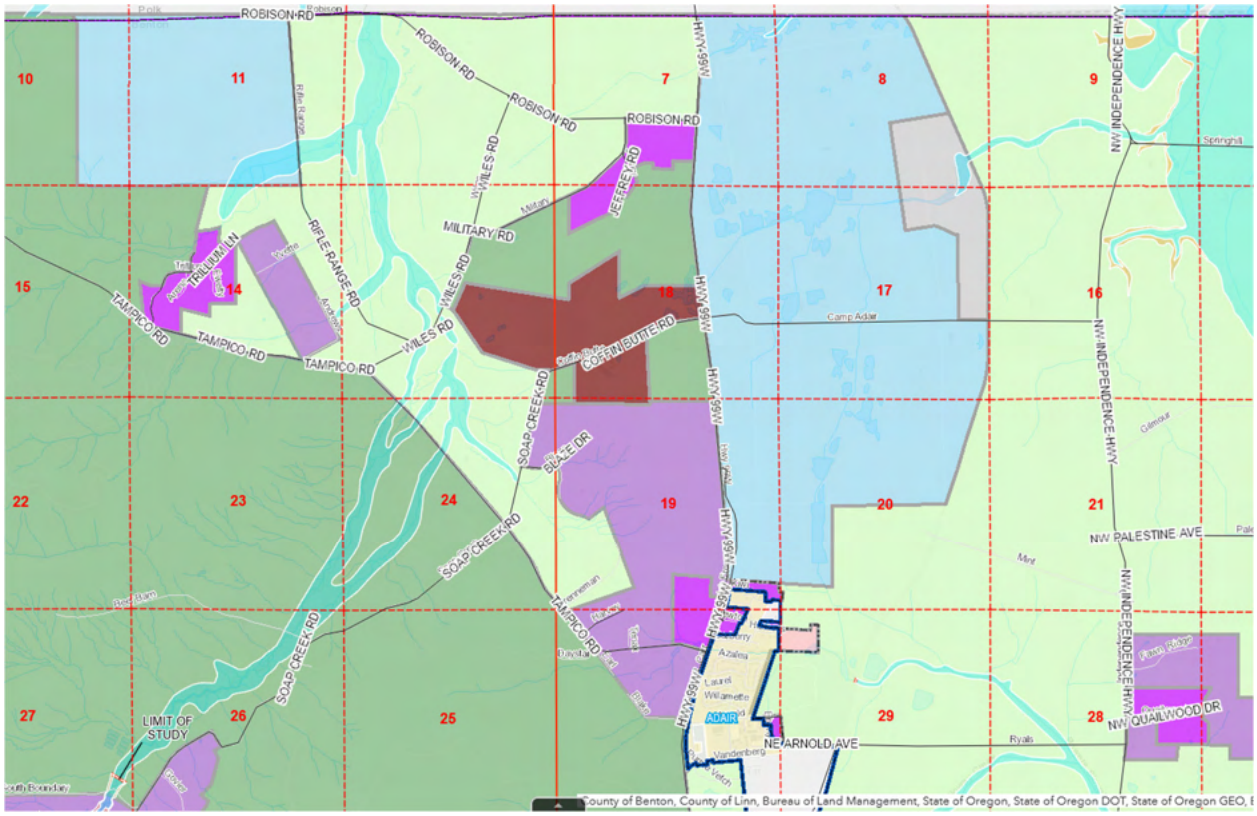


Note: Google Earth imagery from April 18, 2024.

2.2 LOCAL LAND USE / ZONING

Local land usage impacts air dispersion as surface characteristics differ for rural and urban conditions. Local land use near the CBLF is rural based upon the zoning map in Figure 2 [2].

Figure 2. Local Zoning Map



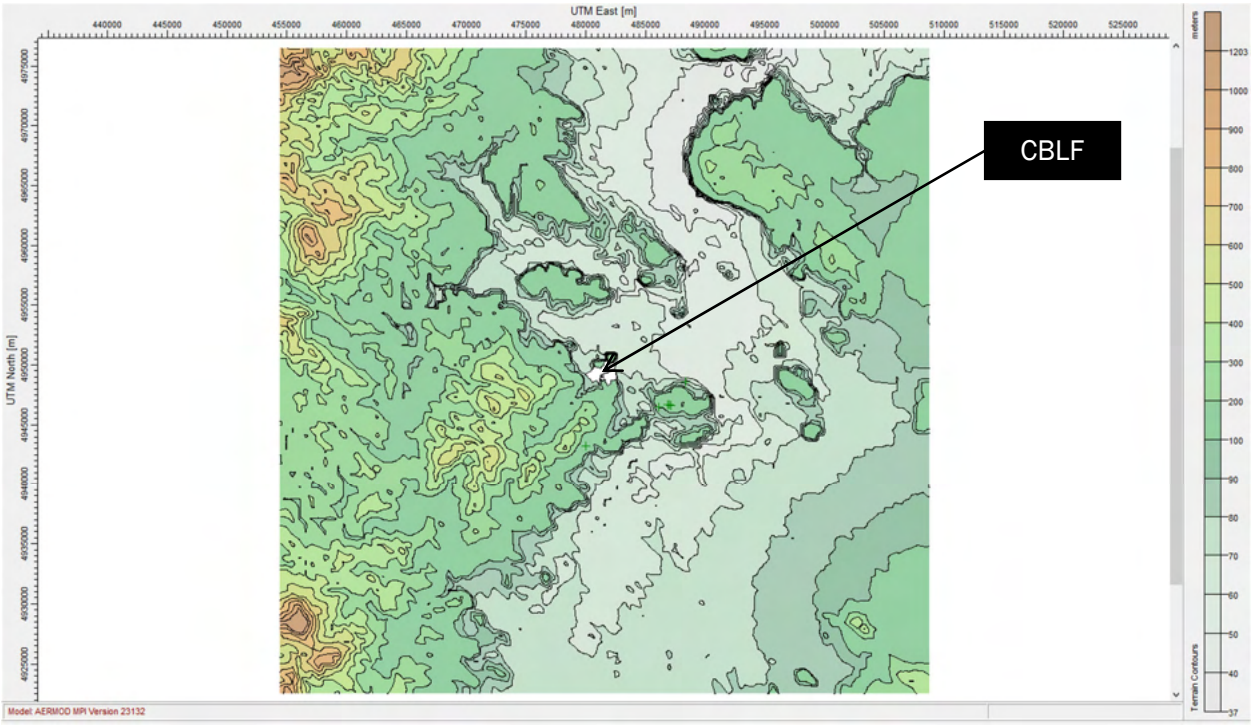
Zoning Color Code Legend:

- Exclusive farm use (light green);
- Forest conservation (green);
- Landfill (brown);
- Open space (light blue);
- Rural residential – 5 (magenta); and
- Rural residential – 10 (light magenta).

2.3 TERRAIN / TOPOGRAPHY

Local terrain also impacts air dispersion as winds can be channeled when flowing through canyons and valleys. In this case, the CBLF is located along the western edge of the Willamette Valley. See Figure 3 for the elevation contours surrounding the landfill [4].

Figure 3. Elevation Contour Map



2.4 CLIMATE AND METEOROLOGY

Local air quality is also impacted by the regional climate and meteorology as weather conditions control the transport and diffusion of emitted pollutants downwind from the release point into the surrounding area. Climate deals with long-term weather patterns while meteorology deals with short-term daily and hourly weather conditions. Nuisance odors are more likely to occur under poor meteorological conditions (e.g., low wind speed and stable wind conditions) that are common in the late night and early morning hours.

CBLF operates one weather station at the landfill. Nearby weather data is also collected by the National Oceanic and Atmospheric Administration (NOAA) / National Weather Service (NWS) at Corvallis Municipal Airport (KCVO) and Salem-McNary Field (KSLE). Table 1 provides information about these weather stations while Figure 4 displays their locations.

Table 1. Nearby Weather Monitoring Stations

Weather Data	On-site Weather Station	Corvallis Municipal Airport (KCVO)	Salem-McNary Field (KSLE)
Source	CBLF	NOAA	NOAA
USAF ID	---	726945	726940
WBAN ID	---	24202	24232
Frequency	30 minutes	1 hour	1 minute
Minimum wind speed (mph)	1	3.4	1
Wind direction resolution (deg)	1	10	1
Coordinates (Latitude, Longitude)	44.696, -123.234	44.5, -123.283	44.905, -123.001
Elevation (ft)	295	250	208
Distance from CBLF (miles)	0	13.9	18.5

A wind rose is used to display wind speed and wind direction (i.e., the direction from which the wind is blowing) data graphically for a designated historical time period (e.g., three years, seasonal, hour of the day). Figures 5 through 7 display wind roses for the CBLF, KCVO, and KSLE stations based upon the same three year time period (8/1/2021 to 8/1/2024). As shown in these figures, long term wind patterns vary depending upon the location measured. Therefore, wind conditions measured at the CBLF may not be representative of wind conditions at a reported odor complaint location due to valley terrain. See Appendix A for additional wind roses which compare the CBLF and KCVO wind roses based upon season and time of day.

Figure 4. Nearby Weather Monitoring Stations

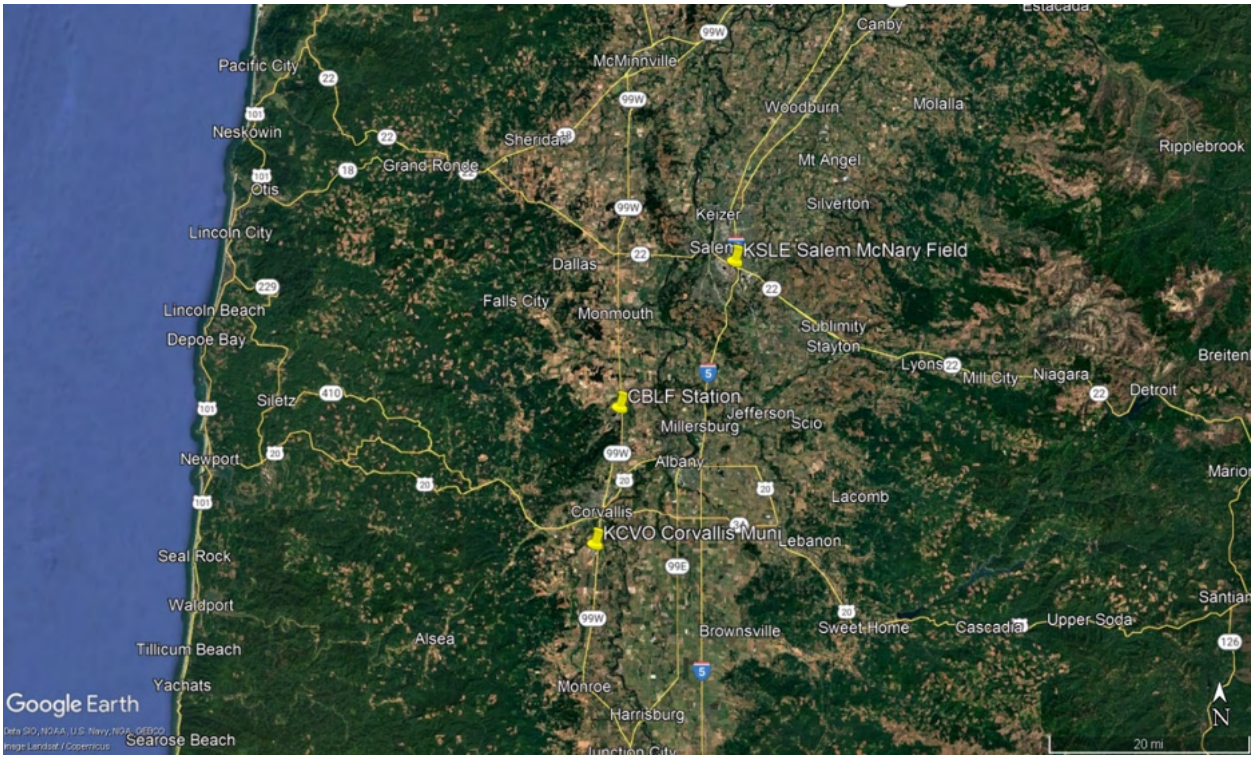


Figure 5. CBLF On-Site 3-Year Windrose

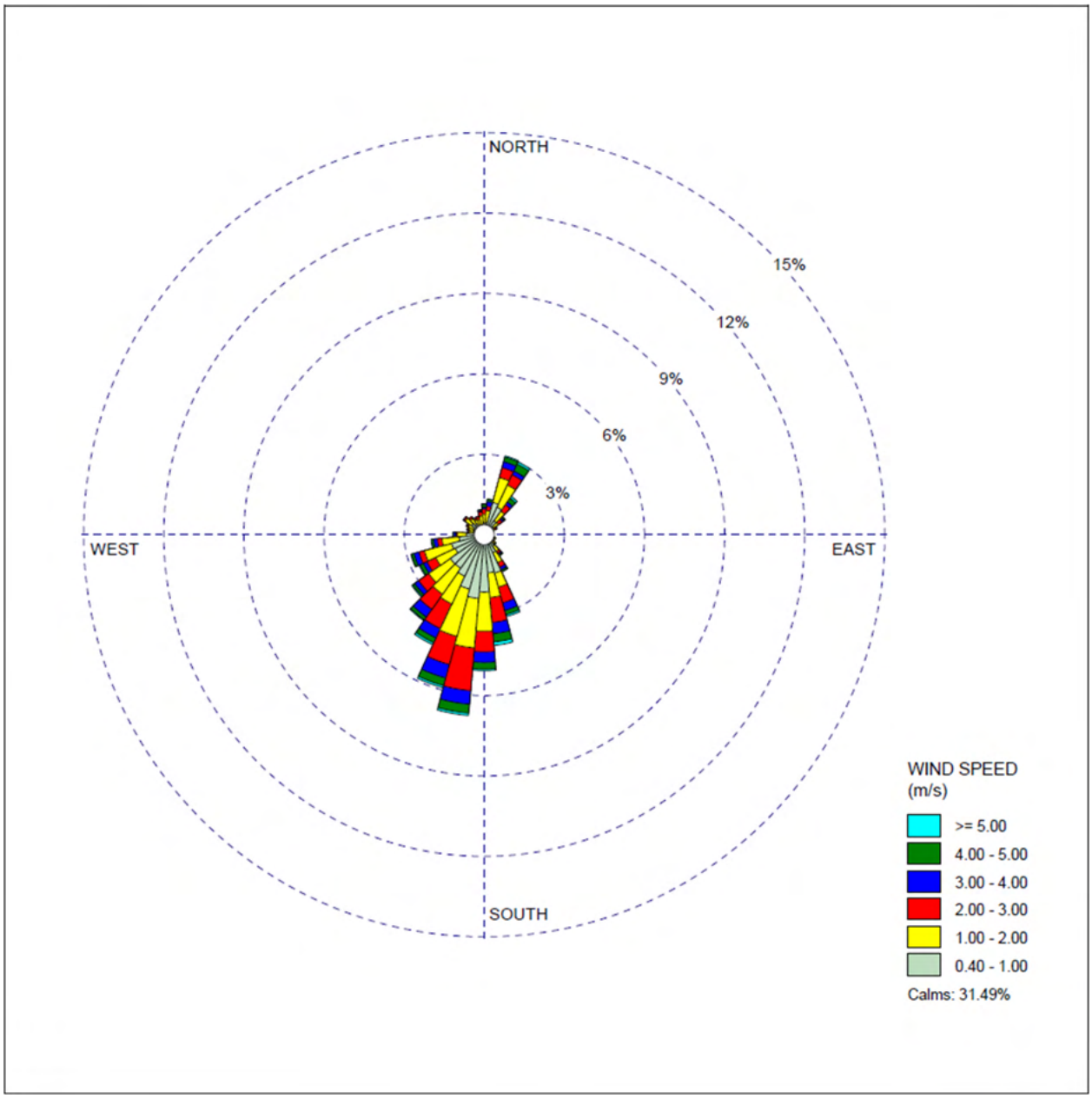


Figure 6. Corvallis Municipal Airport (KCVO) 3-Year Windrose

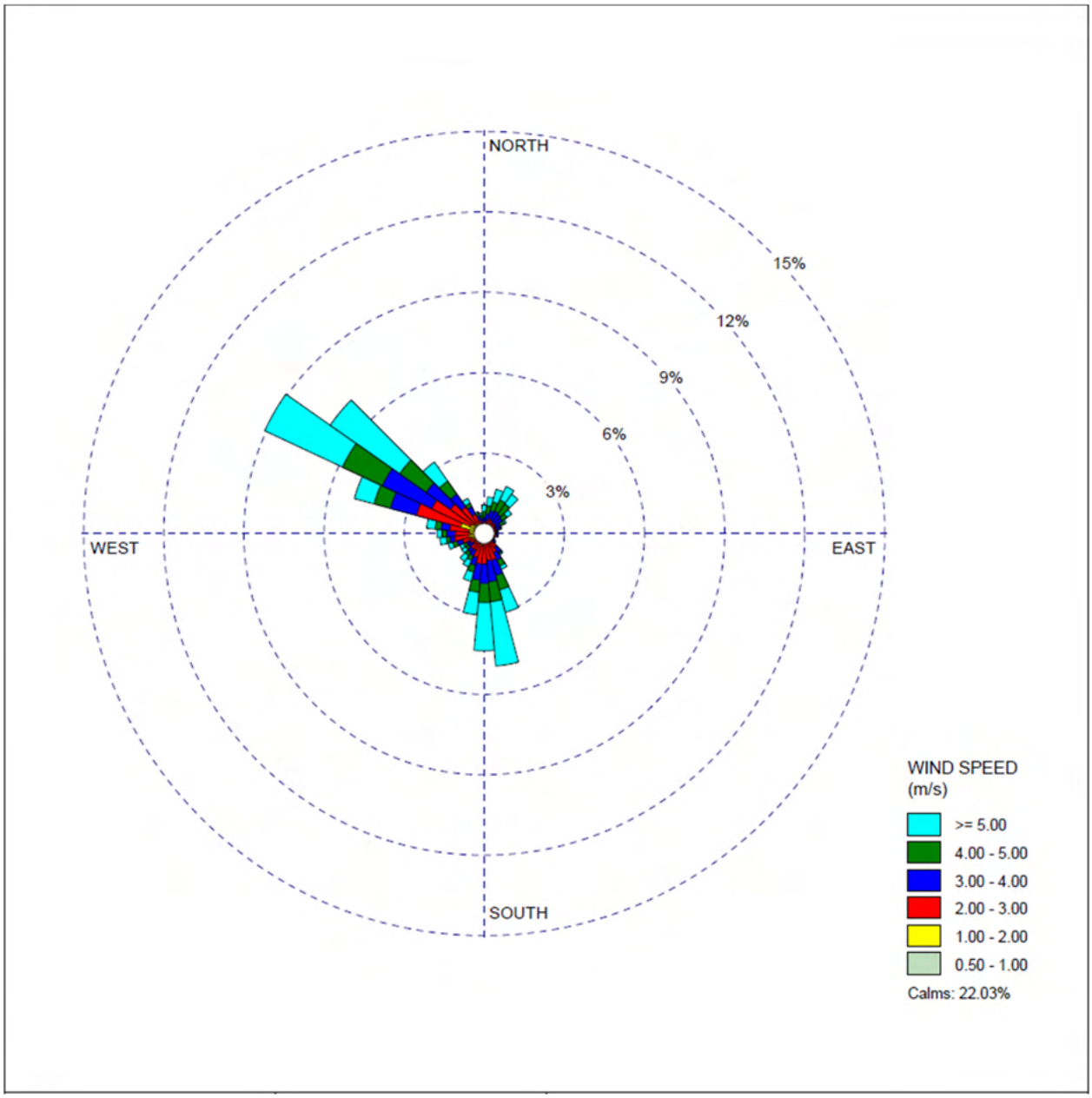
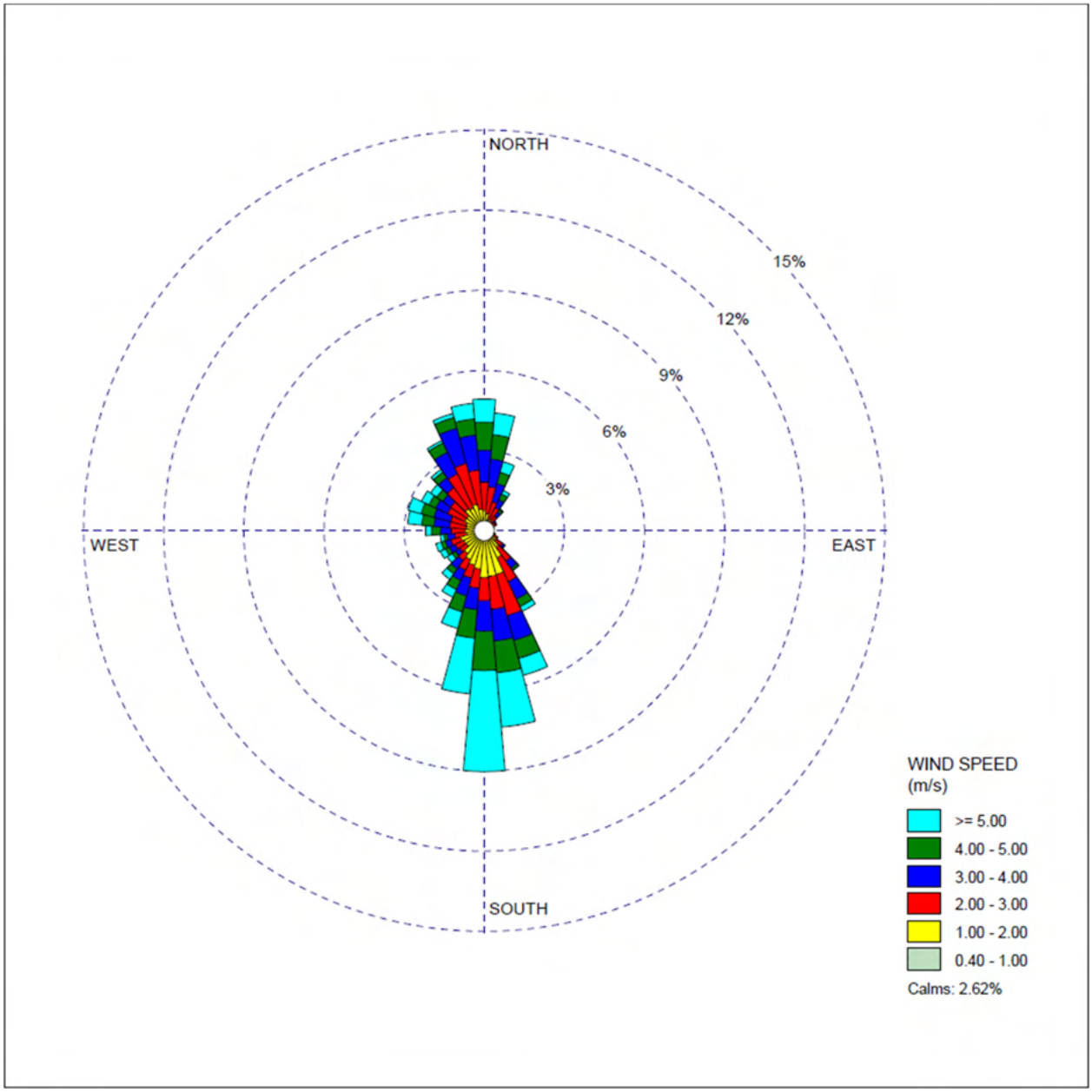


Figure 7. Salem-McNary Field (KSLE) 3-Year Windrose



2.5 POTENTIAL ODOR ACTIVITIES

CBLF accepts commercial and public solid waste. The waste is placed in layers at the working face, compacted by heavy equipment, and then covered daily. Once an area of the CBLF has reached capacity, it is eventually capped with final cover to minimize infiltration of precipitation and release of gases not captured by the landfill gas collection and control system (GCCS). Odor is potentially emitted from sources such as:

- working face;
- leachate (i.e., water that has passed through the landfill's layers);
- landfill gas (LFG) which is a natural byproduct of decomposing organic material; and
- flares which burn any excess LFG collected by the CBLF.

2.6 ODOR MONITORING AND CONTROL MEASURES

CBLF has developed and implemented a site-specific odor management plan that includes:

- application of daily cover;
- operating a LFG collection and control system;
- conducting surface emissions monitoring (SEM);
- monitoring local weather conditions (temperature, wind direction, etc.);
- conducting routine odor patrol inspections;
- responding to odor complaints received from the public and/or the Oregon Department of Environmental Quality (ODEQ);
- taking action when odors are detected/reported;
- observing the area of concern for smell and conditions;
- inspecting landfill operations for any unusual activities or conditions;
- identifying possible sources of odor; and
- confirming implementation of applicable odor minimization measures.

2.7 ODOR COMPLAINT HISTORY

SCS reviewed available data from recent odor complaints (January 2020 through August 8, 2024) to identify any specific patterns. Of the 70 odor complaints with exact dates reported, over half occurred during the winter season (see Table 2). Of the 50 complaints with the time of day reported, the peak complaint time was 8:00 am (see Figure 8). See Figure 9 and Figure 10 for odor complaint locations that provided an address or an intersection.

Table 2. Odor Complaints by Season

Season	Time Period	Complaints (%)
Winter	December 1 to February 29	55.7%
Spring	March 1 to May 31	21.4%
Summer	June 1 to August 31	14.3%
Fall	September 1 to November 30	8.6%

Figure 8. Odor Complaints by Time of Day

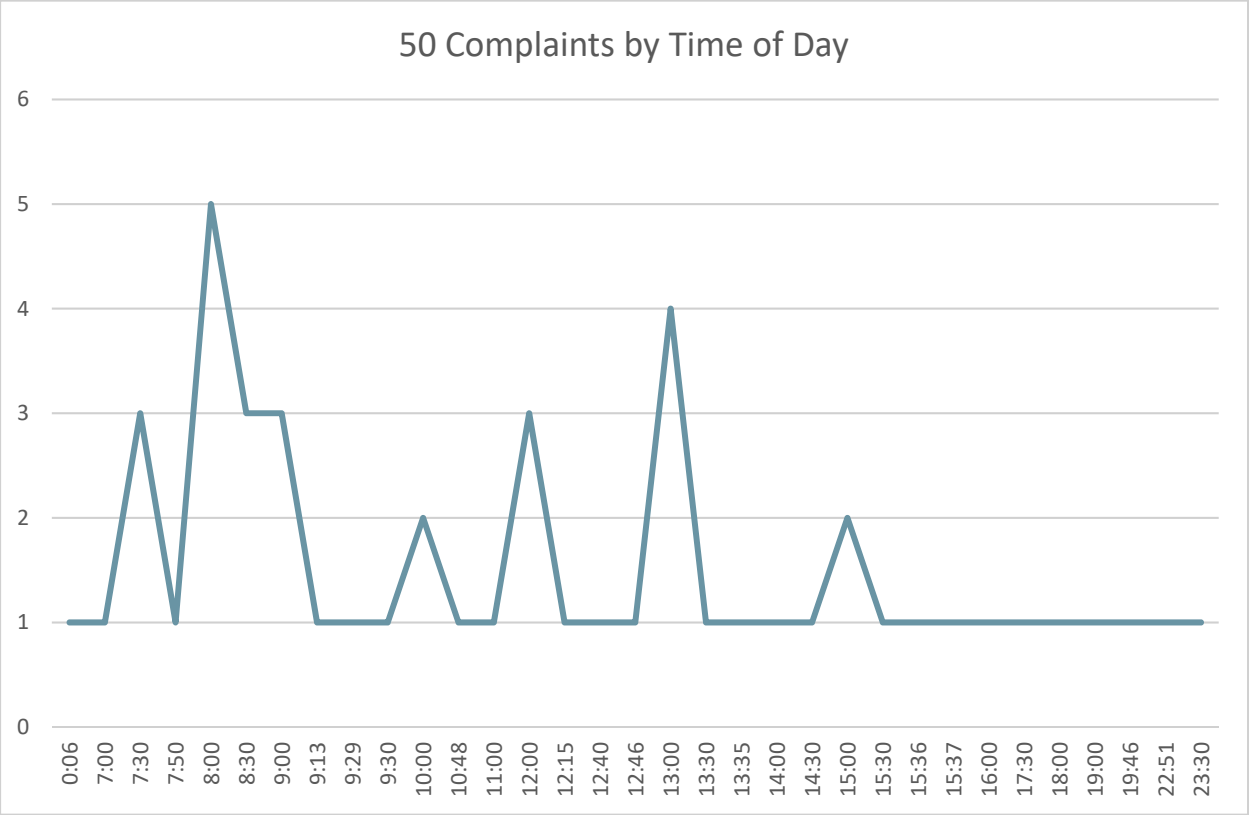


Figure 9. Odor Complaint Locations (View 1 of 2)

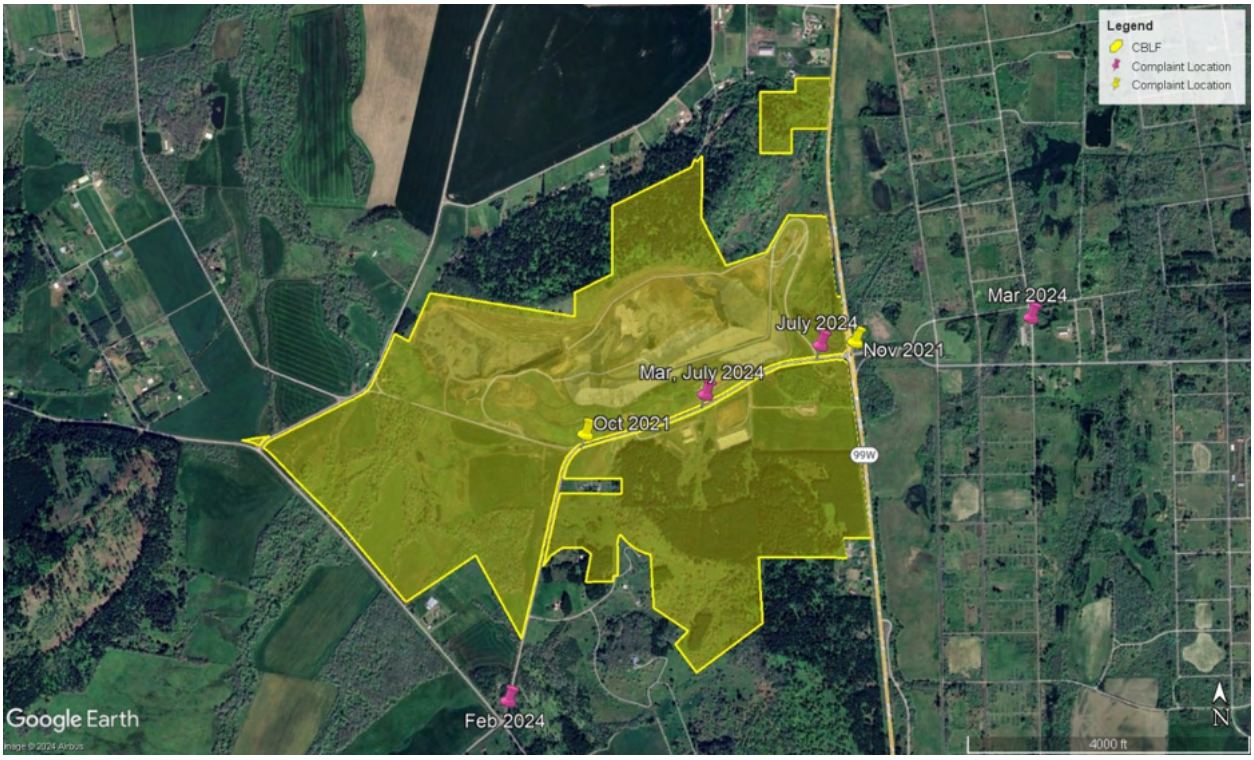
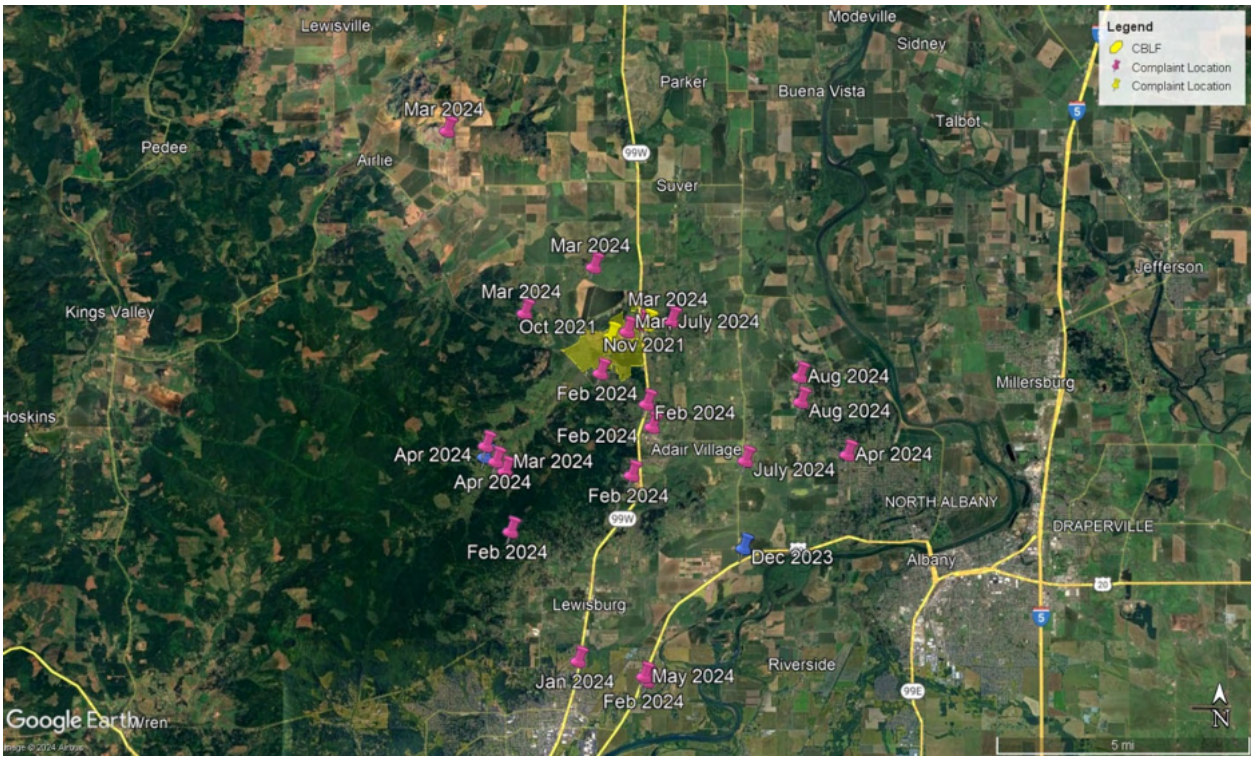


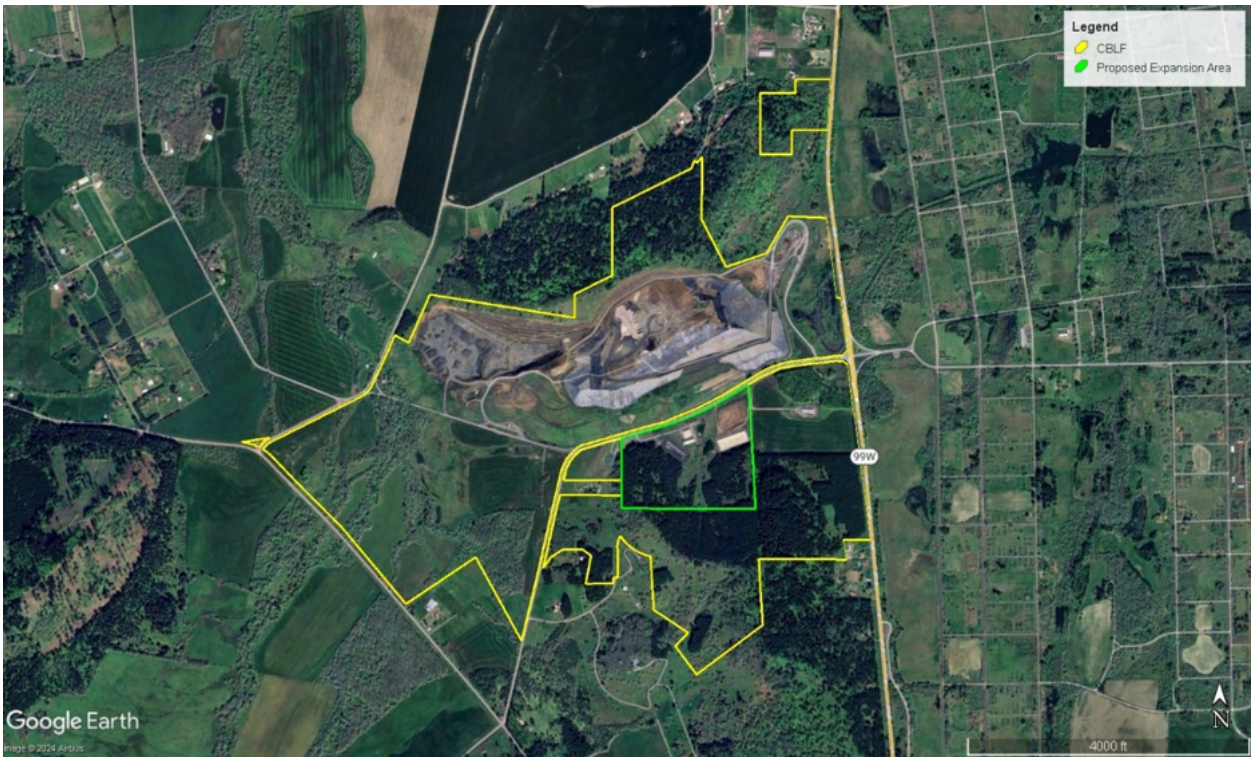
Figure 10. Odor Complaint Locations (View 2 of 2)



2.8 PROPOSED PROJECT

CBLF is requesting approval of a conditional use permit (CUP) application to expand the area on which landfill activities will be conducted to the south side of Coffin Butte Road (the "Development Site"). In addition to using the Development Site for the landfill, the proposed changes include an 1,800-square-foot employee building and parking on land to the west of the landfill, access road modifications on lands to the north, and the relocation of leachate ponds, leachate loadout, leachate sump, an outbound scale, portions of the perimeter landfill road, the shop/maintenance area, cut activities for landfill, and leachate ponds to support the landfill onto the property to the east (collectively, the "Project") [3]. Figure 11 displays the location of the expansion area in relation to existing operations.

Figure 11. Proposed Expansion Area (Taxlot 104180001107)



3.0 METHODOLOGY

Since odor is a subjective human response, odor dispersion modeling provides an objective approach towards understanding how on-site emissions of odor potentially impact off-site locations. The following summarizes the methodology used in this study.

3.1 MODEL SELECTION

The American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) (EPA Version 23132 (May 12, 2023) incorporated into the Lakes Environmental AERMOD View 12.0 software suite) [5] was used to model representative emissions of odor from the landfill. AERMOD was selected for this study since:

- AERMOD is preferred/recommended by the EPA for near-field dispersion of emissions for distances less than 50 kilometers in both simple and complex terrain.
- AERMOD is acceptable to the ODEQ for dispersion modeling studies [6].
- AERMOD has undergone numerous validation studies.
- AERMOD is in the public domain and is readily available.
- AERMOD can model multiple sources and multiple receptors.
- AERMOD can use representative meteorological data to simulate atmospheric conditions that affect the transport and dispersion of air pollution from sources.
- AERMOD can use local terrain data to model receptors in complex terrain.
- AERMOD can be used to model impacts of odor causing pollutants.

Input data for AERMOD included the following which are described below:

- source parameters (locations, dimensions, emission rates, etc.);
- receptor locations;
- meteorological data;
- terrain data; and
- model options.

See below for details regarding the AERMOD model input.

3.2 SOURCE PARAMETERS

Source parameters were used to model the release of odor from two virtual sources (one representing existing operations and one representing proposed operations). Each source was modeled as a 100-meter by 100-meter area source with the same odor emission rate so that individual odor impacts could be compared. The odor emission rate for each source was estimated as odor concentration times odor volumetric flow rate using representative data since field measurements were not collected for this study.

Odor concentration is defined as the dilution of an odor sample with odor-free air, at which point only 50% of an odor panel (or population) will detect or recognize the odor (e.g., per ASTM 679-04 – Standard Practice for Determination of Odor and Taste Thresholds by a Forced-Choice Ascending Concentration Series Method of Limits). This point is expressed in units of “dilutions-to-threshold” or “D/T”. By definition, odor threshold is equal to 1 D/T (i.e., volume of odorous air after dilution divided by volume before dilution equals one). Typically, odors become a nuisance at or above 7 D/T [8,9]. For

this study, 500 D/T was used to represent odor concentrations from the working face, covered areas, and leachate based upon prior field studies conducted by SCS Engineers at other landfills.

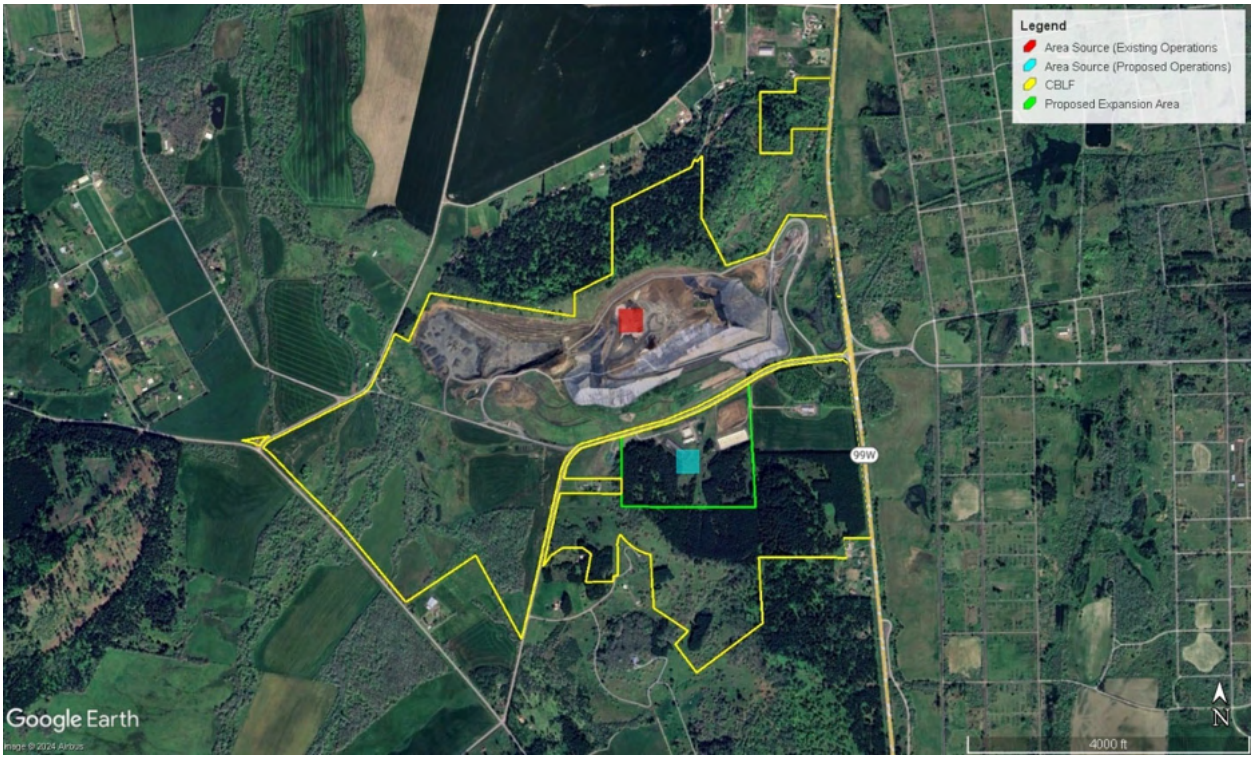
Odor volumetric flow rate (m^3/s) was estimated as vertical velocity (m/s) times the source's surface area (m^2). For this study, 1.0×10^{-4} m/s was used to represent the vertical velocity of odor emitted from the working face, covered areas, and leachate based upon prior field studies and odor studies conducted by SCS Engineers at other landfills.

Table 3 summarizes the source parameters modeled while Figure 12 displays the modeled source locations.

Table 3. Source Parameters Modeled

Parameter	**Virtual Source #1 (Existing Operations)**	**Virtual Source #2 (Proposed Operations)**
UTM X, Y Coordinates (m)	481500, 4949700	481745, 4949095
Elevation (m)	133.98	101.6 and 133.98
Release Height (m)	0	0
Length of X Side (m)	100	100
Length of Y Side (m)	100	100
Odor Concentration (D/T)	500	500
Vertical Velocity (m/s)	0.0001	0.0001
Odor Emission Rate per Area (D/T)*(m/s)	0.05	0.05
Odor Emission Rate (D/T)*(m^3/s)	500	500
Rotation Angle (deg)	0	0
Initial Vertical Dimension (m)	(none)	(none)

Figure 12. Modeled Area Source Locations



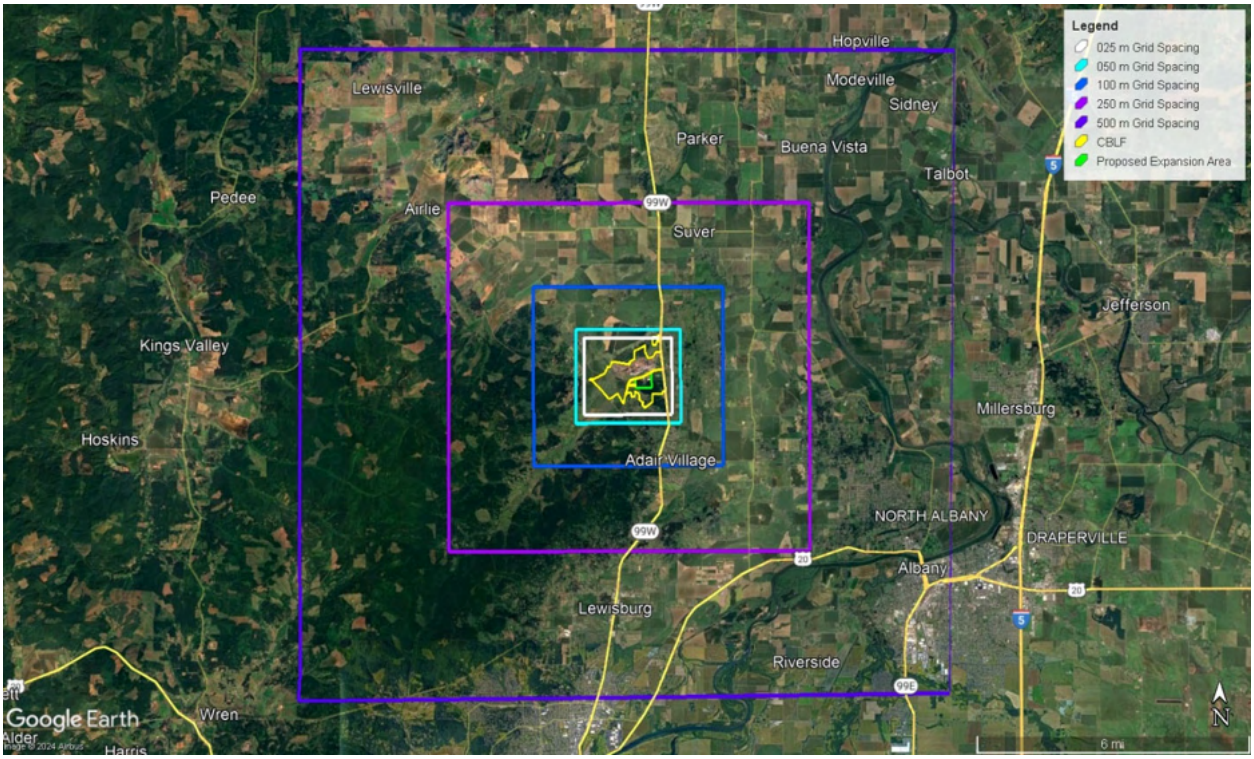
3.3 BUILDING DOWNWASH

Building downwash occurs when wind flowing over/around buildings impacts the dispersion of pollution from nearby stacks (point sources). Building downwash was not included since point sources were not modeled in the analysis.

3.4 RECEPTORS

AERMOD was used to generate nested 25-meter, 50-meter, 100-meter, 250-meter, and 500-meter spaced receptor grids over the landfill and surrounding area. Additional receptors were placed along the landfill's property boundary at 10-meter intervals. Receptor flag pole heights were set to zero meters (ground level). On-site receptors within the landfill's property boundary were removed from the analysis. See Figure 13 for the layout of the nested grids.

Figure 13. Nested Receptor Grid



3.5 METEOROLOGICAL DATA

Selection of an appropriate meteorological station for dispersion modeling purposes is based upon many factors such as the source's meteorological conditions (e.g., prevailing winds, mixing heights, etc.), terrain, surrounding land use and surface characteristics, and proximity. As seen in Section 2.4, wind conditions vary depending upon location within the valley. Therefore, three meteorological datasets were used in the analysis:

- KCVO surface data and Salem upper air data (2018 through 2023) processed by AERMET.
- KSLE surface data and Salem upper air data (2018 through 2023) processed by AERMET.
- Screening surface and upper air data generated for a range of weather conditions spanning all wind directions using AERMOD's Makemet utility.

3.6 TERRAIN DATA

Local terrain data was first downloaded from the United States Geological Survey (USGS) 1/3 arc-second National Elevation Dataset (NED). Elevations were then processed and imported into AERMOD for the sources and receptors modeled.

3.7 MODEL OPTIONS

AERMOD was used to predict maximum, off-site, 1-hour odor concentrations for each virtual source using the rural dispersion mode and elevated terrain. Table 4 summarizes the modeling scenarios analyzed. As indicated in Table 4, Source #2 (proposed operations) was modeled at two different elevations to represent future options (one at the current undeveloped elevation and one at the same elevation as the current working face).

Table 4. Modeling Scenarios

Scenario No.	Meteorological Data	Virtual Source #1 (Existing Operations) Modeled Elevation (m)	Virtual Source #2 (Proposed Operations) Modeled Elevation (m)
1	KCVO	133.98	101.6
2	KSLE	133.98	101.6
3	Makemet	133.98	101.6
4	KCVO	133.98	133.98
5	KSLE	133.98	133.98
6	Makemet	133.98	133.98

3.8 NUISANCE ODOR THRESHOLD

Oregon state laws prohibit businesses from emitting odors which cause a nuisance. These nuisance laws are implemented by the ODEQ which has developed a strategy for responding to odor complaints reported through an online tool. The strategy emphasizes early odor detection, voluntary cooperation and the rapid resolution of nuisance conditions related to odors [7]. Since the ODEQ's nuisance odor strategy does not include a D/T value for nuisance odor, this study used 7 D/T as the threshold for nuisance odor [8, 9].

4.0 RESULTS

Table 5 summarizes the peak, off-site, 1-hour odor concentrations for each modeling scenario. See Figure 14 for the peak, off-site impact locations. See Figure 15 through Figure 22 for the odor concentration contours from modeling scenario #3 which had the highest off-site impacts (note, reported odor complaint locations from Figure 10 are displayed in these figures for reference).

Table 5. Peak 1-Hour Off-site Odor Concentrations

Scenario No.	Meteorological Data	Virtual Source #1 (Existing Operations) Peak Off-Site Odor Concentration (D/T)	Virtual Source #2 (Proposed Operations) Peak Off-Site Odor Concentration (D/T)	Nuisance Odor Threshold (D/T)	Nuisance Odor Threshold Exceeded?
1	KCVO	0.42	0.64	7	No
2	KSLE	0.92	1.52	7	No
3	Makemet	1.21	2.04	7	No
4	KCVO	0.42	0.64	7	No
5	KSLE	0.92	1.52	7	No
6	Makemet	1.21	1.34	7	No

Figure 14. Peak 1-Hour Off-site Odor Impact Locations

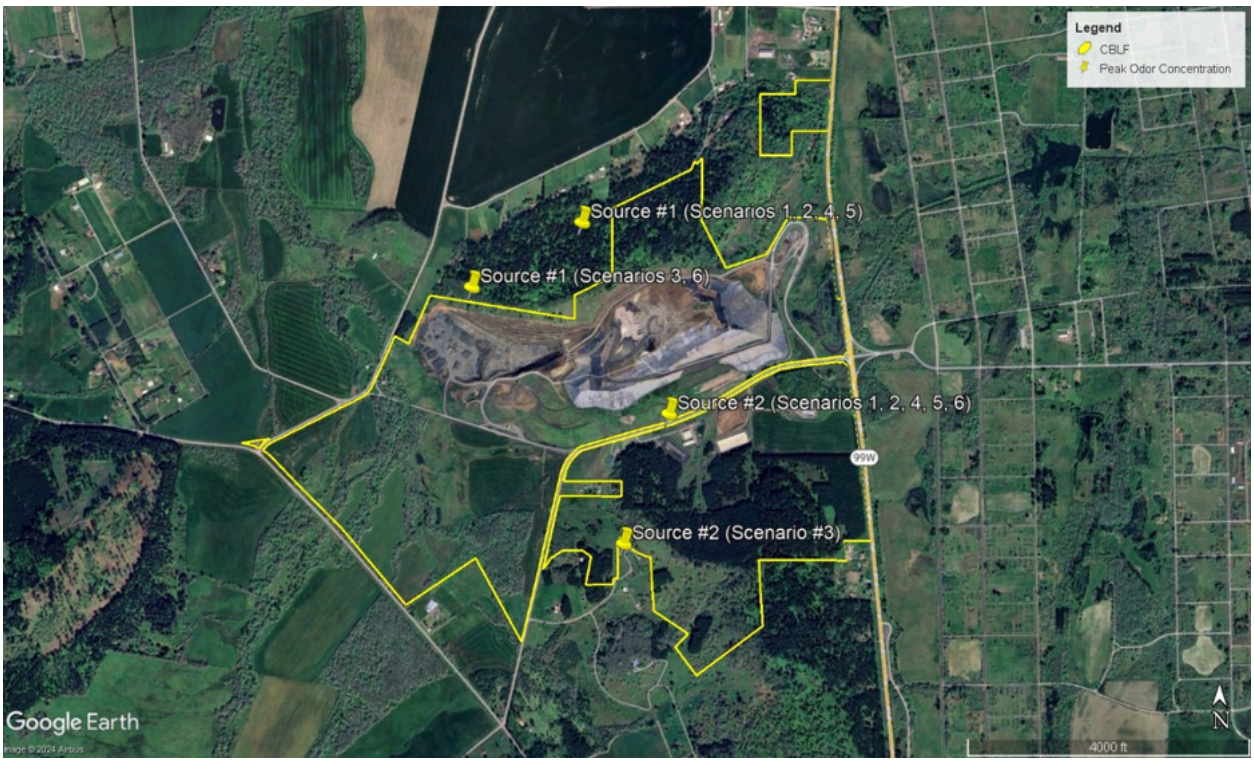


Figure 15. Source #1 Odor Concentration D/T Contours (Scenario #3, View 1 of 4)

Figure 16. Source #1 Odor Concentration D/T Contours (Scenario #3, View 2 of 4)

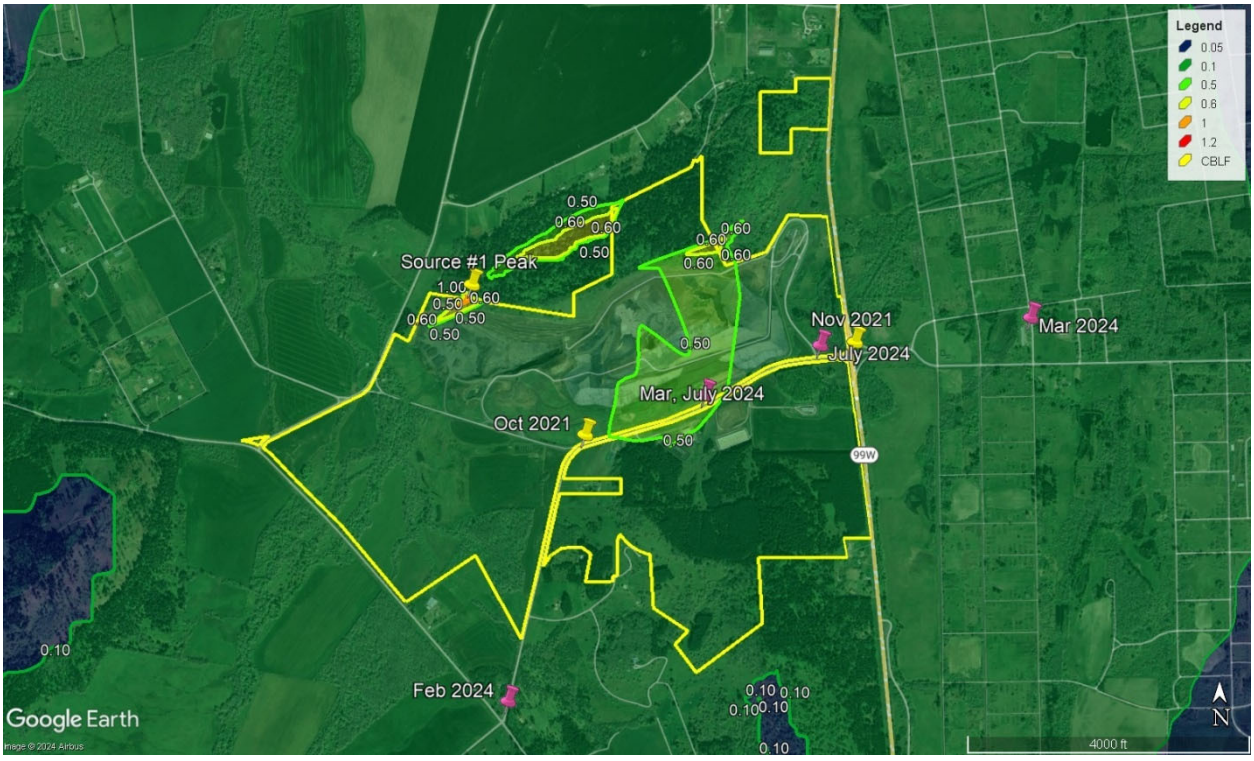


Figure 17. Source #1 Odor Concentration D/T Contours (Scenario #3, View 3 of 4)

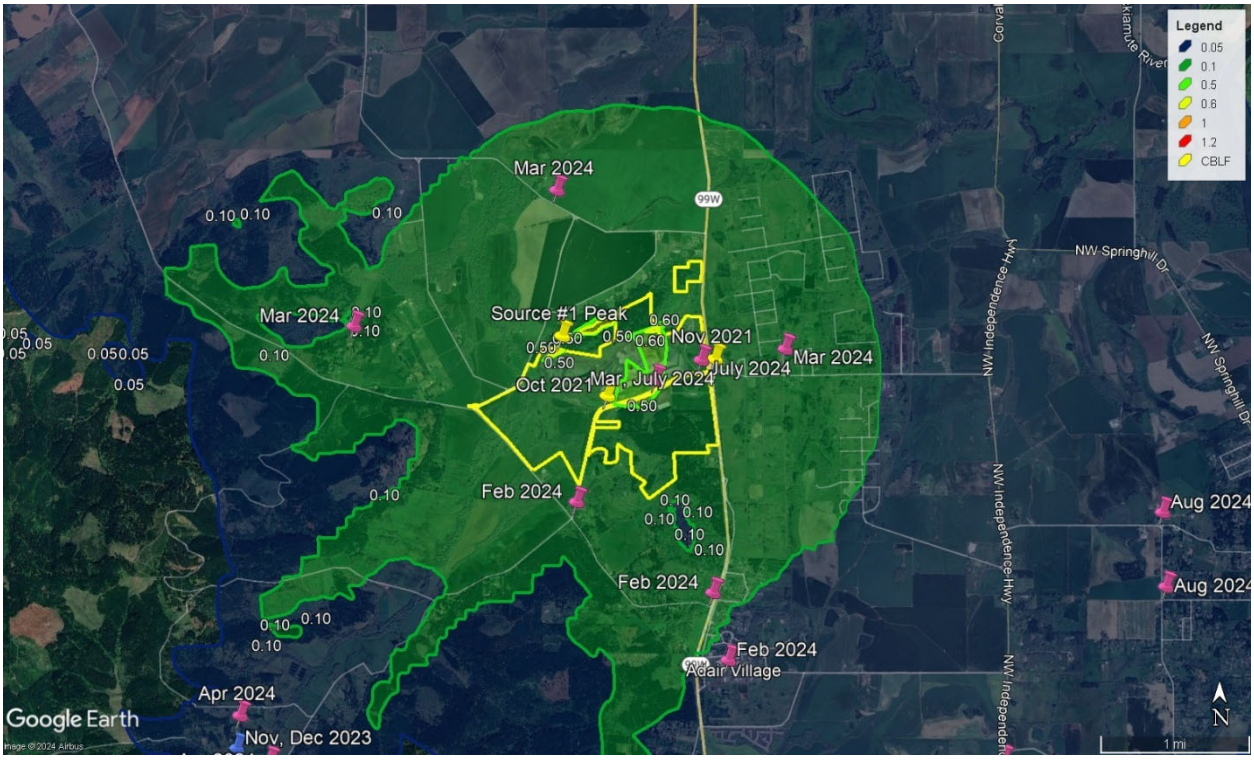


Figure 18. Source #1 Odor Concentration D/T Contours (Scenario #3, View 4 of 4)

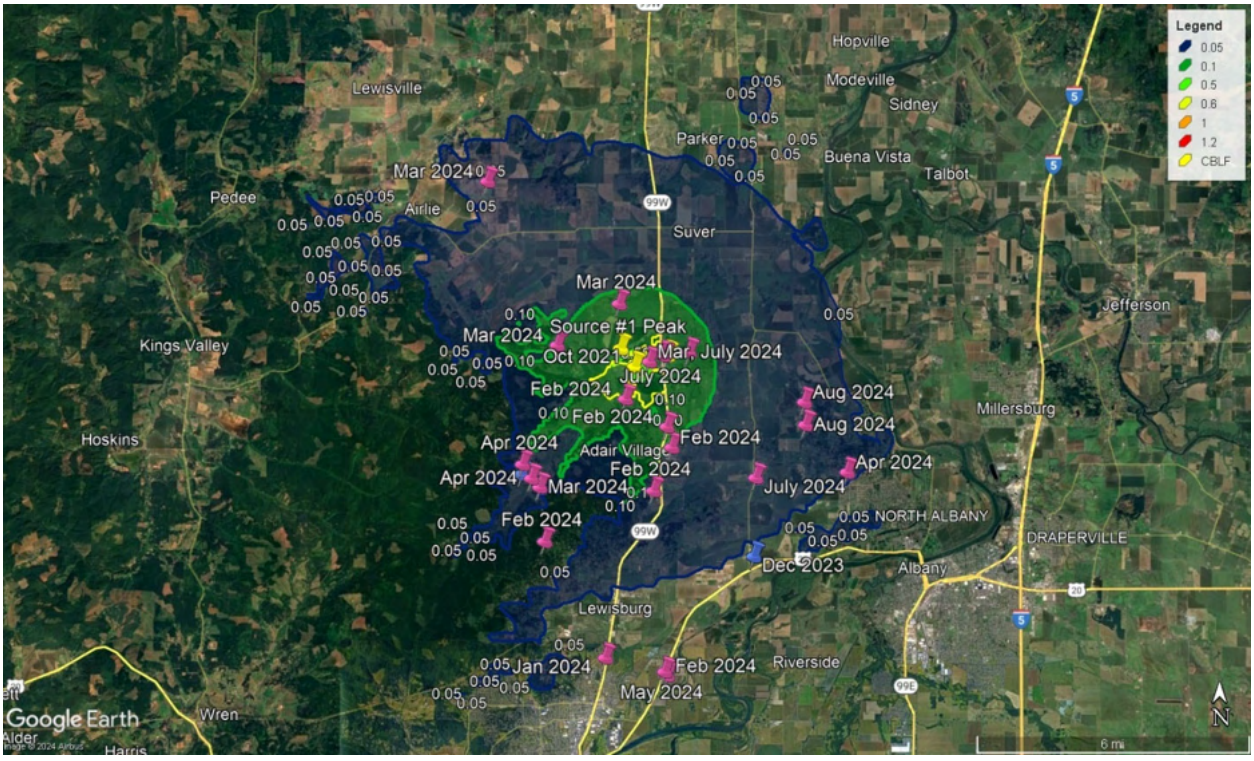


Figure 19. Source #2 Odor Concentration D/T Contours (Scenario #3, View 1 of 4)

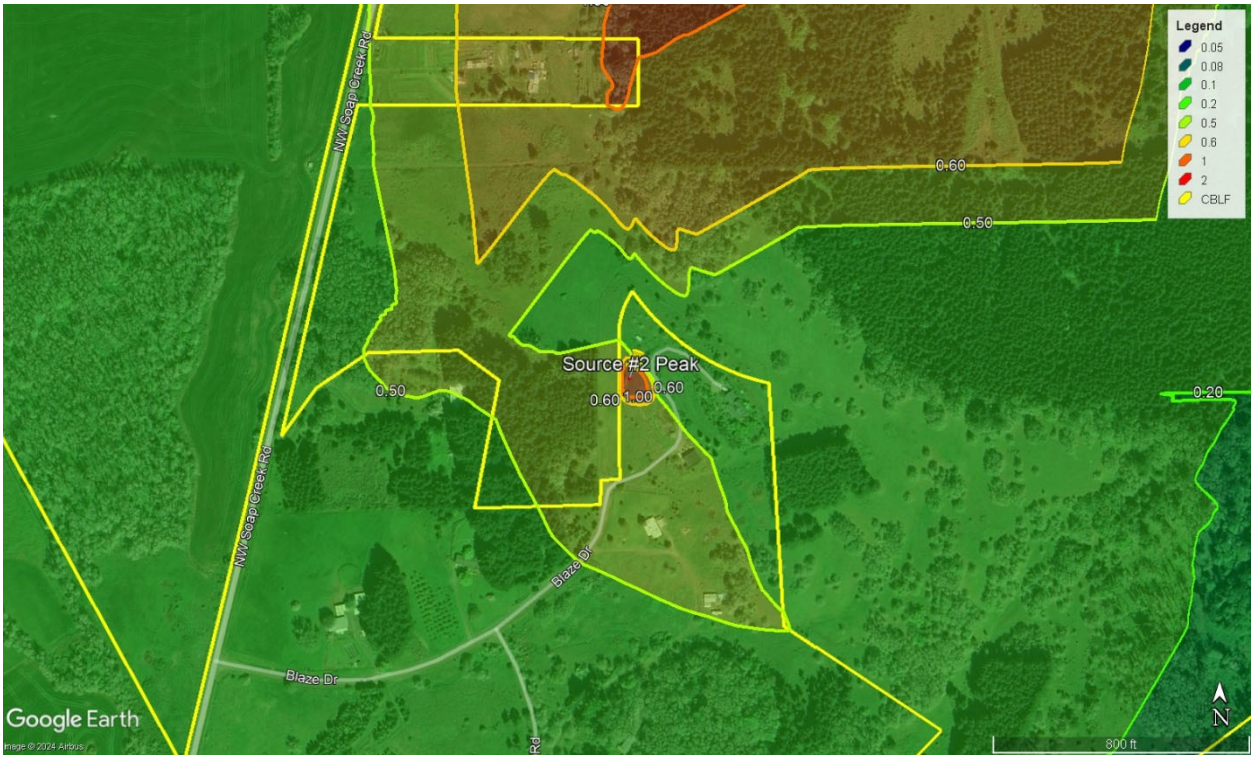


Figure 20. Source #2 Odor Concentration D/T Contours (Scenario #3, View 2 of 4)

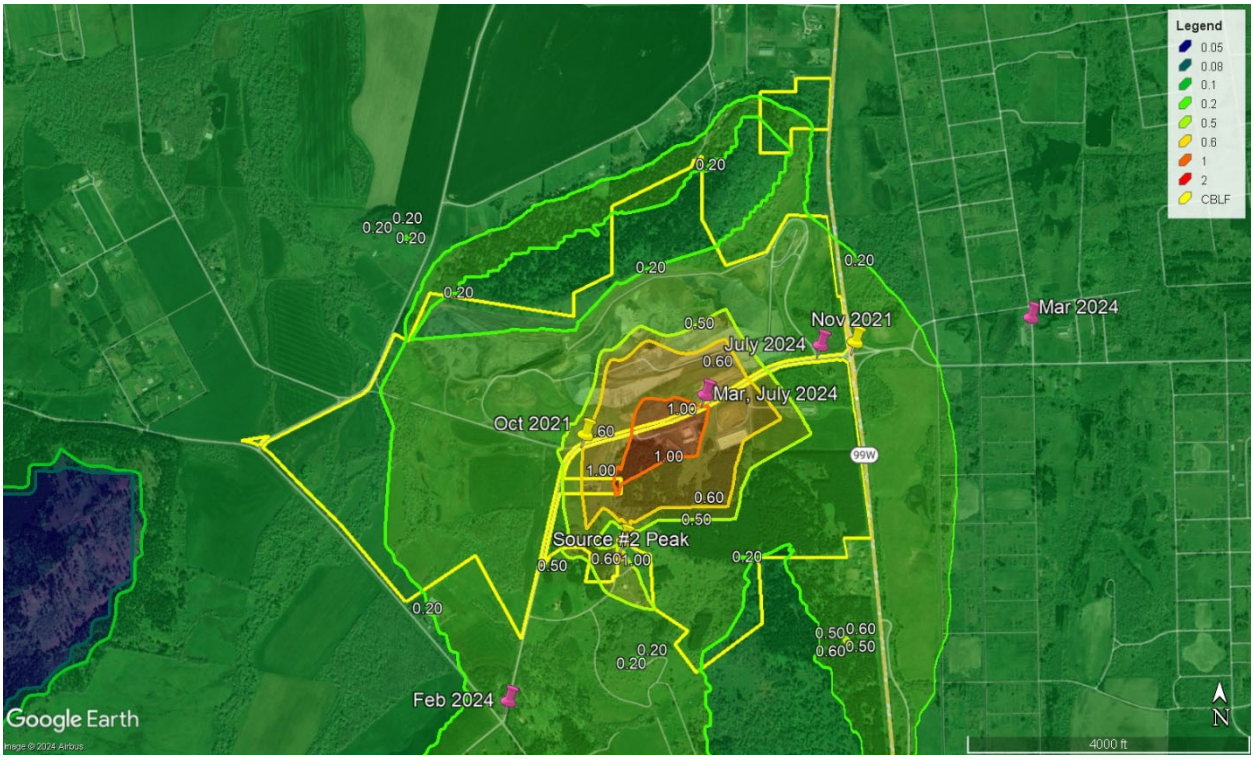


Figure 21. Source #2 Odor Concentration D/T Contours (Scenario #3, View 3 of 4)

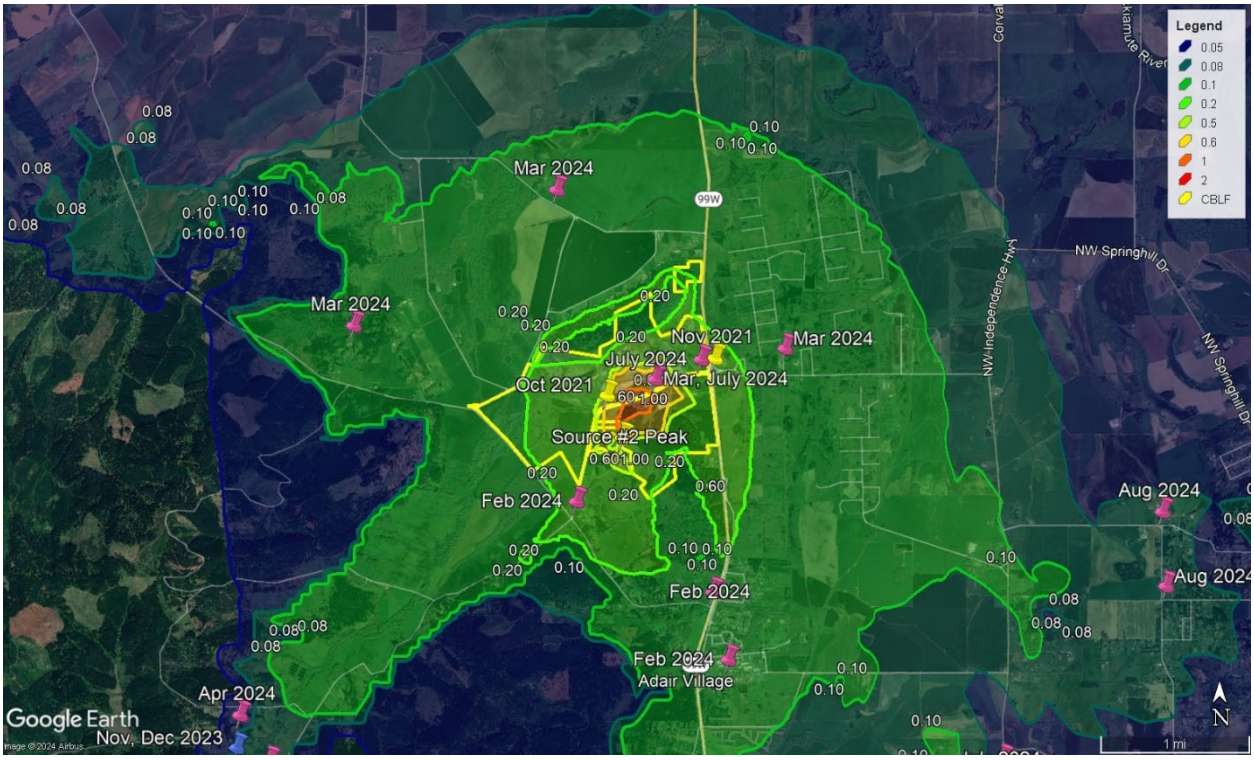
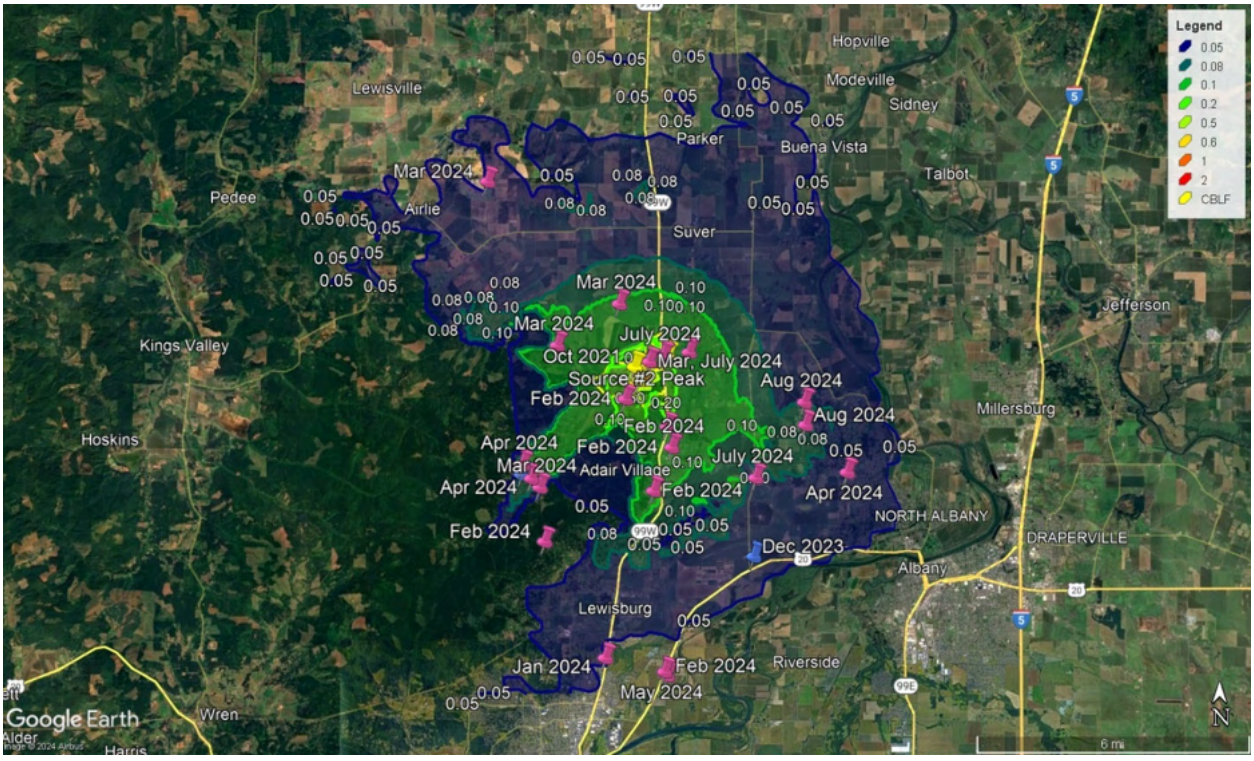


Figure 22. Source #2 Odor Concentration D/T Contours (Scenario #3, View 4 of 4)



5.0 CONCLUSIONS

The analysis modeled six different scenarios in order to predict the peak, off-site, 1-hour odor concentrations from existing and proposed operations for comparison to a numeric threshold of significance for nuisance odors (7 D/T). The following conclusions are presented based upon the results of this study:

- Peak, off-site, 1-hour odor concentrations were below 7 D/T (the numeric threshold of significance for nuisance odors) for all scenarios modeled.
- For existing operations (Source #1), the modeled peak, off-site, 1-hour odor concentration was north of the landfill (in two different locations depending upon the meteorological data used) and ranged from 0.42 to 1.21 D/T. Impacts above 1 D/T (the point at which only 50% of the population is expected to smell any odor) extended only a small distance off-site. None of the complaint locations from Figure 10 were within the 1 D/T contour.
- For proposed operations (Source #2), the modeled peak, off-site, 1-hour odor concentration was either along Coffin Butte Road or south of the landfill (in two different locations depending upon the meteorological data used) and ranged from 0.64 to 2.04 D/T. Impacts above 1 D/T (the point at which only 50% of the population is expected to smell any odor) were either along Coffin Butte Road or extended only a small distance off-site. Only one complaint location from Figure 10 was within the 1 D/T contour.
- Moving operations to the proposed expansion area will move the predicted peak, off-site 1-hour impact location, but impacts would remain well below the 7 D/T threshold.
- While off-site odors can occur as a result of the current and future landfill operations, these potential impacts are less than significant and expected to be short lived (i.e., only occur under weather conditions with poor atmospheric dispersion).

6.0 REFEFENCES

1. Benton County, “Taxlots”, https://gis.co.benton.or.us/gisdata/Assessment/.

2. Benton County, “Benton County Zoning Map Online”, https://cd.bentoncountyor.gov/maps/.

3. Valley Landfills, Inc., “Burden of Proof 2024 Conditional Use Application”, https://coffinbuttelandfill.com/2024-cup/.

4. United States Geological Survey, “National Elevation Dataset (NED)”, https://www.usgs.gov/publications/national-elevation-dataset.

5. Lakes Environmental, “AERMOD View 12.0”, AERMOD Version 23132, https://www.weblakes.com/, November 2023.

6. Oregon Department of Environmental Quality, “Recommended Procedures for Air Quality Dispersion Modeling”, https://www.oregon.gov/deq/aq/Pages/default.aspx, March 2022.

7. Oregon Department of Environmental Quality, “Nuisance Odor Strategy”, https://www.oregon.gov/deq/aq/pages/nuisance-odor.aspx.

8. San Diego State University and California Integrated Waste Management Board, “Contractor’s Report to the Board – Comprehensive Compost Odor Response Project”, March 2007, https://www2.calrecycle.ca.gov/Publications/Download/841.

9. McGinley, P.E., Charles M., “Enforceable Permit Odor Limits”, St. Croix Sensory, Inc., https://www.fivesenses.com/, 2000.

10. Hanson, J., Yesiller, N., et al, “Compaction Characteristics of Municipal Waste”, http://gwri.calpoly.edu/media/Research_Papers/Compaction_Characteristics_of_Municipal_Solid_Waste.pdf, 2010.

Appendix A

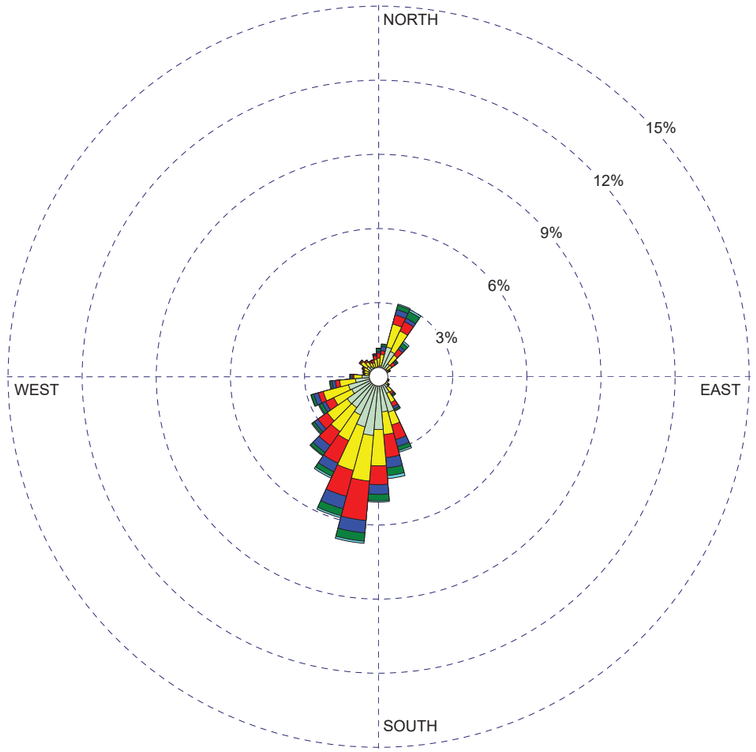
CBLF and KCVO Windrose Comparison

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR WINDROSE (8/1/2021 TO 8/1/2024)

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **31.49%**	TOTAL COUNT: **52532**	
	AVG. WIND SPEED: **1.11 m/s**		PROJECT NO.:

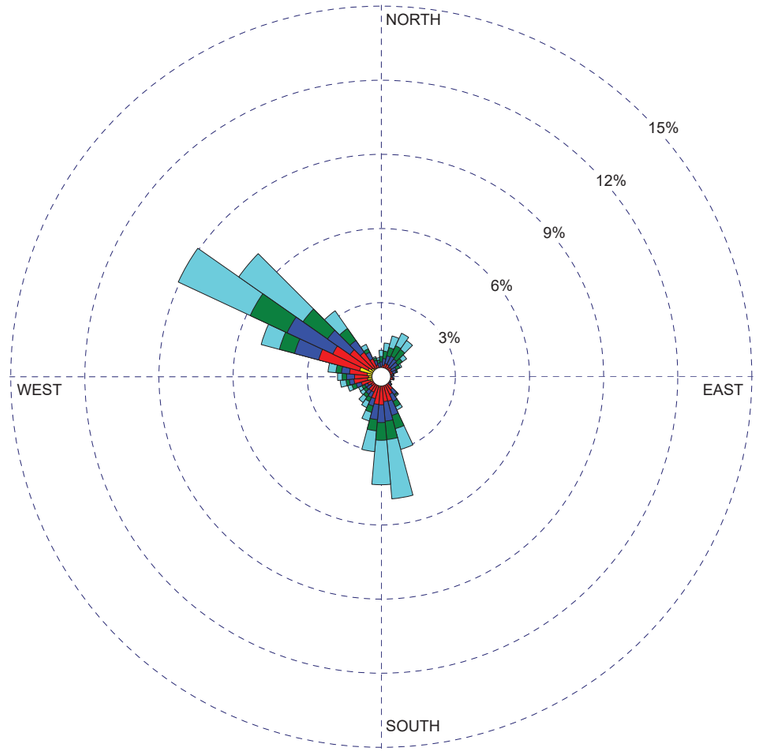
WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR WINDROSE (8/1/2021 TO 8/1/2024)

DISPLAY:

Wind Speed
Direction (blowing from)



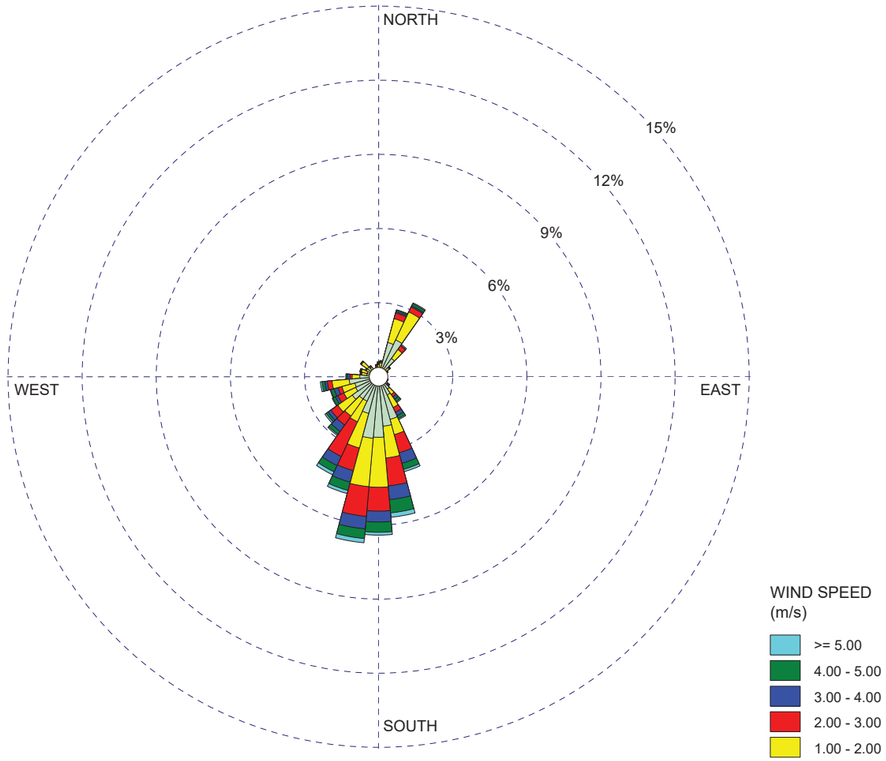
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 00:00** **End Date: 7/31/2024 - 23:59**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **22.03%**	TOTAL COUNT: **24841 hrs.**	
	AVG. WIND SPEED: **3.07 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR WINTER WINDROSE (8/1/2021 TO 8/1/2024, DEC-FEB)

DISPLAY:
Wind Speed
Direction (blowing from)



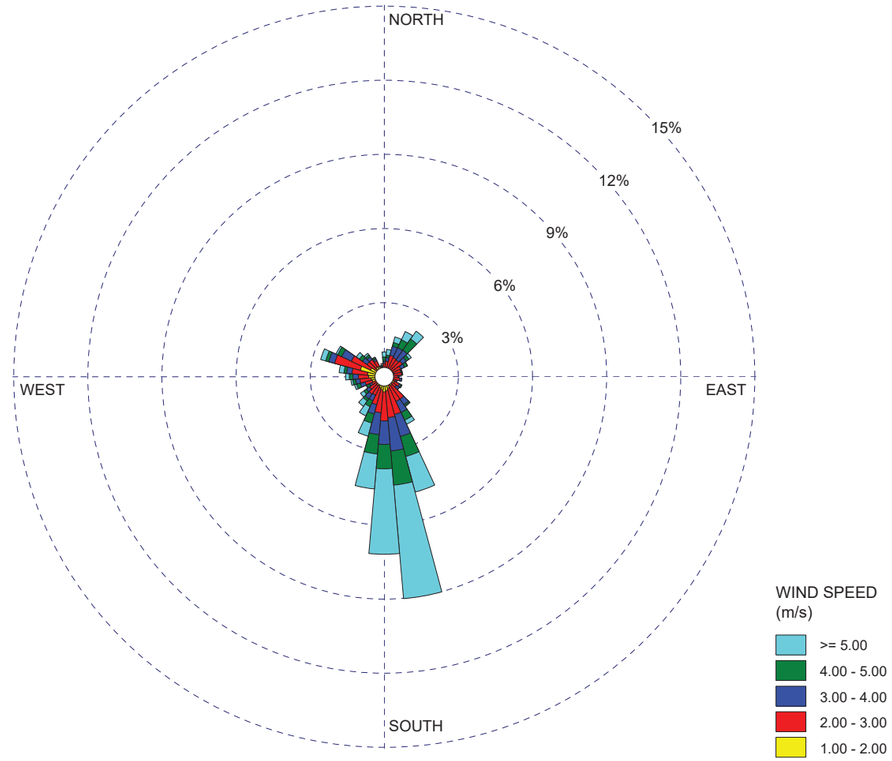
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **34.24%**	TOTAL COUNT: **13002**	
	AVG. WIND SPEED: **1.07 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR WINTER WINDROSE (8/1/2021 TO 8/1/2024, DEC-FEB)

DISPLAY:
Wind Speed
Direction (blowing from)



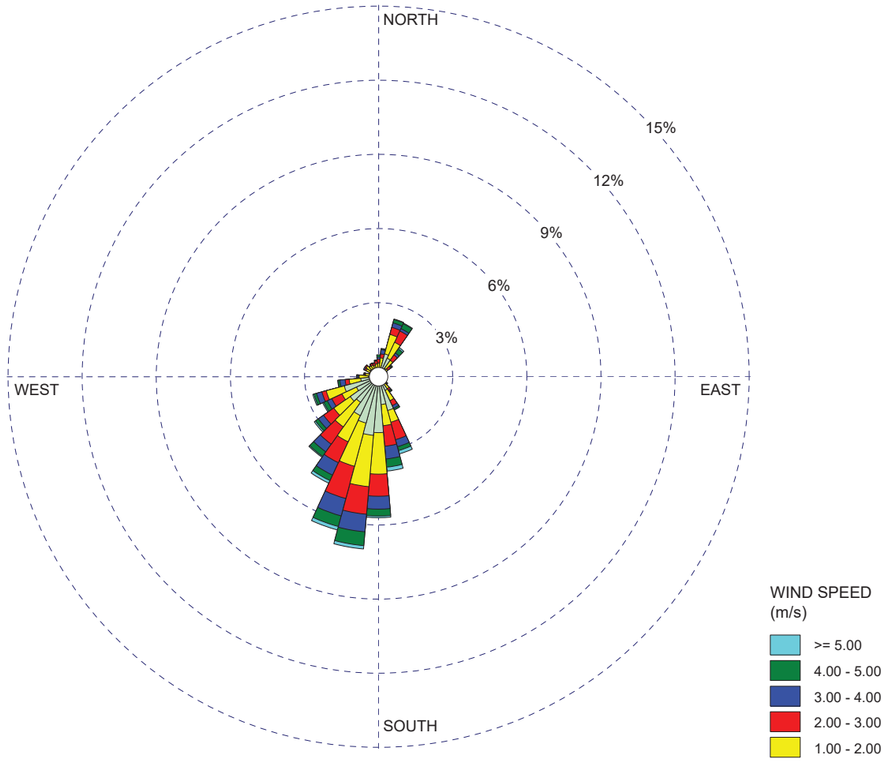
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 12/1/2021 - 00:00** **End Date: 2/29/2024 - 23:59**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **28.47%**	TOTAL COUNT: **6235 hrs.**	
	AVG. WIND SPEED: **2.66 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR SPRING WINDROSE (8/1/2021 TO 8/1/2024, MAR-MAY)

DISPLAY:
Wind Speed
Direction (blowing from)



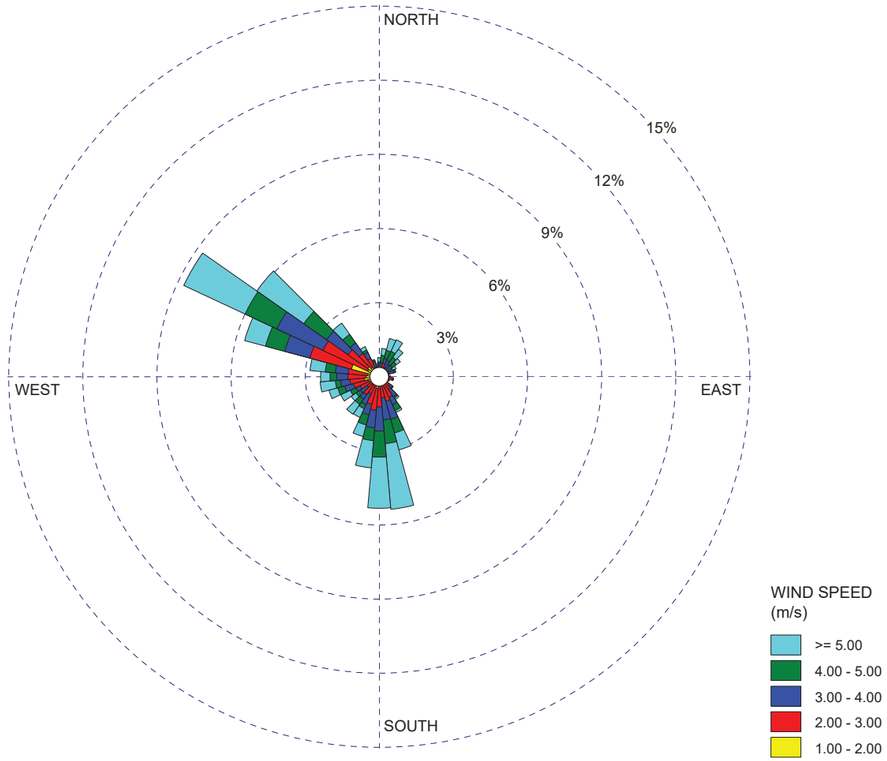
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **35.68%**	TOTAL COUNT: **13232**	
	AVG. WIND SPEED: **1.12 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR SPRING WINDROSE (8/1/2021 TO 8/1/2024, MAR-MAY)

DISPLAY:
Wind Speed
Direction (blowing from)



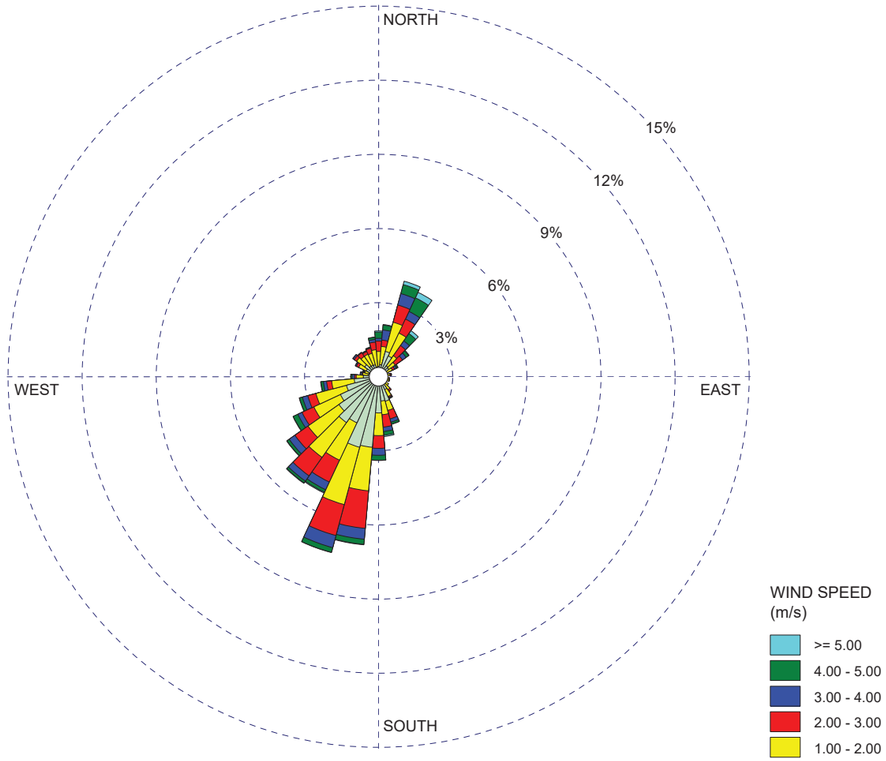
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 3/1/2022 - 00:00** **End Date: 5/31/2024 - 23:59**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **19.01%**	TOTAL COUNT: **6341 hrs.**	
	AVG. WIND SPEED: **3.21 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR SUMMER WINDROSE (8/1/2021 TO 8/1/2024, JUN-AUG)

DISPLAY:
Wind Speed
Direction (blowing from)



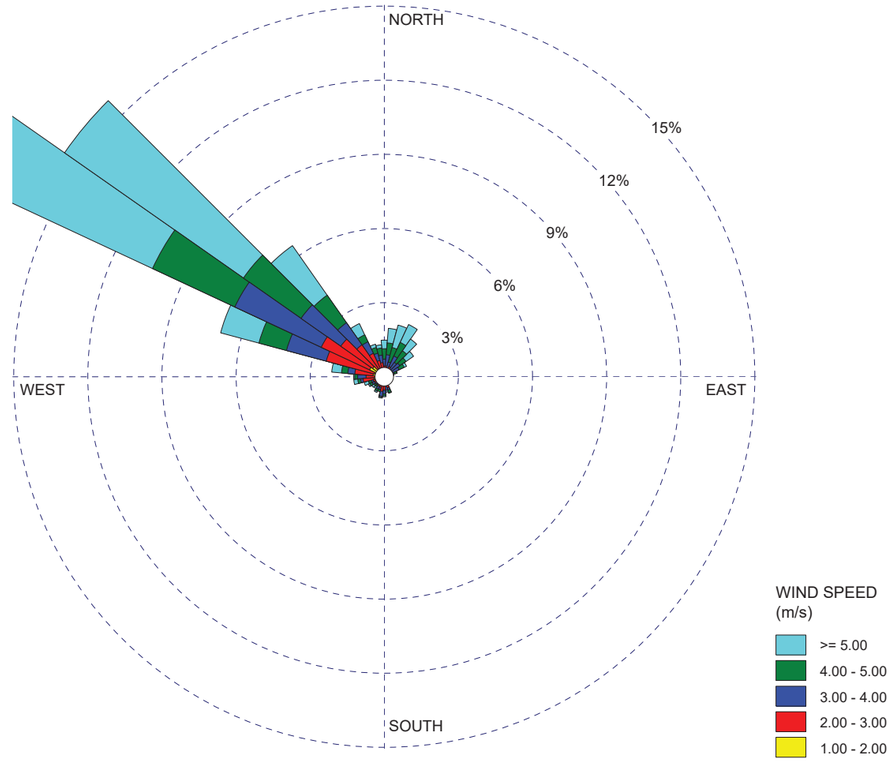
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **22.37%**	TOTAL COUNT: **13190**	
	AVG. WIND SPEED: **1.26 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR SUMMER WINDROSE (8/1/2021 TO 8/1/2024, JUN-AUG)

DISPLAY:
Wind Speed
Direction (blowing from)



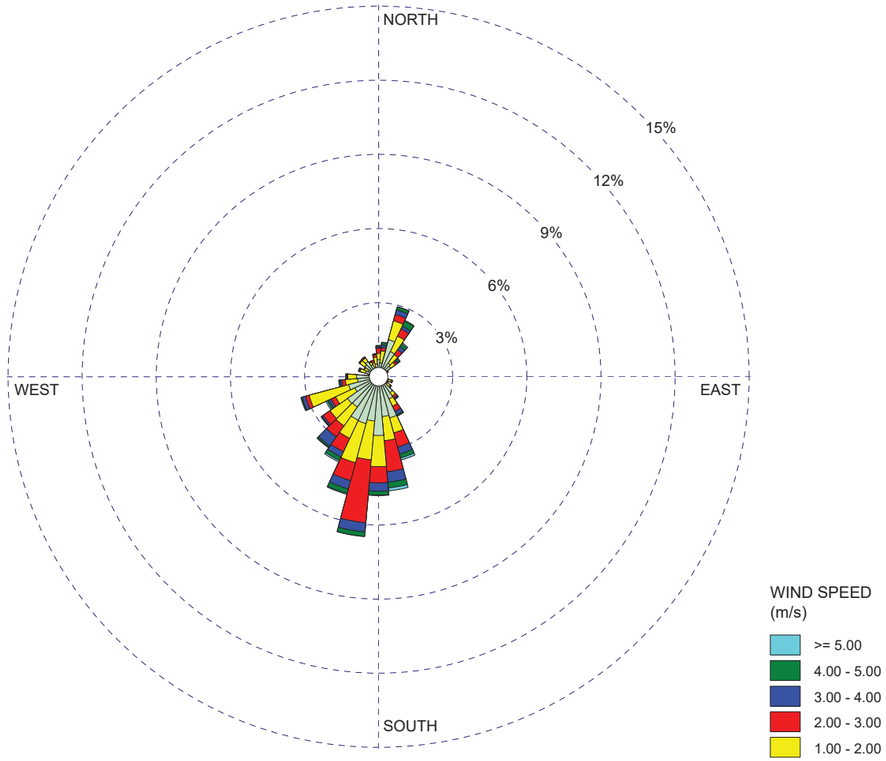
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 00:00** **End Date: 7/31/2024 - 23:59**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **12.58%**	TOTAL COUNT: **6081 hrs.**	
	AVG. WIND SPEED: **3.85 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR FALL WINDROSE (8/1/2021 TO 8/1/2024, SEP-NOV)

DISPLAY:
Wind Speed
Direction (blowing from)



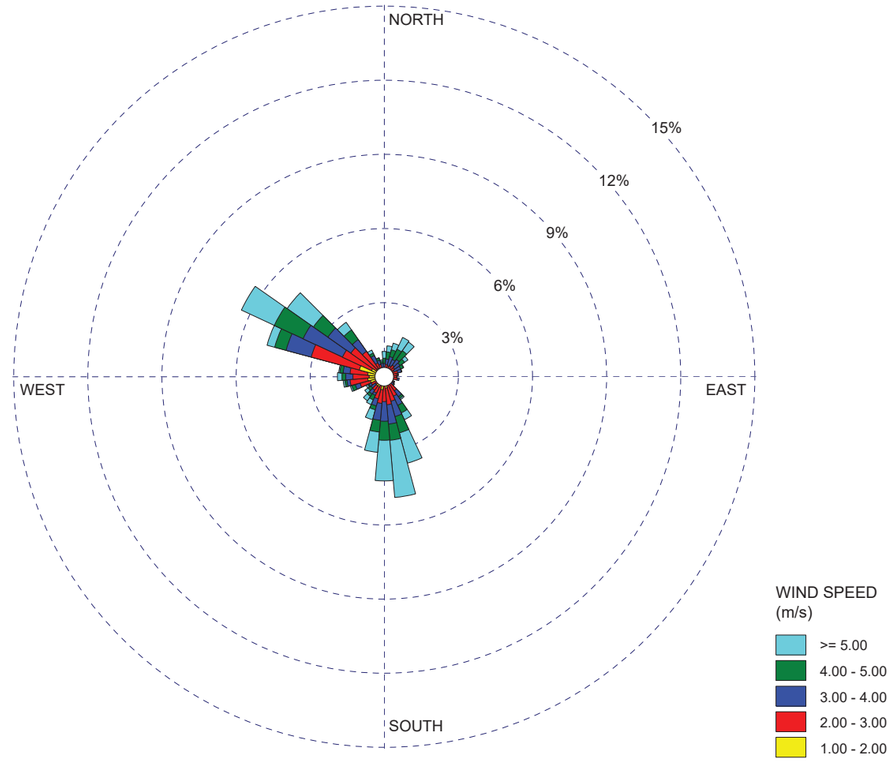
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **33.70%**	TOTAL COUNT: **13108**	
	AVG. WIND SPEED: **0.98 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR FALL WINDROSE (8/1/2021 TO 8/1/2024, SEP-NOV)

DISPLAY:
Wind Speed
Direction (blowing from)



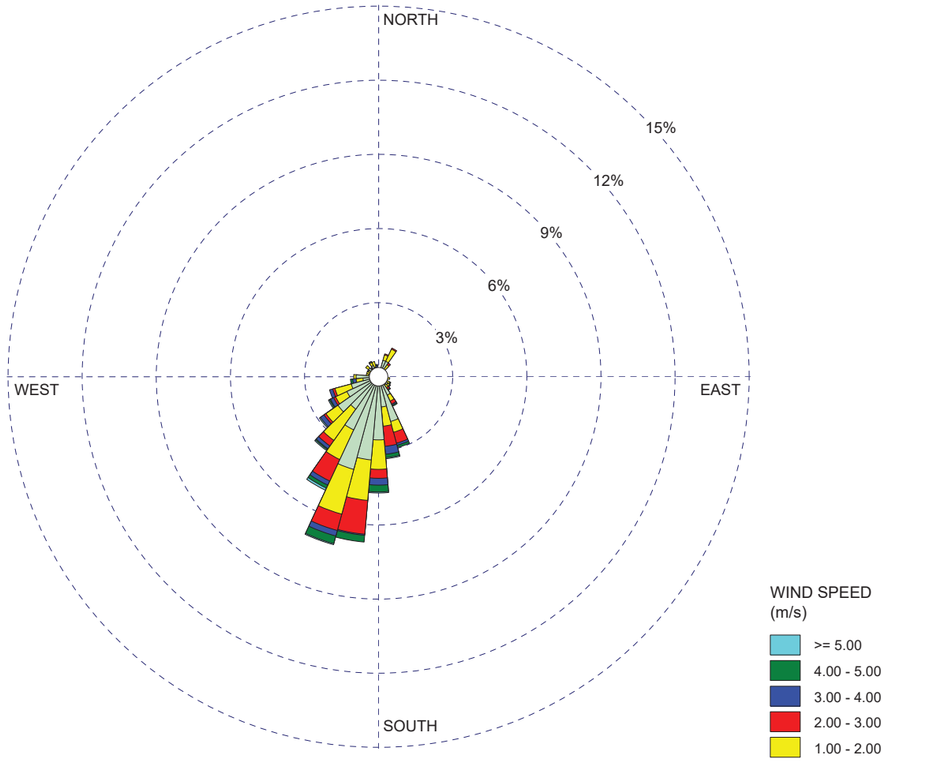
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 9/1/2021 - 00:00** **End Date: 11/30/2023 - 23:59**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **28.25%**	TOTAL COUNT: **6184 hrs.**	
	AVG. WIND SPEED: **2.59 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 01 WINDROSE (8/1/2021 TO 8/1/2024, 0000-0100)

DISPLAY:
Wind Speed
Direction (blowing from)



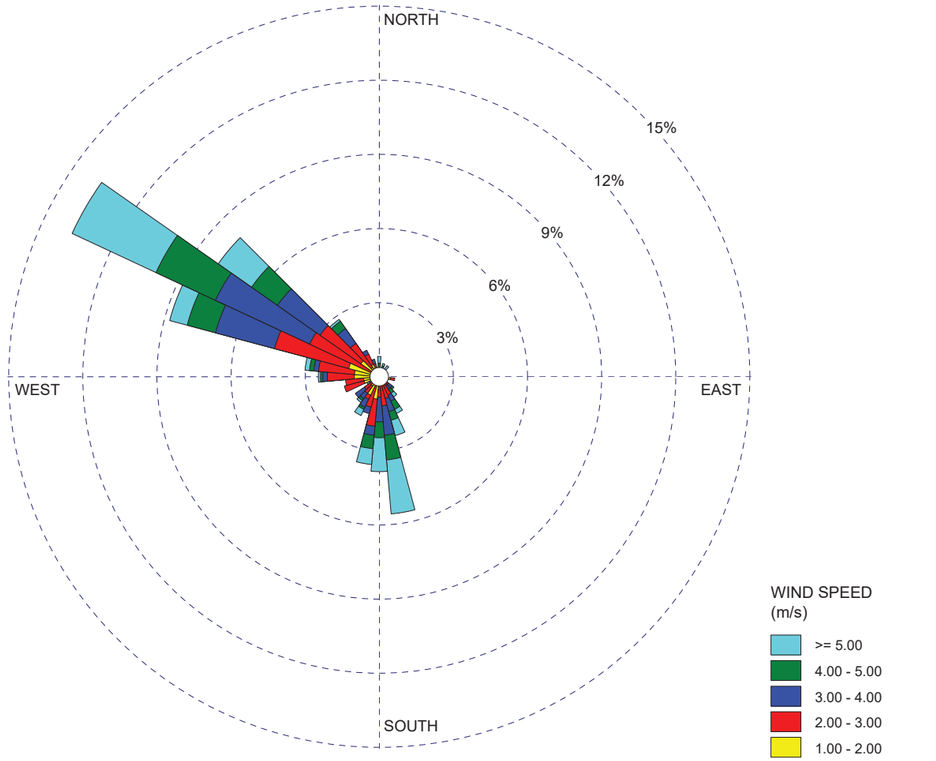
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **44.57%**	TOTAL COUNT: **2192**	
	AVG. WIND SPEED: **0.71 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 01 WINDROSE (8/1/2021 TO 8/1/2024, 0000-0100)

DISPLAY:
Wind Speed
Direction (blowing from)



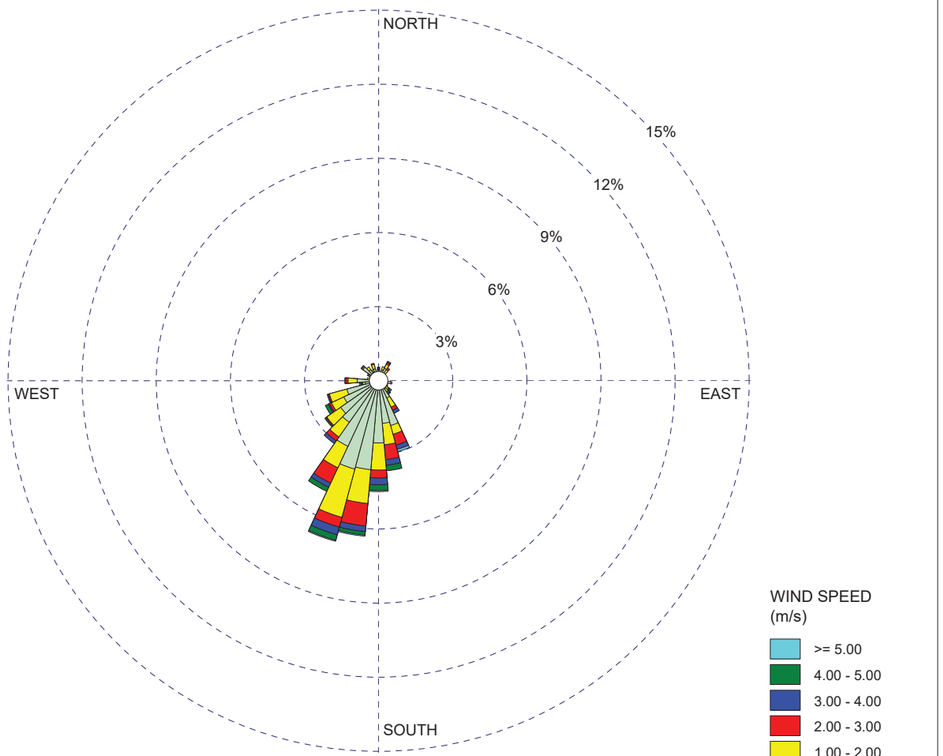
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 01:00** **End Date: 7/31/2024 - 01:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **24.27%**	TOTAL COUNT: **1069 hrs.**	
	AVG. WIND SPEED: **2.70 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 02 WINDROSE (8/1/2021 TO 8/1/2024, 0100-0200)

DISPLAY:
Wind Speed
Direction (blowing from)



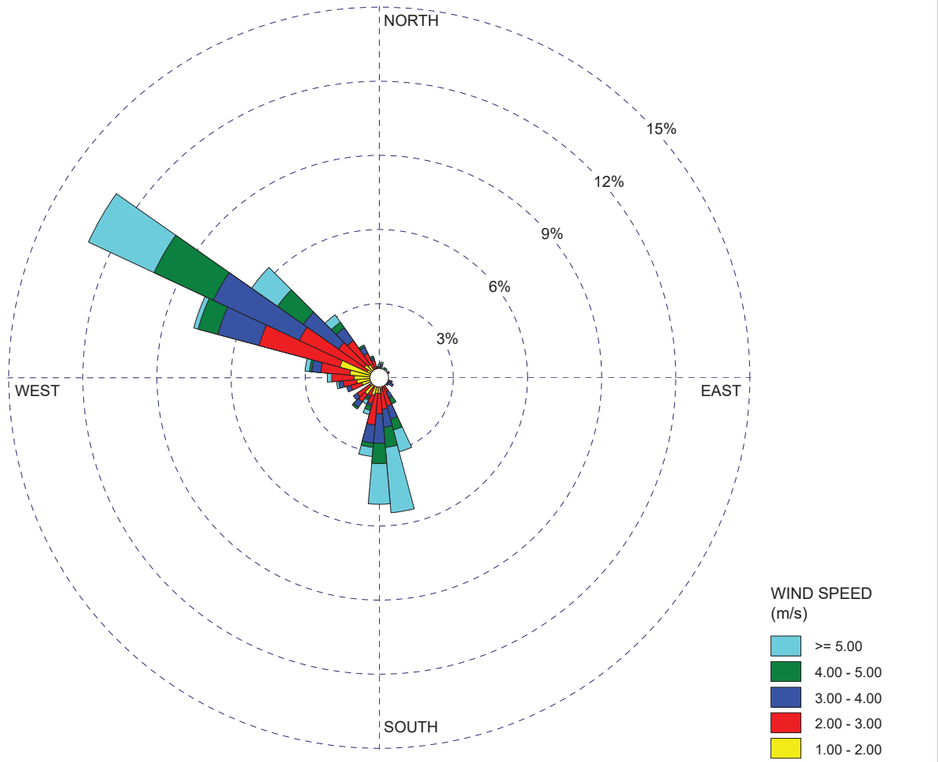
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **45.87%**	TOTAL COUNT: **2189**	
	AVG. WIND SPEED: **0.65 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 02 WINDROSE (8/1/2021 TO 8/1/2024, 0100-0200)

DISPLAY:
Wind Speed
Direction (blowing from)



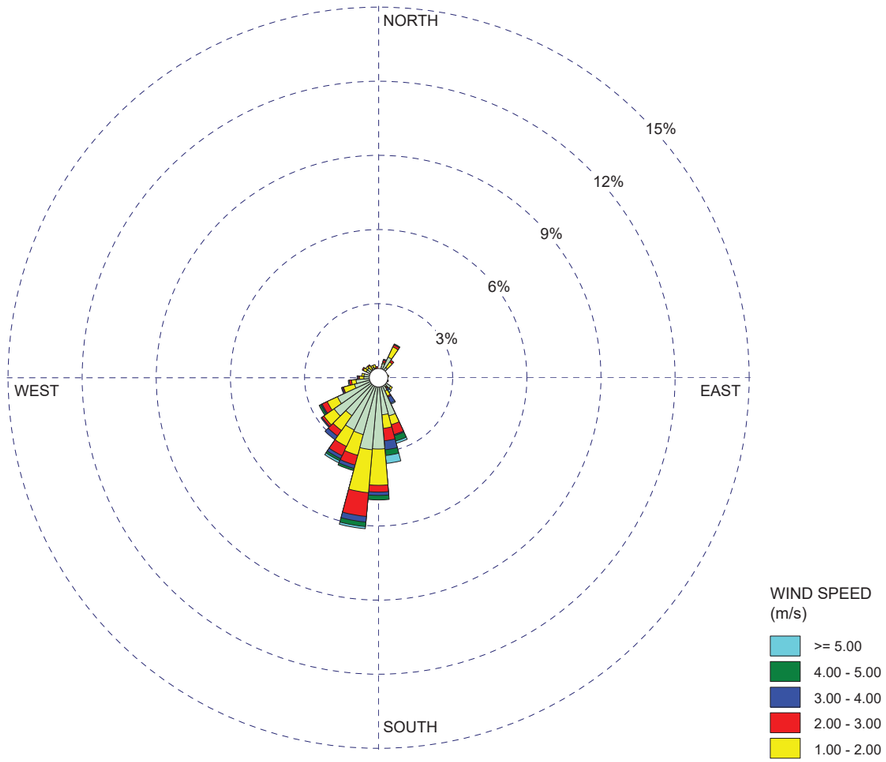
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 02:00** **End Date: 7/31/2024 - 02:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **27.10%**	TOTAL COUNT: **1074 hrs.**	
	AVG. WIND SPEED: **2.52 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 03 WINDROSE (8/1/2021 TO 8/1/2024, 0200-0300)

DISPLAY:
Wind Speed
Direction (blowing from)



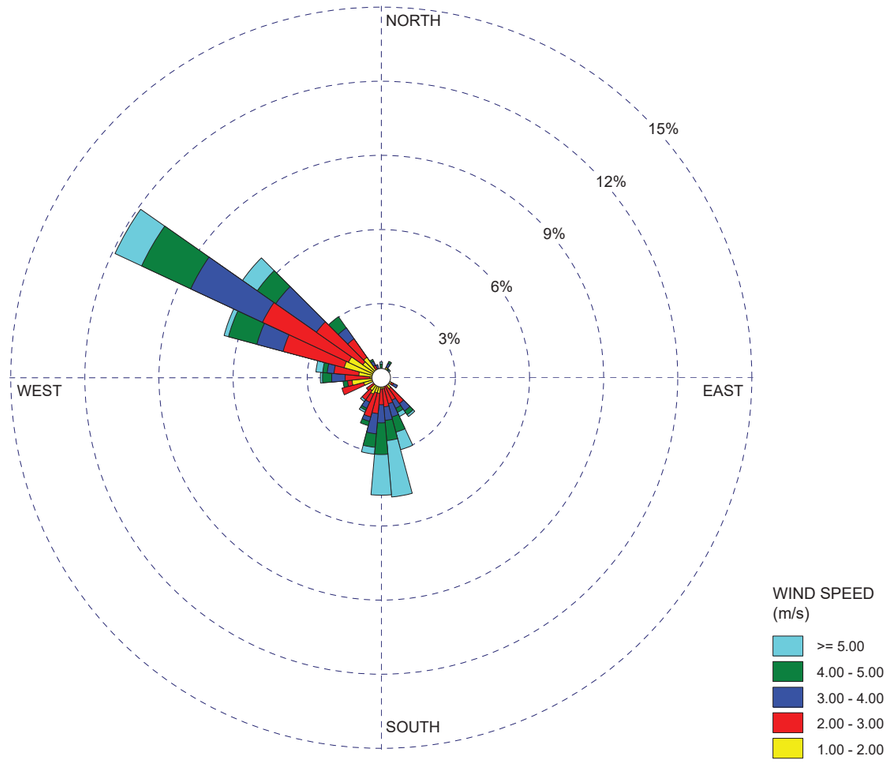
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **50.39%**	TOTAL COUNT: **2187**	
	AVG. WIND SPEED: **0.63 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 03 WINDROSE (8/1/2021 TO 8/1/2024, 0200-0300)

DISPLAY:
Wind Speed
Direction (blowing from)



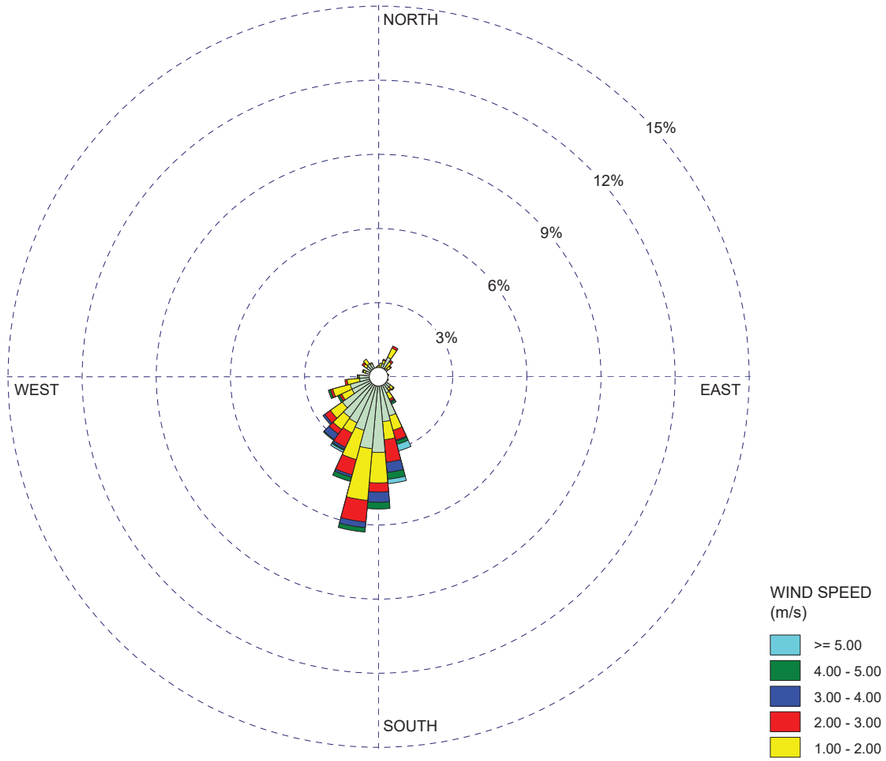
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 03:00** **End Date: 7/31/2024 - 03:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **29.29%**	TOTAL COUNT: **1075 hrs.**	
	AVG. WIND SPEED: **2.36 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 04 WINDROSE (8/1/2021 TO 8/1/2024, 0300-0400)

DISPLAY:
Wind Speed
Direction (blowing from)



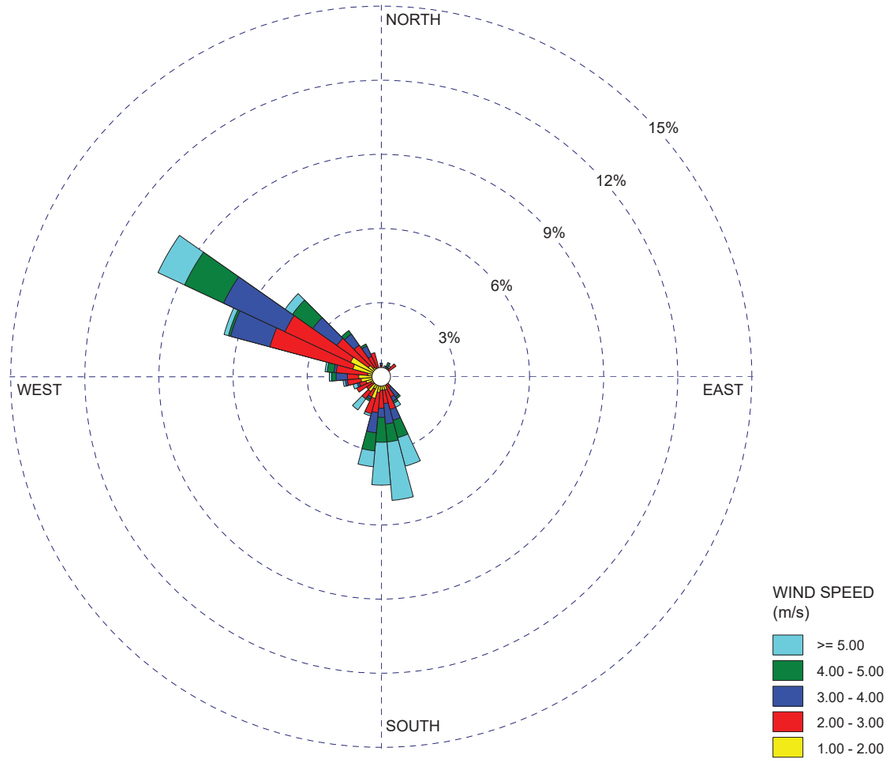
COMMENTS:		COMPANY NAME:	
Onsite (30 minute data)		**SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **47.53%**	TOTAL COUNT: **2190**	
	AVG. WIND SPEED: **0.66 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 04 WINDROSE (8/1/2021 TO 8/1/2024, 0300-0400)

DISPLAY:
Wind Speed
Direction (blowing from)



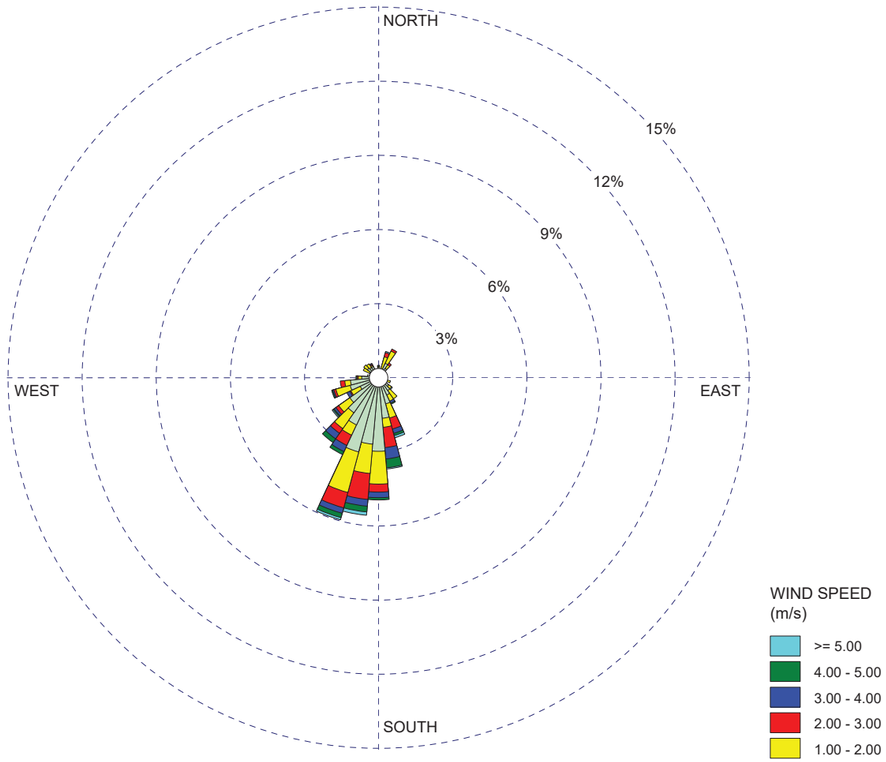
COMMENTS:	DATA PERIOD:	COMPANY NAME:	
NOAA hourly data (10-degree wind directions)	**Start Date: 8/1/2021 - 04:00** **End Date: 7/31/2024 - 04:00**	**SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **33.94%**	TOTAL COUNT: **1069 hrs.**	
	AVG. WIND SPEED: **2.18 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 05 WINDROSE (8/1/2021 TO 8/1/2024, 0400-0500)

DISPLAY:
Wind Speed
Direction (blowing from)



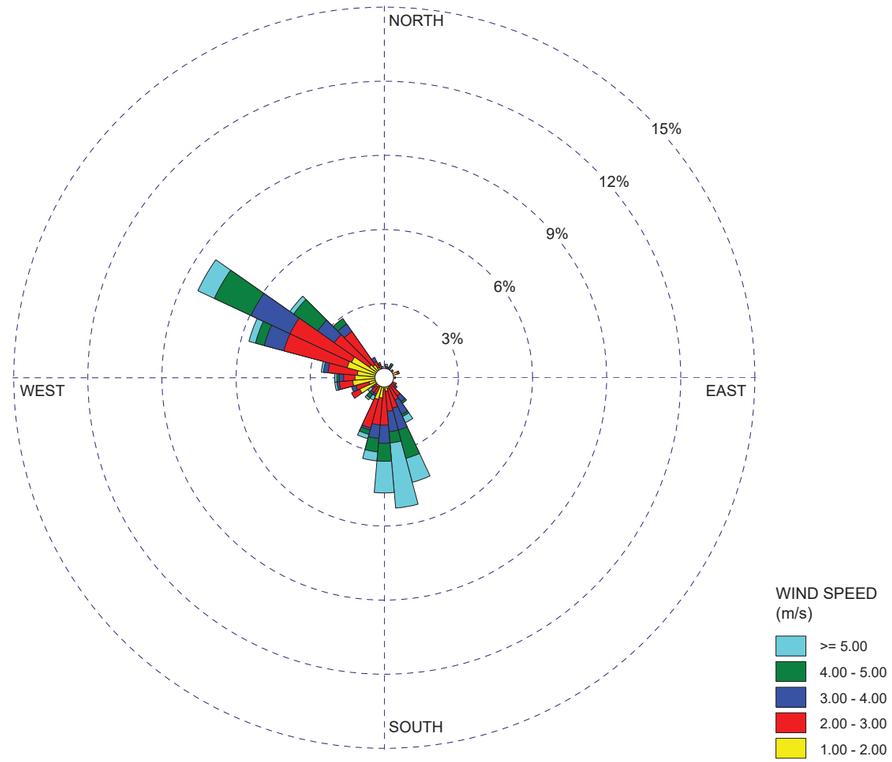
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **49.66%**	TOTAL COUNT: **2187**	
	AVG. WIND SPEED: **0.66 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 05 WINDROSE (8/1/2021 TO 8/1/2024, 0400-0500)

DISPLAY:
Wind Speed
Direction (blowing from)



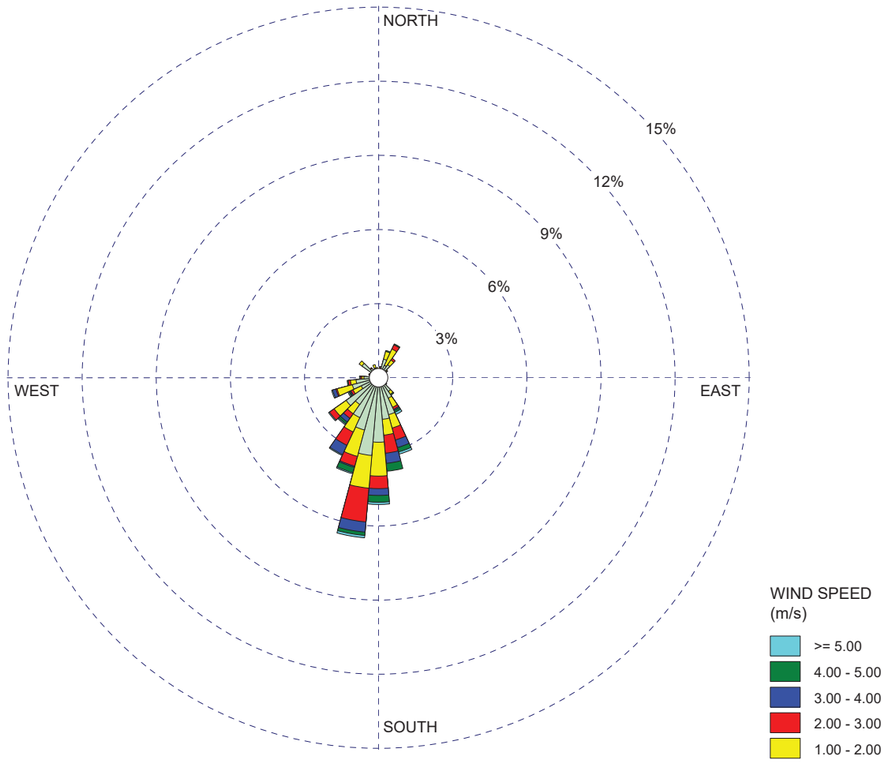
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 05:00** **End Date: 7/31/2024 - 05:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **32.85%**	TOTAL COUNT: **1074 hrs.**	
	AVG. WIND SPEED: **2.15 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 06 WINDROSE (8/1/2021 TO 8/1/2024, 0500-0600)

DISPLAY:
Wind Speed
Direction (blowing from)



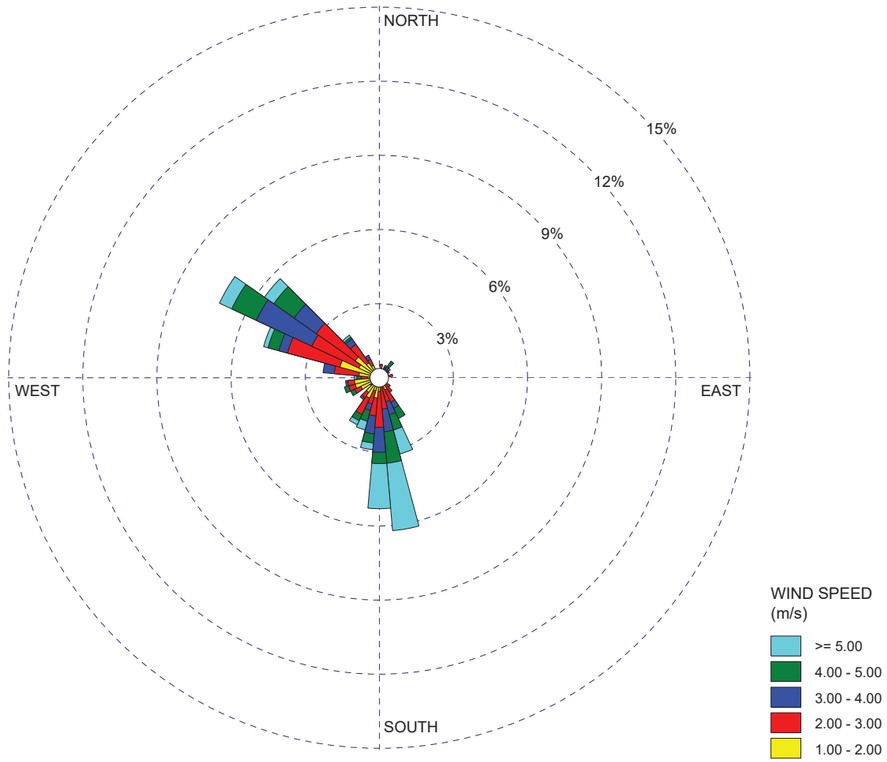
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **50.55%**	TOTAL COUNT: **2188**	
	AVG. WIND SPEED: **0.66 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 06 WINDROSE (8/1/2021 TO 8/1/2024, 0500-0600)

DISPLAY:
Wind Speed
Direction (blowing from)



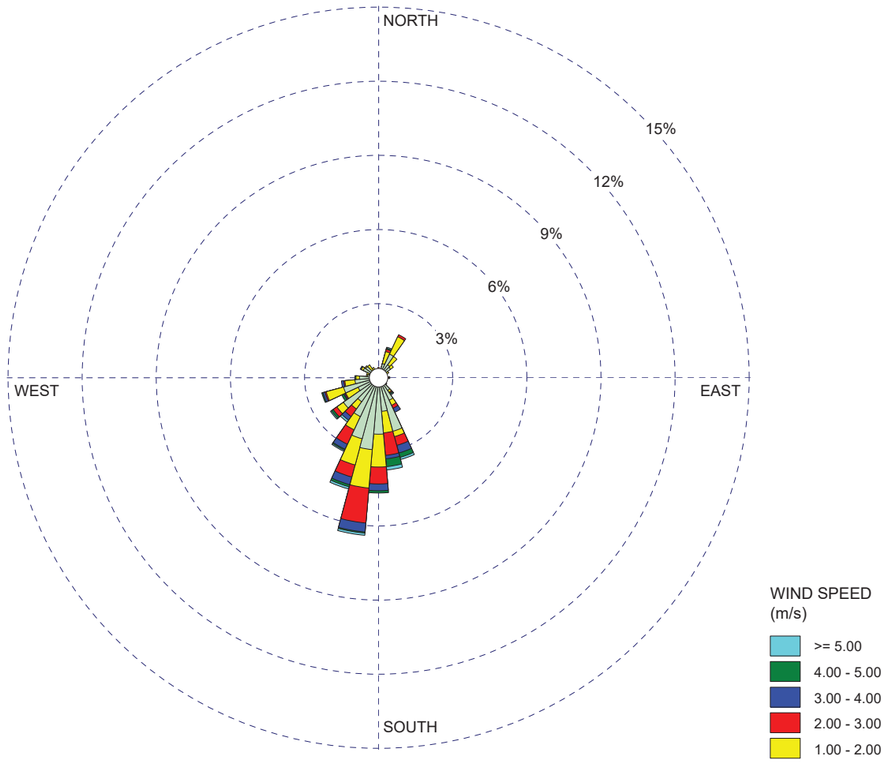
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 06:00** **End Date: 7/31/2024 - 06:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **37.41%**	TOTAL COUNT: **1073 hrs.**	
	AVG. WIND SPEED: **2.03 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 07 WINDROSE (8/1/2021 TO 8/1/2024, 0600-0700)

DISPLAY:
Wind Speed
Direction (blowing from)



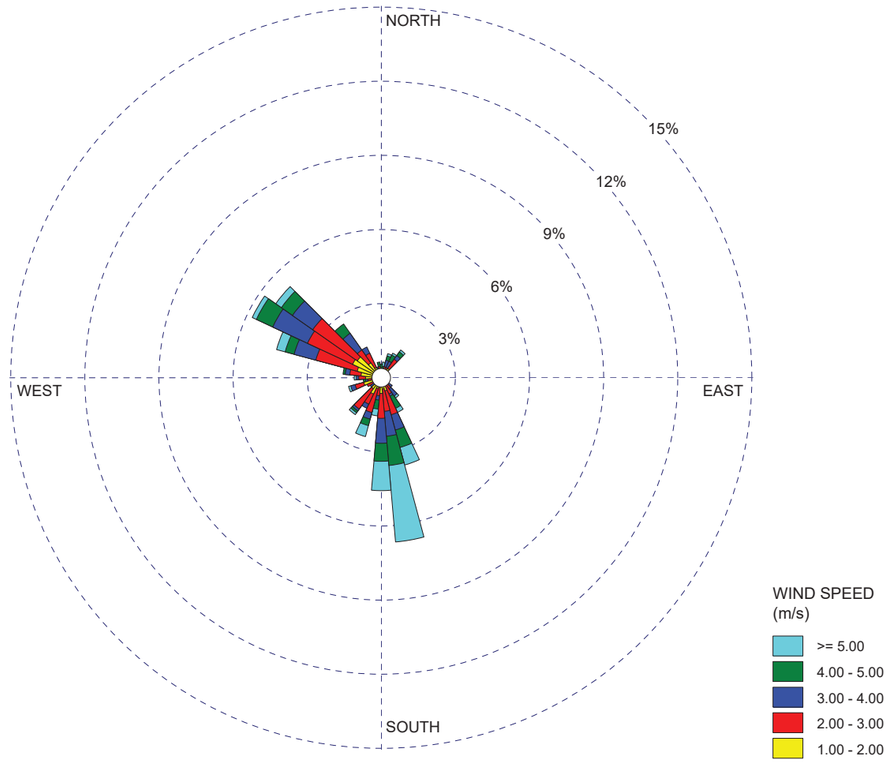
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **48.13%**	TOTAL COUNT: **2190**	
	AVG. WIND SPEED: **0.68 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 07 WINDROSE (8/1/2021 TO 8/1/2024, 0600-0700)

DISPLAY:
Wind Speed
Direction (blowing from)



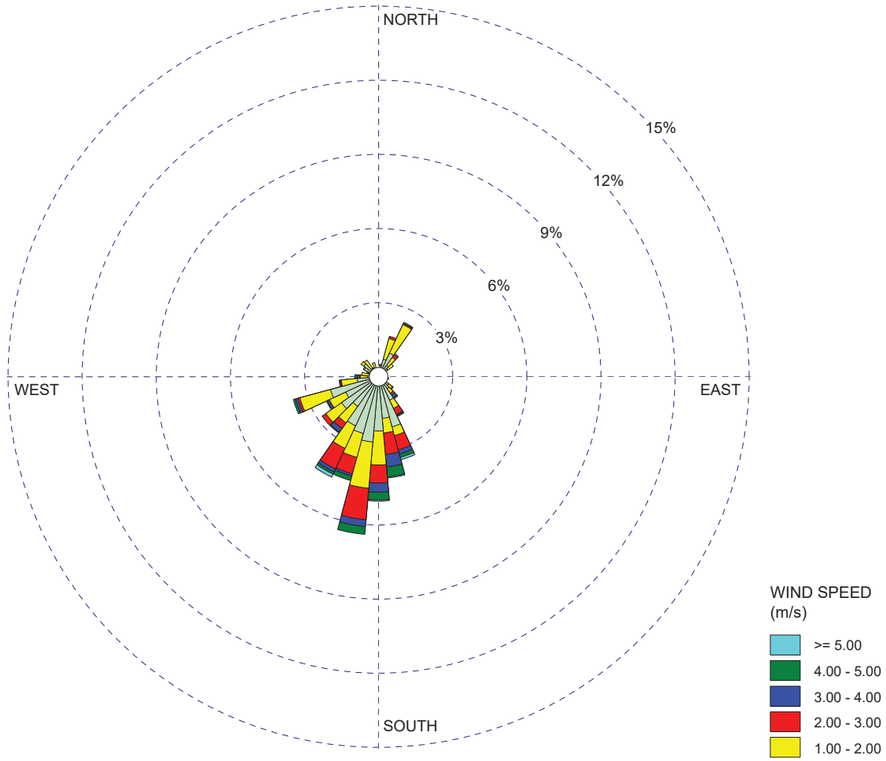
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 07:00** **End Date: 7/31/2024 - 07:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **39.69%**	TOTAL COUNT: **1069 hrs.**	
	AVG. WIND SPEED: **1.99 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 08 WINDROSE (8/1/2021 TO 8/1/2024, 0700-0800)

DISPLAY:
Wind Speed
Direction (blowing from)



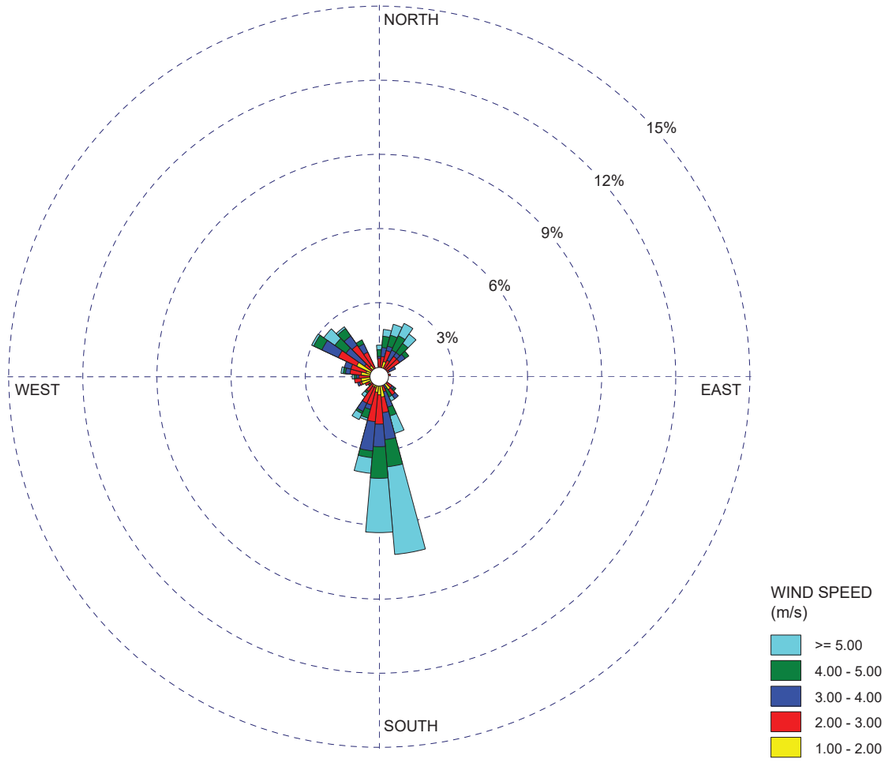
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **41.11%**	TOTAL COUNT: **2189**	
	AVG. WIND SPEED: **0.79 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 08 WINDROSE (8/1/2021 TO 8/1/2024, 0700-0800)

DISPLAY:
Wind Speed
Direction (blowing from)



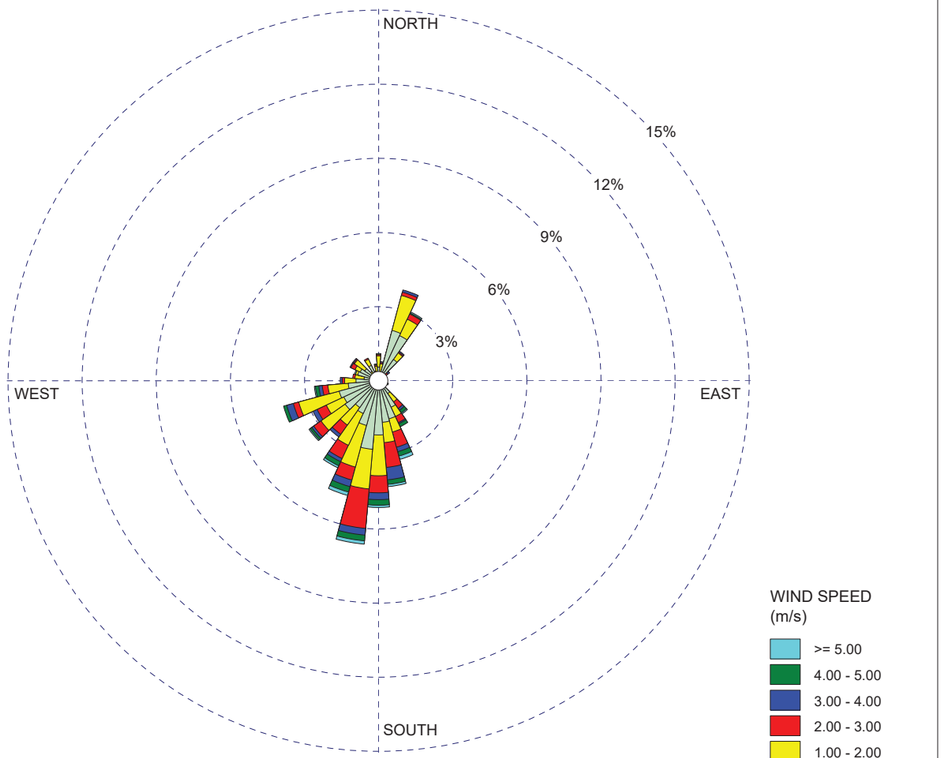
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 08:00** **End Date: 7/31/2024 - 08:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **35.58%**	TOTAL COUNT: **1034 hrs.**	
	AVG. WIND SPEED: **2.24 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 09 WINDROSE (8/1/2021 TO 8/1/2024, 0800-0900)

DISPLAY:
Wind Speed
Direction (blowing from)



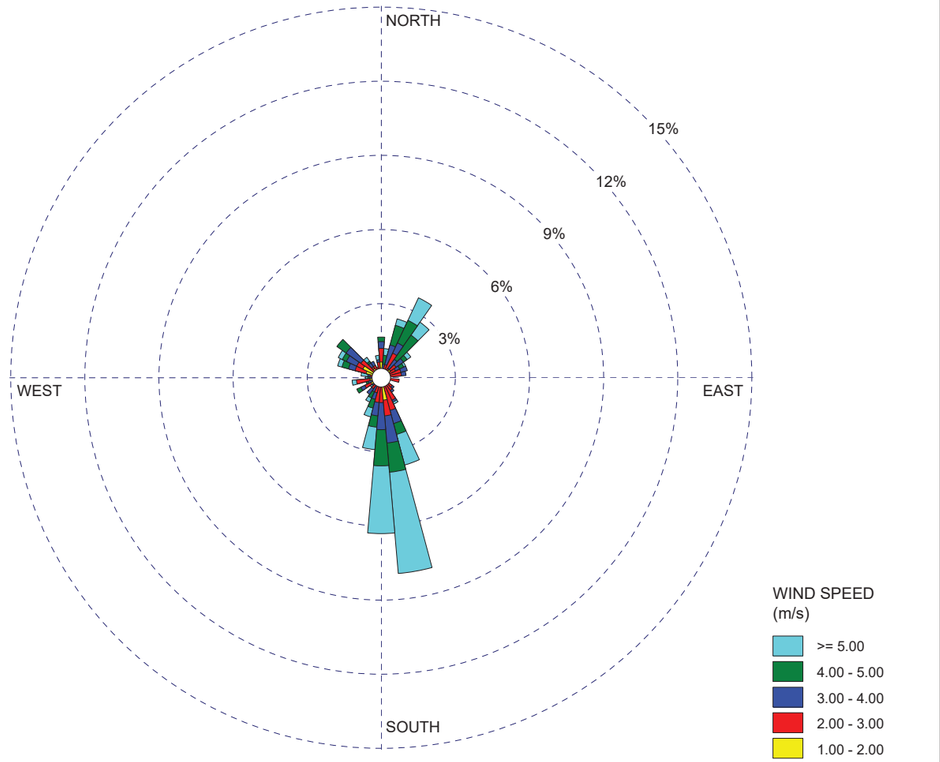
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **30.85%**	TOTAL COUNT: **2187**	
	AVG. WIND SPEED: **0.99 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 09 WINDROSE (8/1/2021 TO 8/1/2024, 0800-0900)

DISPLAY:
Wind Speed
Direction (blowing from)



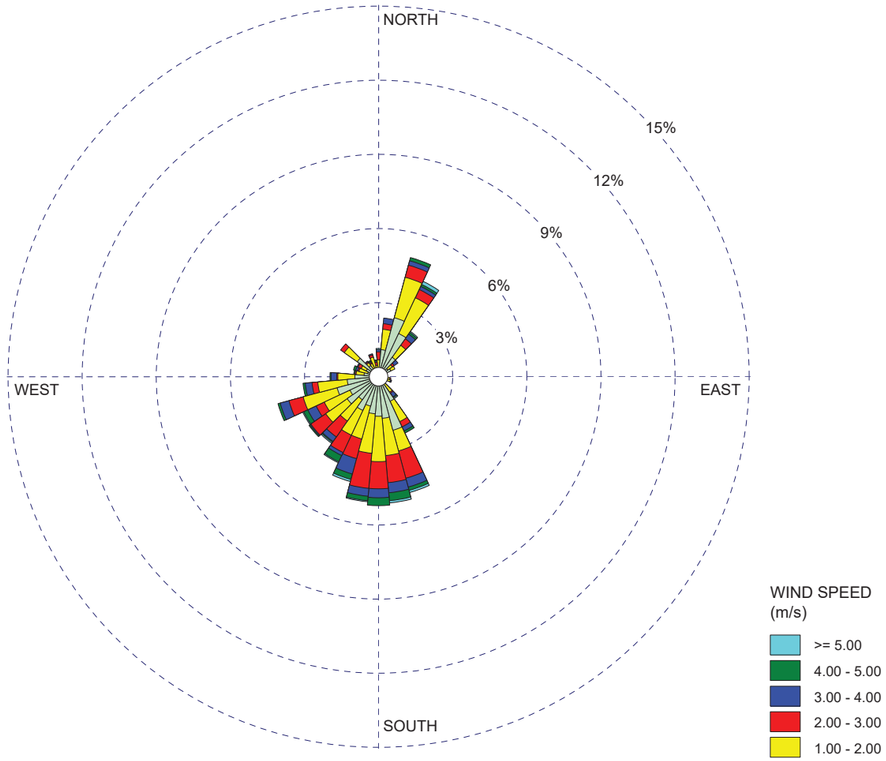
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 09:00** **End Date: 7/31/2024 - 09:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **30.84%**	TOTAL COUNT: **983 hrs.**	
	AVG. WIND SPEED: **2.55 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 10 WINDROSE (8/1/2021 TO 8/1/2024, 0900-1000)

DISPLAY:
Wind Speed
Direction (blowing from)



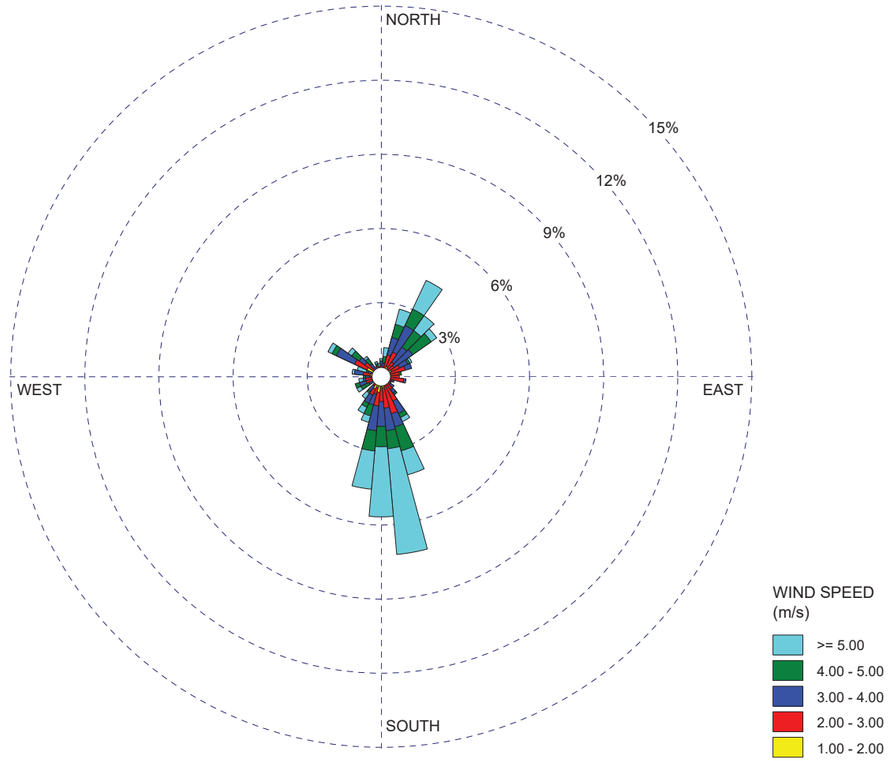
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **21.34%**	TOTAL COUNT: **2186**	
	AVG. WIND SPEED: **1.23 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 10 WINDROSE (8/1/2021 TO 8/1/2024, 0900-1000)

DISPLAY:
Wind Speed
Direction (blowing from)



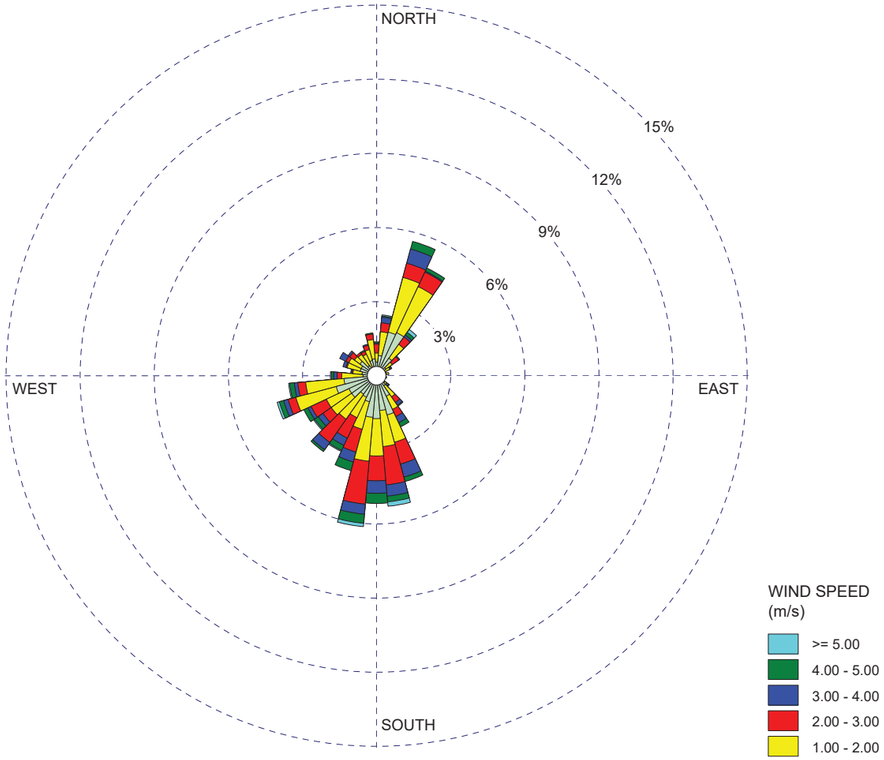
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 10:00** **End Date: 7/31/2024 - 10:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **23.91%**	TOTAL COUNT: **960 hrs.**	
	AVG. WIND SPEED: **2.88 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 11 WINDROSE (8/1/2021 TO 8/1/2024, 1000-1100)

DISPLAY:
Wind Speed
Direction (blowing from)



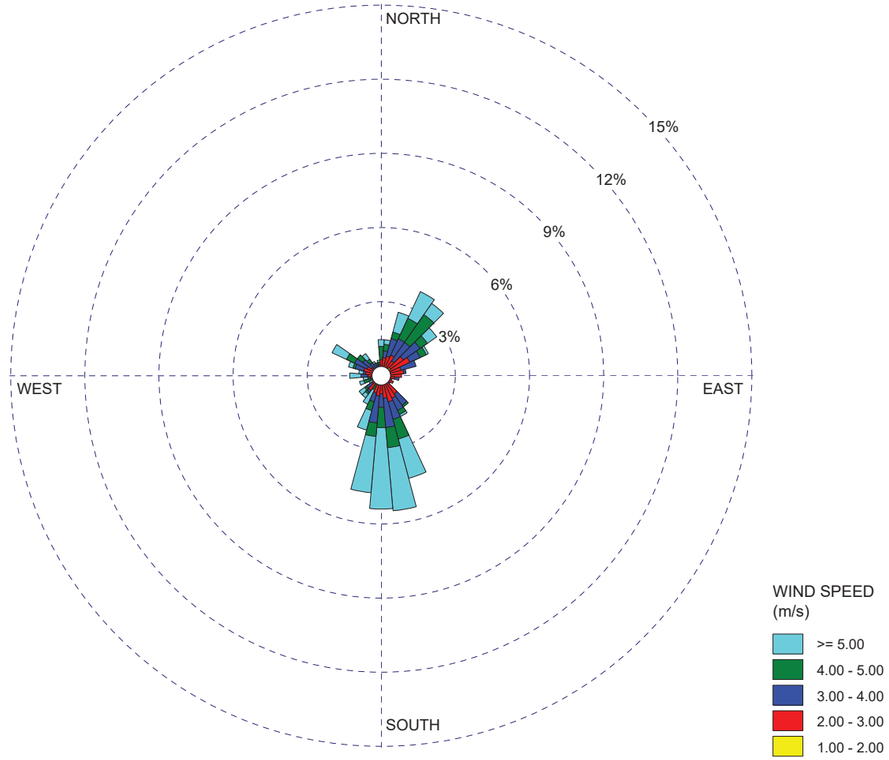
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **16.12%**	TOTAL COUNT: **2185**	
	AVG. WIND SPEED: **1.39 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 11 WINDROSE (8/1/2021 TO 8/1/2024, 1000-1100)

DISPLAY:
Wind Speed
Direction (blowing from)



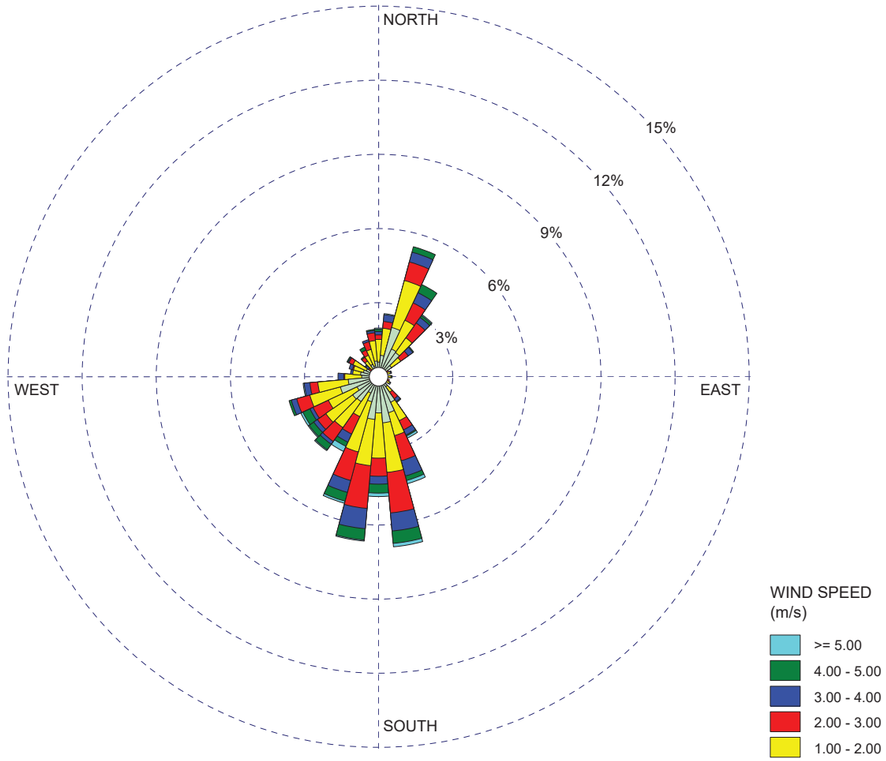
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 11:00** **End Date: 7/31/2024 - 11:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **21.62%**	TOTAL COUNT: **941 hrs.**	
	AVG. WIND SPEED: **3.08 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 12 WINDROSE (8/1/2021 TO 8/1/2024, 1100-1200)

DISPLAY:
Wind Speed
Direction (blowing from)



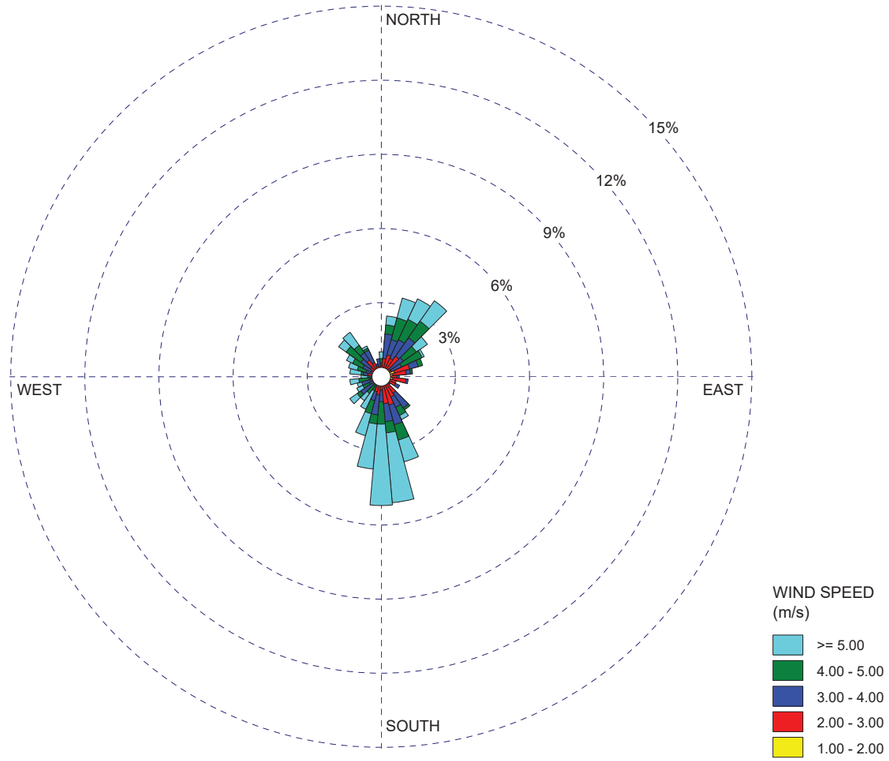
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **12.83%**	TOTAL COUNT: **2188**	
	AVG. WIND SPEED: **1.54 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 12 WINDROSE (8/1/2021 TO 8/1/2024, 1100-1200)

DISPLAY:
Wind Speed
Direction (blowing from)



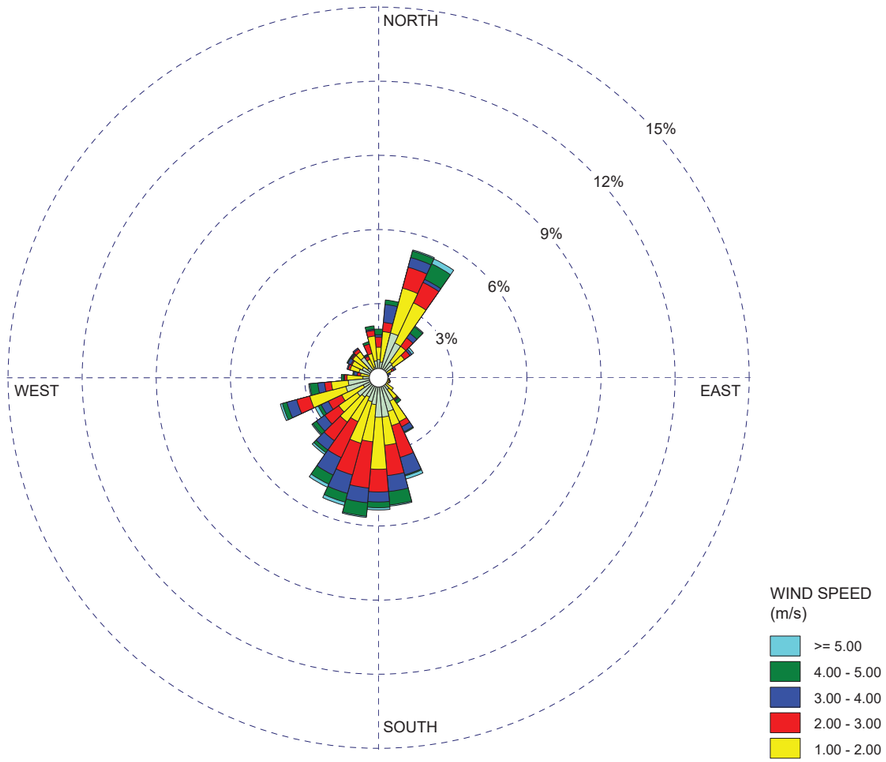
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 12:00** **End Date: 7/31/2024 - 12:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **16.97%**	TOTAL COUNT: **932 hrs.**	
	AVG. WIND SPEED: **3.37 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 13 WINDROSE (8/1/2021 TO 8/1/2024, 1200-1300)

DISPLAY:
Wind Speed
Direction (blowing from)



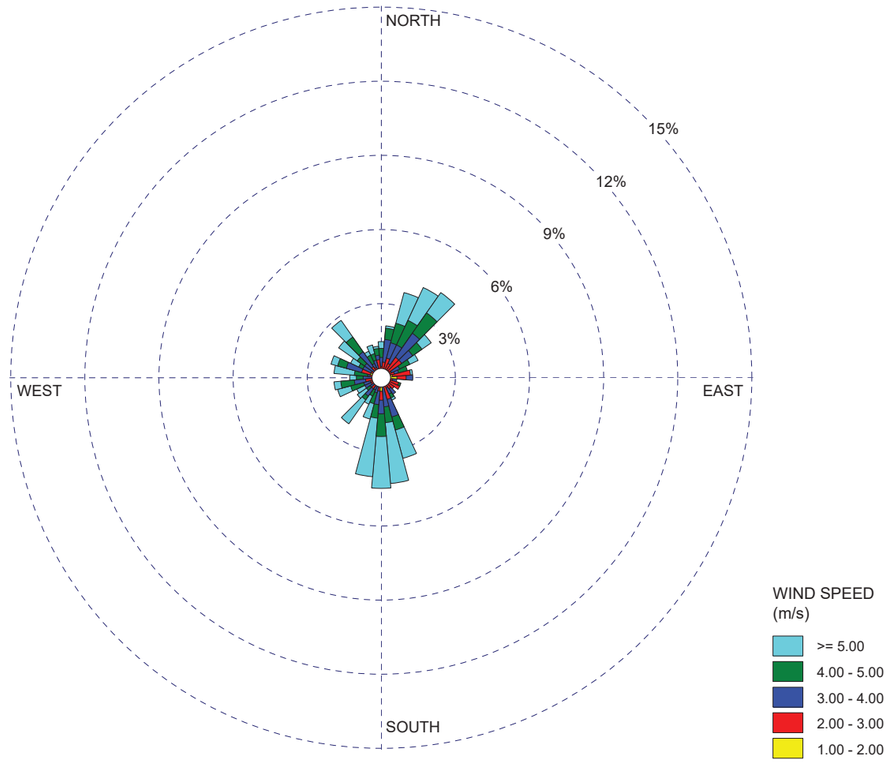
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **11.60%**	TOTAL COUNT: **2188**	
	AVG. WIND SPEED: **1.63 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 13 WINDROSE (8/1/2021 TO 8/1/2024, 1200-1300)

DISPLAY:
Wind Speed
Direction (blowing from)



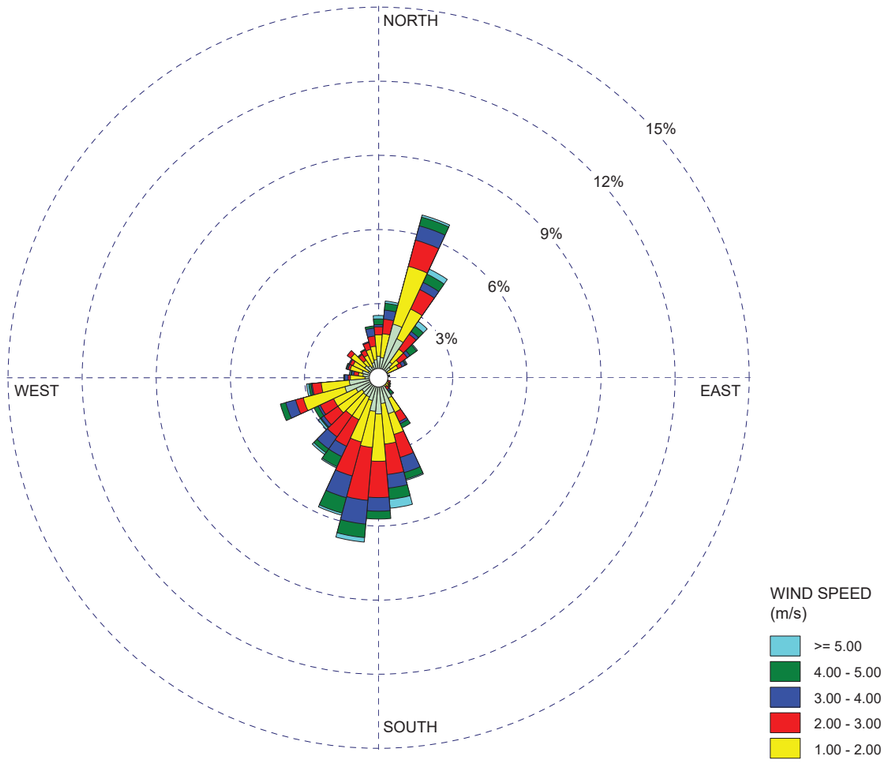
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 13:00** **End Date: 7/31/2024 - 13:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **15.05%**	TOTAL COUNT: **939 hrs.**	
	AVG. WIND SPEED: **3.54 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 14 WINDROSE (8/1/2021 TO 8/1/2024, 1300-1400)

DISPLAY:
Wind Speed
Direction (blowing from)



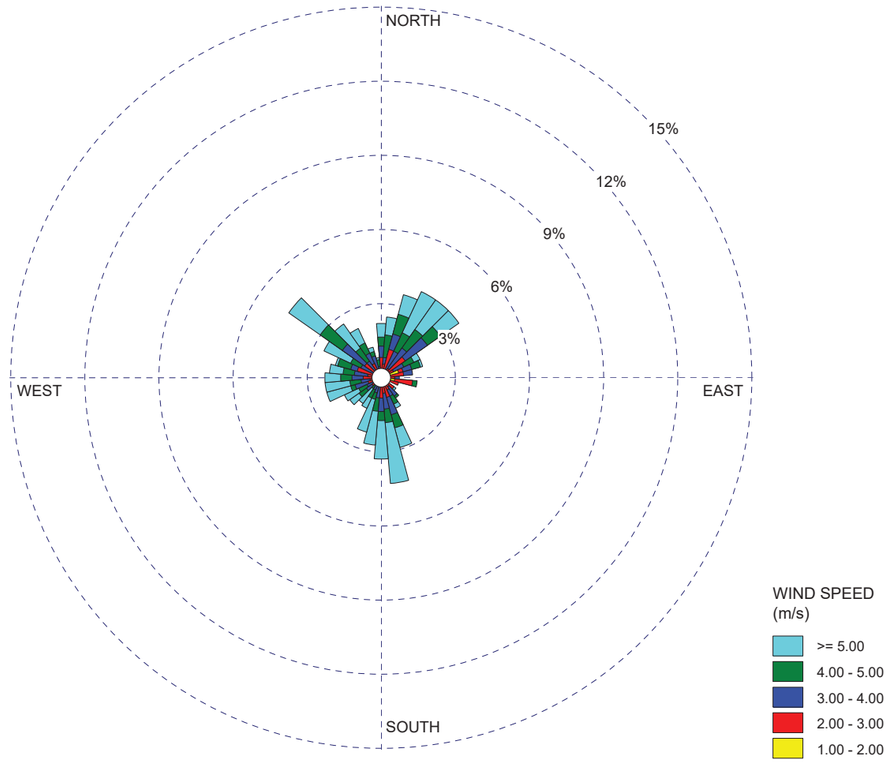
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **9.27%**	TOTAL COUNT: **2189**	
	AVG. WIND SPEED: **1.72 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 14 WINDROSE (8/1/2021 TO 8/1/2024, 1300-1400)

DISPLAY:
Wind Speed
Direction (blowing from)



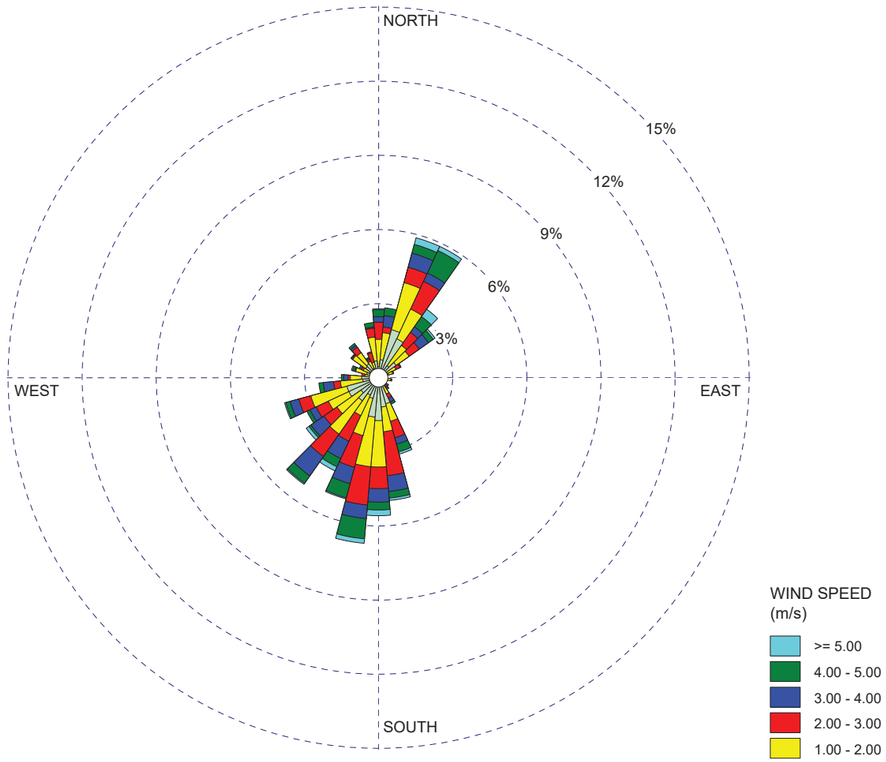
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 14:00** **End Date: 7/31/2024 - 14:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **11.95%**	TOTAL COUNT: **975 hrs.**	
	AVG. WIND SPEED: **3.80 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 15 WINDROSE (8/1/2021 TO 8/1/2024, 1400-1500)

DISPLAY:
Wind Speed
Direction (blowing from)



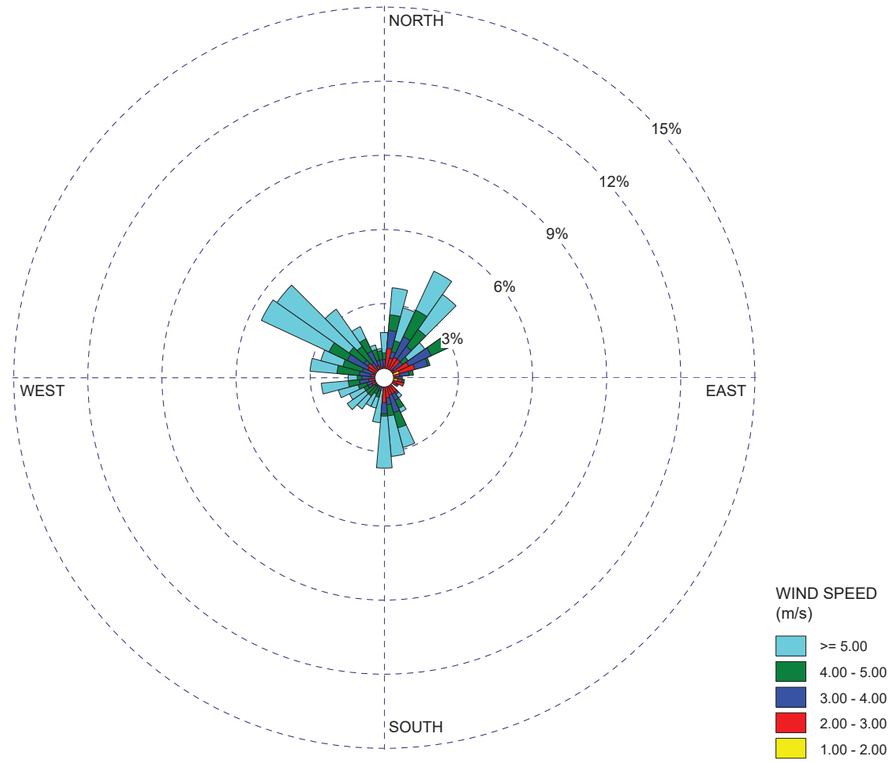
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **11.38%**	TOTAL COUNT: **2189**	
	AVG. WIND SPEED: **1.75 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 15 WINDROSE (8/1/2021 TO 8/1/2024, 1400-1500)

DISPLAY:
Wind Speed
Direction (blowing from)



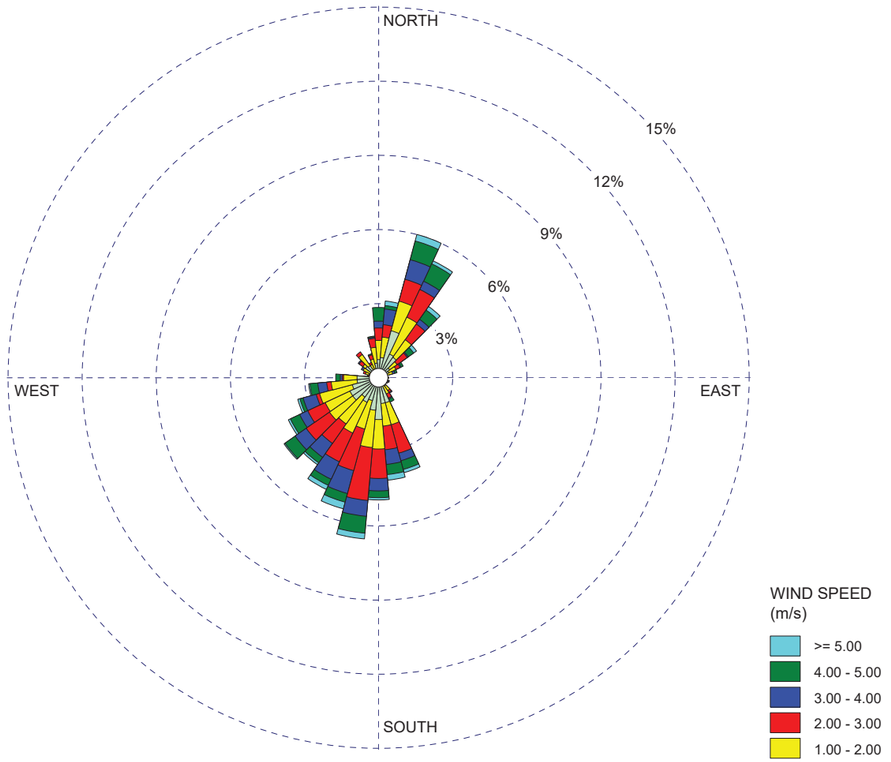
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 15:00** **End Date: 7/31/2024 - 15:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **10.49%**	TOTAL COUNT: **1001 hrs.**	
	AVG. WIND SPEED: **4.02 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 16 WINDROSE (8/1/2021 TO 8/1/2024, 1500-1600)

DISPLAY:
Wind Speed
Direction (blowing from)



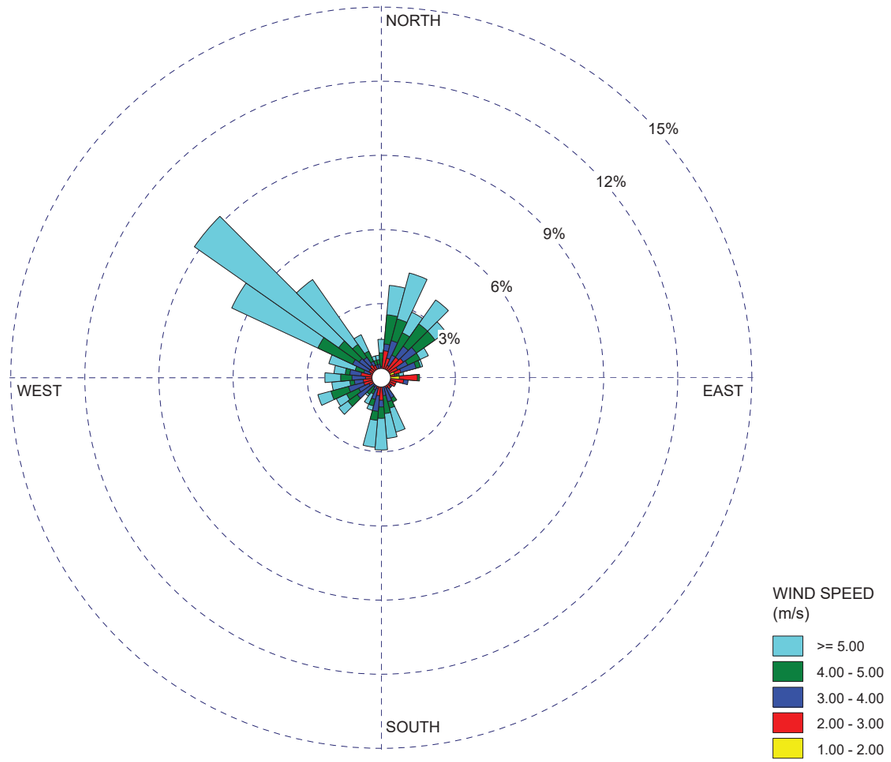
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **13.21%**	TOTAL COUNT: **2188**	
	AVG. WIND SPEED: **1.77 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 16 WINDROSE (8/1/2021 TO 8/1/2024, 1500-1600)

DISPLAY:
Wind Speed
Direction (blowing from)



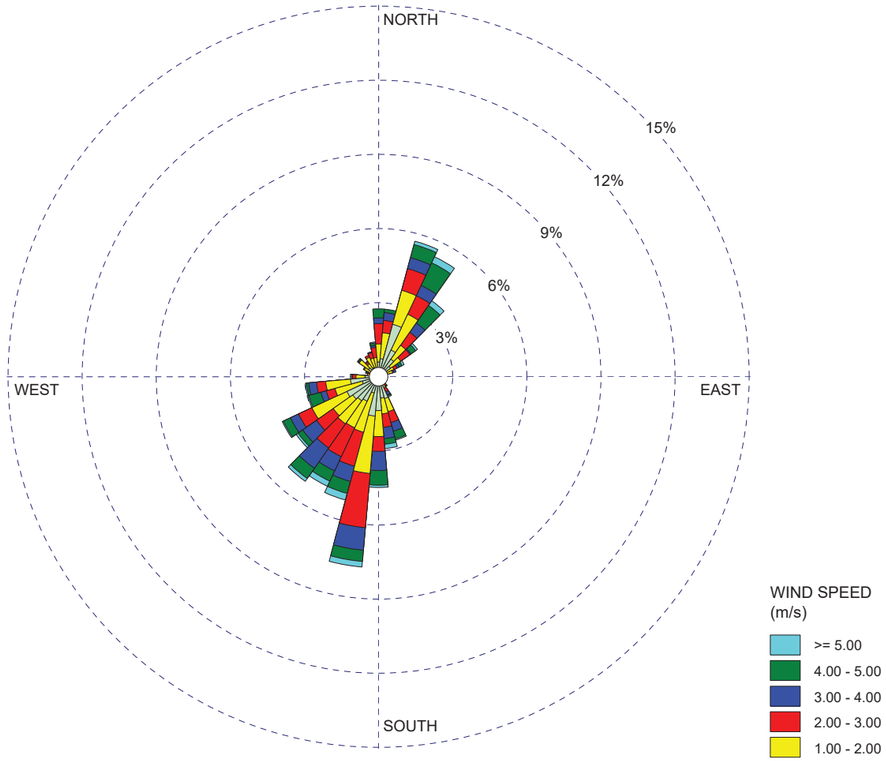
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 16:00** **End Date: 7/31/2024 - 16:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **10.31%**	TOTAL COUNT: **1034 hrs.**	
	AVG. WIND SPEED: **4.11 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 17 WINDROSE (8/1/2021 TO 8/1/2024, 1600-1700)

DISPLAY:
Wind Speed
Direction (blowing from)



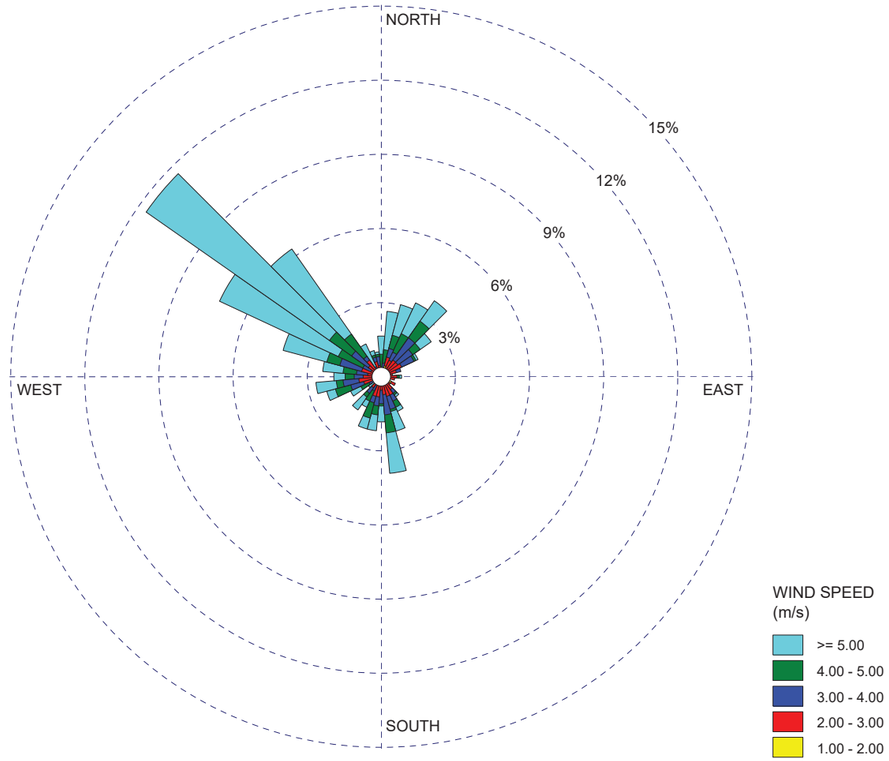
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **17.49%**	TOTAL COUNT: **2190**	
	AVG. WIND SPEED: **1.68 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 17 WINDROSE (8/1/2021 TO 8/1/2024, 1600-1700)

DISPLAY:
Wind Speed
Direction (blowing from)



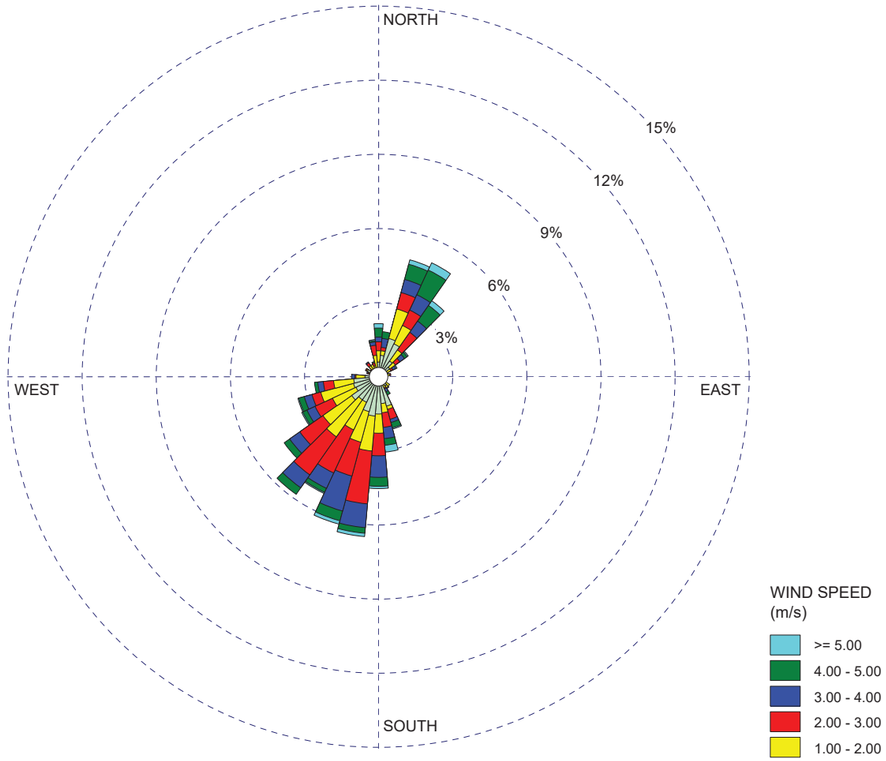
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 17:00** **End Date: 7/31/2024 - 17:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **11.95%**	TOTAL COUNT: **1056 hrs.**	
	AVG. WIND SPEED: **4.20 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 18 WINDROSE (8/1/2021 TO 8/1/2024, 1700-1800)

DISPLAY:
Wind Speed
Direction (blowing from)



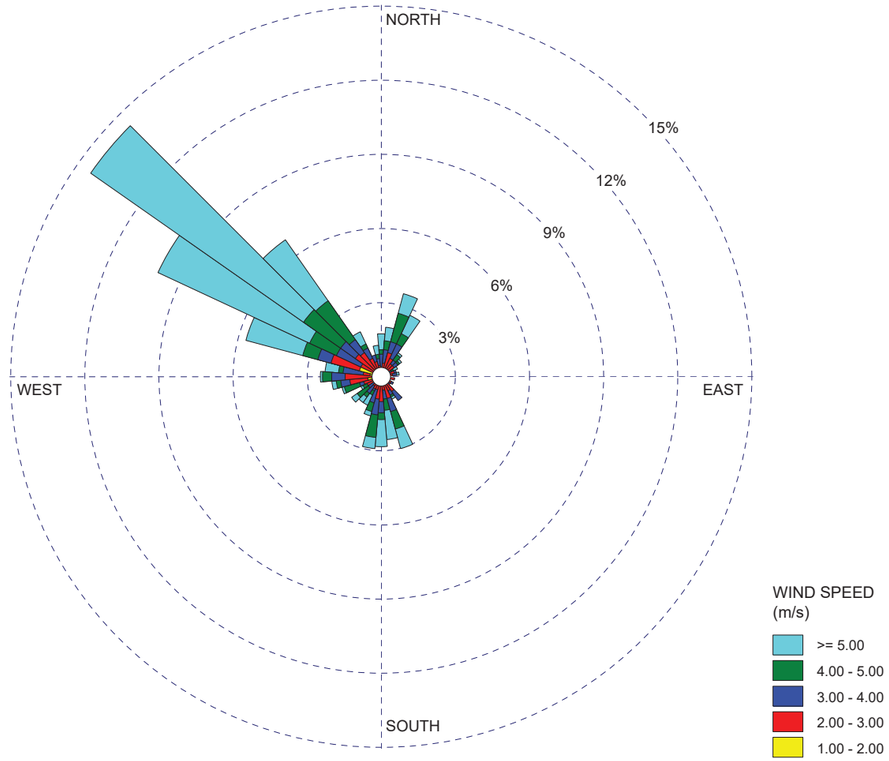
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **22.15%**	TOTAL COUNT: **2190**	
	AVG. WIND SPEED: **1.55 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 18 WINDROSE (8/1/2021 TO 8/1/2024, 1700-1800)

DISPLAY:
Wind Speed
Direction (blowing from)



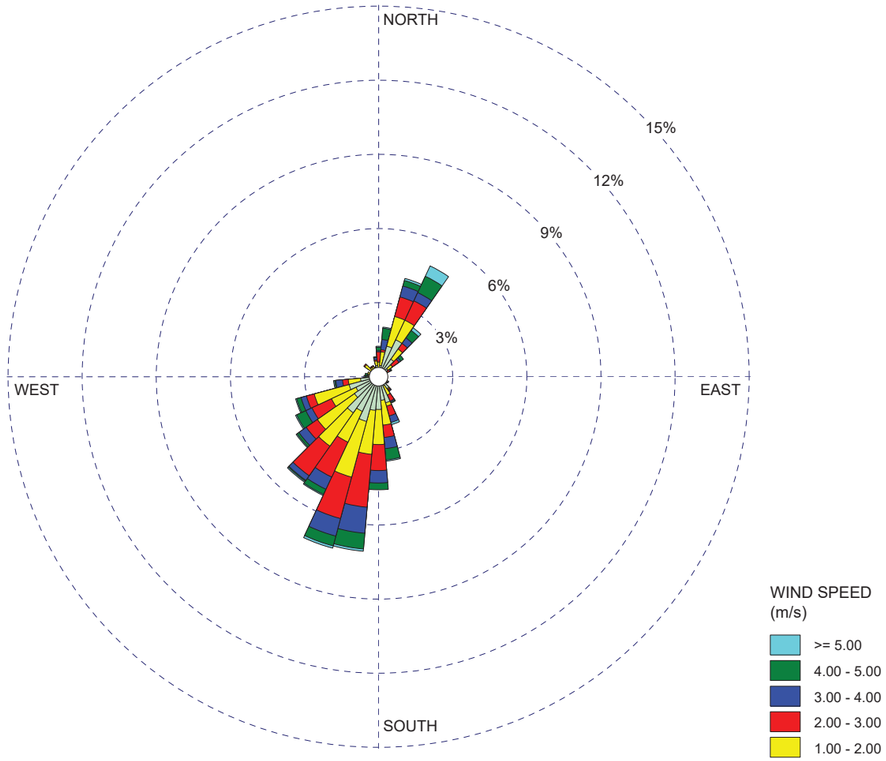
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 18:00** **End Date: 7/31/2024 - 18:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **12.23%**	TOTAL COUNT: **1075 hrs.**	
	AVG. WIND SPEED: **4.02 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 19 WINDROSE (8/1/2021 TO 8/1/2024, 1800-1900)

DISPLAY:
Wind Speed
Direction (blowing from)



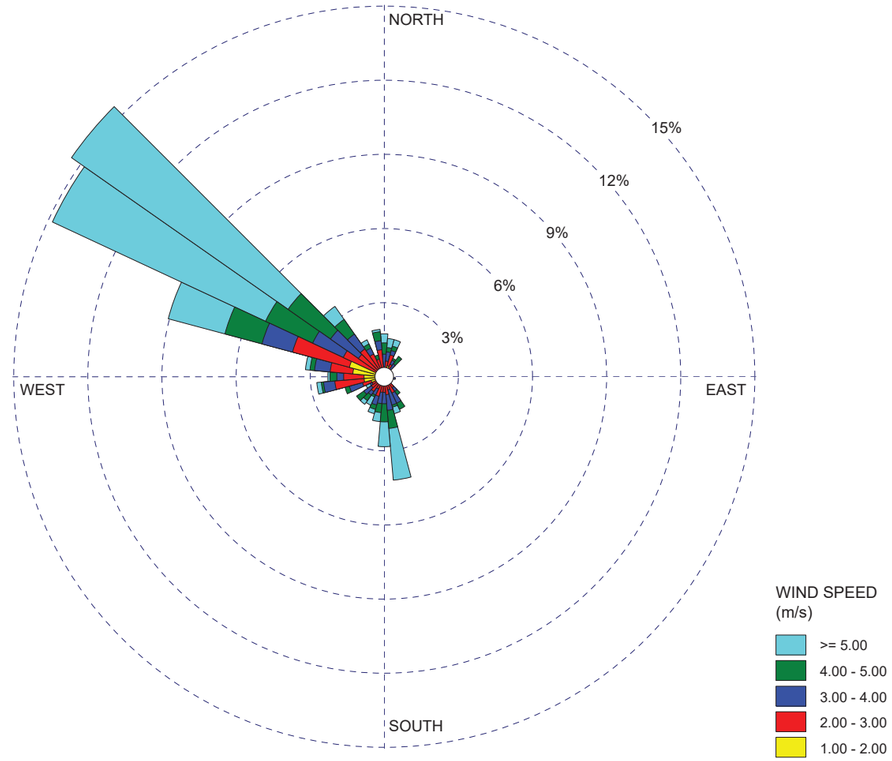
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **26.67%**	TOTAL COUNT: **2190**	
	AVG. WIND SPEED: **1.37 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 19 WINDROSE (8/1/2021 TO 8/1/2024, 1800-1900)

DISPLAY:
Wind Speed
Direction (blowing from)



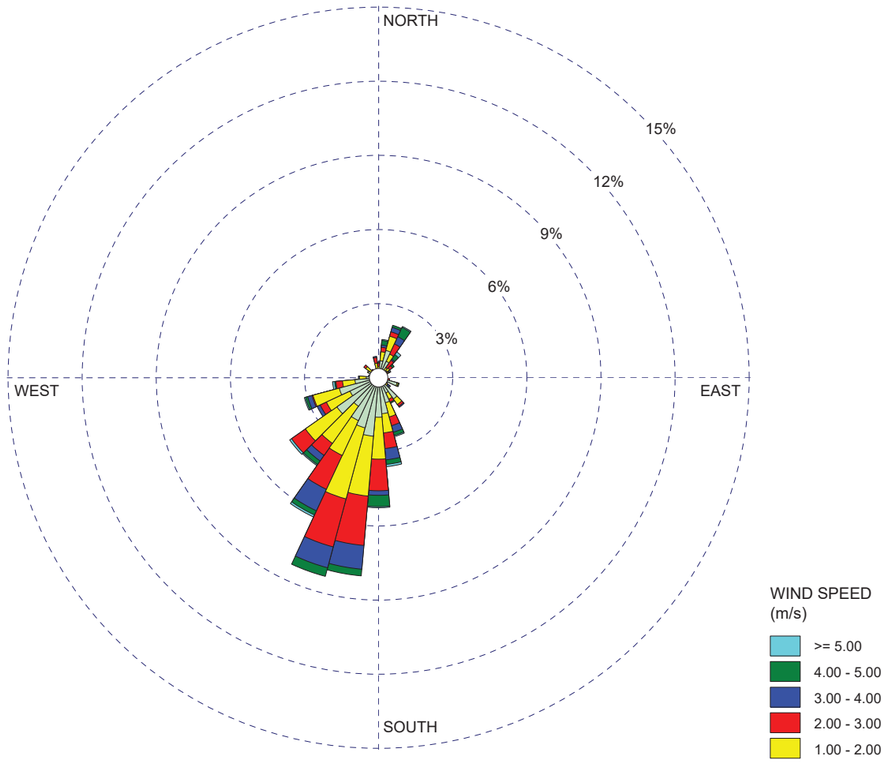
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 19:00** **End Date: 7/31/2024 - 19:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **12.50%**	TOTAL COUNT: **1070 hrs.**	
	AVG. WIND SPEED: **3.83 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 20 WINDROSE (8/1/2021 TO 8/1/2024, 1900-2000)

DISPLAY:
Wind Speed
Direction (blowing from)



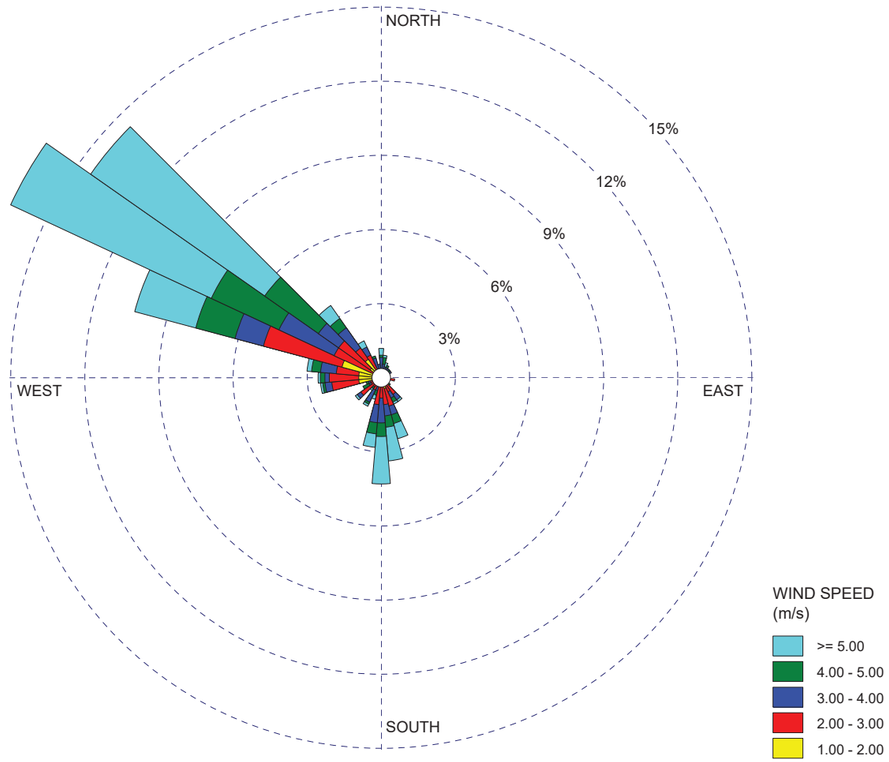
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **30.32%**	TOTAL COUNT: **2190**	
	AVG. WIND SPEED: **1.15 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 20 WINDROSE (8/1/2021 TO 8/1/2024, 1900-2000)

DISPLAY:
Wind Speed
Direction (blowing from)



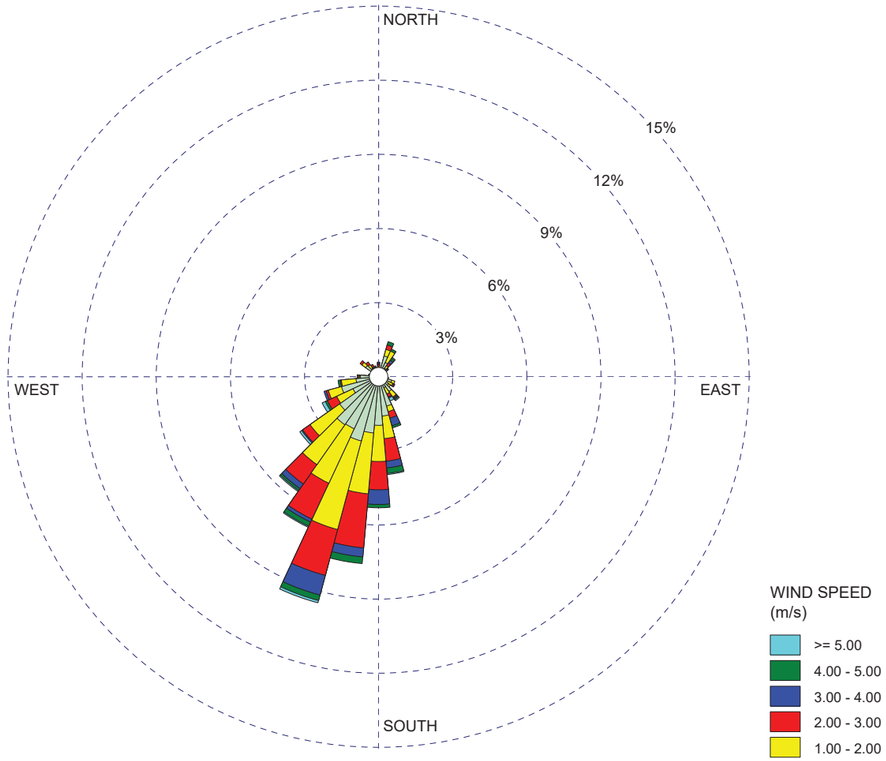
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 20:00** **End Date: 7/31/2024 - 20:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **14.23%**	TOTAL COUNT: **1067 hrs.**	
	AVG. WIND SPEED: **3.63 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 21 WINDROSE (8/1/2021 TO 8/1/2024, 2000-2100)

DISPLAY:
Wind Speed
Direction (blowing from)



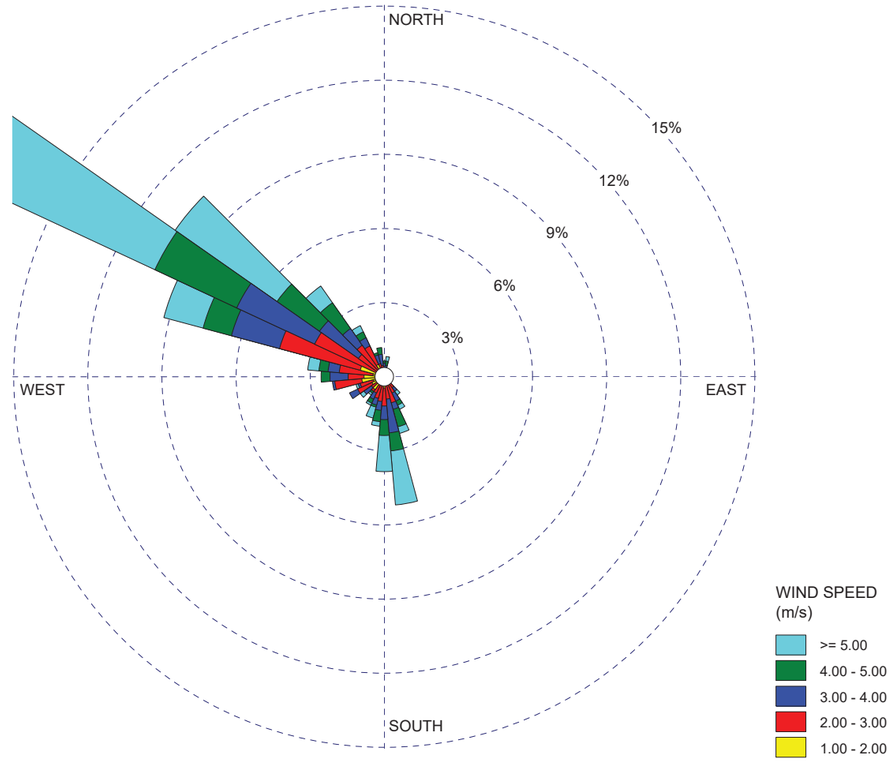
COMMENTS:		COMPANY NAME:	
Onsite (30 minute data)		**SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **33.24%**	TOTAL COUNT: **2190**	
	AVG. WIND SPEED: **0.99 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 21 WINDROSE (8/1/2021 TO 8/1/2024, 2000-2100)

DISPLAY:
Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD:	COMPANY NAME:	
NOAA hourly data (10-degree wind directions)	**Start Date: 8/1/2021 - 21:00** **End Date: 7/31/2024 - 21:00**	**SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **14.60%**	TOTAL COUNT: **1074 hrs.**	
	AVG. WIND SPEED: **3.49 m/s**		PROJECT NO.:

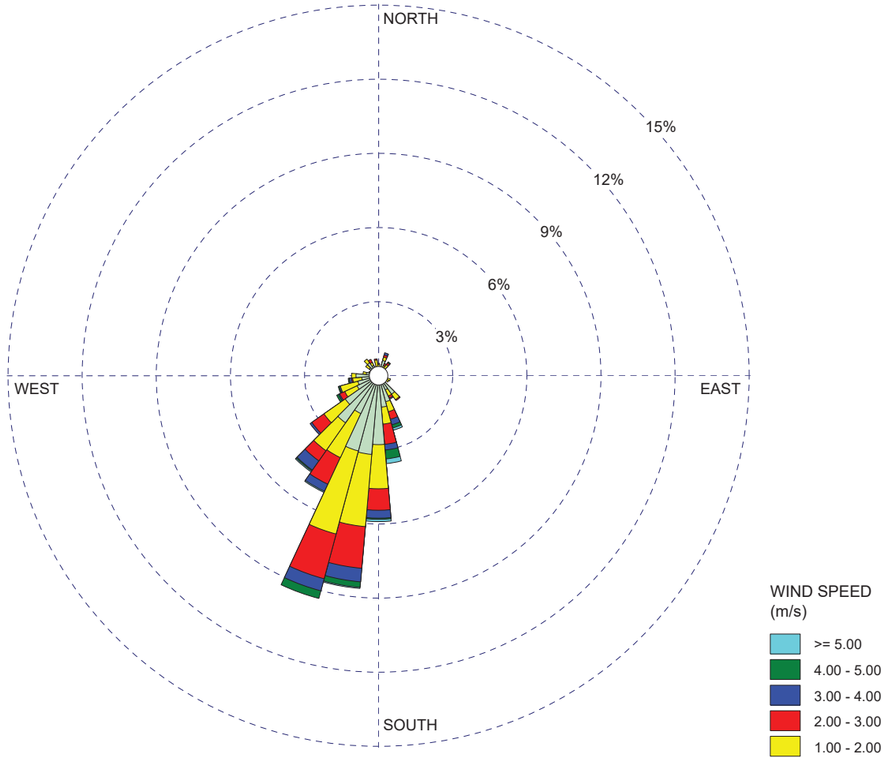
WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 22 WINDROSE (8/1/2021 TO 8/1/2024, 2100-2200)

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **38.54%**	TOTAL COUNT: **2190**	
	AVG. WIND SPEED: **0.88 m/s**		PROJECT NO.:

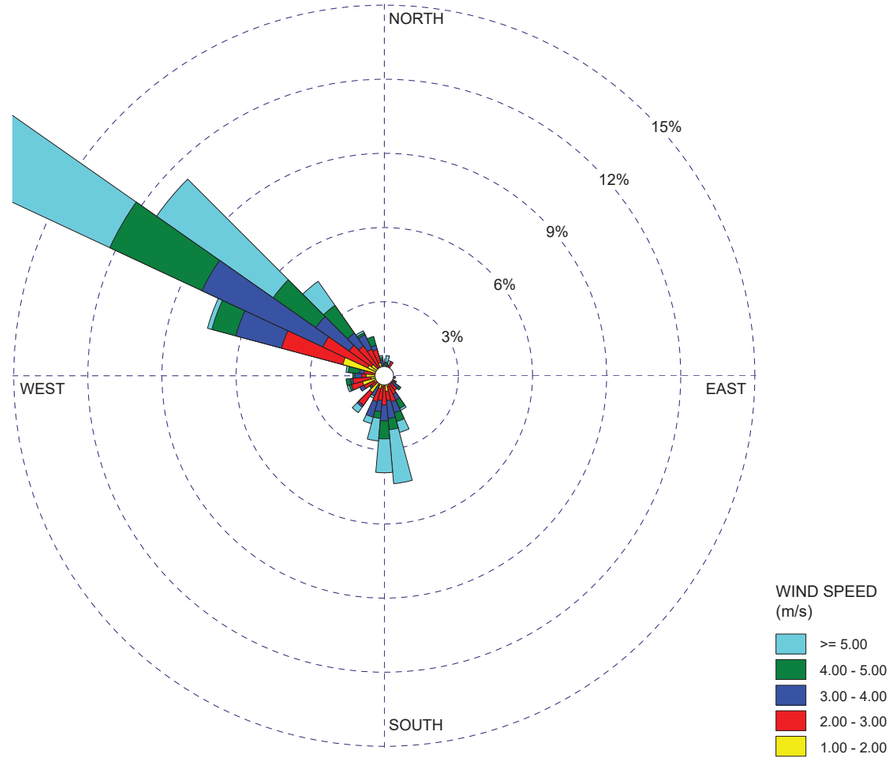
WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 22 WINDROSE (8/1/2021 TO 8/1/2024, 2100-2200)

DISPLAY:

Wind Speed
Direction (blowing from)



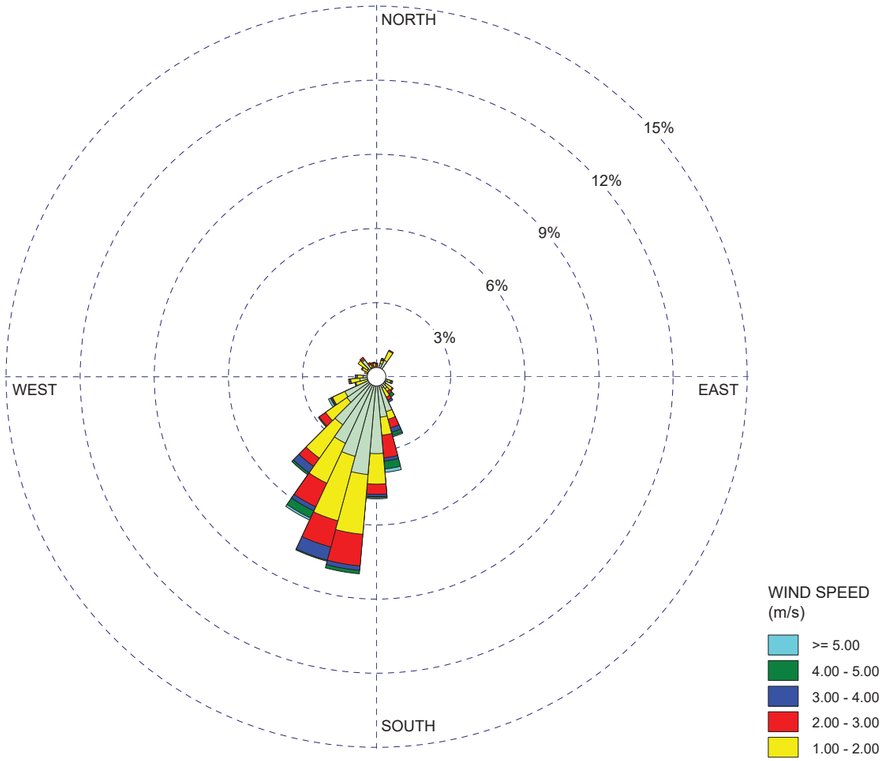
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 22:00** **End Date: 7/31/2024 - 22:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **17.15%**	TOTAL COUNT: **1071 hrs.**	
	AVG. WIND SPEED: **3.32 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 23 WINDROSE (8/1/2021 TO 8/1/2024, 2200-2300)

DISPLAY:
Wind Speed
Direction (blowing from)



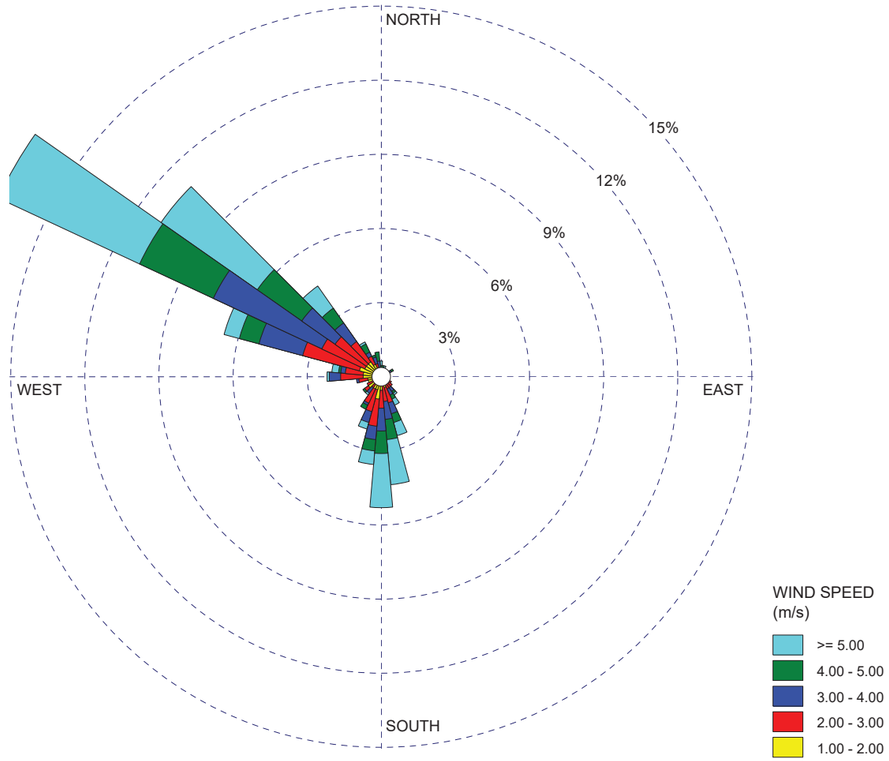
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **40.09%**	TOTAL COUNT: **2190**	
	AVG. WIND SPEED: **0.79 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 23 WINDROSE (8/1/2021 TO 8/1/2024, 2200-2300)

DISPLAY:
Wind Speed
Direction (blowing from)



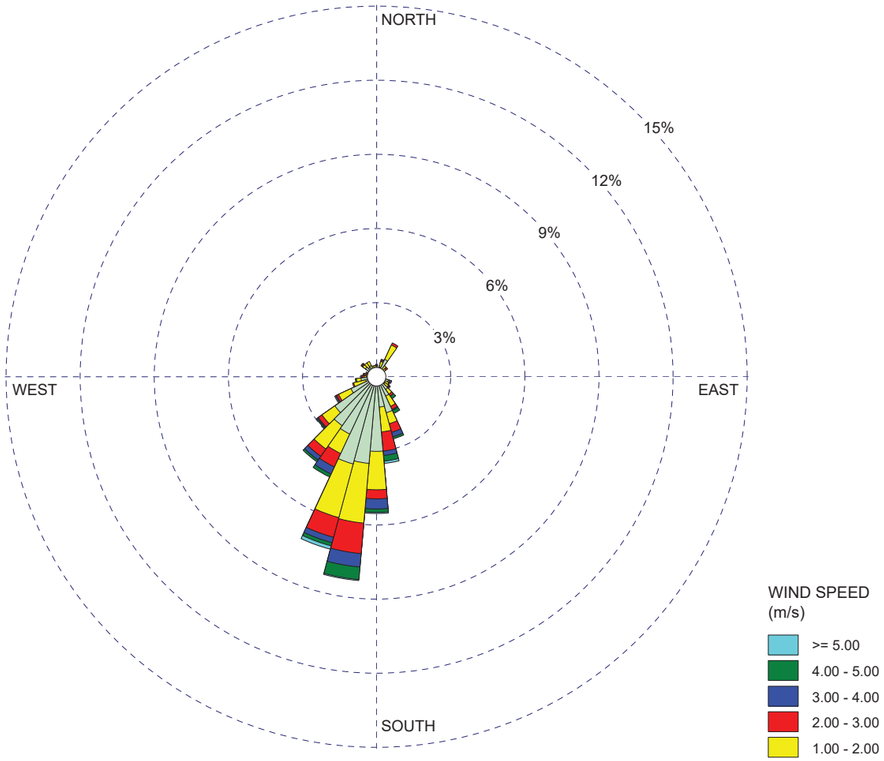
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 23:00** **End Date: 7/31/2024 - 23:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **21.08%**	TOTAL COUNT: **1068 hrs.**	
	AVG. WIND SPEED: **3.06 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 24 WINDROSE (8/1/2021 TO 8/1/2024, 2300-2400)

DISPLAY:
Wind Speed
Direction (blowing from)



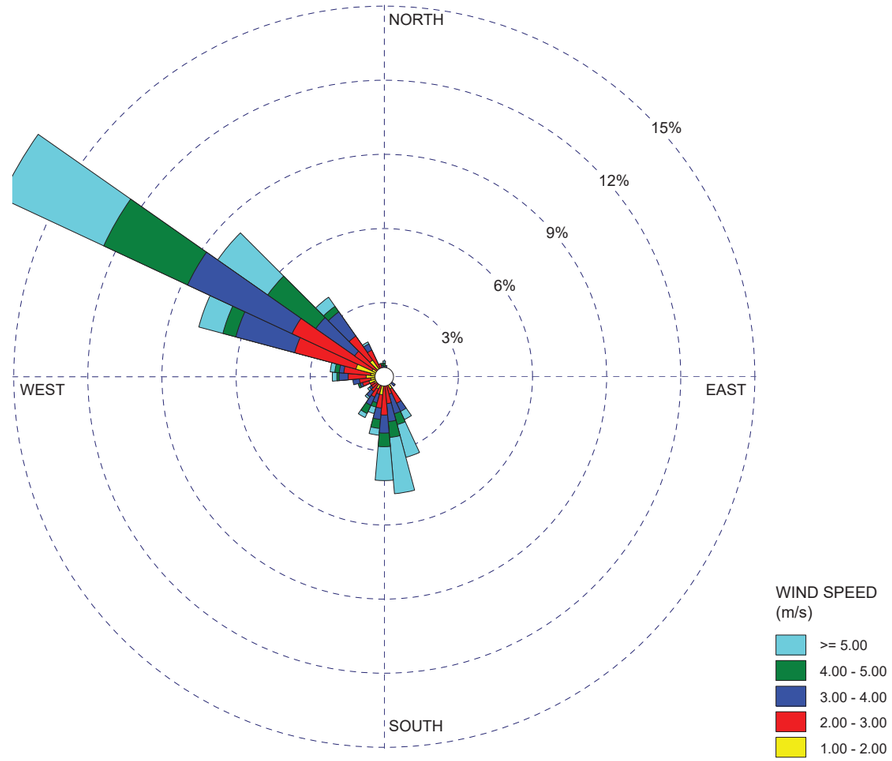
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **42.83%**	TOTAL COUNT: **2190**	
	AVG. WIND SPEED: **0.76 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 24 WINDROSE (8/1/2021 TO 8/1/2024, 2300-2400)

DISPLAY:
Wind Speed
Direction (blowing from)



COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 00:00** **End Date: 7/31/2024 - 23:59**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **23.72%**	TOTAL COUNT: **1058 hrs.**	
	AVG. WIND SPEED: **2.86 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

EXHIBIT 15
TRAFFIC REPORT

TRANSIGHT CONSULTING, LLC
Transportation Engineering and Planning Services

Date:	February 26, 2024
To:	Inga Williams, Benton County
From:	Joe Bessman, PE
Project Reference No.:	1539
Project Name:	Coffin Butte Landfill Expansion

PURPOSE AND SUMMARY

The purpose of this memorandum is to provide a Transportation Impact Analysis for the Coffin Butte Landfill expansion in Benton County. The current landfill cell is projected to reach its capacity within the next four years, requiring that the planning and design of new landfill cells begin to continue to support landfill services for Linn, Benton, Lincoln, Polk, and Marion County areas.

In summary, the current Republic Services plan is to expand the landfill into lands designated by Benton County as "Landfill Site" (LS) that are located south of Coffin Butte Road. The landfill expansion area will include a new outbound scale, and widening of Coffin Butte Road is proposed to a three-lane Major Collector section between the existing landfill entrance and the expansion site to better support left-turns outside of the travel way.

The application proposes improvements to Coffin Butte Road. This plan will maintain area ingress and egress and continue to support the functional role of area transportation facilities. Key transportation findings of the current plan are as follows:

- There are no changes in area travel patterns with this revised configuration. Access to the landfill will continue to be provided from Coffin Butte Road, and Coffin Butte Road will remain open as a Benton County *Major Collector* and *Freight Route*.
- The widening of Coffin Butte Road to a three-lane section with improved shoulder/bicycle lanes will separate impacts to through travelers on Coffin Butte Road during the construction period and during the ensuing operation of the landfill.
- This plan creates no changes to emergency ingress and egress routes to the area.
- This plan creates no impacts to Tampico Road, thereby avoiding any need to improve this streetscape or otherwise modify the roadway character.
- This plan does not impact area cyclists. The widening of shoulders along the impacted portion of Coffin Butte Road to provide standard bicycle lanes is an improvement from the current condition and will bring the section into compliance with Benton County standards.
- This plan does not impact the adopted Transportation System Plan or require any changes to the functional classification or performance standards of surrounding streets.

The use of this new landfill area will provide time for Knife River to complete their ongoing processing of the rock resource within their current location, ultimately allowing the current quarry area to be used as a future landfill site.

PROJECT DESCRIPTION

The Coffin Butte Landfill is located west of Highway 99W near Adair Village, located between the cities of Corvallis and Independence. The current site is co-located with Knife River's quarrying operation. The overall site includes 740 acres, with over 500 acres dedicated to preservation and non-landfill uses. This landfill has been in operation for over 40 years at its current location, with this new phase necessary to continue to support the area population. The location of the site is provided in Figure 1 for context.

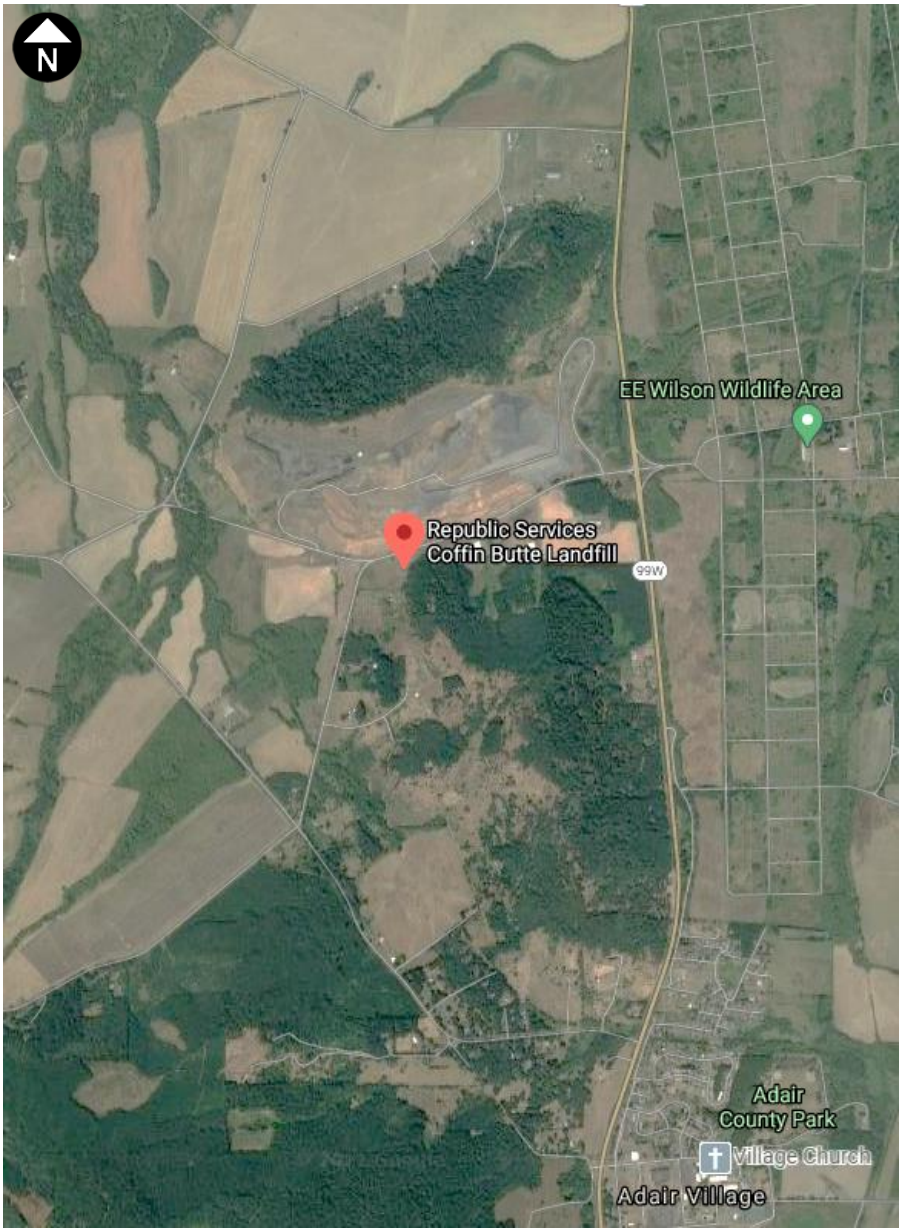


Figure 1. Site vicinity map. *Image source: maps.google.com.*

The expansion will encompass lands that are south of the current landfill location on the south side of Coffin Butte Road. Private passenger vehicles using the landfill will continue to use the scales and services on the north side of Coffin Butte Road, with these consolidated materials then hauled by commercial truck to the expansion site for disposal. Commercial account users will also be required to use the current scales

to weigh in, then will be directed to the expansion area to dispose of materials. These private and commercial vehicles will use a new outbound scale near the expansion site exit, will pay the appropriate fees, and will then exit onto Coffin Butte Road. Figure 2 illustrates the layout of the revised landfill for context.

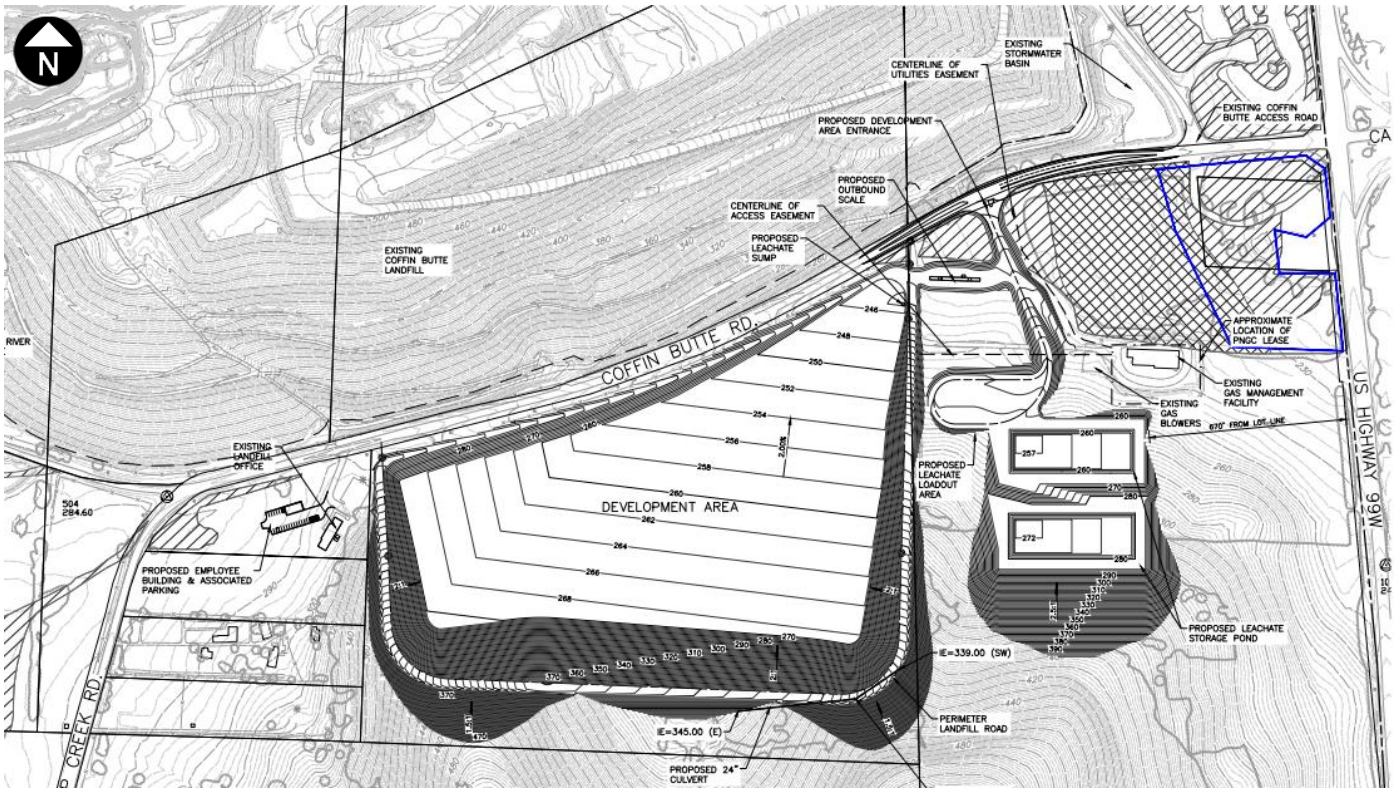


Figure 2. Preliminary Coffin Butte Landfill Development Plan.

This expansion area is intended to provide approximately six years of landfill capacity, allowing the established Coffin Butte site to function beyond the approximately 2026 lifespan of the current cells. When the new footprint is filled, landfill operations will then shift back to the north side of Coffin Butte Road within the current Knife River quarry location.

As a result of retaining the scales on the north side of Coffin Butte Road for the expansion there will be internal trips between the north and south sides of Coffin Butte Road. With the southern access serving commercial truck traffic a westbound left-turn lane has been proposed to avoid impacts to through travel on Coffin Butte Road. This preliminary turn lane design includes about 250 feet of queue storage, which can support up to four semitrucks at once (more than an 85th percentile queue). This extensive design provides a very high level of confidence that the storage will be adequate to avoid congestion along this low-volume section of Coffin Butte Road, though this design may be further refined as the civil plans progress.

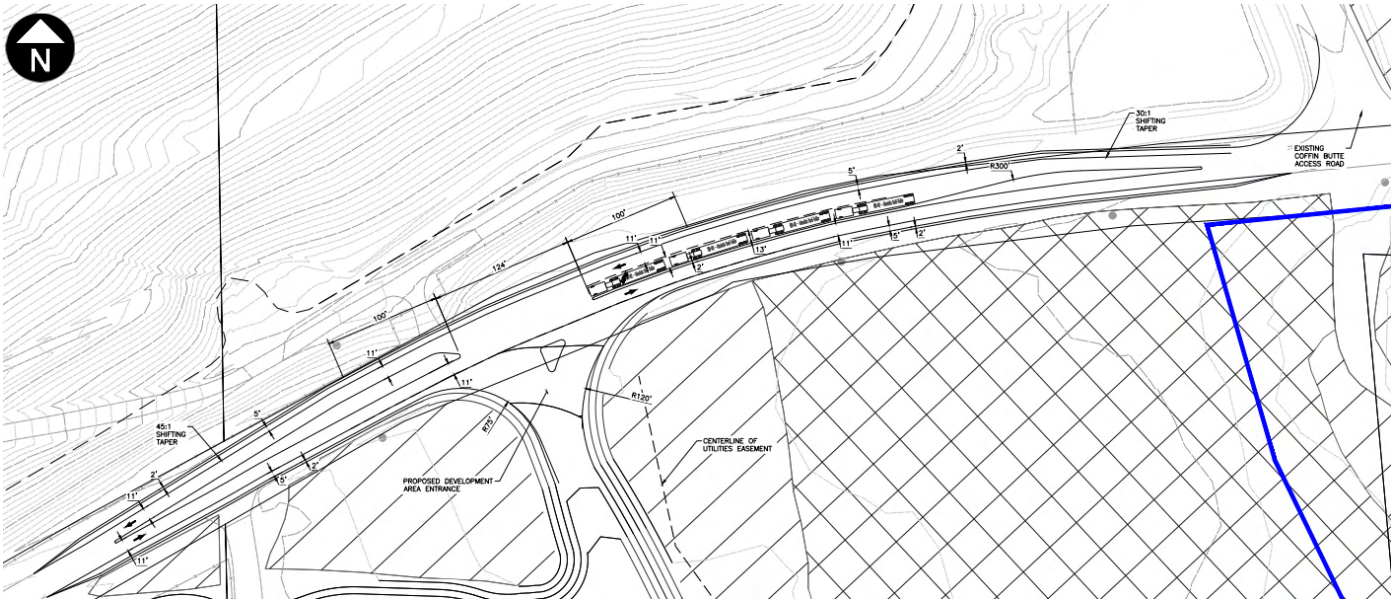


Figure 3. Preliminary Coffin Butte Road landfill expansion area entrance left-turn lane design.

SURROUNDING ROADWAY CHARACTERISTICS

Figure 4 illustrates the functional classification of the surrounding roadways as described within the Benton County Transportation System Plan. This plan shows that Tampico Road is classified as a *Major Collector,* Camp Adair Road east of Highway 99W is a *Minor Arterial,* and Highway 99W is classified as a *Principal Arterial*. Coffin Butte Road west of its intersection with Soap Creek Road and extending west to Wiles Road is a private road. Area roads are generally narrow two-lane roads with limited shoulders, with rural posted or statutory speeds between 45 and 55 miles per hour.

The new landfill entrance will be designed as a private road with wide turning radii capable of supporting large trucks, similar to the current entrance north of Coffin Butte Road. The entrance road will be paved, avoiding rock or debris from being pulled onto Coffin Butte Road.

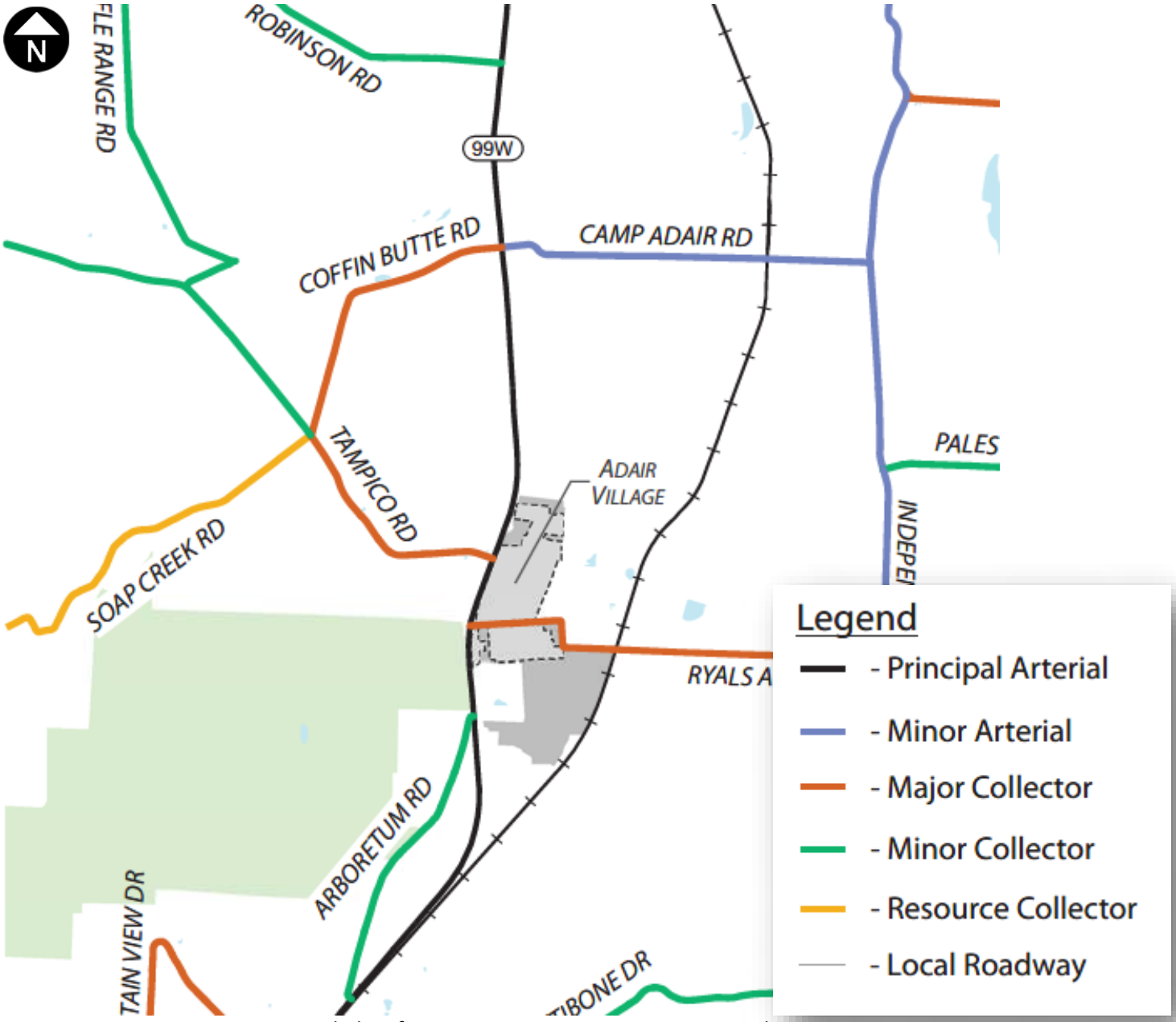


Figure 4. Benton County Functional Classification Map, Transportation System Plan

In January 2021 Benton County staff collected vehicular volume and classification data on Coffin Butte Road near its intersection with Soap Creek Road to assess the volume of trips and number of trucks per day near this section of Coffin Butte Road. The counts showed that traffic volumes were fairly consistent throughout the weekdays, with weekend volumes near the quarry about half of those reported on weekdays. The weekday volumes on Coffin Butte Road west of the landfill served about 243 average daily trips, with nearly 1/3 of these trips associated with trucks. This volume of trips equates to about one vehicle every two or three minutes during the peak hour of the day (see Figure 5).

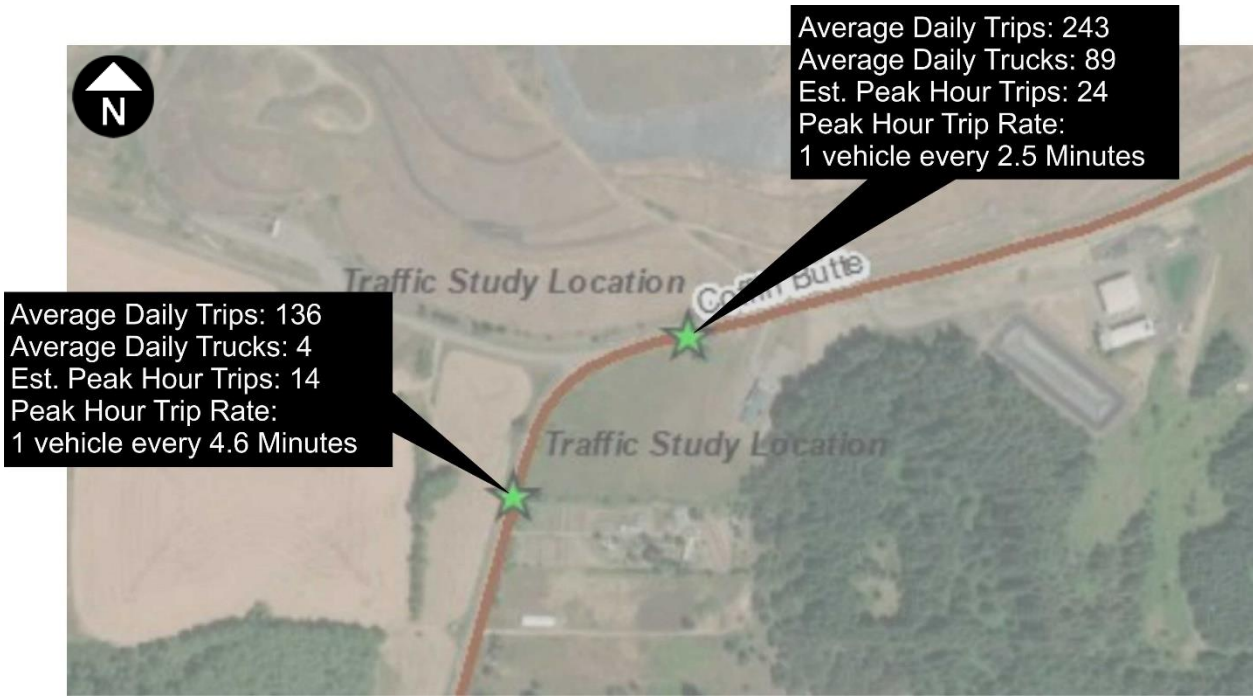


Figure 5. Summary of January 20, 2021 Traffic Study prepared by Benton County.

To confirm these County-provided traffic counts, a series of traffic counts were collected in mid-March 2021 throughout the study area. These traffic counts reflect peak commute period conditions during the 4:00 to 6:00 p.m. period, and are not intended to reflect the peak hour of the landfill or quarry operations but rather the most critical time period to access the Highway 99W system. This assessment is consistent with the time period assessed within Benton County's regional plans. Figure 6 illustrates the count locations and peak hour traffic volumes measured.

The counts show that during the peak evening commute hour the highway traffic is heavily biased in the northbound direction. The traffic counts show about 8 eastbound trips and 5 westbound trips within the section of Coffin Butte Road near the new access, which is a very low volume of conflicting traffic.

A third set of traffic counts was collected in January 2022 to again confirm travel patterns post-COVID pandemic and to assess a broader time period that is more reflective of peak quarry and landfill operations. This set of traffic counts again confirmed the very low traffic volumes throughout this area. During the peak hour on Coffin Butte Road (about 2:00 to 3:00 p.m.) this showed 16 westbound vehicles and 19 eastbound vehicles that would travel along Coffin Butte Road during this peak hour where the new access is located. Again, this is a very low volume of traffic that will not present any capacity-related needs, particularly with the separated westbound left-turn lane. These volumes, showing the individual peak hour throughout the system, are shown in Figure 7.

A fourth set of traffic counts was collected on September 19, 2023 at the NW Soap Creek Road/Coffin Butte Road and OR 99W/Coffin Butte Road intersections as well as at the existing landfill access on Coffin Butte Road and the Knife River Quarry access. These counts were conducted from 2:00 to 6:00 p.m. and showed similar traffic trends as the previous counts with volumes on the highway being predominantly in the northbound direction during the weekday p.m. peak hour. Coffin Butte Road continued to carry a relatively low volume of traffic outside of the vehicles heading to and from the existing landfill site. These volumes are shown in Figure 8. Comparison of the counts shows relatively stable conditions, with the 2023 traffic counts slightly higher based on the increased Knife River activity within the quarry site.

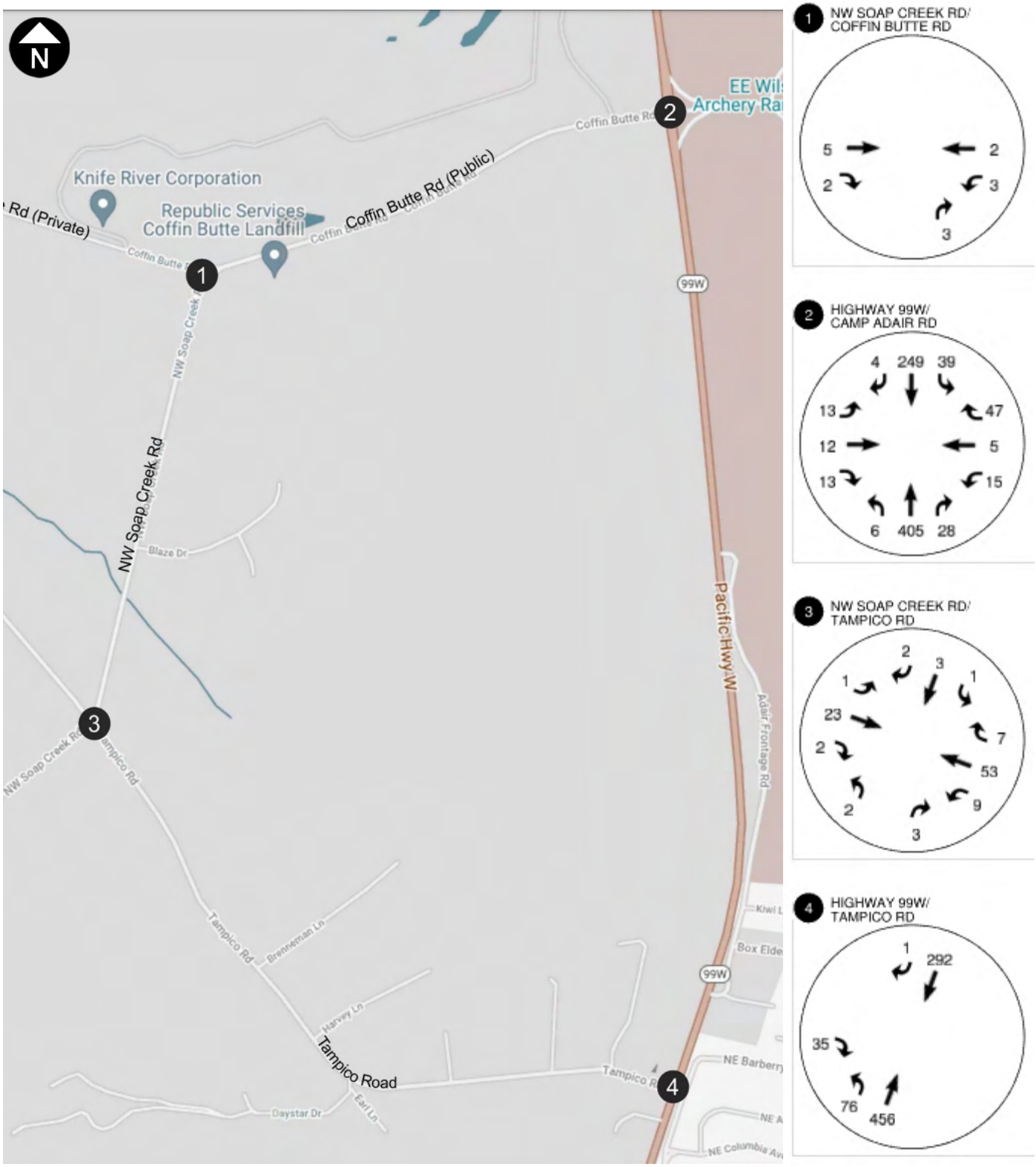
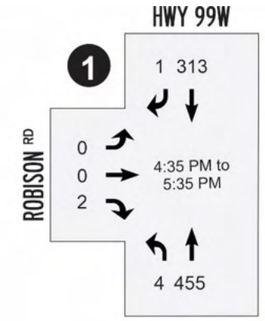
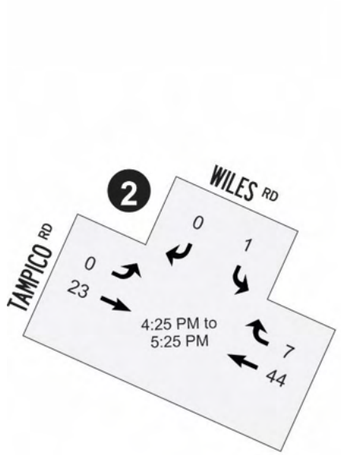
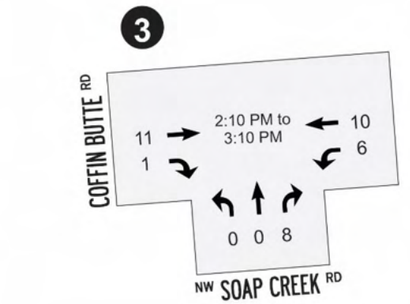
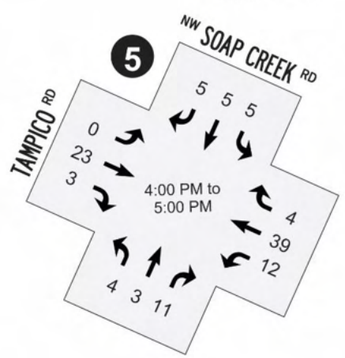


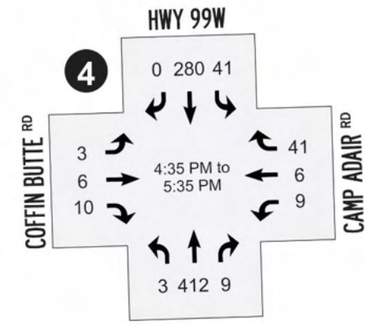
Figure 6. Peak evening commute hour traffic volumes. (Unadjusted mid-March 2021 traffic volumes)











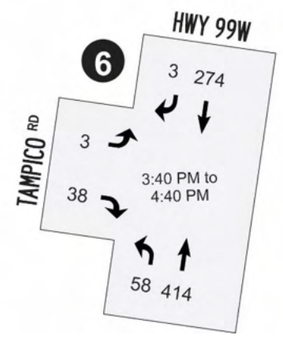


Figure 7. Individual Peak Hour Traffic Counts, counts collected in mid-January 2022.

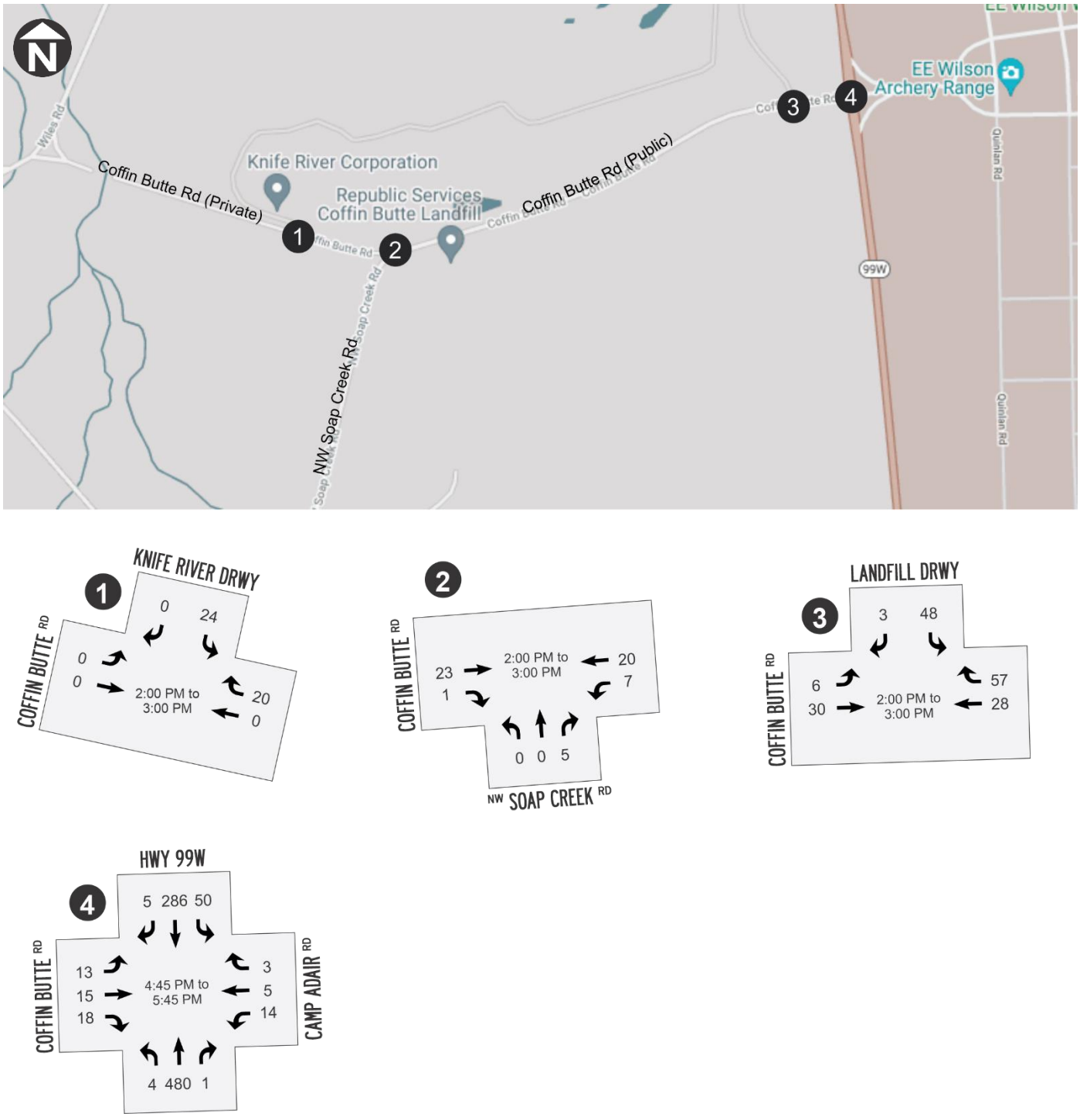


Figure 8. September 2023 Traffic Volumes (note that the peak highway volumes reflect a later peak hour than off-highway counts)

TRIP GENERATION ESTIMATES

Trip generation estimates are typically used to identify the impact of new development. Per County Code, the standard methodology for estimating trip generation is to consult the most current edition of the Institute of Transportation Engineers' (ITE) standard reference *Trip Generation, 11th Edition.* This manual offers a compilation of trip studies organized into specific categories based on use type. Unfortunately, the manual does not contain a category associated with landfill uses. The ITE manual typically correlates trip rates based upon a physical metric such as trips per square-foot, trips per number of students, or trips per employee. For a landfill, trip generation is not expected to correlate directly to the size of the facility itself, but rather to the population of the service area, tonnage of the facility, or potentially to the range of services provided. There are no changes proposed to the types of services provided, and so trip rates are expected to fluctuate only based on the population of the areas served.

Four other studies of transfer and recycling facilities were located online and reviewed to better understand the scale of these impacts. These facilities contain different characteristics than the Coffin Butte site and were located in larger urban areas, but provide useful information on facility characteristics and profiles that are expected to be similar to those of the Coffin Butte site. A summary of each of the studies reviewed is provided below:

- Cedar Hills Regional Landfill (HDR, 2010): This study provides limited information on the actual project as it did not include the overall report (only the transportation chapter), but provides useful time of day profiles for commercial (not self) haulers.
- Twin Creeks Landfill (HDR, 2016): This study assessed an increase from 750,000 tons per year to a maximum of 1,400,000 tons per year on the nearby system. This study showed a truck increase only, with +6 PM peak hour trucks given the dispersion of trucks throughout the day.
- Forward Landfill (Republic ITS, 2012): This study reflected post-recession traffic increases from the then-current level of 212 truckloads to its approved 620 truckloads per day (567-acre expansion to 751 acres). This study showed a +28 PM trip increase (3.3% of daily total).
- Factoria Recycling and Transfer Station (HDR, 2010). This study assessed a new facility that would support 600 tons per day by 2014. The study showed that it would generate a total of 57 trucks during the evening commute hour, generating a total of 114 p.m. inbound and outbound weekday p.m. peak hour trips).

Time of day distributions from actual log data of commercial- and self-haulers is provided in Figure 9. This shows that on weekdays the transfer center activity is elevated from around 10:00 a.m. until 4:00 p.m. This profile matches with the usage of the Coffin Butte site, which currently operates between 8:00 a.m. and 5:00 p.m. Monday through Saturday, with the facility closed on Sunday.

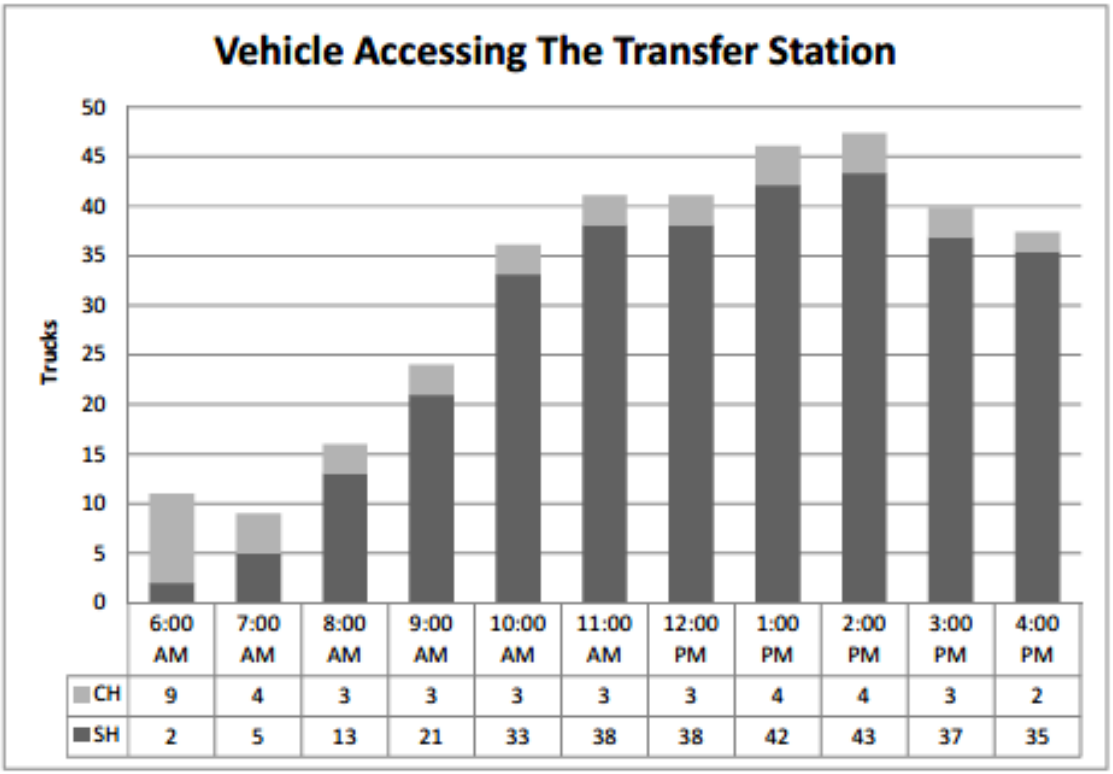


Figure 2-3. 2008 Vehicle Arrival Pattern

Figure 9. Factoria Trip Profiles (CH: Commercial Hauler, SH: Self-Hauler)
Source: HDR Factoria Recycling and Transfer Station TIA, 2010.

The general findings of this literature review indicated that trips were typically associated with tonnage, and it is expected that this will correlate to area population growth. As disposal services are considered a *utility,* these services are part of the trips generated by new developments throughout the region. While there is a point impact near the facility entrances, the regional impact of trash and recycling, and other similar services are accounted for within the individual development applications. These trip rates can fluctuate temporarily with building and development cycles, or with temporary events (such as past fire clean-up efforts).

The provision of the shift in active landfill area at Coffin Butte will allow the landfill to continue to support on-going growth in the region. Growth projections for the Linn-Benton area (see Figure 10) show population increases of approximately one percent annually, with a slightly declining rate of growth into the future. Linn County shows similar results, with one percent or lower rates into the 2040 horizon. The State of Oregon shows a total growth rate through 2040 that is only slightly higher at approximately 1.7%. These population trends are likely to dictate the rate of growth in landfill trips.

Population forecast by age in 2010 & 2040				
	Benton County		Oregon	
Age	2010	2040	2010	2040
0 to 4	3,778	4,527	237,556	317,024
5 to 9	4,109	4,443	237,214	317,456
10 to 14	4,466	4,839	242,553	324,469
15 to 19	8,789	8,224	254,860	321,532
20 to 24	13,763	12,502	253,048	328,685
25 to 29	5,926	6,211	265,033	339,951
30 to 34	4,488	5,693	259,111	346,862
35 to 39	4,227	5,239	251,163	341,211
40 to 44	4,368	5,493	248,362	345,342
45 to 49	5,013	6,325	262,879	361,003
50 to 54	5,725	6,203	276,196	349,254
55 to 59	5,924	5,959	273,423	337,313
60 to 64	4,723	5,340	236,143	297,787
65 to 69	3,196	4,644	169,847	268,516
70 to 74	2,188	3,736	120,194	235,769
75 to 79	1,823	3,420	91,601	208,589
80 to 84	1,462	2,993	74,019	171,551
85+	1,611	4,096	77,872	213,094
Total	85,579	99,886	3,831,074	5,425,408

Figure 10. Benton County Growth Projections.

The traffic counts that were collected on September 19, 2023 also help to quantify how the Coffin Butte landfill travel patterns operate today, highlighting the travel bias of Coffin Butte Landfill trips toward the Highway 99W corridor. Consistent with the landfill trip generation profile shown in Figure 9, traffic counts were collected throughout the study area over an extended time period to capture the 2:00 to 6:00 p.m. conditions at Coffin Butte.

The counts included the two existing accesses to the Coffin Butte landfill and Knife River Quarry to understand the existing trip characteristics of the site. The vehicles counted included both trucks and passenger cars for the landfill and quarry. As shown in Figure 11, the peak trip generation at these accesses during the count period was from 2:00 to 3:00 p.m. with 157 total vehicles. This number steadily declined to only 25 vehicles in the 5:00 to 6:00 p.m. hour. While there is a connection between the two sites, the vast majority of landfill trips are assumed to use the landfill access given the convenience to Coffin Butte Road and the location of the scales. During the peak hour, there were 114 trips recorded at the landfill access. This value matches the general scale of other landfill sites (note that in comparison to Figure 9, a vehicle generates an inbound and outbound trip).

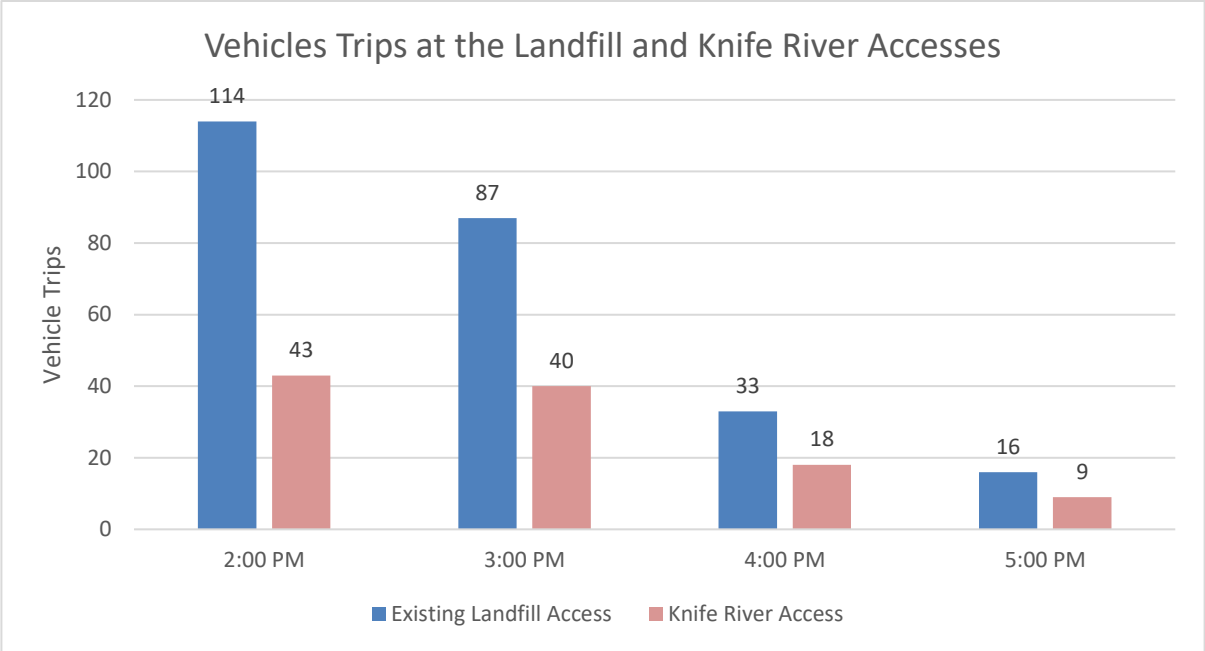
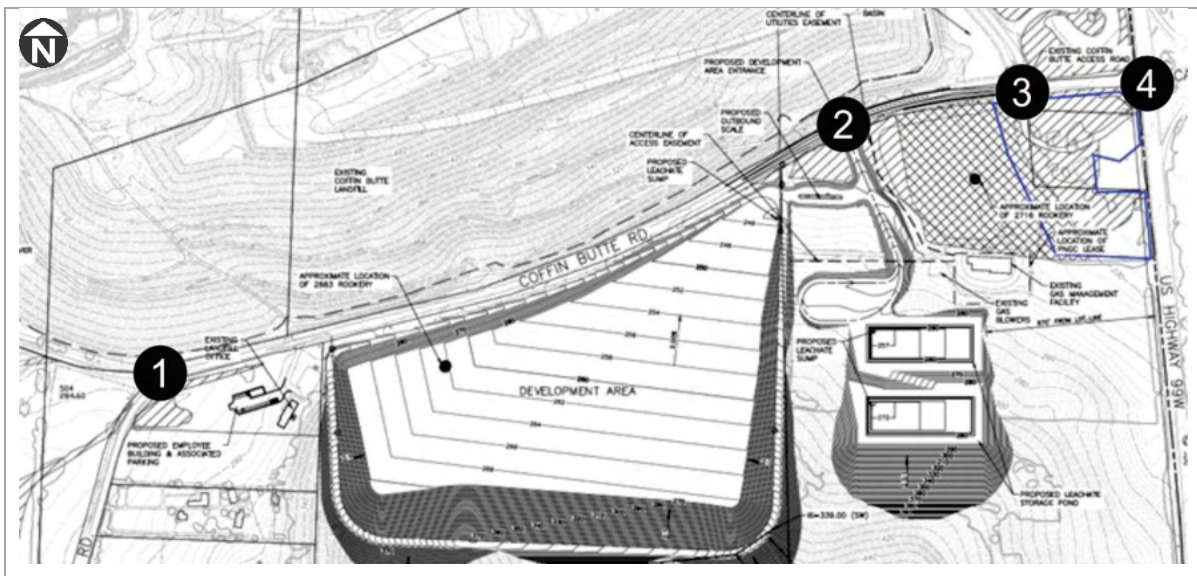


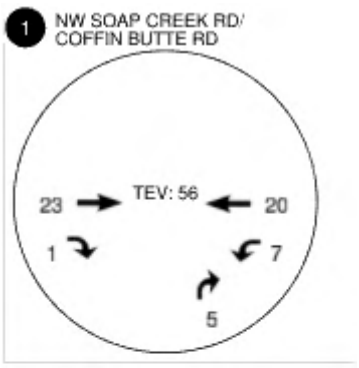
Figure 11. Existing Trip Profile, September 19, 2023.

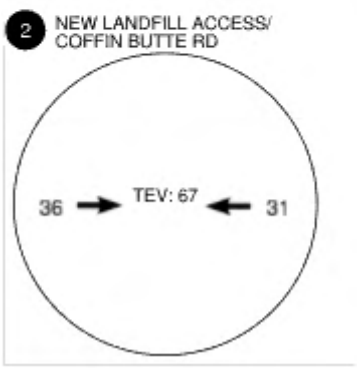
In reviewing the travel patterns on Coffin Butte Road, during the peak 2:00 to 3:00 p.m. time period there were a total of 78 eastbound trips and 85 westbound trips to and from the highway. This is approximately 60-percent more than the January 2022 counts and can be attributed to the seasonal fluctuations of the landfill and quarry operations.

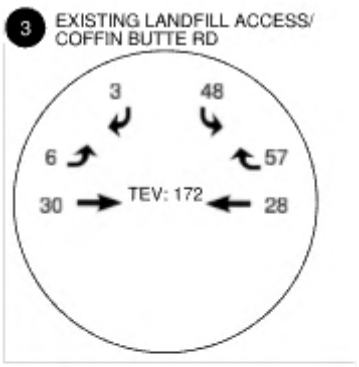
The traffic counts also separate truck trips from passenger vehicles, which provides an estimate of the number of commercial trucks within the traffic flow. This shows that 61% of the eastbound flow and 58% of the westbound flow on Coffin Butte Road is comprised of truck traffic. Based on this information, and in review of the layout of the proposed expansion site, Figure 12 illustrates the forecast traffic volumes on Coffin Butte Road during this 2:00 to 3:00 p.m. time period. This essentially shifts commercial truck trips to the new landfill site, retaining passenger vehicles in their current location. With trucks representing about 55% of the landfill trips during this hour it shows about 28 trucks entering the new expansion site (one truck every two minutes). Further, this shows no change in trips between the current landfill entrance and Highway 99W, or west of the new landfill entrance. The only segment of Coffin Butte Road that experiences a change in traffic volumes is the 740-foot segment of the roadway between the existing and proposed entrance.

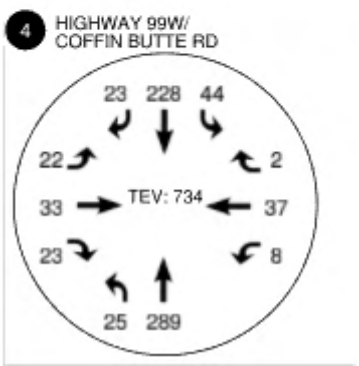


Existing Traffic Volumes on Coffin Butte Road

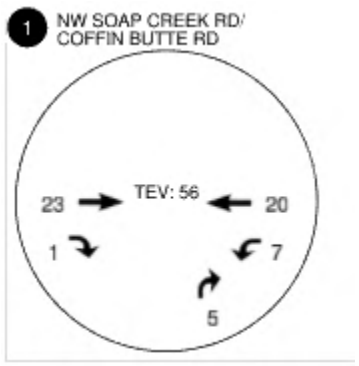


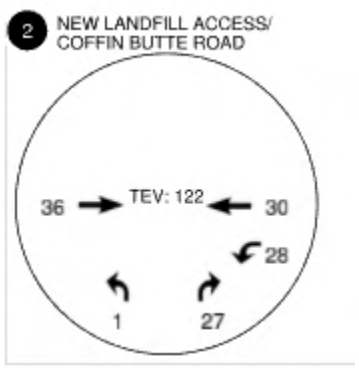


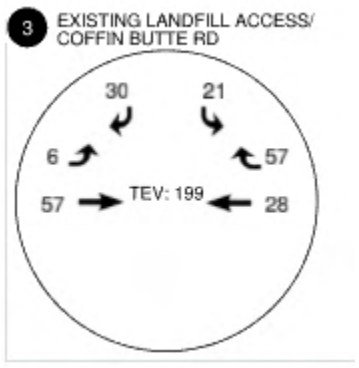




Future Traffic Volumes with Expansion







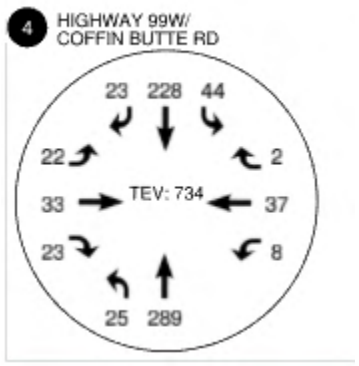


Figure 12. Year 2023 Existing and Rerouted Traffic Volumes, 2:00 to 3:00 p.m.

TRANSPORTATION OPERATIONS

The Benton County Transportation System Plan (TSP) was updated in 2019 and incorporated new mobility standards for its County roadways. The TSP identifies a two-tiered analysis standard for stop-sign controlled intersections:

- Intersection approaches with more than 20 vehicles during the weekday evening (4:00 to 6:00 p.m.) peak hour shall operate with a volume-to-capacity ratio of 0.90 or less during the spring or fall.
- No mobility targets apply to intersection approaches with less than 20 weekday p.m. peak hour trips.
- ODOT intersections are subject to the performance standards within Table 6 of the Oregon Highway Plan (OHP). For the stop-controlled Coffin Butte Road intersection with Highway 99W this requires a volume-to-capacity ratio of 0.75 or less.[1]

To show the adequacy of the transportation system to support these travel demands, an operational analysis was prepared to review the functionality of the access locations with the landfill expansion area. As summarized in Table 1, both of the landfill access intersections are shown to operate with very low delays (Level of Service "A") and well within County standards with current traffic volumes that are rerouted to reflect the modified configuration. As the landfill will serve the same population within the same location, it will continue to operate very similarly to its current conditions which are also well within acceptable County standards. Even with a 50% increase in the traffic volumes (reflective of population/tonnage growth far exceeding Benton County projections through 2040 as shown in Figure 10), the operations remain well within acceptable standards on this low volume road. Even with 50% growth both accesses will operate at Level of Service "B".

There is no change to external trips beyond what could occur today assuming continued use of the Coffin Butte landfill site, and therefore no additional transportation impact beyond the two accesses. Accordingly, further assessment of ODOT facilities or other County facilities is not provided.

Table 1. Summary of Operational Analysis (Existing Volumes with Expansion, 2:00 p.m. to 3:00 p.m.)

Intersection	Benton County Operational Standard	Level of Service	Intersection Delay	Volume to Capacity Ratio	95th Percentile Queue	Acceptable?
Existing Coffin Butte Landfill Entrance	v/c ratio < 0.90	SB: LOS A	SB: 9.8 s	SB: 0.08	SB: 1 veh (75 feet)	Yes
Proposed Expansion Area Entrance	v/c ratio < 0.90	NB: LOS A	NB: 9.7 s	NB: 0.04	NB: 1 veh (75 feet)	Yes

[1] Local Interest Road intersection with a Regional Highway outside an Urban Growth Boundary on Rural Lands.

The operations analysis shows that with the division of trips between the existing site for passenger vehicles and the expansion area for trucks all of the study intersections operate well within acceptable County standards. Forecast outbound 95th percentile queues are a single vehicle, which could include truck trips, so was estimated to be about 75 feet. The storage lengths proposed exceed this demand.

COFFIN BUTTE ROADWAY CROSS-SECTION

The proposed landfill expansion on the south side of Coffin Butte Road will add a new access connection. This access will be located approximately 740 feet west of the existing Coffin Butte landfill access. This complies with Benton County's access spacing standards identified within Table 8 of the TSP, which indicate that a 475-foot spacing for roads with a statutory speed of 50 miles per hour or higher. The Republic Services team recognizes that while Coffin Butte Road is a low-volume street, with the elevated amount of commercial trips associated with the landfill and quarry and area speeds, separation of left-turning vehicles on Coffin Butte Road is desired to maximize patron and public safety.

Typically, a traffic study will assess left-turn lane warrants based on ODOT's methodology to assess whether this widening is necessary. The left-turn lane warrants are essentially a cost-benefit analysis to assess whether this separation should occur, weighing the cost of the improvement with the benefit provided through crash reduction. For the Coffin Butte Landfill, the safety of Republic Services employees, patrons, and the traveling public is of paramount importance in this area, particularly with the types of vehicles that are present. While ODOT left-turn lane warrants are not met given the low volumes on Coffin Butte Road (see Figure 13), this treatment is proposed as shown within the preliminary drawings. The left-turn lane provides an extensive queue storage area capable of supporting several trucks simultaneously, and includes standard tapers for a 55 mph facility. Within the impacted area of the widening the road is also being improved to Benton County's *Major Collector* standard, with bicycle lanes and shoulders as shown in Figure 14.

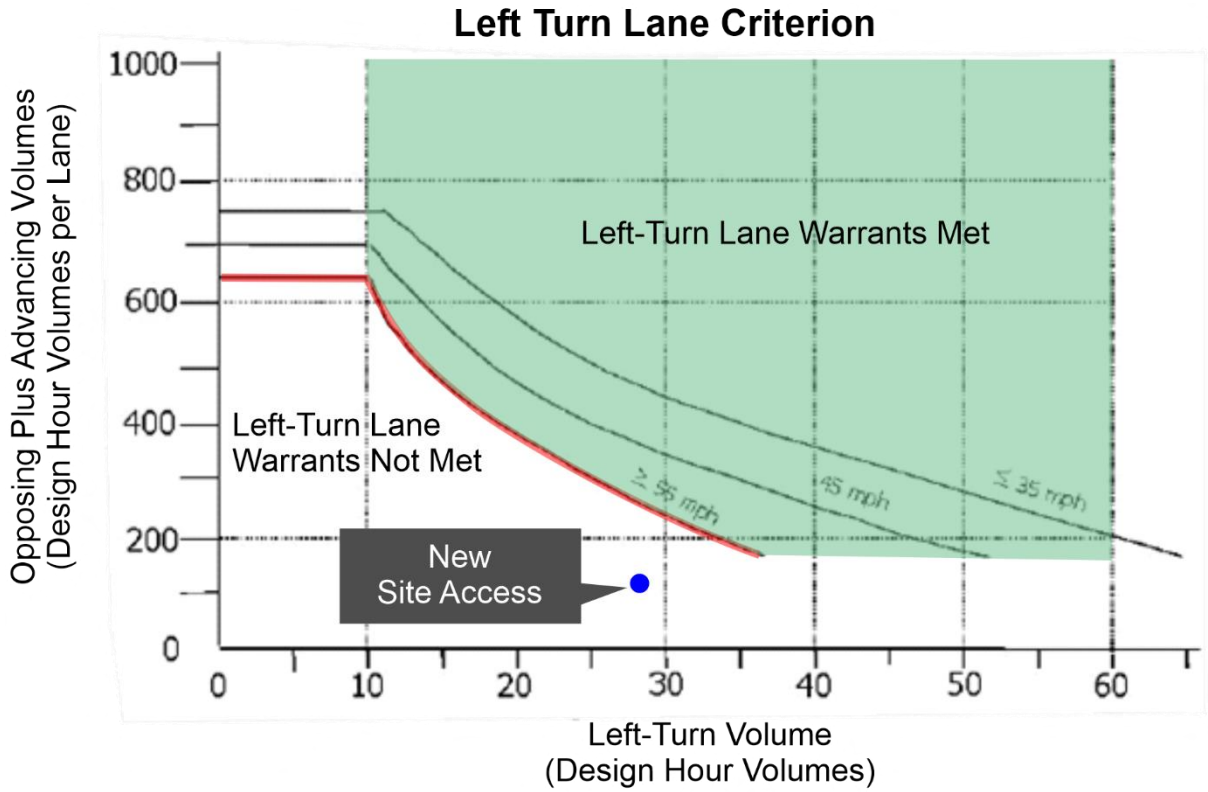


Figure 13. ODOT left-turn lane warrants showing the turn lane warrants are not met at the new access.

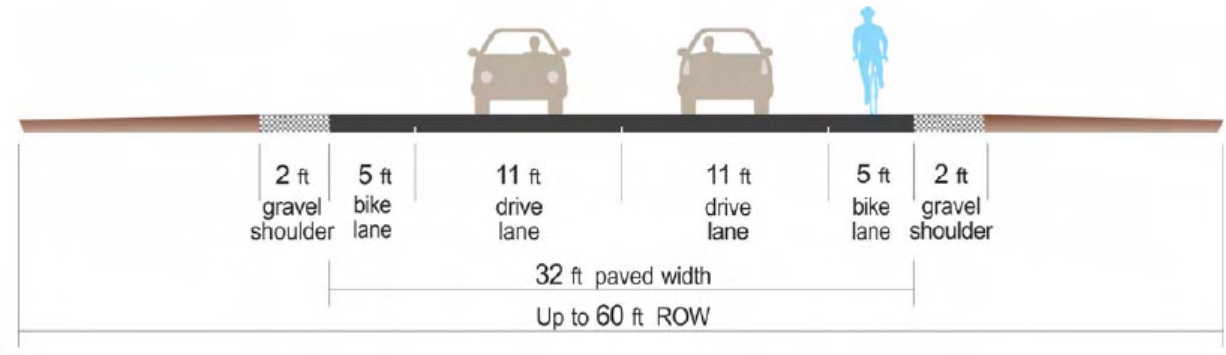


Figure 8: Major Collector Standard Cross-Section

Figure 14. Benton County Major Collector standard.

Since more than half the vehicles on Coffin Butte Road are commercial trucks, a wider roadway section is also being proposed. The preliminary design includes 12-foot travel lanes and a 14-foot center left-turn lane. This will improve separation for cyclists from the travel way, and help to accommodate these larger vehicles. Republic Services recognizes that this left-turn lane is not required per County standards, and the improvement is offered as a voluntary mitigation measure with the presumption that it is feasible as shown in the preliminary layout. Our team recognizes that there are adjacent roadside utilities and drainage areas, and while it is Republic Services intent to construct this improvement if approved by the County, if the design cannot be accommodated due to these (or other) constraints this voluntary improvement may be omitted.

ROADWAY SAFETY

Historical roadway safety was reviewed throughout the study area based on ODOT's most recent five years of available crash data. This review incorporates safety information for the most recent five-year period available, which spans from January 1, 2017 through December 31, 2021. Crash data was reviewed for the area bounded by Soap Creek Road, Coffin Butte Road, Tampico Road, and Highway 99W.

Crashes that are required for reporting to the DMV includes any collision that results in more than $1,500 (increased to $2,500 in 2018), collisions that result in any level of personal injury, and all collisions must involve one or more motor vehicle. ODOT crash records include collisions investigated by police and those that are self-reported, so the quality and completeness of data provided only reflects the inputs into the database and is not considered to be a fully complete or accurate indication of contributing factors.

- At 1:00 p.m. on August 4, 2017 a fatal collision was reported just south of Tampico Road on Highway 99W. The crash records indicate that tire failure led to a single-vehicle collision with the vehicle overturning. No other vehicles were involved and it did not appear from the available information that the vehicle struck any roadside objects causing the tire failure.
- There were no reported crashes along Coffin Butte Road or its continuation as Soap Creek Road during this review period.
- One collision was reported north of the Highway 99W/Tampico Road intersection. This included a motorist that swerved onto the shoulder prior to overturning. This collision did not result in any level of personal injury and the crash cause was cited as "other/improper driving."
- At 8:00 a.m. on January 7, 2019 a motorist on Tampico Road near Brenneman Lane drove onto the roadway ditch and overturned. No injuries were reported in this collision.
- At 2:00 p.m. on December 13, 2021 a fixed object collision happened at the Tampico Road/Harvey Lane intersection and was attributed to physical illness. It resulted in property damage only.
- Five collisions were reported at the Coffin Butte – Camp Adair intersection with Highway 99W during the five-year period:
    - An angle collision occurred on June 16, 2021 at 10:00 a.m. between a southbound through vehicle and an eastbound through vehicle. The crash was attributed to inattention and resulted in minor injuries (Injury B).
    - A crash with a deer or elk occurred just south of the intersection on August 21, 2021 at 10:00 p.m. No injuries were reported.
    - A turning collision was reported on June 25, 2020 around 9:00 a.m. The crash report cited inattention as the cause of the collision. The crash resulted in serious injuries.
    - An angle collision was reported on April 25, 2019 around 1:00 p.m. The crash resulted in minor injuries (Injury B). The crash report cited failure to yield the right-of-way and inattention as contributing factors.
    - An angle collision occurred on October 11, 2018 at 2:00 p.m. and resulted in property damage only. The crash reports cited failure to yield.

  Three of the five reported collisions at the Highway 99W intersection with Camp Adair Road resulted in some level of injuries.

There were no reported crashes at the Highway 99W/Tampico Road intersection during the review period, nor were there any crashes at the Tampico Road intersection with Soap Creek Road. Crashes within the study area were fairly low overall, and did not appear to identify any safety deficiencies. Intersection crash rates and comparison to ODOT's 90th percentile rates for similarly-configured rural intersections are provided in Table 2, and show that the crash rates remain below these thresholds.

Table 2. Intersection Crash Rates and ODOT Crash Rate Comparison

Intersection	Number of Reported Crashes (2017 to 2021)	Crashes per Million Entering Vehicles	>90th Percentile ODOT Crash Rate
Coffin Butte Road/ Soap Creek Road	0	0.00	No 3ST: 0.475
Coffin Butte Road/ Highway 99W	5	0.31	No 4ST: 1.080
Tampico Road/ Soap Creek Road	0	0.00	No 4ST: 1.080
Tampico Road/ Highway 99W	0	0.00	No 3ST: 0.475

Intersection Sight Distance

Intersection sight distance was field reviewed to ensure an adequate view of conflicting traffic was provided to drivers at the future public street/access locations, or to identify what sight line restrictions exist. The minimum recommended sight distance criteria based on the standard reference *A Policy on Geometric Design of Highways and Streets, 7th Edition* published by the American Association of State Highway and Transportation Officials (AASHTO) in 2018 (commonly referred to as the *Green Book*). This reference provides the recommended sight distances as measured from a height of 3.5 feet 14.5 feet from the edge of travel way at the access point serving the proposed development, based on the speed of the roadway. The AASHTO reference is based on conflicts between motorists traveling along the roadway and motorists completing movements at the intersection.

The topography of the area is generally flat with substantial sight lines in either direction of the proposed access location. There is an existing gated access nearly opposite the site that provides access to the perimeter road of the current landfill. Figure 15 illustrates the sight distance measurements and recommended minimum dimensions for this new access assuming installation of the left-turn lane and a statutory speed of 55 miles per hour.

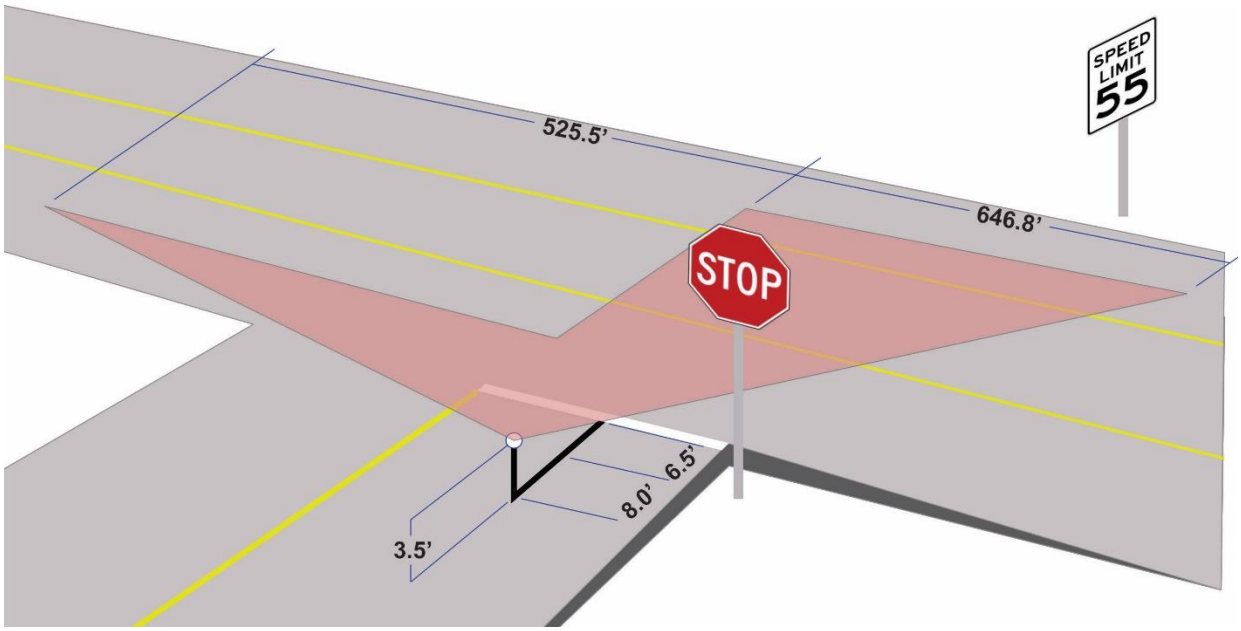


Figure 15. AASHTO minimum recommended intersection sight distance dimensions at the proposed landfill expansion access.

The site was visited and inventoried in May 2022 to verify the available sight lines at this entrance. Photos from the field review are provided in Figures 16 through 19, including passenger vehicle height (3.5 feet) and truck cab height (7.6 feet). This review shows that clear and unobstructed sight lines are available from this location, with sight lines of over 800 feet in either direction. Roadside vegetation toward the east (see Figures 18 and 19) should be removed to avoid partial occlusion of the views in this direction.

Figure 16. Proposed access location facing west along Coffin Butte Road (passenger vehicle height).

Figure 17. Proposed access location facing west along Coffin Butte Road (truck cab height).

Figure 18. Proposed access location facing east along Coffin Butte Road (passenger vehicle height).

Figure 19. Proposed access location facing east along Coffin Butte Road (truck cab height).

FINDINGS AND RECOMMENDATIONS

This report shows that the proposed landfill expansion provides minimal impacts to Benton County and ODOT transportation facilities. The proposed expansion site will not alter public trip routing, emergency ingress or egress, and it will retain the current landfill access routes. This layout maintains current functional designations identified in the County's Transportation System Plan and the design optimizes travel safety for patrons and employees.

As included within the preliminary civil plans, this application includes a voluntary proposal to widen Coffin Butte Road between the current entrance to the scales and the expansion area entrance and trim and/or remove existing vegetation within the sight lines. This widening will support separate left-turn lanes and will include shoulder widening per County standards and provide clear and unobstructed views of approaching motorists. Transportation patterns and landfill operations will effectively remain the same as they are today, and will function how they have already been approved to operate.

Thank you for the opportunity to provide these transportation materials for the Coffin Butte Landfill expansion. If you have any questions I can be reached at (503) 997-4473 or via email at joe@transightconsulting.com.

Attachments:

- Benton County Traffic Counts
- March 2021 Traffic Counts
- January 2022 Traffic Counts
- September 2023 Traffic Counts
- LOS Worksheets (Existing Weekday Afternoon Conditions)
- LOS Worksheets (Weekday Afternoon Conditions with 50% Growth)

Public Works Department
360 SW Avery Avenue
Corvallis, Oregon 97333
Phone: 541.766.6821

Memorandum

Date: January 20, 2021

To: Gordon Kurtz, Engineer Associate

Owen Millehrer, Civil Engineer

From: Thanh Huynh, Surveying and Engineering Intern

Subject: Coffin Butte Landfill Traffic Study

Coffin Butte RD #04451

Soap Creek RD #05450

Enclosed is a report of a traffic study conducted during two seven-day periods. The sites under investigation were along Coffin Butte Rd on either side of the entrance to the Coffin Butte Quarry, see attached map.

The purpose of this traffic study was to collect truck count and average daily traffic data. The equipment used to conduct this study was a Unicorn Vehicle Traffic Classifier. The vehicle traffic classifier records count, time, axle and speed. The data is compiled for each lane and for combined directions.

Table 1 indicates vehicle classification and average daily counts.

Table 1: Truck Counts and Average Daily Counts

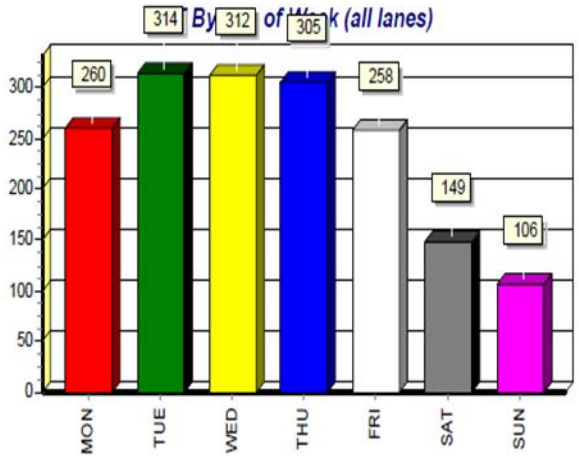
Road	Total Truck Counts	Avg. Truck Counts	ADT
Coffin Butte	628	89	243
Soap Creek	31	4	136

The traffic study report includes the following:

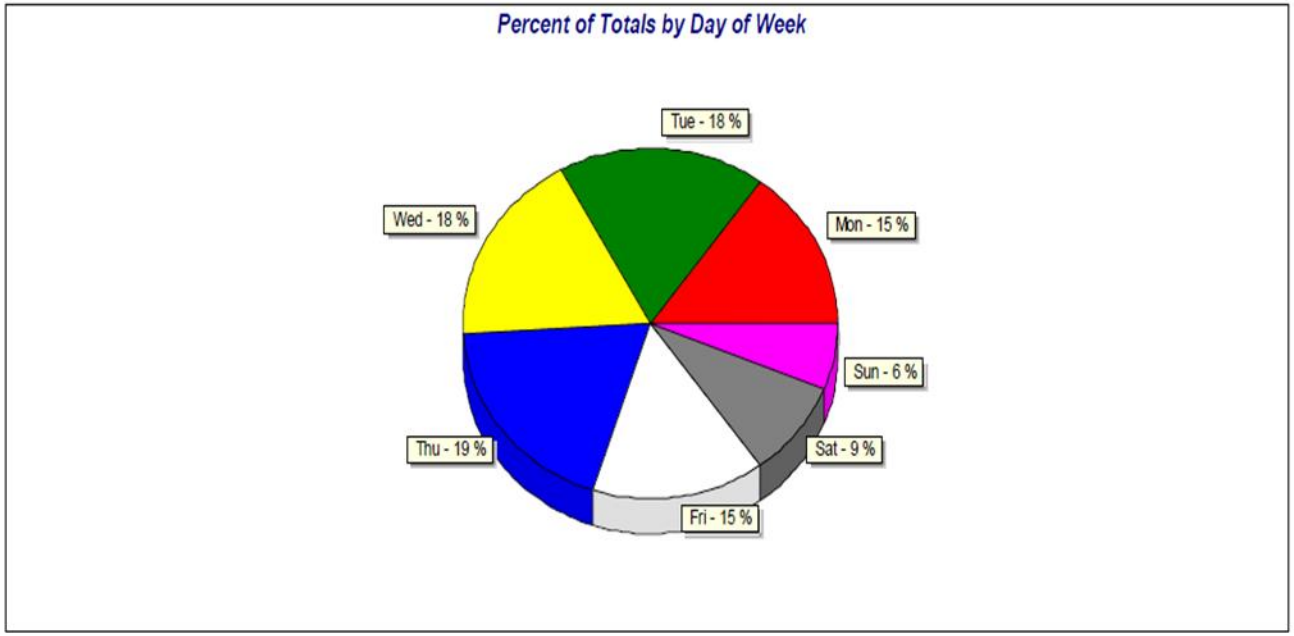
1. Map indicating traffic study sites.
2. Charts indicating Coffin Butte Rd and Soap Creek Rd average daily traffic.
3. Charts indicating Coffin Butte Rd and Soap Creek Rd axle class vs. volume.
4. Chart of vehicle classifications.

COFFIN BUTTE LANDFILL TRAFFIC STUDY SITES

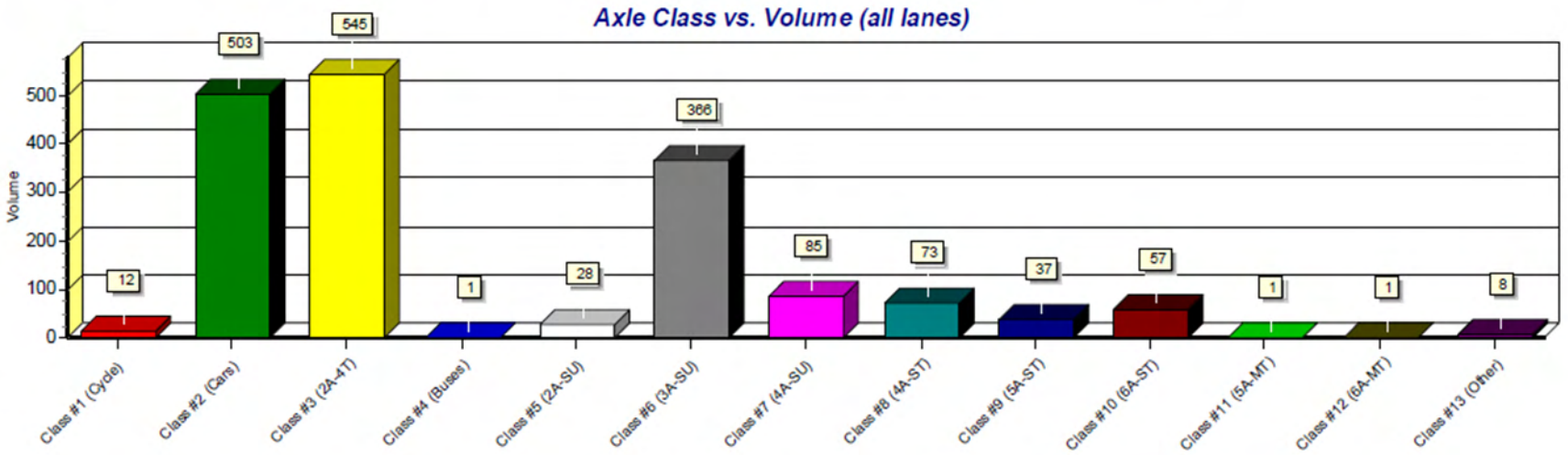
COFFIN BUTTE Charts For Data From: 13:00 - 12/10/2020 To: 14:59 - 12/17/2020



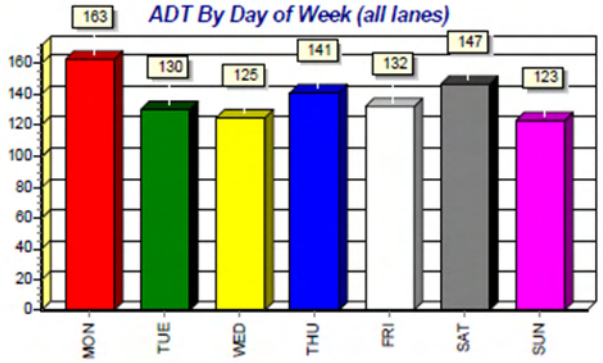
DAY	ADT	TOTAL	# DAYS
Mon	260	260	1.0
Tue	314	314	1.0
Wed	312	312	1.0
Thu	305	318	1.0
Fri	258	258	1.0
Sat	149	149	1.0
Sun	106	106	1.0



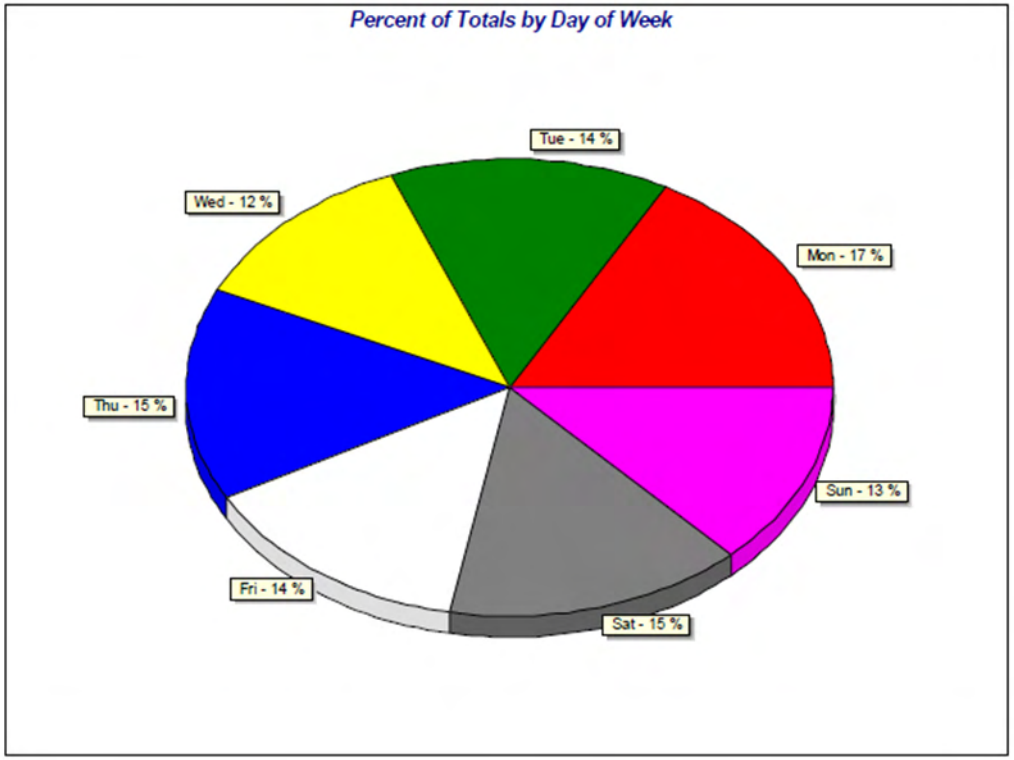
COFFIN BUTTE Axle Class Charts For Data From: 13:00 - 12/10/2020 To: 14:59 - 12/17/2020



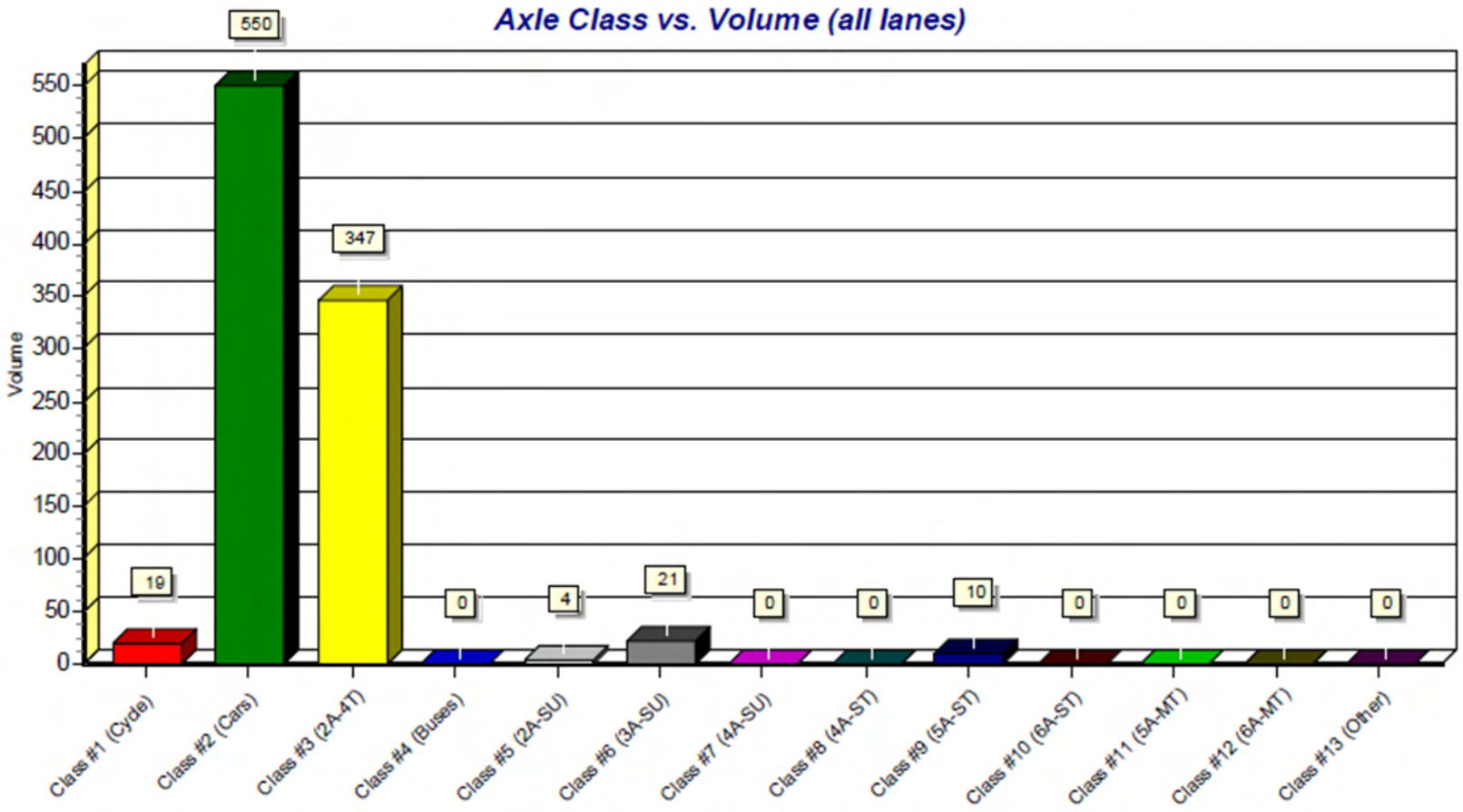
SOAP CREEK Charts For Data From: 16:00 - 01/13/2021 To: 14:59 - 01/20/2021



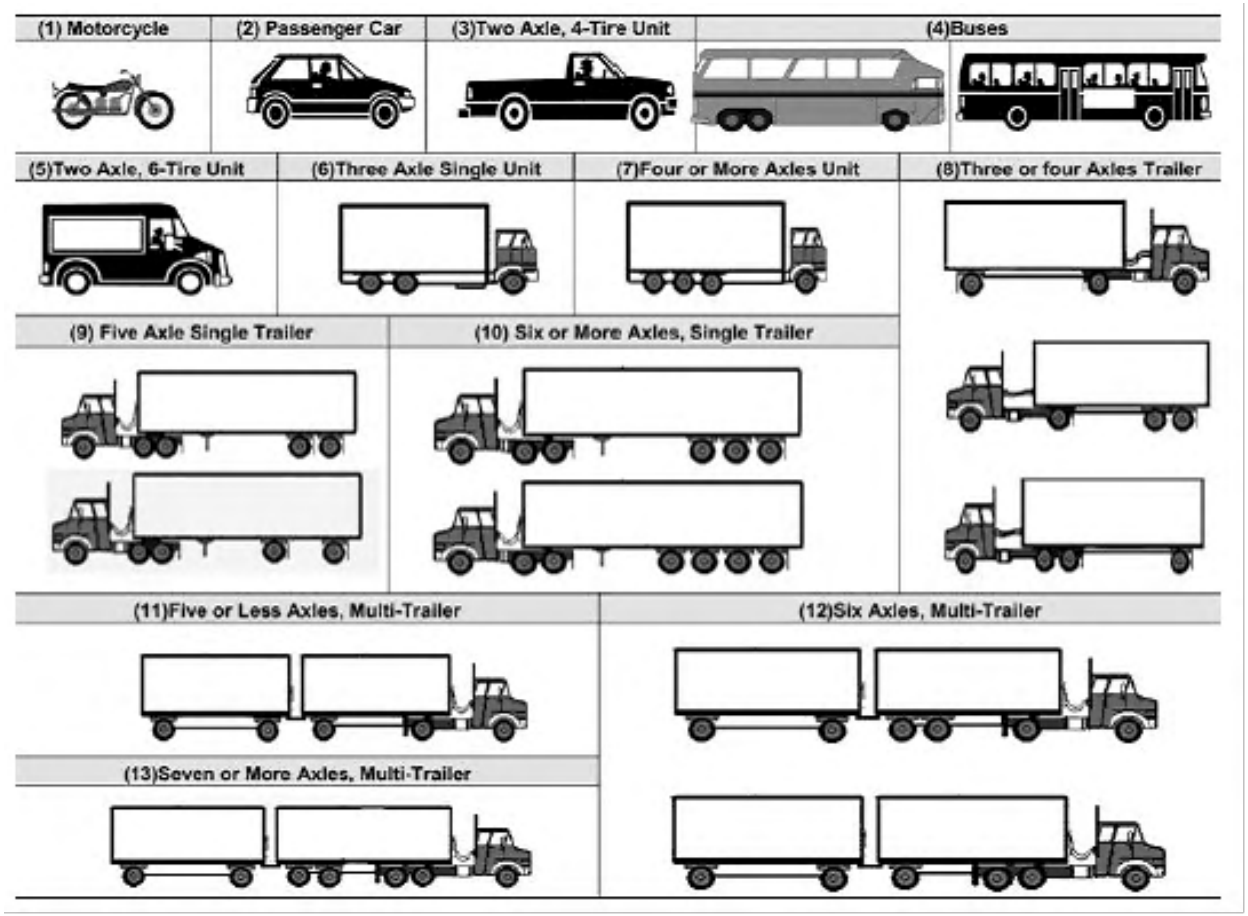
DAY	ADT	TOTAL	# DAYS
Mon	163	163	1.0
Tue	130	130	1.0
Wed	125	115	0.9
Thu	141	141	1.0
Fri	132	132	1.0
Sat	147	147	1.0
Sun	123	123	1.0



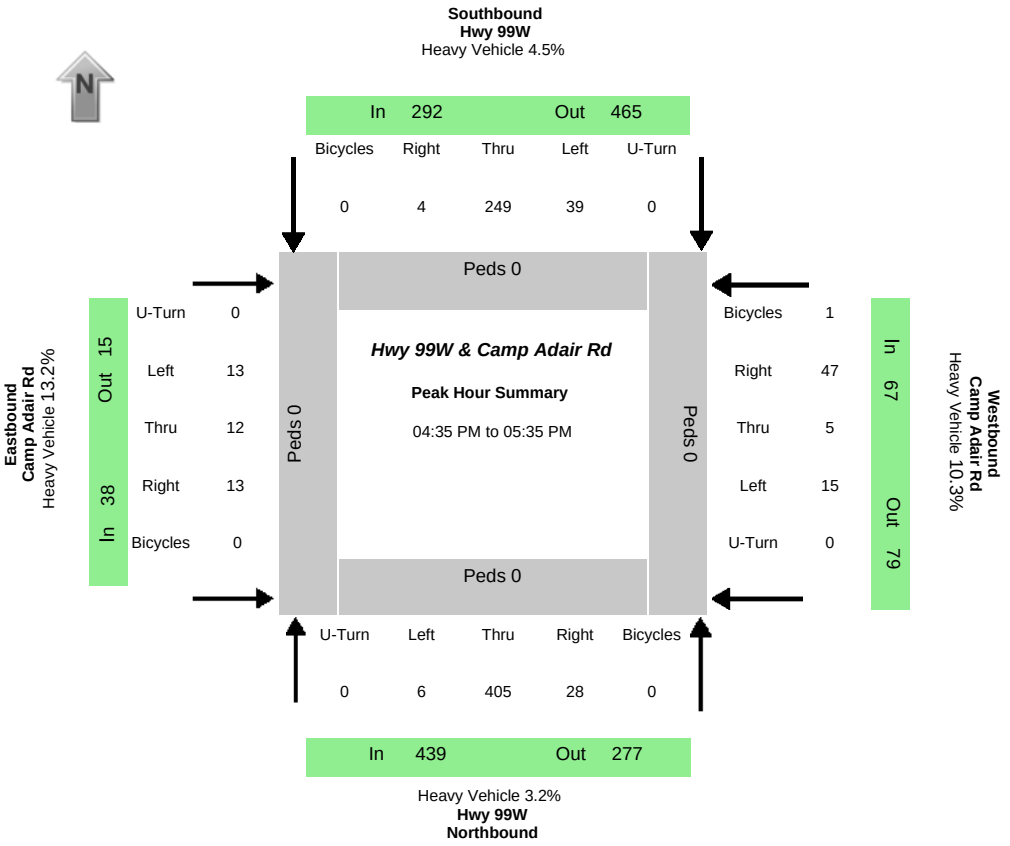
SOAP CREEK Axle Class Charts For Data From: 16:00 - 01/13/2021 To: 14:59 - 01/20/2021



Vehicle Classification Chart



Data Provided by K-D-N.com 503-594-4224	
N/S street	*Hwy 99W*
E/W street	*Camp Adair Rd*
City, State	Monmouth OR
Site Notes	
Location	44.699580 - ?-123.220873
Start Date	Tuesday, March 16, 2021
Start Time	04:00:00 PM
Weather	
Study ID #	
Peak Hour Start	04:35:00 PM
Peak 15 Min Start	05:10:00 PM
PHF (15-Min Int)	0.90



Peak-Hour Volumes (PHV)

Northbound				Southbound				Eastbound				Westbound				Entering				Leaving			
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	NB	SB	EB	WB	NB	SB	EB	WB
6	405	28	0	39	249	4	0	13	12	13	0	15	5	47	0	439	292	38	67	277	465	15	79

Percent Heavy Vehicles

0.0%	3.5%	0.0%	0.0%	7.7%	4.0%	0.0%	0.0%	23.1%	8.3%	7.7%	0.0%	0.0%	20.0%	12.8%	0.0%	3.2%	4.5%	13.2%	10.4%	4.0%	4.9%	6.7%	5.1%

PHV- Bicycles

Northbound				Southbound				Eastbound				Westbound				
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	**Sum**
0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1

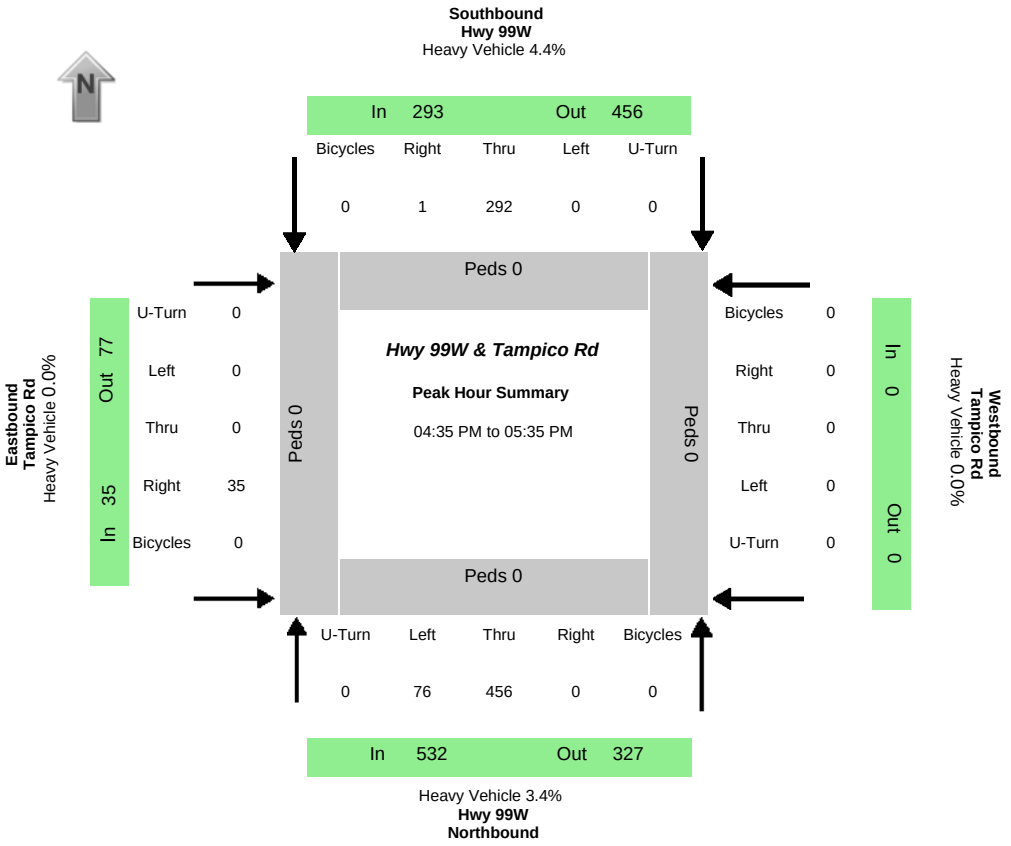
PHV - Pedestrians

in Crosswalk				
NB	SB	EB	WB	**Sum**
0	0	0	0	0

All Vehicle Volumes

	Northbound Hwy 99W				Southbound Hwy 99W				Eastbound Camp Adair Rd				Westbound Camp Adair Rd				15 Min	1 HR
Time	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	Sum
04:00:00 PM	3	35	0	0	6	26	2	0	3	0	1	0	0	1	2	0		
04:05:00 PM	2	20	2	0	3	29	0	0	1	1	2	0	0	0	3	0		
04:10:00 PM	0	24	3	0	1	18	2	0	1	2	3	0	3	1	1	0	201	
04:15:00 PM	2	30	0	0	3	12	3	0	0	1	4	0	0	1	5	0	183	
04:20:00 PM	0	29	3	0	3	33	1	0	2	1	2	0	1	5	2	0	202	
04:25:00 PM	0	19	3	0	10	22	1	0	0	0	3	0	0	2	0	0	203	
04:30:00 PM	0	28	4	0	1	24	0	0	3	2	2	0	2	0	3	0	211	
04:35:00 PM	3	39	1	0	3	15	0	0	2	1	2	0	1	0	7	0	203	
04:40:00 PM	0	34	5	0	0	19	1	0	2	0	1	0	0	0	3	0	208	
04:45:00 PM	1	37	2	0	4	20	0	0	1	3	0	0	1	0	2	0	210	
04:50:00 PM	1	41	4	0	3	15	0	0	0	0	2	0	2	0	4	0	208	
04:55:00 PM	1	21	3	0	2	22	2	0	1	0	1	0	5	0	8	0	209	821
05:00:00 PM	0	22	1	0	3	25	1	0	0	0	1	0	3	2	5	0	201	805
05:05:00 PM	0	28	1	0	1	16	0	0	0	2	1	0	0	1	3	0	182	795
05:10:00 PM	0	41	3	0	4	11	0	0	1	1	2	0	0	0	3	0	182	802
05:15:00 PM	0	38	0	0	8	35	0	0	0	2	0	0	2	1	3	0	208	830
05:20:00 PM	0	44	3	0	3	24	0	0	0	0	0	0	1	0	3	0	233	826
05:25:00 PM	0	29	2	0	2	22	0	0	2	1	1	0	0	1	4	0	231	830
05:30:00 PM	0	31	3	0	6	25	0	0	4	2	2	0	0	0	2	0	217	836
05:35:00 PM	0	37	1	0	3	26	0	0	1	1	0	0	0	0	3	0	211	834
05:40:00 PM	0	32	0	0	0	21	0	0	2	0	0	0	0	0	2	0	204	826
05:45:00 PM	0	41	0	0	3	21	1	0	1	0	0	0	0	0	0	0	196	822
05:50:00 PM	0	30	2	0	1	26	1	0	0	0	0	0	1	1	2	0	188	814
05:55:00 PM	1	27	2	0	3	16	0	0	0	0	0	0	1	0	1	0	182	799

Data Provided by K-D-N.com 503-594-4224	
N/S street	*Hwy 99W*
E/W street	*Tampico Rd*
City, State	Monmouth OR
Site Notes	
Location	44.676819 - ?-123.220746
Start Date	Tuesday, March 16, 2021
Start Time	04:00:00 PM
Weather	
Study ID #	
Peak Hour Start	04:35:00 PM
Peak 15 Min Start	05:20:00 PM
PHF (15-Min Int)	0.89



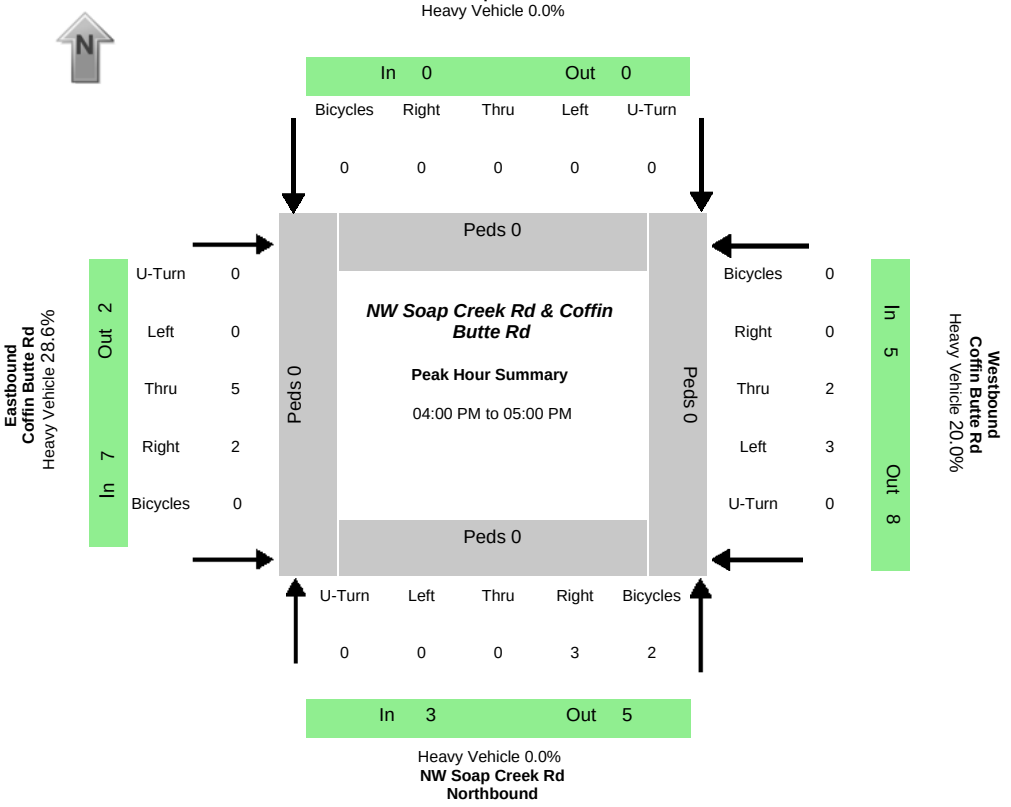
Peak-Hour Volumes (PHV)																								
Northbound				**Southbound**				**Eastbound**				**Westbound**				**Entering**				**Leaving**			
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	NB	SB	EB	WB	NB	SB	EB	WB
76	456	0	0	0	292	1	0	0	0	35	0	0	0	0	0	532	293	35	0	327	456	77	0
Percent Heavy Vehicles																							
0.0%	3.9%	0.0%	0.0%	0.0%	4.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.4%	4.4%	0.0%	0.0%	4.0%	3.9%	0.0%	0.0%

PHV- Bicycles																	PHV - Pedestrians					
Northbound				**Southbound**				**Eastbound**				**Westbound**					in Crosswalk				
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	**Sum**	NB	SB	EB	WB	**Sum**
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

All Vehicle Volumes

	Northbound Hwy 99W				**Southbound** Hwy 99W				**Eastbound** Tampico Rd				**Westbound** Tampico Rd				15 Min	1 HR
Time	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	Sum
04:00:00 PM	3	35	0	0	0	23	0	0	0	0	5	0	0	0	0	0		
04:05:00 PM	6	45	0	0	0	27	0	0	0	0	4	0	0	0	0	0		
04:10:00 PM	2	30	0	0	0	12	0	0	0	0	2	0	0	0	0	0	194	
04:15:00 PM	5	26	0	0	0	31	0	0	1	0	4	0	0	0	0	0	195	
04:20:00 PM	7	37	0	0	0	16	0	0	0	0	1	0	0	0	0	0	174	
04:25:00 PM	7	32	0	0	0	17	0	0	0	0	5	0	0	0	0	0	189	
04:30:00 PM	3	26	0	0	0	22	0	0	0	0	4	0	0	0	0	0	177	
04:35:00 PM	4	34	0	0	0	26	0	0	0	0	4	0	0	0	0	0	184	
04:40:00 PM	6	42	0	0	0	31	0	0	0	0	2	0	0	0	0	0	204	
04:45:00 PM	6	39	0	0	0	18	0	0	0	0	4	0	0	0	0	0	216	
04:50:00 PM	7	44	0	0	0	29	0	0	0	0	3	0	0	0	0	0	231	
04:55:00 PM	5	33	0	0	0	23	0	0	0	0	1	0	0	0	0	0	212	799
05:00:00 PM	10	24	0	0	0	23	0	0	0	0	3	0	0	0	0	0	205	793
05:05:00 PM	3	33	0	0	0	24	1	0	0	0	1	0	0	0	0	0	184	773
05:10:00 PM	3	43	0	0	0	18	0	0	0	0	3	0	0	0	0	0	189	794
05:15:00 PM	8	45	0	0	0	16	0	0	0	0	0	0	0	0	0	0	198	796
05:20:00 PM	6	44	0	0	0	34	0	0	0	0	6	0	0	0	0	0	226	825
05:25:00 PM	8	40	0	0	0	18	0	0	0	0	3	0	0	0	0	0	228	833
05:30:00 PM	10	35	0	0	0	32	0	0	0	0	5	0	0	0	0	0	241	860
05:35:00 PM	8	26	0	0	0	23	0	0	1	0	4	0	0	0	0	0	213	854
05:40:00 PM	5	42	0	0	0	20	0	0	0	0	2	0	0	0	0	0	213	842
05:45:00 PM	6	26	0	0	0	26	0	0	1	0	1	0	0	0	0	0	191	835
05:50:00 PM	8	40	0	0	0	23	1	0	0	0	0	0	0	0	0	0	201	824
05:55:00 PM	1	24	0	0	0	19	1	0	0	0	5	0	0	0	0	0	182	812

Data Provided by K-D-N.com 503-594-4224	
N/S street	*NW Soap Creek Rd*
E/W street	*Coffin Butte Rd*
City, State	Monmouth OR
Site Notes	
Location	44.695984 - -123.235559
Start Date	Tuesday, March 16, 2021
Start Time	04:00:00 PM
Weather	
Study ID #	
Peak Hour Start	04:00:00 PM
Peak 15 Min Start	04:30:00 PM
PHF (15-Min Int)	0.63



Peak-Hour Volumes (PHV)

Northbound				Southbound				Eastbound				Westbound				Entering				Leaving			
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	NB	SB	EB	WB	NB	SB	EB	WB
0	0	3	0	0	0	0	0	0	5	2	0	3	2	0	0	3	0	7	5	5	0	2	8

Percent Heavy Vehicles

0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	20.0%	50.0%	0.0%	0.0%	50.0%	0.0%	0.0%	0.0%	0.0%	28.6%	20.0%	20.0%	0.0%	50.0%	12.5%

PHV- Bicycles

Northbound				Southbound				Eastbound				Westbound				
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	**Sum**
0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2

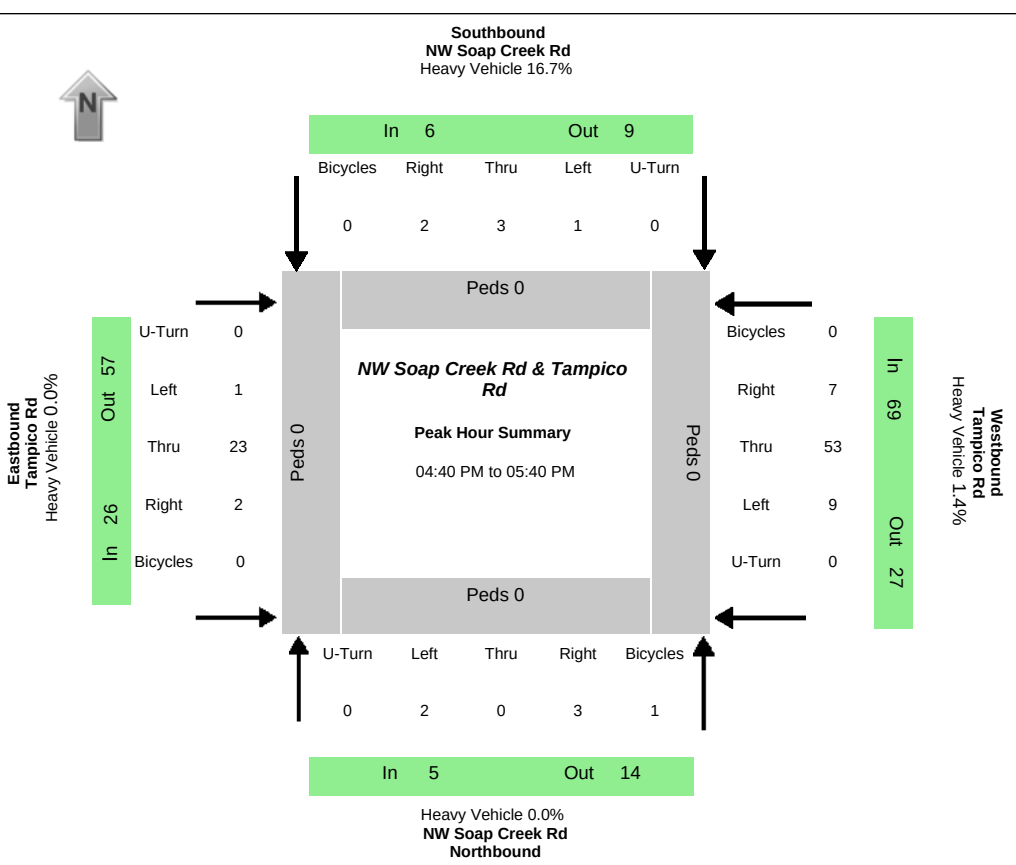
PHV - Pedestrians

in Crosswalk				
NB	SB	EB	WB	**Sum**
0	0	0	0	0

All Vehicle Volumes

	Northbound NW Soap Creek Rd				Southbound NW Soap Creek Rd				Eastbound Coffin Butte Rd				Westbound Coffin Butte Rd				15 Min	1 HR
Time	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	Sum
04:00:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0		
04:05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0		
04:10:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	5	
04:15:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
04:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
04:25:00 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	
04:30:00 PM	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	4	
04:35:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	5	
04:40:00 PM	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	0	6	
04:45:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	5	
04:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	5	
04:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	15
05:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	14
05:05:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	13
05:10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	12
05:15:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	13
05:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	4	15
05:25:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	13
05:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	12
05:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	11
05:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	8
05:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
05:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
05:55:00 PM	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	3	9

Data Provided by K-D-N.com 503-594-4224	
N/S street	*NW Soap Creek Rd*
E/W street	*Tampico Rd*
City, State	Monmouth OR
Site Notes	
Location	44.685389 - ?-123.239874
Start Date	Tuesday, March 16, 2021
Start Time	04:00:00 PM
Weather	
Study ID #	
Peak Hour Start	04:40:00 PM
Peak 15 Min Start	05:25:00 PM
PHF (15-Min Int)	0.72



Peak-Hour Volumes (PHV)																								
Northbound				**Southbound**				**Eastbound**				**Westbound**				**Entering**				**Leaving**			
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	NB	SB	EB	WB	NB	SB	EB	WB
2	0	3	0	1	3	2	0	1	23	2	0	9	53	7	0	5	6	26	69	14	8	57	27

Percent Heavy Vehicles																							
0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	14.3%	0.0%	0.0%	16.7%	0.0%	1.4%	0.0%	12.5%	0.0%	3.7%

PHV- Bicycles																	PHV - Pedestrians					
Northbound				**Southbound**				**Eastbound**				**Westbound**					in Crosswalk				
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	**Sum**	NB	SB	EB	WB	**Sum**
0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0

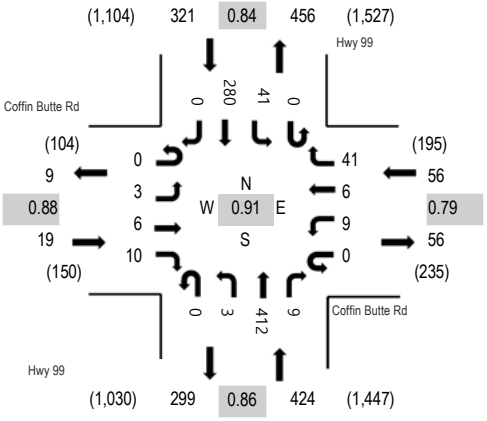
All Vehicle Volumes																		
	Northbound				**Southbound**				**Eastbound**				**Westbound**				15	1 HR
	NW Soap Creek Rd				NW Soap Creek Rd				Tampico Rd				Tampico Rd				Min	
Time	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	Sum
04:00:00 PM	0	0	2	0	0	0	0	0	0	3	0	0	0	1	0	0		
04:05:00 PM	0	0	1	0	0	0	0	0	0	2	0	0	0	4	0	0		
04:10:00 PM	0	0	1	0	0	1	1	0	0	3	0	0	0	2	0	0	21	
04:15:00 PM	1	0	0	0	1	0	0	0	0	1	0	0	1	4	0	0	23	
04:20:00 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	4	0	0	22	
04:25:00 PM	1	0	3	0	0	0	0	0	0	3	0	0	2	5	1	0	29	
04:30:00 PM	0	0	0	0	1	0	0	0	0	1	0	0	2	2	0	0	27	
04:35:00 PM	0	0	0	0	1	0	1	0	1	3	0	0	0	2	0	0	29	
04:40:00 PM	0	0	0	0	1	0	0	0	0	2	0	0	2	3	1	0	23	
04:45:00 PM	1	0	1	0	0	0	0	0	0	2	0	0	0	3	1	0	25	
04:50:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	1	3	1	0	24	
04:55:00 PM	0	0	0	0	0	0	0	0	0	1	1	0	1	5	1	0	24	97
05:00:00 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	3	1	0	23	98
05:05:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	3	5	0	0	25	100
05:10:00 PM	0	0	0	0	0	0	0	0	0	2	0	0	1	2	0	0	21	97
05:15:00 PM	0	0	1	0	0	0	1	0	1	3	0	0	0	5	0	0	25	100
05:20:00 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	2	0	0	20	98
05:25:00 PM	0	0	0	0	0	1	0	0	0	2	1	0	0	9	1	0	29	97
05:30:00 PM	0	0	0	0	0	0	0	0	0	4	0	0	1	4	0	0	27	100
05:35:00 PM	1	0	0	0	0	1	0	0	0	2	0	0	0	9	1	0	37	106
05:40:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	5	0	0	30	104
05:45:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	8	0	0	30	105
05:50:00 PM	0	0	2	0	0	0	0	0	0	1	0	0	0	4	0	0	23	105
05:55:00 PM	0	0	0	0	0	0	0	0	0	3	0	0	2	3	0	0	24	104

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

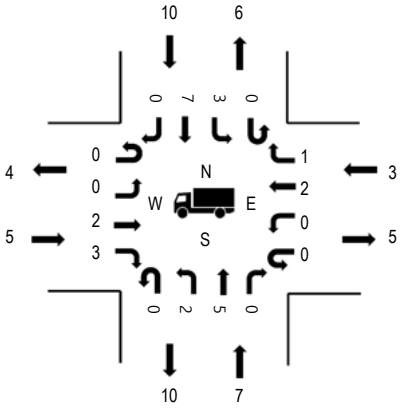
Location: 1 Hwy 99 & Coffin Butte Rd PM
Date: Wednesday, January 13, 2022
Peak Hour: 04:35 PM - 05:35 PM
Peak 15-Minutes: 05:20 PM - 05:35 PM

Peak Hour

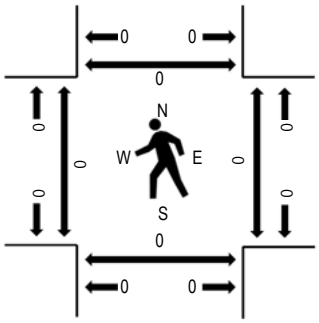
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	26.3%	0.88
WB	5.4%	0.79
NB	1.7%	0.86
SB	3.1%	0.84
All	3.0%	0.91

Traffic Counts - Motorized Vehicles

Interval Start Time	Coffin Butte Rd Eastbound				Coffin Butte Rd Westbound				Hwy 99 Northbound				Hwy 99 Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
2:00 PM	0	4	0	3	0	0	0	1	0	0	22	5	0	3	16	2	56	633
2:05 PM	0	0	0	0	0	1	0	3	0	2	13	1	0	3	9	3	35	629
2:10 PM	0	1	1	1	0	1	3	3	0	4	23	0	0	3	14	3	57	655
2:15 PM	0	1	0	3	0	1	0	0	0	0	29	1	0	1	17	1	54	650
2:20 PM	0	4	3	1	0	0	1	3	0	1	23	1	0	0	21	0	58	659
2:25 PM	0	2	2	0	0	0	0	2	0	1	24	1	0	2	5	2	41	656
2:30 PM	0	1	2	2	0	1	1	1	0	2	21	1	0	4	31	2	69	685
2:35 PM	0	4	1	3	0	0	1	2	0	0	12	0	0	2	14	1	40	677
2:40 PM	0	2	0	2	0	3	1	0	0	2	25	1	0	6	15	0	57	677
2:45 PM	0	1	2	0	0	3	1	1	0	4	14	2	0	3	11	1	43	688
2:50 PM	0	2	2	2	0	1	1	2	0	1	26	2	0	2	18	2	61	698
2:55 PM	0	1	0	1	0	1	1	3	0	3	22	0	0	0	30	0	62	700
3:00 PM	0	3	1	1	0	1	2	1	0	1	28	0	0	1	13	0	52	715
3:05 PM	0	0	1	4	0	2	1	2	0	0	28	0	0	4	19	0	61	721
3:10 PM	0	1	0	4	0	1	1	2	0	2	19	1	0	0	21	0	52	732
3:15 PM	0	1	3	4	0	1	1	3	0	0	29	3	0	0	17	1	63	735
3:20 PM	0	1	1	0	0	1	1	6	0	0	26	0	0	2	15	2	55	740
3:25 PM	0	2	0	1	0	1	1	3	0	3	31	3	0	5	20	0	70	752
3:30 PM	0	1	2	0	0	0	4	2	0	0	27	1	0	3	20	1	61	742
3:35 PM	0	0	2	1	0	1	0	1	0	2	21	2	0	1	9	0	40	734
3:40 PM	0	1	0	0	0	0	1	6	0	2	28	0	0	2	26	2	68	779
3:45 PM	0	1	0	1	0	1	1	0	0	3	25	2	0	6	13	0	53	777
3:50 PM	0	0	2	0	0	0	1	4	0	0	31	0	0	1	24	0	63	786
3:55 PM	0	2	3	1	0	0	0	3	0	3	37	1	0	6	21	0	77	790
4:00 PM	0	0	1	2	0	0	0	3	0	1	26	0	0	4	20	1	58	787
4:05 PM	0	2	2	1	0	1	1	4	0	0	34	3	0	4	20	0	72	791
4:10 PM	0	0	1	3	0	1	0	3	0	0	29	0	0	2	16	0	55	772
4:15 PM	0	0	0	1	0	0	1	2	0	1	40	2	0	1	20	0	68	785

Location: 1 Hwy 99 & Coffin Butte Rd PM

4:20 PM	0	1	3	0	0	0	3	2	0	2	25	2	0	2	27	0	67	774
4:25 PM	0	1	0	1	0	0	0	1	0	0	35	1	0	2	19	0	60	801
4:30 PM	0	2	3	0	0	0	0	5	0	0	22	1	0	5	14	1	53	806
4:35 PM	0	0	1	1	0	0	2	7	0	2	27	0	0	2	43	0	85	820
4:40 PM	0	0	2	0	0	0	1	3	0	0	28	1	0	5	26	0	66	802
4:45 PM	0	0	0	0	0	2	0	6	0	0	33	1	0	1	19	0	62	805
4:50 PM	0	0	1	0	0	0	0	3	0	1	28	1	0	2	31	0	67	813
4:55 PM	0	0	2	2	0	1	0	4	0	0	33	2	0	7	23	0	74	789
5:00 PM	0	0	0	0	0	1	0	3	0	0	33	0	0	5	20	0	62	761
5:05 PM	0	0	0	1	0	1	1	0	0	0	28	1	0	2	19	0	53	
5:10 PM	0	2	0	1	0	2	0	5	0	0	40	0	0	1	17	0	68	
5:15 PM	0	0	0	1	0	0	0	2	0	0	32	1	0	8	13	0	57	
5:20 PM	0	1	0	4	0	0	1	4	0	0	59	0	0	4	21	0	94	
5:25 PM	0	0	0	0	0	1	0	3	0	0	37	2	0	1	21	0	65	
5:30 PM	0	0	0	0	0	1	1	1	0	0	34	0	0	3	27	0	67	
5:35 PM	0	1	0	0	0	0	0	3	0	0	46	0	0	3	14	0	67	
5:40 PM	0	0	3	3	0	0	0	2	0	0	35	1	0	4	21	0	69	
5:45 PM	0	0	0	1	0	1	0	1	0	0	39	1	0	4	23	0	70	
5:50 PM	0	0	0	0	0	0	0	2	0	0	11	1	0	4	25	0	43	
5:55 PM	0	0	0	0	0	0	0	4	0	1	16	0	0	3	22	0	46	
Count Total	0	46	47	57	0	33	35	127	0	44	1,354	49	0	139	940	25	2,896	
Peak Hour	0	3	6	10	0	9	6	41	0	3	412	9	0	41	280	0	820	

Location: 1 Hwy 99 & Coffin Butte Rd PM

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
2:00 PM	5	1	1	0	7	2:00 PM	0	0	0	0	0	2:00 PM	0	0	0	0	0
2:05 PM	0	3	0	3	6	2:05 PM	0	0	0	0	0	2:05 PM	0	0	0	0	0
2:10 PM	2	1	2	0	5	2:10 PM	0	0	0	0	0	2:10 PM	0	0	0	0	0
2:15 PM	1	0	1	1	3	2:15 PM	0	0	0	0	0	2:15 PM	0	0	0	0	0
2:20 PM	6	1	1	0	8	2:20 PM	0	0	0	0	0	2:20 PM	0	0	0	0	0
2:25 PM	1	1	0	1	3	2:25 PM	0	0	0	0	0	2:25 PM	0	0	0	0	0
2:30 PM	3	5	1	7	16	2:30 PM	0	0	0	0	0	2:30 PM	0	0	0	0	0
2:35 PM	4	1	1	1	7	2:35 PM	0	0	0	0	0	2:35 PM	0	0	0	0	0
2:40 PM	1	3	1	1	6	2:40 PM	0	0	0	0	0	2:40 PM	0	0	0	0	0
2:45 PM	1	3	0	2	6	2:45 PM	0	0	0	2	2	2:45 PM	0	0	0	0	0
2:50 PM	5	1	3	4	13	2:50 PM	0	0	0	0	0	2:50 PM	0	0	0	0	0
2:55 PM	1	3	0	1	5	2:55 PM	0	0	0	0	0	2:55 PM	0	0	0	0	0
3:00 PM	1	1	3	0	5	3:00 PM	0	0	0	0	0	3:00 PM	0	0	0	0	0
3:05 PM	2	3	0	5	10	3:05 PM	0	0	0	0	0	3:05 PM	0	0	0	0	0
3:10 PM	1	2	2	1	6	3:10 PM	0	0	0	0	0	3:10 PM	0	0	0	0	0
3:15 PM	3	0	1	0	4	3:15 PM	0	0	0	0	0	3:15 PM	0	0	0	0	0
3:20 PM	1	2	1	2	6	3:20 PM	0	0	0	0	0	3:20 PM	0	0	0	0	0
3:25 PM	0	3	0	1	4	3:25 PM	0	0	0	0	0	3:25 PM	0	0	0	0	0
3:30 PM	1	2	1	2	6	3:30 PM	0	0	0	0	0	3:30 PM	0	0	0	0	0
3:35 PM	3	1	0	0	4	3:35 PM	0	0	0	0	0	3:35 PM	0	0	0	0	0
3:40 PM	0	1	0	2	3	3:40 PM	0	0	0	0	0	3:40 PM	0	0	0	0	0
3:45 PM	1	3	0	0	4	3:45 PM	0	0	0	0	0	3:45 PM	0	0	0	0	0
3:50 PM	0	0	1	0	1	3:50 PM	0	0	0	0	0	3:50 PM	0	0	0	0	0
3:55 PM	1	2	0	2	5	3:55 PM	0	0	0	0	0	3:55 PM	0	0	0	0	0
4:00 PM	1	2	0	0	3	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	4	0	0	4	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	1	1	0	1	3	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	0	2	1	1	4	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	0	0	2	0	2	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	2	0	1	3	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	2	4	0	1	7	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	1	2	0	1	4	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	1	0	1	0	2	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	2	0	2	4	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	1	1	0	3	5	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	0	1	0	2	3	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	1	0	0	0	1	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	1	1	0	1	3	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	2	0	2	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	1	1	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	1	1	0	2	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	1	1	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	1	1	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	1	0	1	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	53	66	28	52	199	Count Total	0	0	0	2	2	Count Total	0	0	0	0	0
Peak Hour	5	7	3	10	25	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0

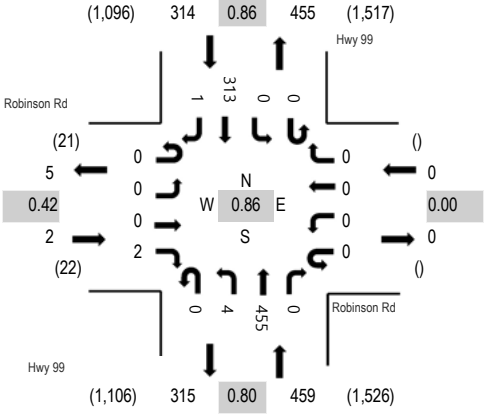
Location: 2 Hwy 99 & Robinson Rd PM

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

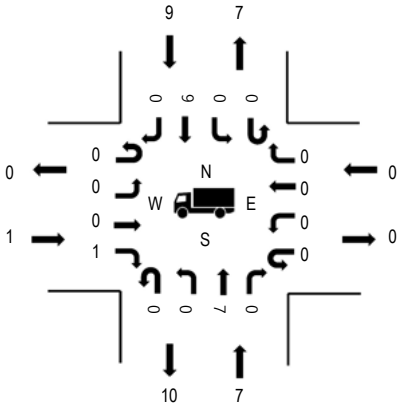
Location: 2 Hwy 99 & Robinson Rd PM
Date: Wednesday, January 13, 2022
Peak Hour: 04:35 PM - 05:35 PM
Peak 15-Minutes: 05:20 PM - 05:35 PM

Peak Hour

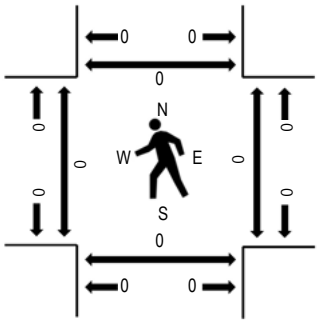
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	50.0%	0.42
WB	0.0%	0.00
NB	1.5%	0.80
SB	2.9%	0.86
All	2.2%	0.86

Traffic Counts - Motorized Vehicles

Interval Start Time	Robinson Rd Eastbound				Robinson Rd Westbound				Hwy 99 Northbound				Hwy 99 Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
2:00 PM	0	0	0	1	0	0	0	0	0	0	23	0	0	0	17	0	41	549
2:05 PM	0	0	0	0	0	0	0	0	0	0	22	0	0	0	18	0	40	549
2:10 PM	0	0	0	1	0	0	0	0	0	1	20	0	0	0	19	0	41	560
2:15 PM	0	0	0	0	0	0	0	0	0	0	32	0	0	0	17	0	49	568
2:20 PM	0	0	0	0	0	0	0	0	0	1	29	0	0	0	20	1	51	571
2:25 PM	0	0	0	1	0	0	0	0	0	1	21	0	0	0	22	0	45	565
2:30 PM	0	0	0	0	0	0	0	0	0	0	24	0	0	0	23	1	48	580
2:35 PM	0	0	0	0	0	0	0	0	0	0	26	0	0	0	23	0	49	591
2:40 PM	0	0	0	0	0	0	0	0	0	0	22	0	0	0	14	0	36	580
2:45 PM	0	0	0	0	0	0	0	0	0	0	18	0	0	0	20	0	38	594
2:50 PM	0	0	0	0	0	0	0	0	0	1	27	0	0	0	19	0	47	610
2:55 PM	0	1	0	4	0	0	0	0	0	0	31	0	0	0	28	0	64	629
3:00 PM	0	1	0	0	0	0	0	0	0	0	29	0	0	0	11	0	41	615
3:05 PM	0	0	0	0	0	0	0	0	0	0	28	0	0	0	23	0	51	642
3:10 PM	0	1	0	0	0	0	0	0	0	0	29	0	0	0	19	0	49	652
3:15 PM	0	1	0	0	0	0	0	0	0	2	29	0	0	0	20	0	52	658
3:20 PM	0	0	0	0	0	0	0	0	0	1	27	0	0	0	17	0	45	673
3:25 PM	0	0	0	1	0	0	0	0	0	0	34	0	0	0	25	0	60	686
3:30 PM	0	0	0	0	0	0	0	0	0	0	37	0	0	0	22	0	59	681
3:35 PM	0	0	0	0	0	0	0	0	0	0	24	0	0	0	14	0	38	676
3:40 PM	0	0	0	0	0	0	0	0	0	1	23	0	0	0	26	0	50	711
3:45 PM	0	0	0	1	0	0	0	0	0	0	29	0	0	0	24	0	54	728
3:50 PM	0	0	0	0	0	0	0	0	0	0	40	0	0	0	26	0	66	738
3:55 PM	0	0	0	0	0	0	0	0	0	0	26	0	0	0	24	0	50	732
4:00 PM	0	1	0	0	0	0	0	0	0	2	40	0	0	0	25	0	68	751
4:05 PM	0	0	0	2	0	0	0	0	0	0	39	0	0	0	20	0	61	741
4:10 PM	0	0	0	0	0	0	0	0	0	0	37	0	0	0	17	1	55	729

Location: 2 Hwy 99 & Robinson Rd PM

4:15 PM	0	0	0	1	0	0	0	0	0	0	35	0	0	0	31	0	67	728
4:20 PM	0	0	0	0	0	0	0	0	0	0	33	0	0	0	25	0	58	718
4:25 PM	0	1	0	0	0	0	0	0	0	1	34	0	0	0	19	0	55	746
4:30 PM	0	1	0	0	0	0	0	0	0	1	27	0	0	0	25	0	54	769
4:35 PM	0	0	0	1	0	0	0	0	0	0	33	0	0	0	39	0	73	775
4:40 PM	0	0	0	0	0	0	0	0	0	0	38	0	0	0	29	0	67	761
4:45 PM	0	0	0	0	0	0	0	0	0	1	37	0	0	0	26	0	64	772
4:50 PM	0	0	0	0	0	0	0	0	0	0	27	0	0	0	33	0	60	773
4:55 PM	0	0	0	0	0	0	0	0	0	0	35	0	0	0	34	0	69	750
5:00 PM	0	0	0	1	0	0	0	0	0	1	38	0	0	0	18	0	58	729
5:05 PM	0	0	0	0	0	0	0	0	0	0	26	0	0	0	23	0	49	
5:10 PM	0	0	0	0	0	0	0	0	0	0	39	0	0	0	15	0	54	
5:15 PM	0	0	0	0	0	0	0	0	0	0	36	0	0	0	20	1	57	
5:20 PM	0	0	0	0	0	0	0	0	0	1	61	0	0	0	24	0	86	
5:25 PM	0	0	0	0	0	0	0	0	0	1	46	0	0	0	31	0	78	
5:30 PM	0	0	0	0	0	0	0	0	0	0	39	0	0	0	21	0	60	
5:35 PM	0	0	0	0	0	0	0	0	0	1	37	0	0	0	21	0	59	
5:40 PM	0	0	0	0	0	0	0	0	0	0	49	0	0	0	29	0	78	
5:45 PM	0	1	0	0	0	0	0	0	0	0	37	0	0	0	27	0	65	
5:50 PM	0	0	0	0	0	0	0	0	0	0	17	0	0	0	20	0	37	
5:55 PM	0	0	0	0	0	0	0	0	0	0	19	0	0	0	29	0	48	
Count Total	0	8	0	14	0	0	0	0	0	17	1,509	0	0	0	1,092	4	2,644	
Peak Hour	0	0	0	2	0	0	0	0	0	4	455	0	0	0	313	1	775	

Location: 2 Hwy 99 & Robinson Rd PM

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
2:00 PM	0	3	0	2	5	2:00 PM	0	0	0	0	0	2:00 PM	0	0	0	0	0
2:05 PM	0	3	0	0	3	2:05 PM	0	0	0	0	0	2:05 PM	0	0	0	0	0
2:10 PM	0	2	0	0	2	2:10 PM	0	0	0	0	0	2:10 PM	0	0	0	0	0
2:15 PM	0	0	0	3	3	2:15 PM	0	0	0	0	0	2:15 PM	0	0	0	0	0
2:20 PM	0	3	0	0	3	2:20 PM	0	0	0	0	0	2:20 PM	0	0	0	0	0
2:25 PM	0	3	0	4	7	2:25 PM	0	0	0	0	0	2:25 PM	0	0	0	0	0
2:30 PM	0	0	0	3	3	2:30 PM	0	0	0	0	0	2:30 PM	0	0	0	0	0
2:35 PM	0	3	0	1	4	2:35 PM	0	0	0	0	0	2:35 PM	0	0	0	0	0
2:40 PM	0	2	0	1	3	2:40 PM	0	0	0	0	0	2:40 PM	0	0	0	0	0
2:45 PM	0	2	0	3	5	2:45 PM	0	0	0	0	0	2:45 PM	0	0	0	0	0
2:50 PM	0	2	0	3	5	2:50 PM	0	0	0	0	0	2:50 PM	0	0	0	0	0
2:55 PM	0	2	0	0	2	2:55 PM	0	0	0	0	0	2:55 PM	0	0	0	0	0
3:00 PM	0	3	0	1	4	3:00 PM	0	0	0	0	0	3:00 PM	0	0	0	0	0
3:05 PM	0	4	0	5	9	3:05 PM	0	0	0	0	0	3:05 PM	0	0	0	0	0
3:10 PM	0	4	0	0	4	3:10 PM	0	0	0	0	0	3:10 PM	0	0	0	0	0
3:15 PM	0	0	0	2	2	3:15 PM	0	0	0	0	0	3:15 PM	0	0	0	0	0
3:20 PM	0	2	0	0	2	3:20 PM	0	0	0	0	0	3:20 PM	0	0	0	0	0
3:25 PM	0	2	0	2	4	3:25 PM	0	0	0	0	0	3:25 PM	0	0	0	0	0
3:30 PM	0	2	0	2	4	3:30 PM	0	0	0	0	0	3:30 PM	0	0	0	0	0
3:35 PM	0	0	0	0	0	3:35 PM	0	0	0	0	0	3:35 PM	0	0	0	0	0
3:40 PM	0	1	0	1	2	3:40 PM	0	0	0	0	0	3:40 PM	0	0	0	0	0
3:45 PM	0	1	0	0	1	3:45 PM	0	0	0	0	0	3:45 PM	0	0	0	0	0
3:50 PM	0	1	0	0	1	3:50 PM	0	0	0	0	0	3:50 PM	0	0	0	0	0
3:55 PM	0	0	0	2	2	3:55 PM	0	0	0	0	0	3:55 PM	0	0	0	0	0
4:00 PM	0	1	0	0	1	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	4	0	0	4	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	0	0	1	1	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	0	2	0	1	3	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	1	0	0	1	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	0	3	0	1	4	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	1	1	0	0	2	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	1	0	0	1	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	1	0	0	1	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	0	0	1	1	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	0	1	0	4	5	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	0	1	0	2	3	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	1	0	1	2	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	1	0	0	1	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	1	1	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
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5:40 PM	0	1	0	0	1	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	1	1	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	1	65	0	48	114	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	1	7	0	9	17	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0

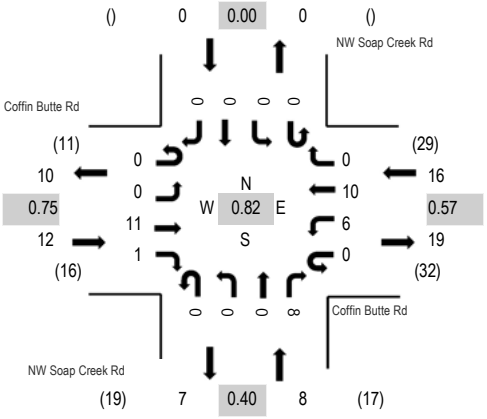
Location: 4 NW Soap Creek Rd & Coffin Butte Rd PM

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

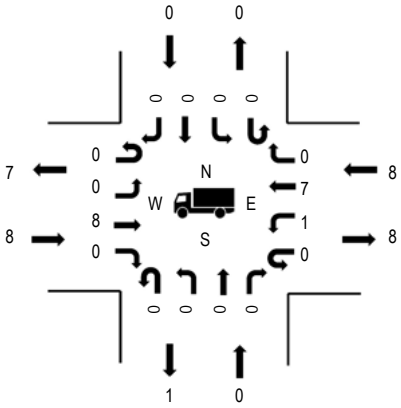
Location: 4 NW Soap Creek Rd & Coffin Butte Rd PM
Date: Wednesday, January 13, 2022
Peak Hour: 02:10 PM - 03:10 PM
Peak 15-Minutes: 02:10 PM - 02:25 PM

Peak Hour

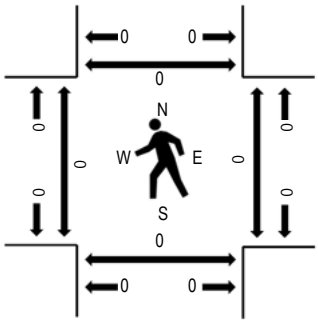
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	66.7%	0.75
WB	50.0%	0.57
NB	0.0%	0.40
SB	0.0%	0.00
All	44.4%	0.82

Traffic Counts - Motorized Vehicles

Interval Start Time	Coffin Butte Rd Eastbound				Coffin Butte Rd Westbound				NW Soap Creek Rd Northbound				NW Soap Creek Rd Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
2:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	31
2:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34
2:10 PM	0	0	0	1	0	1	2	0	0	0	0	0	0	0	0	0	4	36
2:15 PM	0	0	1	0	0	0	2	0	0	0	0	2	0	0	0	0	5	33
2:20 PM	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	2	29
2:25 PM	0	0	2	0	0	0	0	0	0	0	0	2	0	0	0	0	4	28
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	26
2:35 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	25
2:40 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3	24
2:45 PM	0	0	1	0	0	2	1	0	0	0	0	1	0	0	0	0	5	22
2:50 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	17
2:55 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	15
3:00 PM	0	0	1	0	0	3	0	0	0	0	0	0	0	0	0	0	4	13
3:05 PM	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	2	13
3:10 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	12
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	11
3:20 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	10
3:25 PM	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	2	11
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
3:35 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	12
3:40 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	14
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
3:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
3:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
4:00 PM	0	0	0	0	0	3	0	0	0	0	0	1	0	0	0	0	4	13
4:05 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	9
4:10 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8

Location: 4 NW Soap Creek Rd & Coffin Butte Rd PM

4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
4:20 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	10
4:25 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
4:30 PM	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	3	9
4:35 PM	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	3	7
4:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
4:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
4:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
5:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:10 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	
5:20 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	
5:25 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
5:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:55 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	
Count Total	0	0	15	1	0	18	11	0	0	0	0	17	0	0	0	0	62	
Peak Hour	0	0	11	1	0	6	10	0	0	0	0	8	0	0	0	0	36	

Location: 4 NW Soap Creek Rd & Coffin Butte Rd PM

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
2:00 PM	1	0	0	0	1	2:00 PM	0	0	0	0	0	2:00 PM	0	0	0	0	0
2:05 PM	0	0	0	0	0	2:05 PM	0	0	0	0	0	2:05 PM	0	0	0	0	0
2:10 PM	0	0	1	0	1	2:10 PM	0	0	0	0	0	2:10 PM	0	0	0	0	0
2:15 PM	1	0	2	0	3	2:15 PM	0	0	0	0	0	2:15 PM	0	0	0	0	0
2:20 PM	1	0	0	0	1	2:20 PM	0	0	0	0	0	2:20 PM	0	0	0	0	0
2:25 PM	2	0	0	0	2	2:25 PM	0	0	0	0	0	2:25 PM	0	0	0	0	0
2:30 PM	0	0	0	0	0	2:30 PM	0	0	0	0	0	2:30 PM	0	0	0	0	0
2:35 PM	0	0	1	0	1	2:35 PM	0	0	0	0	0	2:35 PM	0	0	0	0	0
2:40 PM	0	0	1	0	1	2:40 PM	0	0	0	0	0	2:40 PM	0	0	0	0	0
2:45 PM	1	0	1	0	2	2:45 PM	0	0	0	0	0	2:45 PM	0	0	0	0	0
2:50 PM	1	0	1	0	2	2:50 PM	0	0	0	0	0	2:50 PM	0	0	0	0	0
2:55 PM	1	0	0	0	1	2:55 PM	0	0	0	0	0	2:55 PM	0	0	0	0	0
3:00 PM	1	0	1	0	2	3:00 PM	0	0	0	0	0	3:00 PM	0	0	0	0	0
3:05 PM	0	0	0	0	0	3:05 PM	0	0	0	0	0	3:05 PM	0	0	0	0	0
3:10 PM	0	0	0	0	0	3:10 PM	0	0	0	0	0	3:10 PM	0	0	0	0	0
3:15 PM	0	0	0	0	0	3:15 PM	0	0	0	0	0	3:15 PM	0	0	0	0	0
3:20 PM	0	0	0	0	0	3:20 PM	0	0	0	0	0	3:20 PM	0	0	0	0	0
3:25 PM	0	0	0	0	0	3:25 PM	0	0	0	0	0	3:25 PM	0	0	0	0	0
3:30 PM	0	0	0	0	0	3:30 PM	0	0	0	0	0	3:30 PM	0	0	0	0	0
3:35 PM	0	0	0	0	0	3:35 PM	0	0	0	0	0	3:35 PM	0	0	0	0	0
3:40 PM	0	0	0	0	0	3:40 PM	0	0	0	0	0	3:40 PM	0	0	0	0	0
3:45 PM	0	0	0	0	0	3:45 PM	0	0	0	0	0	3:45 PM	0	0	0	0	0
3:50 PM	0	0	0	0	0	3:50 PM	0	0	0	0	0	3:50 PM	0	0	0	0	0
3:55 PM	0	0	0	0	0	3:55 PM	0	0	0	0	0	3:55 PM	0	0	0	0	0
4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	9	0	8	0	17	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	8	0	8	0	16	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0

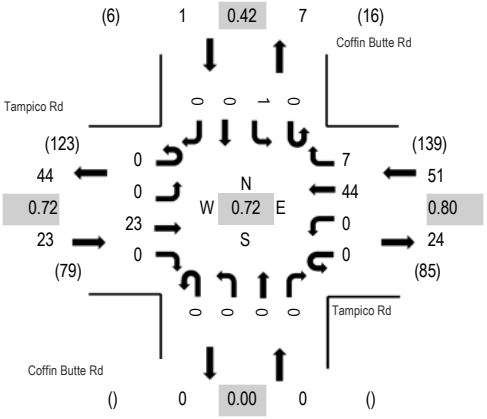
Location: 5 Coffin Butte Rd & Tampico Rd PM

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

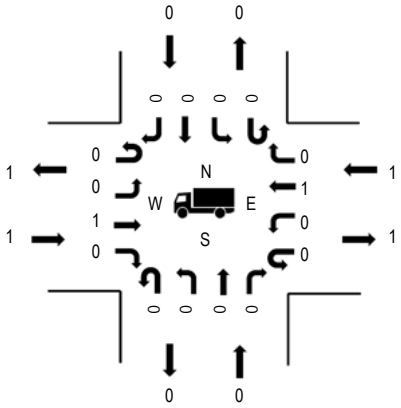
Location: 5 Coffin Butte Rd & Tampico Rd PM
Date: Wednesday, January 13, 2022
Peak Hour: 04:25 PM - 05:25 PM
Peak 15-Minutes: 04:45 PM - 05:00 PM

Peak Hour

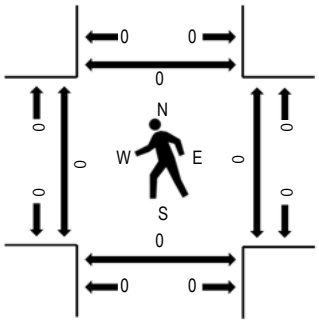
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	4.3%	0.72
WB	2.0%	0.80
NB	0.0%	0.00
SB	0.0%	0.42
All	2.7%	0.72

Traffic Counts - Motorized Vehicles

Interval Start Time	Tampico Rd Eastbound				Tampico Rd Westbound				Coffin Butte Rd Northbound				Coffin Butte Rd Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
2:00 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	46
2:05 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	48
2:10 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3	51
2:15 PM	0	0	0	0	0	0	3	2	0	0	0	0	0	0	0	0	5	57
2:20 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	57
2:25 PM	0	0	3	0	0	0	0	1	0	0	0	0	0	2	0	0	6	58
2:30 PM	0	0	4	0	0	0	1	0	0	0	0	0	0	1	0	0	6	55
2:35 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	52
2:40 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3	55
2:45 PM	0	0	4	0	0	0	0	1	0	0	0	0	0	1	0	0	6	55
2:50 PM	0	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	5	57
2:55 PM	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	5	57
3:00 PM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	4	56
3:05 PM	0	0	2	0	0	0	3	0	0	0	0	0	0	1	0	0	6	58
3:10 PM	0	0	3	0	0	0	6	0	0	0	0	0	0	0	0	0	9	58
3:15 PM	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	5	53
3:20 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	50
3:25 PM	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	3	50
3:30 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3	55
3:35 PM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	4	59
3:40 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	61
3:45 PM	0	0	1	0	0	0	7	0	0	0	0	0	0	0	0	0	8	61
3:50 PM	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	5	66
3:55 PM	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	4	67
4:00 PM	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	6	70
4:05 PM	0	0	2	0	0	0	3	1	0	0	0	0	0	0	0	0	6	65
4:10 PM	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	4	60

Location: 5 Coffin Butte Rd & Tampico Rd PM

4:15 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	66
4:20 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	71
4:25 PM	0	0	1	0	0	0	5	2	0	0	0	0	0	0	0	0	8	75
4:30 PM	0	0	2	0	0	0	4	1	0	0	0	0	0	0	0	0	7	70
4:35 PM	0	0	2	0	0	0	3	1	0	0	0	0	0	0	0	0	6	68
4:40 PM	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	3	63
4:45 PM	0	0	4	0	0	0	9	0	0	0	0	0	0	0	0	0	13	69
4:50 PM	0	0	4	0	0	0	2	0	0	0	0	0	0	0	0	0	6	58
4:55 PM	0	0	3	0	0	0	3	1	0	0	0	0	0	0	0	0	7	58
5:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	52
5:05 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
5:10 PM	0	0	2	0	0	0	6	1	0	0	0	0	0	1	0	0	10	
5:15 PM	0	0	4	0	0	0	3	0	0	0	0	0	0	0	0	0	7	
5:20 PM	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	6	
5:25 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3	
5:30 PM	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	5	
5:35 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	
5:40 PM	0	0	2	0	0	0	6	1	0	0	0	0	0	0	0	0	9	
5:45 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	
5:50 PM	0	0	1	0	0	0	5	0	0	0	0	0	0	0	0	0	6	
5:55 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Count Total	0	0	79	0	0	0	123	16	0	0	0	0	0	6	0	0	224	
Peak Hour	0	0	23	0	0	0	44	7	0	0	0	0	0	1	0	0	75	

Location: 5 Coffin Butte Rd & Tampico Rd PM

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
2:00 PM	0	0	1	0	1	2:00 PM	0	0	0	0	0	2:00 PM	0	0	0	0	0
2:05 PM	0	0	0	0	0	2:05 PM	0	0	0	0	0	2:05 PM	0	0	0	0	0
2:10 PM	0	0	0	0	0	2:10 PM	0	0	0	0	0	2:10 PM	0	0	0	0	0
2:15 PM	0	0	0	0	0	2:15 PM	0	0	0	0	0	2:15 PM	0	0	0	0	0
2:20 PM	0	0	0	0	0	2:20 PM	0	0	0	0	0	2:20 PM	0	0	0	0	0
2:25 PM	0	0	0	0	0	2:25 PM	0	0	0	0	0	2:25 PM	0	0	0	0	0
2:30 PM	0	0	0	0	0	2:30 PM	0	0	0	0	0	2:30 PM	0	0	0	0	0
2:35 PM	0	0	0	0	0	2:35 PM	0	0	0	0	0	2:35 PM	0	0	0	0	0
2:40 PM	0	0	0	0	0	2:40 PM	0	0	0	0	0	2:40 PM	0	0	0	0	0
2:45 PM	0	0	0	0	0	2:45 PM	0	0	0	0	0	2:45 PM	0	0	0	0	0
2:50 PM	0	0	0	0	0	2:50 PM	0	0	0	0	0	2:50 PM	0	0	0	0	0
2:55 PM	0	0	1	0	1	2:55 PM	0	0	0	0	0	2:55 PM	0	0	0	0	0
3:00 PM	1	0	0	0	1	3:00 PM	0	0	0	0	0	3:00 PM	0	0	0	0	0
3:05 PM	0	0	0	0	0	3:05 PM	0	0	0	0	0	3:05 PM	0	0	0	0	0
3:10 PM	0	0	0	0	0	3:10 PM	0	0	0	0	0	3:10 PM	0	0	0	0	0
3:15 PM	0	0	0	0	0	3:15 PM	0	0	0	0	0	3:15 PM	0	0	0	0	0
3:20 PM	0	0	0	0	0	3:20 PM	0	0	0	0	0	3:20 PM	0	0	0	0	0
3:25 PM	0	0	0	0	0	3:25 PM	0	0	0	0	0	3:25 PM	0	0	0	0	0
3:30 PM	0	0	0	0	0	3:30 PM	0	0	0	0	0	3:30 PM	0	0	0	0	0
3:35 PM	0	0	0	0	0	3:35 PM	0	0	0	0	0	3:35 PM	0	0	0	0	0
3:40 PM	0	0	0	0	0	3:40 PM	0	0	0	0	0	3:40 PM	0	0	0	0	0
3:45 PM	0	0	0	0	0	3:45 PM	0	0	0	0	0	3:45 PM	0	0	0	0	0
3:50 PM	0	0	0	0	0	3:50 PM	0	0	0	0	0	3:50 PM	0	0	0	0	0
3:55 PM	0	0	0	0	0	3:55 PM	0	0	0	0	0	3:55 PM	0	0	0	0	0
4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	1	0	1	0	2	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	2	0	3	0	5	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	1	0	1	0	2	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0

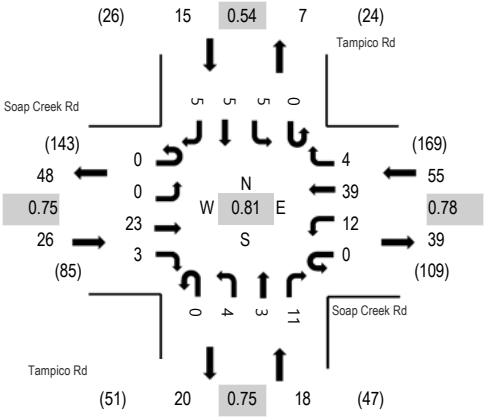
Location: 6 Tampico Rd & Soap Creek Rd PM

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

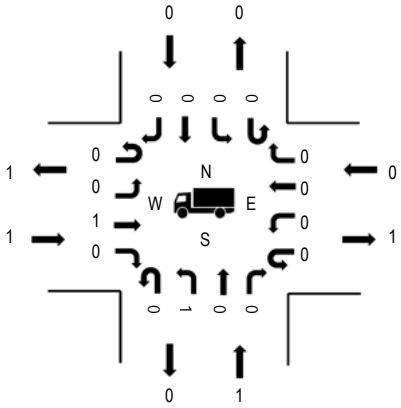
Location: 6 Tampico Rd & Soap Creek Rd PM
Date: Wednesday, January 13, 2022
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:45 PM - 05:00 PM

Peak Hour

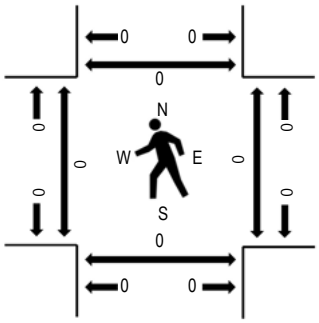
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	3.8%	0.75
WB	0.0%	0.78
NB	5.6%	0.75
SB	0.0%	0.54
All	1.8%	0.81

Traffic Counts - Motorized Vehicles

Interval Start Time	Soap Creek Rd Eastbound				Soap Creek Rd Westbound				Tampico Rd Northbound				Tampico Rd Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
2:00 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	60
2:05 PM	0	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	3	63
2:10 PM	0	0	2	0	0	1	3	0	0	0	0	0	0	0	0	0	6	70
2:15 PM	0	0	0	0	0	0	2	0	0	1	1	0	0	0	0	1	5	75
2:20 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	78
2:25 PM	0	2	3	0	0	0	1	0	0	0	0	1	0	0	0	0	7	80
2:30 PM	0	1	4	0	0	0	1	0	0	0	0	2	0	0	0	0	8	80
2:35 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	78
2:40 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3	83
2:45 PM	0	1	3	1	0	1	2	0	0	0	0	0	0	0	1	0	9	85
2:50 PM	0	0	3	0	0	2	2	0	0	0	0	0	0	0	1	0	8	84
2:55 PM	0	0	2	0	0	0	3	0	0	0	0	2	0	0	0	0	7	79
3:00 PM	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	1	5	78
3:05 PM	0	0	2	0	0	1	4	0	0	0	0	1	0	1	0	1	10	90
3:10 PM	0	0	4	0	0	1	5	0	0	0	0	0	0	1	0	0	11	87
3:15 PM	0	0	0	0	0	1	5	1	0	0	1	0	0	0	0	0	8	82
3:20 PM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	3	76
3:25 PM	0	0	3	0	0	1	2	0	0	0	1	0	0	0	0	0	7	82
3:30 PM	0	0	0	0	0	1	4	0	0	0	0	0	0	1	0	0	6	85
3:35 PM	0	1	1	0	0	1	2	0	0	0	0	1	0	0	0	0	6	92
3:40 PM	0	0	2	0	0	1	2	0	0	0	0	0	0	0	0	0	5	97
3:45 PM	0	0	0	0	0	1	5	0	0	1	0	0	0	0	0	1	8	96
3:50 PM	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	3	104
3:55 PM	0	0	1	1	0	0	3	0	0	0	0	1	0	0	0	0	6	109
4:00 PM	0	0	3	1	0	2	3	0	0	1	1	1	0	1	3	1	17	114
4:05 PM	0	0	2	0	0	0	2	0	0	0	0	2	0	0	0	1	7	98
4:10 PM	0	0	0	0	0	1	4	0	0	0	0	0	0	1	0	0	6	94

Location: 6 Tampico Rd & Soap Creek Rd PM

4:15 PM	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	2	100
4:20 PM	0	0	1	0	0	1	2	1	0	1	1	1	0	0	1	0	9	106
4:25 PM	0	0	1	0	0	2	4	0	0	1	0	0	0	0	0	2	10	104
4:30 PM	0	0	3	0	0	2	3	1	0	0	1	1	0	2	0	0	13	100
4:35 PM	0	0	2	0	0	1	4	0	0	0	0	2	0	0	1	1	11	96
4:40 PM	0	0	0	0	0	0	3	0	0	0	0	1	0	0	0	0	4	88
4:45 PM	0	0	4	1	0	2	7	1	0	1	0	0	0	0	0	0	16	92
4:50 PM	0	0	3	0	0	1	2	0	0	0	0	1	0	1	0	0	8	83
4:55 PM	0	0	3	1	0	0	5	0	0	0	0	2	0	0	0	0	11	82
5:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	75
5:05 PM	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	3	
5:10 PM	0	0	3	0	0	0	6	0	0	1	1	1	0	0	0	0	12	
5:15 PM	0	0	4	0	0	1	3	0	0	0	0	0	0	0	0	0	8	
5:20 PM	0	0	0	0	0	0	4	0	0	1	1	1	0	0	0	0	7	
5:25 PM	0	0	0	1	0	3	2	0	0	0	0	0	0	0	0	0	6	
5:30 PM	0	0	1	0	0	3	4	0	0	0	0	0	0	1	0	0	9	
5:35 PM	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	3	
5:40 PM	0	0	0	0	0	0	6	1	0	0	0	1	0	0	0	0	8	
5:45 PM	0	0	2	0	0	1	3	0	0	0	0	1	0	0	0	0	7	
5:50 PM	0	0	2	0	0	1	3	1	0	0	0	0	0	0	0	0	7	
5:55 PM	0	1	0	0	0	0	1	0	0	0	0	2	0	0	0	0	4	
Count Total	0	6	72	7	0	36	125	8	0	9	10	28	0	9	8	9	327	
Peak Hour	0	0	23	3	0	12	39	4	0	4	3	11	0	5	5	5	114	

Location: 6 Tampico Rd & Soap Creek Rd PM

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
2:00 PM	0	0	1	0	1	2:00 PM	0	0	0	0	0	2:00 PM	0	0	0	0	0
2:05 PM	0	0	0	0	0	2:05 PM	0	0	0	0	0	2:05 PM	0	0	0	0	0
2:10 PM	0	0	0	0	0	2:10 PM	0	0	0	0	0	2:10 PM	0	0	0	0	0
2:15 PM	0	0	0	0	0	2:15 PM	0	0	0	0	0	2:15 PM	0	0	0	0	0
2:20 PM	0	0	0	0	0	2:20 PM	0	0	0	0	0	2:20 PM	0	0	0	0	0
2:25 PM	0	0	0	0	0	2:25 PM	0	0	0	0	0	2:25 PM	0	0	0	0	0
2:30 PM	0	0	0	0	0	2:30 PM	0	0	0	0	0	2:30 PM	0	0	0	0	0
2:35 PM	0	0	0	0	0	2:35 PM	0	0	0	0	0	2:35 PM	0	0	0	0	0
2:40 PM	0	0	0	0	0	2:40 PM	0	0	0	0	0	2:40 PM	0	0	0	0	0
2:45 PM	0	0	0	0	0	2:45 PM	0	0	0	0	0	2:45 PM	0	0	0	0	0
2:50 PM	0	0	0	0	0	2:50 PM	0	0	0	0	0	2:50 PM	0	0	0	0	0
2:55 PM	0	0	1	0	1	2:55 PM	0	0	0	0	0	2:55 PM	0	0	0	0	0
3:00 PM	1	0	0	0	1	3:00 PM	0	0	0	0	0	3:00 PM	0	0	0	0	0
3:05 PM	0	0	0	1	1	3:05 PM	0	0	0	0	0	3:05 PM	0	0	0	0	0
3:10 PM	0	0	0	0	0	3:10 PM	0	0	0	0	0	3:10 PM	0	0	0	0	0
3:15 PM	0	0	0	0	0	3:15 PM	0	0	0	0	0	3:15 PM	0	0	0	0	0
3:20 PM	0	0	0	0	0	3:20 PM	0	0	0	0	0	3:20 PM	0	0	0	0	0
3:25 PM	0	0	0	0	0	3:25 PM	0	0	0	0	0	3:25 PM	0	0	0	0	0
3:30 PM	0	0	0	0	0	3:30 PM	0	0	0	0	0	3:30 PM	0	0	0	0	0
3:35 PM	0	0	0	0	0	3:35 PM	0	0	0	0	0	3:35 PM	0	0	0	0	0
3:40 PM	0	0	0	0	0	3:40 PM	0	0	0	0	0	3:40 PM	0	0	0	0	0
3:45 PM	0	0	0	0	0	3:45 PM	0	0	0	0	0	3:45 PM	0	0	0	0	0
3:50 PM	0	0	0	0	0	3:50 PM	0	0	0	0	0	3:50 PM	0	0	0	0	0
3:55 PM	0	0	0	0	0	3:55 PM	0	0	0	0	0	3:55 PM	0	0	0	0	0
4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	0	1	0	0	1	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	1	0	0	0	1	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
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5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	2	1	2	1	6	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	1	1	0	0	2	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0

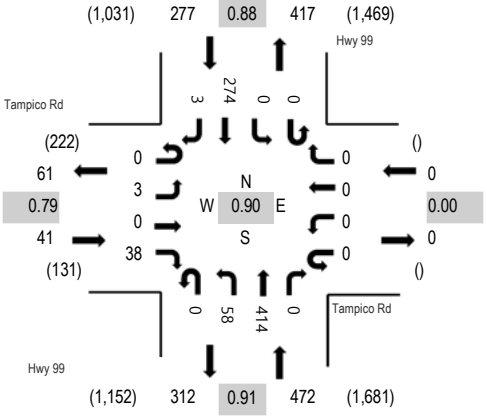
ALL TRAFFIC DATA SERVICES

(303) 216-2439
www.alltrafficdata.net

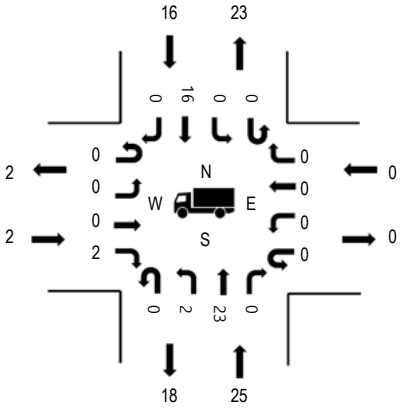
Location: 3 Hwy 99 & Tampico Rd PM
Date: Monday, January 18, 2021
Peak Hour: 03:40 PM - 04:40 PM
Peak 15-Minutes: 04:10 PM - 04:25 PM

Peak Hour

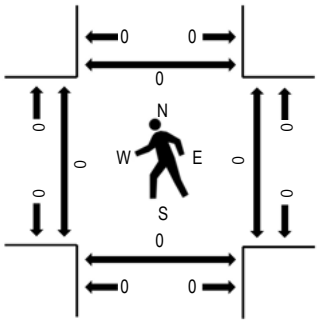
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	4.9%	0.79
WB	0.0%	0.00
NB	5.3%	0.91
SB	5.8%	0.88
All	5.4%	0.90

Traffic Counts - Motorized Vehicles

Interval Start Time	Tampico Rd Eastbound				Tampico Rd Westbound				Hwy 99 Northbound				Hwy 99 Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
2:00 PM	0	1	0	3	0	0	0	0	0	5	26	0	0	0	21	0	56	618
2:05 PM	0	0	0	7	0	0	0	0	0	1	21	0	0	0	19	0	48	616
2:10 PM	0	0	0	1	0	0	0	0	0	9	22	0	0	0	12	0	44	633
2:15 PM	0	1	0	3	0	0	0	0	0	2	18	0	0	0	26	0	50	641
2:20 PM	0	0	0	0	0	0	0	0	0	1	13	0	0	0	22	0	36	658
2:25 PM	0	0	0	4	0	0	0	0	0	6	27	0	0	0	19	1	57	668
2:30 PM	0	0	0	2	0	0	0	0	0	3	21	0	0	0	30	0	56	690
2:35 PM	0	0	0	2	0	0	0	0	0	1	20	0	0	0	24	1	48	682
2:40 PM	0	0	0	4	0	0	0	0	0	4	26	0	0	0	18	0	52	680
2:45 PM	0	0	0	4	0	0	0	0	0	1	23	0	0	0	24	0	52	697
2:50 PM	0	0	0	4	0	0	0	0	0	3	26	0	0	0	21	0	54	717
2:55 PM	0	0	0	5	0	0	0	0	0	4	31	0	0	0	25	0	65	733
3:00 PM	0	0	0	2	0	0	0	0	0	2	28	0	0	0	22	0	54	723
3:05 PM	0	0	0	2	0	0	0	0	0	5	36	0	0	0	22	0	65	727
3:10 PM	0	0	0	0	0	0	0	0	0	3	31	0	0	0	18	0	52	717
3:15 PM	0	0	0	2	0	0	0	0	0	4	33	0	0	0	28	0	67	752
3:20 PM	0	0	0	3	0	0	0	0	0	2	25	0	0	0	16	0	46	750
3:25 PM	0	0	0	2	0	0	0	0	0	4	36	0	0	0	37	0	79	772
3:30 PM	0	0	0	2	0	0	0	0	0	4	32	0	0	0	10	0	48	759
3:35 PM	0	0	0	3	0	0	0	0	0	8	20	0	0	0	15	0	46	767
3:40 PM	0	1	0	6	0	0	0	0	0	7	31	0	0	0	24	0	69	790
3:45 PM	0	0	0	2	0	0	0	0	0	8	41	0	0	0	21	0	72	777
3:50 PM	0	0	0	0	0	0	0	0	0	5	43	0	0	0	21	1	70	765
3:55 PM	0	0	0	2	0	0	0	0	0	6	32	0	0	0	15	0	55	766
4:00 PM	0	0	0	4	0	0	0	0	0	3	27	0	0	0	24	0	58	776
4:05 PM	0	0	0	3	0	0	0	0	0	6	24	0	0	0	22	0	55	776
4:10 PM	0	1	0	5	0	0	0	0	0	6	45	0	0	0	30	0	87	781
4:15 PM	0	0	0	2	0	0	0	0	0	7	39	0	0	0	16	1	65	759

Location: 3 Hwy 99 & Tampico Rd PM

4:20 PM	0	0	0	3	0	0	0	0	0	2	36	0	0	0	27	0	68	766
4:25 PM	0	1	0	2	0	0	0	0	0	4	40	0	0	0	19	0	66	777
4:30 PM	0	0	0	4	0	0	0	0	0	4	24	0	0	0	23	1	56	756
4:35 PM	0	0	0	5	0	0	0	0	0	0	32	0	0	0	32	0	69	771
4:40 PM	0	0	0	2	0	0	0	0	0	5	28	0	0	0	21	0	56	756
4:45 PM	0	0	0	2	0	0	0	0	0	4	30	0	0	0	24	0	60	760
4:50 PM	0	0	0	3	0	0	0	0	0	3	42	0	0	0	23	0	71	766
4:55 PM	0	0	0	1	0	0	0	0	0	8	35	0	0	0	21	0	65	748
5:00 PM	0	0	0	4	0	0	0	0	0	5	29	0	0	0	20	0	58	726
5:05 PM	0	0	0	2	0	0	0	0	0	8	34	0	0	0	16	0	60	
5:10 PM	0	0	0	2	0	0	0	0	0	4	34	0	0	0	25	0	65	
5:15 PM	0	0	0	2	0	0	0	0	0	6	47	0	0	0	17	0	72	
5:20 PM	0	0	0	4	0	0	0	0	0	6	37	0	0	0	32	0	79	
5:25 PM	0	0	0	2	0	0	0	0	0	5	20	0	0	0	18	0	45	
5:30 PM	0	0	0	3	0	0	0	0	0	9	38	0	0	0	21	0	71	
5:35 PM	0	0	0	0	0	0	0	0	0	4	33	0	0	0	17	0	54	
5:40 PM	0	0	0	3	0	0	0	0	0	3	40	0	0	0	14	0	60	
5:45 PM	0	0	0	3	0	0	0	0	0	5	35	0	0	0	23	0	66	
5:50 PM	0	0	0	0	0	0	0	0	0	7	28	0	0	0	18	0	53	
5:55 PM	0	0	0	0	0	0	0	0	0	5	25	0	0	0	13	0	43	
Count Total	0	5	0	126	0	0	0	0	0	217	1,464	0	0	0	1,026	5	2,843	
Peak Hour	0	3	0	38	0	0	0	0	0	58	414	0	0	0	274	3	790	

Location: 3 Hwy 99 & Tampico Rd PM

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
2:00 PM	1	3	0	2	6	2:00 PM	0	0	0	0	0	2:00 PM	0	0	0	0	0
2:05 PM	0	2	0	3	5	2:05 PM	0	0	0	0	0	2:05 PM	0	0	0	0	0
2:10 PM	0	2	0	1	3	2:10 PM	0	0	0	0	0	2:10 PM	0	0	0	0	0
2:15 PM	0	3	0	1	4	2:15 PM	0	2	0	0	2	2:15 PM	0	0	0	0	0
2:20 PM	0	1	0	3	4	2:20 PM	0	0	0	0	0	2:20 PM	0	0	0	0	0
2:25 PM	0	3	0	1	4	2:25 PM	0	0	0	0	0	2:25 PM	0	0	0	0	0
2:30 PM	0	3	0	3	6	2:30 PM	0	0	0	0	0	2:30 PM	0	0	0	0	0
2:35 PM	0	3	0	1	4	2:35 PM	0	0	0	0	0	2:35 PM	0	0	0	0	0
2:40 PM	0	3	0	1	4	2:40 PM	0	0	0	0	0	2:40 PM	0	0	0	0	0
2:45 PM	0	1	0	2	3	2:45 PM	0	0	0	0	0	2:45 PM	0	0	0	0	0
2:50 PM	0	2	0	1	3	2:50 PM	0	0	0	0	0	2:50 PM	0	0	0	0	0
2:55 PM	0	4	0	7	11	2:55 PM	0	0	0	0	0	2:55 PM	0	0	0	0	0
3:00 PM	0	2	0	2	4	3:00 PM	0	0	0	0	0	3:00 PM	0	0	0	0	0
3:05 PM	0	4	0	4	8	3:05 PM	0	0	0	0	0	3:05 PM	0	0	0	0	0
3:10 PM	0	1	0	0	1	3:10 PM	0	0	0	0	0	3:10 PM	0	0	0	0	0
3:15 PM	0	3	0	0	3	3:15 PM	0	0	0	0	0	3:15 PM	0	0	0	0	0
3:20 PM	0	2	0	1	3	3:20 PM	0	0	0	0	0	3:20 PM	0	0	0	0	0
3:25 PM	0	2	0	2	4	3:25 PM	0	0	0	0	0	3:25 PM	0	0	0	0	0
3:30 PM	0	4	0	2	6	3:30 PM	0	0	0	0	0	3:30 PM	0	0	0	0	0
3:35 PM	0	3	0	1	4	3:35 PM	1	0	0	0	1	3:35 PM	0	0	0	0	0
3:40 PM	1	1	0	2	4	3:40 PM	0	0	0	0	0	3:40 PM	0	0	0	0	0
3:45 PM	0	4	0	1	5	3:45 PM	0	0	0	0	0	3:45 PM	0	0	0	0	0
3:50 PM	0	3	0	2	5	3:50 PM	0	0	0	0	0	3:50 PM	0	0	0	0	0
3:55 PM	0	5	0	1	6	3:55 PM	0	0	0	0	0	3:55 PM	0	0	0	0	0
4:00 PM	0	2	0	1	3	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	2	0	0	2	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	2	0	0	2	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	0	0	0	2	2	4:15 PM	0	1	0	0	1	4:15 PM	0	0	0	0	0
4:20 PM	0	1	0	2	3	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	2	0	1	3	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	0	2	0	2	4	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	1	1	0	2	4	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	3	0	1	4	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	1	0	2	3	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	2	0	0	2	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	0	1	0	0	1	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	0	0	0	1	1	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	2	0	2	4	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	1	0	1	2	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	1	0	2	3	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	2	0	0	2	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	1	0	0	1	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	2	0	0	2	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	1	0	0	1	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	1	0	0	1	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	3	94	0	63	160	Count Total	1	3	0	0	4	Count Total	0	0	0	0	0
Peak Hour	2	25	0	16	43	Peak Hour	0	1	0	0	1	Peak Hour	0	0	0	0	0

Rally Traffic

N/S street:	***OR 99W***
E/W street:	***Coffin Butte Rd***
City, State	Adair Village OR
Study ID #	1020
Location	44.69957 -123.2
Start Date	Tuesday, September 19, 2023
Start Time	02:00:00 PM
Peak Hour Start	
Peak 15 Min Start	
PHF (15-Min Int)	

Peak-Hour Volumes (PHV)

Northbound				Southbound				Eastbound				Westbound				Entering				Leaving			
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	NB	SB	EB	WB	NB	SB	EB	WB
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

Percent Heavy Vehicles

PHV- Bicycles

Northbound				Southbound				Eastbound				Westbound					PHV - Pedestrians in Crosswalk				
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	**Sum**	NB	SB	EB	WB	**Sum**
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

All Vehicle Volumes

	Northbound OR 99W				Southbound OR 99W				Eastbound Coffin Butte Rd				Westbound Coffin Butte Rd				15 Min	1 HR
Time	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	Sum
02:00:00 PM	2	21	0	1	4	19	2	0	3	3	0	0	0	1	0	0		
02:05:00 PM	3	17	0	0	5	15	4	0	1	5	1	0	2	5	0	0		
02:10:00 PM	2	28	0	0	1	19	1	0	1	2	1	0	0	2	0	0	164	
02:15:00 PM	3	20	0	0	6	18	2	0	1	1	3	0	1	10	0	0	172	
02:20:00 PM	1	22	0	0	6	25	0	0	4	2	2	0	2	4	0	0	184	
02:25:00 PM	3	33	0	0	4	18	1	0	2	3	2	0	0	4	0	0	196	
02:30:00 PM	2	26	0	0	4	16	4	0	1	1	0	0	1	5	0	0	192	
02:35:00 PM	2	27	0	0	2	26	4	0	0	5	2	0	0	2	0	0	193	
02:40:00 PM	1	24	0	0	1	28	2	0	1	3	3	0	2	0	0	0	190	
02:45:00 PM	0	23	0	0	1	17	1	0	1	3	3	0	0	0	0	0	181	
02:50:00 PM	2	20	0	0	8	14	2	0	3	5	3	0	0	3	1	0	172	
02:55:00 PM	3	28	0	0	2	13	0	0	4	1	3	0	0	1	1	0	161	1805
03:00:00 PM	2	21	0	0	1	17	0	0	0	4	0	0	1	2	0	0	158	1963
03:05:00 PM	3	28	0	0	4	20	0	0	2	2	1	0	2	2	0	0	160	2123
03:10:00 PM	2	37	0	0	3	18	0	0	1	4	2	0	0	0	1	0	173	2132
03:15:00 PM	3	44	0	0	8	42	4	0	0	2	3	0	1	2	1	0	234	2194
03:20:00 PM	2	19	0	0	7	20	4	0	1	8	2	0	1	6	0	0	241	2251
03:25:00 PM	0	12	0	0	5	18	0	0	3	1	2	0	0	1	0	0	217	2272
03:30:00 PM	5	50	0	0	7	19	1	0	1	0	3	0	0	2	0	0	193	2273
03:35:00 PM	1	39	0	0	5	16	1	0	3	3	2	0	1	4	1	0	200	2280
03:40:00 PM	0	19	0	0	3	18	0	0	3	3	2	0	0	4	0	0	210	2300
03:45:00 PM	0	5	0	0	11	20	1	0	1	5	2	0	0	2	0	0	174	2293
03:50:00 PM	2	40	0	0	4	17	0	0	1	3	1	0	1	1	0	0	167	2288
03:55:00 PM	2	73	0	0	1	30	0	0	0	4	1	0	0	2	0	0	226	2353
04:00:00 PM	4	45	0	0	6	28	0	0	0	2	1	0	1	2	0	0	264	2459

Rally Traffic

04:05:00 PM	1	26	0	0	3	25	0	0	0	4	3	0	1	1	0	0	259	2558
04:10:00 PM	2	41	0	0	4	25	1	0	0	1	0	0	0	1	0	0	221	2606
04:15:00 PM	2	41	0	0	5	24	0	0	1	3	1	0	0	1	0	0	212	2584
04:20:00 PM	0	36	0	0	4	17	0	0	0	2	2	0	0	1	0	0	211	2554
04:25:00 PM	0	33	0	0	1	5	0	0	2	1	2	0	0	2	0	0	184	2521
04:30:00 PM	1	29	0	0	1	12	0	0	0	0	2	0	0	2	0	0	154	2482
04:35:00 PM	0	24	0	0	12	46	1	0	1	2	1	0	2	0	0	0	181	2463
04:40:00 PM	3	39	0	0	2	27	0	0	0	3	3	0	1	1	0	0	211	2464
04:45:00 PM	3	43	0	0	6	21	1	0	1	1	0	0	1	0	0	0	239	2529
04:50:00 PM	0	28	0	0	3	19	1	0	1	1	1	0	0	1	1	0	206	2568
04:55:00 PM	0	39	0	0	2	30	0	0	0	1	1	0	3	0	0	0	206	2548
05:00:00 PM	0	48	0	0	6	27	0	0	1	3	1	0	0	0	0	0	218	2502
05:05:00 PM	0	36	0	0	2	14	2	0	1	2	0	0	0	1	0	0	220	2463
05:10:00 PM	0	46	0	0	0	23	0	0	1	1	1	0	1	1	0	0	218	2460
05:15:00 PM	0	38	0	0	9	24	0	0	0	0	1	0	1	0	1	0	206	2454
05:20:00 PM	0	49	0	0	2	19	0	0	2	0	1	0	5	0	0	0	226	2469
05:25:00 PM	0	41	0	0	5	28	0	0	2	1	3	0	0	1	0	0	233	2518
05:30:00 PM	0	52	1	0	9	31	0	0	2	3	6	0	3	1	0	0	267	2631
05:35:00 PM	1	39	0	0	2	20	1	0	1	2	2	0	0	0	0	0	256	2706
05:40:00 PM	0	21	0	0	4	30	0	0	1	0	1	0	0	0	1	0	233	2728
05:45:00 PM	0	36	0	0	8	16	0	0	0	3	0	0	1	0	1	0	190	2679
05:50:00 PM	0	34	0	0	5	17	0	0	0	1	0	0	0	0	0	0	180	2653
05:55:00 PM	0	26	0	0	3	16	0	0	0	4	1	0	0	1	0	0	173	2620

Bicycles on Road

	Northbound				**Southbound**				**Eastbound**				**Westbound**					
	OR 99W				OR 99W				Coffin Butte Rd				Coffin Butte Rd				15 Min	1 HR
Time	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	Sum
02:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
02:05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
02:10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
02:15:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
02:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
02:25:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
02:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
02:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
02:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
02:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
02:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
02:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
03:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
03:05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	4
03:10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5
03:15:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5
03:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
03:25:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
03:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
03:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
03:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	4

Rally Traffic

03:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5
03:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6
03:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
04:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
04:05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
04:10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
04:15:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	4
04:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5
04:25:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6
04:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
04:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
04:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
04:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
04:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
04:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
05:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
05:05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	4
05:10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5
05:15:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5
05:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
05:25:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
05:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
05:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
05:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	4
05:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5
05:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6
05:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6

Passenger vehicles and light trucks

	Northbound				**Southbound**				**Eastbound**				**Westbound**					
	OR 99W				OR 99W				Coffin Butte Rd				Coffin Butte Rd				15 Min	1 HR
Time	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	Sum
02:00:00 PM	0	19	0	1	4	18	1	0	1	1	0	0	0	0	0	0		
02:05:00 PM	2	16	0	0	1	14	0	0	0	2	0	0	2	2	0	0		
02:10:00 PM	0	25	0	0	0	19	0	0	0	0	0	0	0	1	0	0	127	
02:15:00 PM	1	20	0	0	5	18	2	0	1	1	2	0	0	6	0	0	137	
02:20:00 PM	0	21	0	0	4	24	0	0	2	1	1	0	1	1	0	0	155	
02:25:00 PM	1	32	0	0	4	16	1	0	1	2	0	0	0	3	0	0	169	
02:30:00 PM	1	25	0	0	4	14	2	0	0	0	0	0	1	3	0	0	163	
02:35:00 PM	1	27	0	0	2	25	0	0	0	1	2	0	0	1	0	0	166	
02:40:00 PM	1	24	0	0	1	27	1	0	0	2	2	0	2	0	0	0	166	
02:45:00 PM	0	21	0	0	0	16	0	0	0	1	2	0	0	0	0	0	157	
02:50:00 PM	1	19	0	0	6	13	0	0	1	2	1	0	0	0	1	0	142	
02:55:00 PM	2	27	0	0	2	13	0	0	1	0	1	0	0	1	0	0	128	1510
03:00:00 PM	0	17	0	0	1	15	0	0	0	3	0	0	0	0	0	0	124	1634
03:05:00 PM	1	26	0	0	4	19	0	0	1	1	1	0	2	1	0	0	136	1770
03:10:00 PM	2	34	0	0	3	17	0	0	0	2	1	0	0	0	1	0	149	1792
03:15:00 PM	0	43	0	0	6	40	2	0	0	0	1	0	1	1	1	0	208	1863
03:20:00 PM	2	16	0	0	5	17	2	0	0	2	1	0	1	1	0	0	198	1906

Rally Traffic

03:25:00 PM	0	12	0	0	5	16	0	0	3	0	1	0	0	0	0	0	177	1914
03:30:00 PM	4	48	0	0	6	19	1	0	0	0	1	0	0	0	0	0	157	1908
03:35:00 PM	1	37	0	0	5	16	1	0	0	1	1	0	1	2	0	0	176	1918
03:40:00 PM	0	18	0	0	2	18	0	0	2	0	1	0	0	1	0	0	181	1933
03:45:00 PM	0	4	0	0	11	19	1	0	1	2	1	0	0	1	0	0	146	1922
03:50:00 PM	1	38	0	0	4	15	0	0	0	1	1	0	1	0	0	0	142	1922
03:55:00 PM	0	68	0	0	1	30	0	0	0	2	1	0	0	2	0	0	204	1998
04:00:00 PM	3	43	0	0	6	28	0	0	0	1	1	0	1	2	0	0	246	2120
04:05:00 PM	1	25	0	0	3	22	0	0	0	2	3	0	1	1	0	0	243	2227
04:10:00 PM	2	40	0	0	4	25	1	0	0	1	0	0	0	1	0	0	211	2289
04:15:00 PM	2	40	0	0	5	21	0	0	0	2	1	0	0	1	0	0	199	2280
04:20:00 PM	0	35	0	0	4	17	0	0	0	0	0	0	0	0	0	0	198	2280
04:25:00 PM	0	32	0	0	1	5	0	0	2	0	1	0	0	1	0	0	168	2271
04:30:00 PM	1	29	0	0	0	11	0	0	0	0	2	0	0	1	0	0	141	2255
04:35:00 PM	0	24	0	0	12	46	1	0	1	2	1	0	2	0	0	0	174	2253
04:40:00 PM	3	38	0	0	2	27	0	0	0	3	3	0	1	0	0	0	206	2278
04:45:00 PM	2	41	0	0	5	20	1	0	1	0	0	0	1	0	0	0	232	2364
04:50:00 PM	0	28	0	0	3	18	1	0	1	0	1	0	0	0	1	0	196	2418
04:55:00 PM	0	38	0	0	1	28	0	0	0	1	1	0	2	0	0	0	193	2407
05:00:00 PM	0	47	0	0	6	26	0	0	1	2	1	0	0	0	0	0	207	2368
05:05:00 PM	0	34	0	0	2	13	2	0	1	1	0	0	0	1	0	0	208	2333
05:10:00 PM	0	45	0	0	0	23	0	0	1	0	0	0	1	1	0	0	208	2330
05:15:00 PM	0	38	0	0	9	23	0	0	0	0	1	0	1	0	0	0	197	2328
05:20:00 PM	0	48	0	0	2	19	0	0	2	0	1	0	5	0	0	0	220	2350
05:25:00 PM	0	40	0	0	5	25	0	0	2	1	2	0	0	1	0	0	225	2407
05:30:00 PM	0	52	1	0	9	30	0	0	2	3	6	0	3	0	0	0	259	2525
05:35:00 PM	1	39	0	0	2	20	1	0	1	2	2	0	0	0	0	0	249	2600
05:40:00 PM	0	20	0	0	3	28	0	0	1	0	1	0	0	0	1	0	227	2621
05:45:00 PM	0	35	0	0	8	16	0	0	0	3	0	0	1	0	1	0	185	2574
05:50:00 PM	0	32	0	0	4	17	0	0	0	1	0	0	0	0	0	0	172	2550
05:55:00 PM	0	26	0	0	3	16	0	0	0	3	1	0	0	1	0	0	168	2525
	FHWA 4-13 -Truck/Multi-Unit/Heavy Trucks																	
	Northbound				**Southbound**				**Eastbound**				**Westbound**					
	OR 99W				OR 99W				Coffin Butte Rd				Coffin Butte Rd				15 Min	1 HR
Time	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	Sum
02:00:00 PM	2	2	0	0	0	1	1	0	2	2	0	0	0	1	0	0		
02:05:00 PM	1	1	0	0	4	1	4	0	1	3	1	0	0	3	0	0		
02:10:00 PM	2	3	0	0	1	0	1	0	1	2	1	0	0	1	0	0	37	
02:15:00 PM	2	0	0	0	1	0	0	0	0	0	1	0	1	4	0	0	35	
02:20:00 PM	1	1	0	0	2	1	0	0	2	1	1	0	1	3	0	0	29	
02:25:00 PM	2	1	0	0	0	2	0	0	1	1	2	0	0	1	0	0	27	
02:30:00 PM	1	1	0	0	0	2	2	0	1	1	0	0	0	2	0	0	29	
02:35:00 PM	1	0	0	0	0	1	4	0	0	4	0	0	0	1	0	0	27	
02:40:00 PM	0	0	0	0	0	1	1	0	1	1	1	0	0	0	0	0	24	
02:45:00 PM	0	2	0	0	1	1	1	0	1	2	1	0	0	0	0	0	24	
02:50:00 PM	1	1	0	0	2	1	2	0	2	3	2	0	0	3	0	0	30	
02:55:00 PM	1	1	0	0	0	0	0	0	3	1	2	0	0	0	1	0	33	295
03:00:00 PM	2	4	0	0	0	2	0	0	0	1	0	0	1	2	0	0	34	329

Rally Traffic

03:05:00 PM	2	2	0	0	0	1	0	0	1	1	0	0	0	1	0	0	24	353
03:10:00 PM	0	3	0	0	0	1	0	0	1	2	1	0	0	0	0	0	24	340
03:15:00 PM	3	1	0	0	2	2	2	0	0	2	2	0	0	1	0	0	26	331
03:20:00 PM	0	3	0	0	2	3	2	0	1	6	1	0	0	5	0	0	43	345
03:25:00 PM	0	0	0	0	0	2	0	0	0	1	1	0	0	1	0	0	40	358
03:30:00 PM	1	2	0	0	1	0	0	0	1	0	2	0	0	2	0	0	36	365
03:35:00 PM	0	2	0	0	0	0	0	0	3	2	1	0	0	2	1	0	24	362
03:40:00 PM	0	1	0	0	1	0	0	0	1	3	1	0	0	3	0	0	29	367
03:45:00 PM	0	1	0	0	0	1	0	0	0	3	1	0	0	1	0	0	28	371
03:50:00 PM	1	2	0	0	0	2	0	0	1	2	0	0	0	1	0	0	25	366
03:55:00 PM	2	5	0	0	0	0	0	0	0	2	0	0	0	0	0	0	22	355
04:00:00 PM	1	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	18	339
04:05:00 PM	0	1	0	0	0	3	0	0	0	2	0	0	0	0	0	0	16	331
04:10:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	317
04:15:00 PM	0	1	0	0	0	3	0	0	1	1	0	0	0	0	0	0	13	304
04:20:00 PM	0	1	0	0	0	0	0	0	0	2	2	0	0	1	0	0	13	274
04:25:00 PM	0	1	0	0	0	0	0	0	0	1	1	0	0	1	0	0	16	250
04:30:00 PM	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	13	227
04:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	210
04:40:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	5	186
04:45:00 PM	1	2	0	0	1	1	0	0	0	1	0	0	0	0	0	0	7	165
04:50:00 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	10	150
04:55:00 PM	0	1	0	0	1	2	0	0	0	0	0	0	1	0	0	0	13	141
05:00:00 PM	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	11	134
05:05:00 PM	0	2	0	0	0	1	0	0	0	1	0	0	0	0	0	0	12	130
05:10:00 PM	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	10	130
05:15:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	9	126
05:20:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	119
05:25:00 PM	0	1	0	0	0	3	0	0	0	0	1	0	0	0	0	0	8	111
05:30:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	8	106
05:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	106
05:40:00 PM	0	1	0	0	1	2	0	0	0	0	0	0	0	0	0	0	6	107
05:45:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	105
05:50:00 PM	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	8	103
05:55:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	5	95

Pedestrians Crossing					15 Min	1 HR
Time	NB	SB	EB	WB	Sum	Sum
02:00:00 PM	0	0	0	0		
02:05:00 PM	0	0	0	0		
02:10:00 PM	0	0	0	0	0	
02:15:00 PM	0	0	0	0	0	
02:20:00 PM	0	0	0	0	0	
02:25:00 PM	0	0	0	0	0	
02:30:00 PM	0	0	0	0	0	
02:35:00 PM	0	0	0	0	0	
02:40:00 PM	0	0	0	0	0	
02:45:00 PM	0	0	0	0	0	
02:50:00 PM	0	0	0	0	0	

Rally Traffic

02:55:00 PM	0	0	0	0	0	0
03:00:00 PM	0	0	0	0	0	0
03:05:00 PM	0	0	0	0	0	0
03:10:00 PM	0	0	0	0	0	0
03:15:00 PM	0	0	0	0	0	0
03:20:00 PM	0	0	0	0	0	0
03:25:00 PM	0	0	0	0	0	0
03:30:00 PM	0	0	0	0	0	0
03:35:00 PM	0	0	0	0	0	0
03:40:00 PM	0	0	0	0	0	0
03:45:00 PM	0	0	0	0	0	0
03:50:00 PM	0	0	0	0	0	0
03:55:00 PM	0	0	0	0	0	0
04:00:00 PM	0	0	0	0		
04:05:00 PM	0	0	0	0		
04:10:00 PM	0	0	0	0	1	
04:15:00 PM	0	0	0	0	1	
04:20:00 PM	0	0	0	0	1	
04:25:00 PM	0	0	0	0	2	
04:30:00 PM	0	0	0	0	2	
04:35:00 PM	0	0	0	0	1	
04:40:00 PM	0	0	0	0	0	
04:45:00 PM	0	0	0	0	1	
04:50:00 PM	0	0	0	0	1	
04:55:00 PM	0	0	0	0	2	5
05:00:00 PM	0	0	0	0	1	5
05:05:00 PM	0	0	0	0	1	4
05:10:00 PM	0	0	0	0	0	4
05:15:00 PM	0	0	0	0	2	6
05:20:00 PM	0	0	0	0	2	5
05:25:00 PM	0	0	0	0	2	4
05:30:00 PM	0	0	0	0	0	4
05:35:00 PM	0	0	0	0	0	4
05:40:00 PM	0	0	0	0	0	4
05:45:00 PM	0	0	0	0	0	3
05:50:00 PM	0	0	0	0	0	3
05:55:00 PM	0	0	0	0	0	2

Rally Traffic

N/S street:	***Landfill Entrance***
E/W street:	***Coffin Butte Rd***
City, State	Adair Village OR
Study ID #	1020
Location	44.69942 -123.2
Start Date	Tuesday, September 19, 2023
Start Time	04:00:00 PM
Peak Hour Start	
Peak 15 Min Start	
PHF (15-Min Int)	

Peak-Hour Volumes (PHV)

Northbound				Southbound				Eastbound				Westbound				Entering				Leaving			
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	NB	SB	EB	WB	NB	SB	EB	WB
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

Percent Heavy Vehicles

PHV- Bicycles																	PHV - Pedestrians				
Northbound				Southbound				Eastbound				Westbound					in Crosswalk				
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	**Sum**	NB	SB	EB	WB	**Sum**
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

All Vehicle Volumes

	Northbound				Southbound				Eastbound				Westbound					
	Landfill Entrance				Landfill Entrance				Coffin Butte Rd				Coffin Butte Rd				15 Min	1 HR
Time	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	Sum
02:00:00 PM	0	0	0	0	2	0	1	0	2	4	0	0	0	2	4	0		
02:05:00 PM	0	0	0	0	3	0	0	0	0	4	0	0	0	7	4	0		
02:10:00 PM	0	0	0	0	1	0	0	0	0	2	0	0	0	1	6	0	43	
02:15:00 PM	0	0	0	0	4	0	0	0	1	1	0	0	0	5	9	0	48	
02:20:00 PM	0	0	0	0	5	0	0	0	2	4	0	0	0	1	4	0	46	
02:25:00 PM	0	0	0	0	3	0	0	0	0	2	0	0	0	4	6	0	51	
02:30:00 PM	0	0	0	0	1	0	0	0	0	3	0	0	0	3	7	0	45	
02:35:00 PM	0	0	0	0	5	0	0	0	0	3	0	0	0	0	7	0	44	
02:40:00 PM	0	0	0	0	7	0	1	0	1	3	0	0	0	1	2	0	44	
02:45:00 PM	0	0	0	0	3	0	1	0	0	2	0	0	0	0	1	0	37	
02:50:00 PM	0	0	0	0	6	0	0	0	0	1	0	0	0	3	4	0	36	
02:55:00 PM	0	0	0	0	8	0	0	0	0	1	0	0	0	1	3	0	34	428
03:00:00 PM	0	0	0	0	3	0	0	0	0	2	0	0	0	2	2	0	36	464
03:05:00 PM	0	0	0	0	4	0	0	0	0	2	0	0	0	2	3	0	33	497
03:10:00 PM	0	0	0	0	4	0	0	0	1	0	0	0	0	1	3	0	29	483
03:15:00 PM	0	0	0	0	4	0	0	0	0	3	0	0	0	5	5	0	37	472
03:20:00 PM	0	0	0	0	7	0	0	0	0	4	0	0	0	4	5	0	46	472
03:25:00 PM	0	0	0	0	5	0	0	0	0	0	0	0	0	1	0	0	43	464
03:30:00 PM	0	0	0	0	3	0	1	0	0	2	0	0	0	4	4	0	40	459
03:35:00 PM	0	0	0	0	6	0	1	0	0	2	0	0	0	4	2	0	35	450
03:40:00 PM	0	0	0	0	6	0	0	0	0	3	0	0	0	1	3	0	42	448
03:45:00 PM	0	0	0	0	5	0	1	0	0	1	0	0	0	3	0	0	38	449
03:50:00 PM	0	0	0	0	3	0	0	0	0	2	0	0	0	3	1	0	32	445
03:55:00 PM	0	0	0	0	2	0	0	0	1	3	0	0	0	2	2	0	29	440
04:00:00 PM	0	0	0	0	0	0	1	0	0	4	0	0	0	4	1	0	29	433

Rally Traffic

04:05:00 PM	0	0	0	0	1	0	0	0	0	4	0	0	0	1	2	0	28	428
04:10:00 PM	0	0	0	0	2	0	1	0	0	2	0	0	0	1	3	0	27	426
04:15:00 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	1	1	0	21	410
04:20:00 PM	0	0	0	0	3	0	0	0	0	2	0	0	0	1	0	0	19	383
04:25:00 PM	0	0	0	0	2	0	1	0	0	2	0	0	0	2	0	0	17	357
04:30:00 PM	0	0	0	0	3	0	0	0	0	0	0	0	0	1	2	0	19	336
04:35:00 PM	0	0	0	0	3	0	0	0	0	2	0	0	0	0	1	0	19	320
04:40:00 PM	0	0	0	0	1	0	0	0	0	2	0	0	0	4	0	0	19	297
04:45:00 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	1	3	0	21	280
04:50:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	18	266
04:55:00 PM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	13	250
05:00:00 PM	0	0	0	0	4	0	0	0	0	1	0	0	0	0	0	0	10	231
05:05:00 PM	0	0	0	0	2	0	0	0	0	2	0	0	0	2	1	0	14	217
05:10:00 PM	0	0	0	0	0	0	3	0	0	2	0	0	0	1	0	0	18	208
05:15:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	14	201
05:20:00 PM	0	0	0	0	0	0	0	0	0	5	0	0	0	1	0	0	13	195
05:25:00 PM	0	0	0	0	3	0	0	0	0	5	0	0	0	0	0	0	15	193
05:30:00 PM	0	0	0	0	2	0	1	0	0	8	0	0	0	1	0	0	26	200
05:35:00 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	24	205
05:40:00 PM	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	21	207
05:45:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	10	196
05:50:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	7	185
05:55:00 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	1	0	0	7	179

Bicycles on Road

	Northbound				**Southbound**				**Eastbound**				**Westbound**					
	Landfill Entrance				Landfill Entrance				Coffin Butte Rd				Coffin Butte Rd				15 Min	1 HR
Time	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	Sum
02:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
02:05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
02:10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
02:15:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
02:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
02:25:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
02:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
02:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
02:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
02:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
02:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
02:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:25:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Rally Traffic

03:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:25:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:25:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
05:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4
05:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	6
05:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
05:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6

Passenger vehicles and light trucks

	Northbound				**Southbound**				**Eastbound**				**Westbound**					
	Landfill Entrance				Landfill Entrance				Coffin Butte Rd				Coffin Butte Rd				15 Min	1 HR
Time	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	Sum
02:00:00 PM	0	0	0	0	1	0	1	0	2	2	0	0	0	2	0	0		
02:05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0		
02:10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	11	
02:15:00 PM	0	0	0	0	2	0	0	0	0	1	0	0	0	3	6	0	15	
02:20:00 PM	0	0	0	0	3	0	0	0	2	2	0	0	0	0	1	0	22	
02:25:00 PM	0	0	0	0	2	0	0	0	0	0	0	0	0	2	4	0	28	
02:30:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	4	0	22	
02:35:00 PM	0	0	0	0	2	0	0	0	0	2	0	0	0	0	2	0	20	
02:40:00 PM	0	0	0	0	4	0	1	0	1	1	0	0	0	1	1	0	21	
02:45:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	16	
02:50:00 PM	0	0	0	0	3	0	0	0	0	0	0	0	0	0	1	0	14	
02:55:00 PM	0	0	0	0	3	0	0	0	0	0	0	0	0	1	2	0	11	180
03:00:00 PM	0	0	0	0	3	0	0	0	0	1	0	0	0	0	0	0	14	194
03:05:00 PM	0	0	0	0	2	0	0	0	0	0	0	0	0	1	1	0	14	208
03:10:00 PM	0	0	0	0	2	0	0	0	1	0	0	0	0	1	2	0	14	211
03:15:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	2	1	0	14	210
03:20:00 PM	0	0	0	0	1	0	0	0	0	3	0	0	0	0	3	0	17	205

Rally Traffic

03:25:00 PM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	13	190
03:30:00 PM	0	0	0	0	1	0	1	0	0	0	0	0	0	3	2	0	16	184
03:35:00 PM	0	0	0	0	1	0	1	0	0	1	0	0	0	2	2	0	16	180
03:40:00 PM	0	0	0	0	3	0	0	0	0	0	0	0	0	0	1	0	18	177
03:45:00 PM	0	0	0	0	4	0	0	0	0	0	0	0	0	2	0	0	17	178
03:50:00 PM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	13	177
03:55:00 PM	0	0	0	0	2	0	0	0	1	2	0	0	0	2	0	0	16	182
04:00:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	13	181
04:05:00 PM	0	0	0	0	1	0	0	0	0	3	0	0	0	1	1	0	16	183
04:10:00 PM	0	0	0	0	1	0	1	0	0	1	0	0	0	1	3	0	16	185
04:15:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	16	187
04:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	180
04:25:00 PM	0	0	0	0	1	0	1	0	0	1	0	0	0	1	0	0	7	174
04:30:00 PM	0	0	0	0	3	0	0	0	0	0	0	0	0	0	2	0	9	167
04:35:00 PM	0	0	0	0	2	0	0	0	0	2	0	0	0	0	1	0	14	165
04:40:00 PM	0	0	0	0	1	0	0	0	0	2	0	0	0	3	0	0	16	163
04:45:00 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	1	2	0	16	162
04:50:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	13	162
04:55:00 PM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	9	155
05:00:00 PM	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	7	149
05:05:00 PM	0	0	0	0	1	0	0	0	0	1	0	0	0	2	1	0	10	143
05:10:00 PM	0	0	0	0	0	0	3	0	0	1	0	0	0	1	0	0	13	140
05:15:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	11	135
05:20:00 PM	0	0	0	0	0	0	0	0	0	5	0	0	0	1	0	0	12	137
05:25:00 PM	0	0	0	0	2	0	0	0	0	5	0	0	0	0	0	0	14	144
05:30:00 PM	0	0	0	0	2	0	1	0	0	8	0	0	0	0	0	0	24	159
05:35:00 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	22	167
05:40:00 PM	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	20	171
05:45:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	10	165
05:50:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	7	159
05:55:00 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	6	156
	FHWA 4-13 -Truck/Multi-Unit/Heavy Trucks																	
	Northbound				**Southbound**				**Eastbound**				**Westbound**					
	Landfill Entrance				Landfill Entrance				Coffin Butte Rd				Coffin Butte Rd				15 Min	1 HR
Time	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	Sum
02:00:00 PM	0	0	0	0	1	0	0	0	0	2	0	0	0	0	4	0		
02:05:00 PM	0	0	0	0	3	0	0	0	0	4	0	0	0	6	4	0		
02:10:00 PM	0	0	0	0	1	0	0	0	0	2	0	0	0	1	4	0	32	
02:15:00 PM	0	0	0	0	2	0	0	0	1	0	0	0	0	2	3	0	33	
02:20:00 PM	0	0	0	0	2	0	0	0	0	2	0	0	0	1	3	0	24	
02:25:00 PM	0	0	0	0	1	0	0	0	0	2	0	0	0	2	2	0	23	
02:30:00 PM	0	0	0	0	1	0	0	0	0	2	0	0	0	2	3	0	23	
02:35:00 PM	0	0	0	0	3	0	0	0	0	1	0	0	0	0	5	0	24	
02:40:00 PM	0	0	0	0	3	0	0	0	0	2	0	0	0	0	1	0	23	
02:45:00 PM	0	0	0	0	2	0	1	0	0	2	0	0	0	0	1	0	21	
02:50:00 PM	0	0	0	0	3	0	0	0	0	1	0	0	0	3	3	0	22	
02:55:00 PM	0	0	0	0	5	0	0	0	0	1	0	0	0	0	1	0	23	248
03:00:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	2	0	22	270

Rally Traffic

03:05:00 PM	0	0	0	0	2	0	0	0	0	2	0	0	0	1	2	0	19	289
03:10:00 PM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	15	272
03:15:00 PM	0	0	0	0	3	0	0	0	0	3	0	0	0	3	4	0	23	262
03:20:00 PM	0	0	0	0	6	0	0	0	0	1	0	0	0	4	2	0	29	267
03:25:00 PM	0	0	0	0	3	0	0	0	0	0	0	0	0	1	0	0	30	274
03:30:00 PM	0	0	0	0	2	0	0	0	0	2	0	0	0	1	2	0	24	275
03:35:00 PM	0	0	0	0	5	0	0	0	0	1	0	0	0	2	0	0	19	270
03:40:00 PM	0	0	0	0	3	0	0	0	0	3	0	0	0	1	2	0	24	271
03:45:00 PM	0	0	0	0	1	0	1	0	0	1	0	0	0	1	0	0	21	271
03:50:00 PM	0	0	0	0	1	0	0	0	0	2	0	0	0	3	0	0	19	268
03:55:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	13	258
04:00:00 PM	0	0	0	0	0	0	1	0	0	3	0	0	0	3	0	0	16	252
04:05:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	12	245
04:10:00 PM	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	11	241
04:15:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	5	223
04:20:00 PM	0	0	0	0	3	0	0	0	0	2	0	0	0	1	0	0	9	203
04:25:00 PM	0	0	0	0	1	0	0	0	0	1	0	0	0	1	0	0	10	183
04:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	10	169
04:35:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	5	155
04:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	3	134
04:45:00 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	5	118
04:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	5	104
04:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	95
05:00:00 PM	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	3	82
05:05:00 PM	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	4	74
05:10:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	5	68
05:15:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	66
05:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	58
05:25:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	49
05:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	41
05:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	38
05:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	36
05:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31
05:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26
05:55:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	23

Pedestrians					15 Min	1 HR
Time	NB	SB	EB	WB	Sum	Sum
02:00:00 PM	0	0	0	0		
02:05:00 PM	0	0	0	0		
02:10:00 PM	0	0	0	0	0	
02:15:00 PM	0	0	0	0	0	
02:20:00 PM	0	0	3	0	3	
02:25:00 PM	0	0	3	0	6	
02:30:00 PM	0	0	0	0	6	
02:35:00 PM	0	0	0	0	3	
02:40:00 PM	0	2	0	0	2	
02:45:00 PM	0	0	2	0	4	
02:50:00 PM	0	0	0	0	4	

Rally Traffic

02:55:00 PM	0	0	1	0	3	31
03:00:00 PM	0	0	2	0	3	34
03:05:00 PM	0	0	0	0	3	37
03:10:00 PM	0	0	0	0	2	39
03:15:00 PM	0	0	2	0	2	41
03:20:00 PM	0	0	0	0	2	40
03:25:00 PM	0	0	0	0	2	36
03:30:00 PM	0	0	2	0	2	32
03:35:00 PM	0	0	0	0	2	31
03:40:00 PM	0	0	0	0	2	31
03:45:00 PM	0	0	1	0	1	28
03:50:00 PM	0	0	1	0	2	26
03:55:00 PM	0	0	0	0	2	25
04:00:00 PM	0	0	0	0		
04:05:00 PM	0	0	0	0		
04:10:00 PM	0	0	0	0	1	
04:15:00 PM	0	0	0	0	1	
04:20:00 PM	0	0	0	0	1	
04:25:00 PM	0	0	0	0	2	
04:30:00 PM	0	0	0	0	2	
04:35:00 PM	0	0	0	0	1	
04:40:00 PM	0	0	0	0	0	
04:45:00 PM	0	0	0	0	1	
04:50:00 PM	0	0	0	0	1	
04:55:00 PM	0	0	0	0	2	5
05:00:00 PM	0	0	0	0	1	5
05:05:00 PM	0	0	0	0	1	4
05:10:00 PM	0	0	0	0	0	4
05:15:00 PM	0	0	2	0	2	6
05:20:00 PM	0	0	0	0	2	5
05:25:00 PM	0	0	11	0	2	4
05:30:00 PM	0	0	0	0	0	4
05:35:00 PM	0	0	0	0	0	4
05:40:00 PM	0	0	0	0	0	4
05:45:00 PM	0	0	0	0	0	3
05:50:00 PM	0	0	0	0	0	3
05:55:00 PM	0	0	0	0	0	2

Rally Traffic

N/S street:	***NW Soap Creek Rd***
E/W street:	***Coffin Butte Rd***
City, State	Adair Village OR
Study ID #	1020
Location	44.69598 -123.2
Start Date	Tuesday, September 19, 2023
Start Time	02:00:00 PM
Peak Hour Start	
Peak 15 Min Start	
PHF (15-Min Int)	

Peak-Hour Volumes (PHV)

Northbound				Southbound				Eastbound				Westbound				Entering				Leaving			
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	NB	SB	EB	WB	NB	SB	EB	WB
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

Percent Heavy Vehicles

PHV- Bicycles																	PHV - Pedestrians				
Northbound				Southbound				Eastbound				Westbound					in Crosswalk				
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	NB	SB	EB	WB	Sum
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

All Vehicle Volumes

	Northbound				Southbound				Eastbound				Westbound					
	NW Soap Creek Rd				NW Soap Creek Rd				Coffin Butte Rd				Coffin Butte Rd				15 Min	1 HR
Time	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	Sum
02:00:00 PM	0	0	0	0	0	0	0	0	3	0	1	0	0	0	4	0		
02:05:00 PM	0	1	0	0	0	0	0	0	1	0	0	0	0	0	1	0		
02:10:00 PM	0	1	0	0	0	0	0	0	1	0	0	0	0	1	3	0	17	
02:15:00 PM	0	0	0	0	0	0	0	0	4	0	0	0	0	0	1	0	14	
02:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	16	
02:25:00 PM	0	1	0	0	0	0	0	0	3	0	0	0	0	1	1	0	16	
02:30:00 PM	0	1	0	0	0	0	0	0	1	0	0	0	0	0	1	0	14	
02:35:00 PM	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0	1	13	
02:40:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	0	10	
02:45:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	3	0	11	
02:50:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	9	
02:55:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	9	129
03:00:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	8	137
03:05:00 PM	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	9	146
03:10:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	1	2	0	11	140
03:15:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	11	137
03:20:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	10	131
03:25:00 PM	0	1	0	0	0	0	0	0	1	0	0	0	0	1	3	0	11	126
03:30:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	2	3	0	15	127
03:35:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	1	1	0	17	131
03:40:00 PM	0	0	0	0	0	0	0	0	3	0	0	0	0	1	1	0	16	137
03:45:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	3	0	14	140
03:50:00 PM	0	2	0	0	0	0	0	0	1	0	1	0	0	2	2	0	18	149
03:55:00 PM	0	1	0	0	0	0	0	0	3	0	0	0	0	1	1	0	19	159
04:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	17	168

Rally Traffic

04:05:00 PM	0	1	0	0	0	0	0	0	2	0	0	0	0	2	0	0	14	173
04:10:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	9	171
04:15:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	8	168
04:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	4	162
04:25:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	5	156
04:30:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	4	145
04:35:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	3	2	0	9	137
04:40:00 PM	0	2	0	0	0	0	0	0	1	0	0	0	0	1	1	0	12	133
04:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	12	131
04:50:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	7	120
04:55:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3	104
05:00:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	6	93
05:05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	6	85
05:10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	81
05:15:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	4	77
05:20:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	4	77
05:25:00 PM	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	6	78
05:30:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	1	7	81
05:35:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	79
05:40:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	73
05:45:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3	64
05:50:00 PM	0	1	0	0	0	0	0	0	2	0	0	0	0	1	0	0	6	63
05:55:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	6	66

Bicycles on Road

	Northbound				**Southbound**				**Eastbound**				**Westbound**					
	NW Soap Creek Rd				NW Soap Creek Rd				Coffin Butte Rd				Coffin Butte Rd				15 Min	1 HR
Time	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	Sum
02:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
02:05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
02:10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
02:15:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
02:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
02:25:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
02:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
02:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
02:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
02:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
02:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
02:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:25:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Rally Traffic

03:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:25:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:25:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
05:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4
05:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	6
05:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
05:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6

Passenger vehicles and light trucks

	Northbound				**Southbound**				**Eastbound**				**Westbound**					
	NW Soap Creek Rd				NW Soap Creek Rd				Coffin Butte Rd				Coffin Butte Rd				15 Min	1 HR
Time	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	Sum
02:00:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0		
02:05:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
02:10:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	5	
02:15:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	5	
02:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	6	
02:25:00 PM	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0	6	
02:30:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	7	
02:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	7	
02:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
02:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
02:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
02:55:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	45
03:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	47
03:05:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	49
03:10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	46
03:15:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	43
03:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	38

Rally Traffic

03:25:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	3	35
03:30:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	2	1	0	8	36
03:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	10	39
03:40:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	9	44
03:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	46
03:50:00 PM	0	2	0	0	0	0	0	0	0	0	1	0	0	2	1	0	8	53
03:55:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	58
04:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	10	66
04:05:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	7	71
04:10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	75
04:15:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	4	77
04:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	77
04:25:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	76
04:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	69
04:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	4	63
04:40:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	6	60
04:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	7	63
04:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	59
04:55:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	54
05:00:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	4	48
05:05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	5	46
05:10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	44
05:15:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	4	44
05:20:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	4	47
05:25:00 PM	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	6	51
05:30:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	1	7	57
05:35:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	60
05:40:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	60
05:45:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3	56
05:50:00 PM	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0	5	57
05:55:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	5	60
	FHWA 4-13 -Truck/Multi-Unit/Heavy Trucks																	
	Northbound				**Southbound**				**Eastbound**				**Westbound**					
	NW Soap Creek Rd				NW Soap Creek Rd				Coffin Butte Rd				Coffin Butte Rd				15 Min	1 HR
Time	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	Sum
02:00:00 PM	0	0	0	0	0	0	0	0	3	0	0	0	0	0	4	0		
02:05:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0		
02:10:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	12	
02:15:00 PM	0	0	0	0	0	0	0	0	3	0	0	0	0	0	1	0	9	
02:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	10	
02:25:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	10	
02:30:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	7	
02:35:00 PM	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	6	
02:40:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	0	6	
02:45:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	3	0	9	
02:50:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	8	
02:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	7	84
03:00:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	6	90

Rally Traffic

03:05:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	7	97
03:10:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	9	94
03:15:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	9	94
03:20:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	9	93
03:25:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	8	91
03:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	7	91
03:35:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	7	92
03:40:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	7	93
03:45:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	3	0	10	94
03:50:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	10	96
03:55:00 PM	0	0	0	0	0	0	0	0	3	0	0	0	0	1	1	0	12	101
04:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	102
04:05:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	7	102
04:10:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3	96
04:15:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	4	91
04:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3	85
04:25:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3	80
04:30:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3	76
04:35:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	5	74
04:40:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	6	73
04:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	68
04:50:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3	61
04:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	50
05:00:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	45
05:05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	39
05:10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	37
05:15:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33
05:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30
05:25:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27
05:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24
05:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19
05:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
05:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
05:50:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	6
05:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6

Pedestrians					15 Min	1 HR
Time	NB	SB	EB	WB	Sum	Sum
02:00:00 PM	0	0	0	0		
02:05:00 PM	0	0	0	0		
02:10:00 PM	0	0	0	0	0	
02:15:00 PM	0	0	0	0	0	
02:20:00 PM	0	0	0	0	0	
02:25:00 PM	0	0	0	0	0	
02:30:00 PM	0	0	0	0	0	
02:35:00 PM	0	0	0	0	0	
02:40:00 PM	0	0	0	0	0	
02:45:00 PM	0	0	0	0	0	
02:50:00 PM	0	0	0	0	0	

Rally Traffic

02:55:00 PM	0	0	0	0	0	0
03:00:00 PM	0	0	0	0	0	0
03:05:00 PM	0	0	0	0	0	0
03:10:00 PM	0	0	0	0	0	0
03:15:00 PM	0	0	0	0	0	0
03:20:00 PM	0	0	0	0	0	0
03:25:00 PM	0	0	0	0	0	0
03:30:00 PM	0	0	0	0	0	0
03:35:00 PM	0	0	0	0	0	0
03:40:00 PM	0	0	0	0	0	0
03:45:00 PM	0	0	0	0	0	0
03:50:00 PM	0	0	0	0	0	0
03:55:00 PM	0	0	0	0	0	0
04:00:00 PM	0	0	0	0	0	0
04:05:00 PM	0	0	0	0	0	0
04:10:00 PM	0	0	0	0	0	0
04:15:00 PM	0	0	0	0	0	0
04:20:00 PM	0	0	0	0	0	0
04:25:00 PM	0	0	0	0	0	0
04:30:00 PM	0	0	0	0	0	0
04:35:00 PM	0	0	0	0	0	0
04:40:00 PM	0	0	0	0	0	0
04:45:00 PM	0	0	0	0	0	0
04:50:00 PM	0	0	0	0	0	0
04:55:00 PM	0	0	0	0	0	0
05:00:00 PM	0	0	0	0	0	0
05:05:00 PM	0	0	0	0	0	0
05:10:00 PM	0	0	0	0	0	0
05:15:00 PM	0	0	0	0	0	0
05:20:00 PM	0	0	0	0	0	0
05:25:00 PM	0	0	0	0	0	0
05:30:00 PM	0	0	0	0	0	0
05:35:00 PM	0	0	0	0	0	0
05:40:00 PM	0	0	0	0	0	0
05:45:00 PM	0	0	0	0	0	0
05:50:00 PM	0	0	0	0	0	0
05:55:00 PM	0	0	0	0	0	0

Rally Traffic

N/S street:	***Knife River Quarry***
E/W street:	***Coffin Butte Rd***
City, State	Adair Village OR
Study ID #	1020
Location	44.69638 -123.2
Start Date	Tuesday, September 19, 2023
Start Time	02:00:00 PM
Peak Hour Start	
Peak 15 Min Start	
PHF (15-Min Int)	

Peak-Hour Volumes (PHV)

Northbound				Southbound				Eastbound				Westbound				Entering				Leaving			
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	NB	SB	EB	WB	NB	SB	EB	WB
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

Percent Heavy Vehicles

PHV- Bicycles

Northbound				Southbound				Eastbound				Westbound					PHV - Pedestrians in Crosswalk				
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	**Sum**	NB	SB	EB	WB	**Sum**
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

All Vehicle Volumes

	Northbound Knife River Quarry				Southbound Knife River Quarry				Eastbound Coffin Butte Rd				Westbound Coffin Butte Rd				15 Min	1 HR
Time	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	Sum
##	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0		
##	0	0	0	0	3	0	0	0	0	0	0	0	0	0	2	0		
##	0	0	0	0	6	0	0	0	0	0	0	0	0	0	3	0	16	
##	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	16	
##	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	15	
##	0	0	0	0	3	0	0	0	0	0	0	0	0	0	2	0	11	
##	0	0	0	0	2	0	0	0	0	0	0	0	0	0	3	0	14	
##	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	13	
##	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	10	
##	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	6	
##	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	6	
##	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	6	113
##	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	8	121
##	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	9	130
##	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	8	122
##	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	8	114
##	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	7	106
##	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	10	105
##	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	10	101
##	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0	10	98
##	0	0	0	0	4	0	0	0	0	0	0	0	0	0	3	0	13	101
##	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	12	107
##	0	0	0	0	3	0	0	0	0	0	0	0	0	0	2	0	14	115
##	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	10	119

Rally Traffic

##	0	0	0	0	3	0	0	0	0	0	0	0	0	0	1	1	13	124
##	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	10	125
##	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	9	126
##	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	122
##	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	118
##	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	3	111
##	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	104
##	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3	97
##	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	3	87
##	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	6	81
##	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	6	73
##	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	67
##	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	56
##	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	3	49
##	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	4	44
##	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	43
##	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	41
##	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	39
##	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	38
##	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	37
##	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	35
##	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29
##	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	24
##	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	3	23

Bicycles on Road

	Northbound				**Southbound**				**Eastbound**				**Westbound**					
	Knife River Quarry				Knife River Quarry				Coffin Butte Rd				Coffin Butte Rd				15 Min	1 HR
Time	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	Sum
##	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
##	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
##	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
##	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
##	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
##	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
##	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
##	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
##	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
##	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
##	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Rally Traffic

##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Passenger vehicles and light trucks

		Northbound				**Southbound**				**Eastbound**				**Westbound**					
		Knife River Quarry				Knife River Quarry				Coffin Butte Rd				Coffin Butte Rd				15 Min	1 HR
Time		Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	Sum
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
##		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
##		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	
##		0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	3	
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	4	
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18
##		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	19
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	20
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	20
##		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	19

Rally Traffic

##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	18
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	17
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	15
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	12
##		0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	4	13
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	4	16
##		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	5	21
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	23
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	24
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	24
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	24
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
##		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2
##		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	3
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6
##		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	7
##		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	9
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	11
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	12
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
##		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	13
##		0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	3	16

FHWA 4-13 -Truck/Multi-Unit/Heavy Trucks

		Northbound				**Southbound**				**Eastbound**				**Westbound**					
		Knife River Quarry				Knife River Quarry				Coffin Butte Rd				Coffin Butte Rd				15 Min	1 HR
Time		Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	Sum
##		0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0		
##		0	0	0	0	3	0	0	0	0	0	0	0	0	0	2	0		
##		0	0	0	0	5	0	0	0	0	0	0	0	0	0	3	0	15	
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	14	
##		0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	13	
##		0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	9	
##		0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	11	
##		0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	9	
##		0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	7	
##		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	5	
##		0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	6	
##		0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	6	95

Rally Traffic

##		0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	7	102
##		0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	8	110
##		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	7	102
##		0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	7	95
##		0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	6	88
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	9	88
##		0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	9	86
##		0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0	9	86
##		0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	9	88
##		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	8	91
##		0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	9	94
##		0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	8	96
##		0	0	0	0	3	0	0	0	0	0	0	0	0	0	1	0	11	100
##		0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	9	101
##		0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	8	102
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	99
##		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	96
##		0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	3	90
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	84
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3	78
##		0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	3	72
##		0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	6	70
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	6	67
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	63
##		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	54
##		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	47
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	41
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	38
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
##		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7

Pe de					15 Min	1 HR
Time	NB	SB	EB	WB	Sum	Sum
##	0	0	0	0		
##	0	0	0	0		
##	0	0	0	0	0	
##	0	0	0	0	0	
##	0	0	0	0	0	
##	0	0	0	0	0	
##	0	0	0	0	0	
##	0	0	0	0	0	
##	0	0	0	0	0	
##	0	0	0	0	0	

Rally Traffic

##	0	0	0	0	0	
##	0	0	0	0	0	0
##	0	0	0	0	0	0
##	0	0	0	0	0	0
##	0	0	0	0	0	0
##	0	0	0	0	0	0
##	0	0	0	0	0	0
##	0	0	0	0	0	0
##	0	0	0	0	0	0
##	0	0	0	0	0	0
##	0	0	0	0	0	0
##	0	0	0	0	0	0
##	0	0	0	0	0	0
##	0	0	0	0		
##	0	0	0	0		
##	0	0	0	0	1	
##	0	0	0	0	1	
##	0	0	0	0	1	
##	0	0	0	0	2	
##	0	0	0	0	2	
##	0	0	0	0	1	
##	0	0	0	0	0	
##	0	0	0	0	1	
##	0	0	0	0	1	
##	0	0	0	0	2	5
##	0	0	0	0	1	5
##	0	0	0	0	1	4
##	0	0	0	0	0	4
##	0	0	0	0	2	6
##	0	0	0	0	2	5
##	0	0	0	0	2	4
##	0	0	0	0	0	4
##	0	0	0	0	0	4
##	0	0	0	0	0	4
##	0	0	0	0	0	3
##	0	0	0	0	0	3
##	0	0	0	0	0	2

Intersection	
Int Delay, s/veh	4.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	36	0	28	30	1	27
Future Vol, veh/h	36	0	28	30	1	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	61	0	100	57	100	100
Mvmt Flow	44	0	34	37	1	33

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	44	0	149	44
Stage 1	-	-	-	-	44	-
Stage 2	-	-	-	-	105	-
Critical Hdwy	-	-	5.1	-	7.4	7.2
Critical Hdwy Stg 1	-	-	-	-	6.4	-
Critical Hdwy Stg 2	-	-	-	-	6.4	-
Follow-up Hdwy	-	-	3.1	-	4.4	4.2
Pot Cap-1 Maneuver	-	-	1112	-	659	805
Stage 1	-	-	-	-	777	-
Stage 2	-	-	-	-	723	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1112	-	639	805
Mov Cap-2 Maneuver	-	-	-	-	639	-
Stage 1	-	-	-	-	777	-
Stage 2	-	-	-	-	701	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	798	-	-	1112	-
HCM Lane V/C Ratio	0.043	-	-	0.031	-
HCM Control Delay (s)	9.7	-	-	8.3	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	57	28	57	21	30
Future Vol, veh/h	6	57	28	57	21	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	17	84	61	60	0	93
Mvmt Flow	7	68	33	68	25	36

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	101	0	-	0	149	67
Stage 1	-	-	-	-	67	-
Stage 2	-	-	-	-	82	-
Critical Hdwy	4.27	-	-	-	6.4	7.13
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.353	-	-	-	3.5	4.137
Pot Cap-1 Maneuver	1403	-	-	-	848	792
Stage 1	-	-	-	-	961	-
Stage 2	-	-	-	-	946	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1403	-	-	-	844	792
Mov Cap-2 Maneuver	-	-	-	-	844	-
Stage 1	-	-	-	-	956	-
Stage 2	-	-	-	-	946	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1403	-	-	-	813
HCM Lane V/C Ratio	0.005	-	-	-	0.075
HCM Control Delay (s)	7.6	-	-	-	9.8
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	4.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	36	0	28	30	1	27
Future Vol, veh/h	36	0	28	30	1	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	61	0	100	57	100	100
Mvmt Flow	66	0	51	55	2	49

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	66	0	223	66
Stage 1	-	-	-	-	66	-
Stage 2	-	-	-	-	157	-
Critical Hdwy	-	-	5.1	-	7.4	7.2
Critical Hdwy Stg 1	-	-	-	-	6.4	-
Critical Hdwy Stg 2	-	-	-	-	6.4	-
Follow-up Hdwy	-	-	3.1	-	4.4	4.2
Pot Cap-1 Maneuver	-	-	1088	-	591	780
Stage 1	-	-	-	-	757	-
Stage 2	-	-	-	-	680	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1088	-	563	780
Mov Cap-2 Maneuver	-	-	-	-	563	-
Stage 1	-	-	-	-	757	-
Stage 2	-	-	-	-	648	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.1	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	769	-	-	1088	-
HCM Lane V/C Ratio	0.067	-	-	0.047	-
HCM Control Delay (s)	10	-	-	8.5	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	57	28	57	21	30
Future Vol, veh/h	6	57	28	57	21	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	17	84	61	60	0	93
Mvmt Flow	11	102	50	102	38	54

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	152	0	-	0	225	101
Stage 1	-	-	-	-	101	-
Stage 2	-	-	-	-	124	-
Critical Hdwy	4.27	-	-	-	6.4	7.13
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.353	-	-	-	3.5	4.137
Pot Cap-1 Maneuver	1342	-	-	-	768	755
Stage 1	-	-	-	-	928	-
Stage 2	-	-	-	-	907	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1342	-	-	-	762	755
Mov Cap-2 Maneuver	-	-	-	-	762	-
Stage 1	-	-	-	-	921	-
Stage 2	-	-	-	-	907	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1342	-	-	-	758
HCM Lane V/C Ratio	0.008	-	-	-	0.12
HCM Control Delay (s)	7.7	-	-	-	10.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

EXHIBIT 16
ENVIRONMENTAL AND OPERATIONAL CONSDERATIONS

TUPPAN CONSULTANTS LLC
Geology Hydrogeology Environmental Consulting

T E C H N I C A L M E M O R A N D U M

TO: Benton County Community Development Department DATE: July 3, 2024

FROM: Eric Tuppan, R.G., Consultant for Valley Landfills, Inc. (Coffin Butte Landfill)

RE: Environmental and Operational Considerations

This memorandum provides a synopsis of environmental and operational considerations regarding the proposed landfill development south of Coffin Butte Road by Valley Landfills, Inc. (Coffin Butte Landfill). The information presented in this Technical Memorandum is based on past investigations that characterized site hydrogeology and geotechnical parameters for the area north of Coffin Butte Road where a landfill has operated since the mid 1970s, as well as recent investigations south of the road. The area south of Coffin Butte Road is currently used for ancillary structures and buildings that support landfill operations. Initially, hydrogeologic and geotechnical characterization occurred in the area south of the road as it related to the construction and operations of two leachate holding ponds and other infrastructure. Currently, characterization in this area includes ongoing water quality sampling of groundwater monitoring wells and a geotechnical evaluation of the proposed development area that was conducted in 2021 and 2022.

As part of the process for developing landfills overseen by Oregon's Department of Environmental Quality (DEQ), permittees are required to characterize the site conditions and then, based on that data, provide design documents for the landfill that must be approved by the DEQ before construction occurs. At Coffin Butte Landfill, consultants have studied the surface soils and subsurface geology of the site, geotechnical parameters of soil, as well as the groundwater hydrogeology and geochemistry over the past forty years. These investigation have provided a substantial historical record for the area north of Coffin Butte Road, where much of the site character for surface soils and for shallow and deep water-bearing zones is known. For the development area south of the road, investigation reports are in preparation for submittal to the DEQ as part of the permitting process.

DEQ's regulatory role in Oregon is to oversee all aspects of landfill development with regard to liner and landfill design, operations, and surface water and groundwater monitoring. This regulatory oversight has authority based on state and federal laws written to provide for the safe development, operations, closure, and post closure care of solid waste landfills. As part of solid waste permit requirements, Valley Landfills is required to submit workplans and designs that must be approved by the DEQ before landfill construction can begin. Followup reports document quality assurance and quality control measured during construction. In addition, the DEQ requires that Valley Landfills maintain a fund for

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financial assurance that provides for landfill closure, post-closure care and, if required, corrective action.

As noted above, Valley Landfills is in the process of supplementing this technical information for the area south of Coffin Butte Road. We submitted a workplan in July 2021 to the DEQ that described tasks to characterize the hydrogeology and geotechnical properties needed to understand the constructability of the landfill and to protect groundwater resources. Objectives for this study include:

- Update information to satisfy DEQ's Phase I site characterization elements, which focus on regional and area-wide data needs.

- Evaluate the site geology and hydrogeology, including stratigraphic units and the water-bearing zones as part of DEQ's Phase II site characterization. More specifically, this aspect will examine subsurface conditions that include the depth and extent of the water bearing hydrogeologic units, the hydraulic connection between units, the lithologic and hydraulic properties of these units, groundwater flow patterns, and other factors. This evaluation will occur in two phases: the first will include submittal of a site characterization report that reviews existing information and data for the site, the second part will present results of field studies as noted below in the last bullet.

- Acquire geotechnical information about the site to satisfy both a DEQ Phase I and II geotechnical assessment, including design-level data on the distribution of overburden soils (i.e., alluvium and regolith), depth of bedrock, and competency of units in the south development area. This aspect of study, of which the field work was performed in fall 2021 through 2022, included:
  - Characterized the variability, depth, aerial extent and engineering properties of onsite soils and other overburden deposits.
  - Inventoried soils and other overburden deposits suitable for use in construction, and identified a proposed use for these materials.
  - Identified geotechnical considerations (such as settlement and slope stability) which must be addressed in the engineering design.

- In a future phase, Valley Landfills will augment the groundwater monitoring network in the south development area (for the interim, two temporary piezometers were installed along the northern slope of Tampico Ridge as part of the geotechnical study). The purpose of this work is to validate our understanding of the conceptual hydrogeologic model for the site and to begin collecting groundwater depth and water quality data. This will include (1) installing wells upgradient, between the landfill and properties to the south and southeast, (2) installing wells cross- and down-gradient along the perimeter of the landfill footprint to function as compliance wells, (3) decommissioning any wells that are within the planned footprint of the

landfill, and (4) conducting hydraulic testing to estimate the hydraulic properties of the bedrock unit.

Given that additional data is forthcoming, our present understanding of the development area is summarized briefly below, knowing that more extensive information specific to DEQ guidance will be available in the near future.

GEOLOGIC FRAMEWORK

Physical Setting and Slopes

The property being developed as a municipal solid waste landfill is approximately 42 acres on the northern slope of what is referred to locally as Tampico Ridge. The northern flank of Tampico Ridge and the southern flank of Coffin Butte, located to the north, create a topographic saddle in which the ground surface dips gently away from the saddle to the east and west. Slopes on the upper part of the basin near the summit of the northern part of Tampico Ridge range from 16 to 20 percent, with hill top elevations over 500 feet above sea level on the southwest part of the hill to over 600 feet above sea level a bit farther south. Farther down the hillside toward Coffin Butte Road, slopes range from 2 to 13 percent.

Current Surface Water Drainage

The northernmost slope of Tampico Ridge forms a basin just east of the saddle with Coffin Butte that drains northerly into an unnamed intermittent drainage. Drainage from areas around the former leachate treatment facility, the existing covered and double-lined leachate holding ponds, and the landfill gas to electricity facility is directed through a culvert under Coffin Butte Road, joins stormwater drainage from the current landfill and flows into a settlement pond and bioswale. The settlement pond and bioswale are engineered to remove site-related compounds from the stormwater before it discharges to creeks that flow off site. The bioswale was recently upgraded to include a sub-surface flow wetland (SSFW). The SSFW includes an impermeable berm installed across the bioswale that forces water to flow downwards through a media bed at the upstream side of the impermeable berm. The media bed contains a mixture of coarse sand and biochar, which removes site-related compounds. A system of perforated pipes installed at the bottom of the media bed then collects the water and transports it to the downstream side of the impermeable berm, where the water then flows horizontally through a subsurface gravel layer. The gravel extends the remaining length of the SSFW to the existing outlet where the water daylights and is discharged at a sampling point.

Outside of the operations areas, precipitation that falls on the northeastern slopes of Tampico Ridge drains north to a ditch along the south side of Coffin Butte Road, and from there east to Highway 99, where it then flows through a culvert beneath Coffin Butte Road. Water flows north in the drainage ditch along the west side of Highway 99 to a culvert that conveys water from a wetland and this ditch to a creek on the east side of Highway 99. From there, surface water travels approximately 3 miles to the east-northeast in an unnamed

tributary before discharging to Soap Creek, which flows into the Luckiamute River 2.5 miles before the confluence with the Willamette River.

Geology

Tampico Ridge and Coffin Butte are prominent topographic features that comprise volcanic masses flanked by unconsolidated terrace and alluvial deposits. The volcanics are part of the Eocene Siletz River Formation and consist of relatively thick (up to 70 feet) sequences of basalt flows and a much smaller volume of thinly interbedded sedimentary units (individual beds up to 8 feet thick). Basalt flows are characterized by pillow lavas, flow breccias, and minor columnar jointing. The sedimentary portion consists of thinly bedded tuffaceous sandstone, siltstone, and claystone. The upper 5 to 15 feet of the bedrock unit is typically weathered and, in places, decomposed to soil where it is shown on geologic maps as volcanic pediment. With depth, the bedrock generally becomes less weathered to fresh and hard, although fracture and brecciated zones can become altered to clay minerals.

The lower flanks along the northern slope of Tampico Ridge are underlain by water laid sediments (Willamette Silt and alluvial sediments) that range in thickness from less than 10 feet to approximately 20 feet. These deposits consist primarily of clays, silty clays with gravels, or silty sands. Thicker deposits, at least 100 feet thick based on landfill boring log MW-9D (just north of the intersection of Coffin Butte Road and Hwy 99), extend to the east of Highway 99W.

HYDROGEOLOGY

Groundwater Occurrence

In bedrock terrains such as Tampico Ridge and Coffin Butte, shallow groundwater occurs primarily within fractures of weathered and unweathered bedrock, and in the alluvial deposits of the surrounding lowland areas. The local groundwater system is recharged by infiltrating precipitation and surface water from intermittent streams. Fractures provide the primary transport mechanism of groundwater in the bedrock, therefore, the occurrence and amount of groundwater depend on the nature, distribution, and interconnection of the fractures. Lack of interconnection among fractures limits the production available to groundwater wells completed in the basalt bedrock. Shallow bedrock in this area is commonly weathered to a gravel and sand mixture that behaves more uniformly (i.e., isotropic flow). As the bedrock becomes harder with depth and dominated by fractures, the groundwater moves predominantly through the fractures (i.e. anisotropic flow) from the uplands to areas of lower elevation. At that point, groundwater discharges through seeps or into streams, or into deeper alluvial deposits that overlie the bedrock.

Recharge and Flow of Groundwater

In hilly areas, shallow groundwater recharges through infiltration of rainwater. The amount of infiltration depends on the size and geometry of the recharge, or drainage, area that collects the rainwater. In bedrock terrains, groundwater flows through weathered residual soil and fractures. Groundwater flows in the downslope direction from areas of higher

elevation to lower elevation with the groundwater surface (i.e., potentiometric surface) generally reflecting the surface topography, although it is typically more subdued. As such, as depicted in Figure 1, the groundwater is generally assumed to flow away from the top of Tampico Ridge to the north, towards the proposed landfill development area, to the east toward Highway 99W (and, in places, discharge through springs at the base of the hill) and to the west and south. Figure 2 illustrates the groundwater flow pattern along the northern slope of Tampico Ridge based on the existing monitoring network for the landfill that includes two new piezometers installed near the upslope, southern boundary of the proposed landfill footprint.

Based on the existing topography and recharge areas, it is unlikely that a landfill liner along the northern part of the ridge would reduce infiltration and the quantity of groundwater supplying domestic wells or springs at properties of concern east and south of the northernmost part of the ridge. This is schematically depicted in Figure 1, which illustrates the landfill relative to the groundwater divide along Tampico Ridge and the presumed areal flow direction of groundwater.

Conceptual Hydrogeologic Model

The conceptual hydrogeologic model for the area follows the basic premise described above. Groundwater flow at the site is controlled by the topographic setting where the groundwater surface generally mimics the topography, with groundwater originating in the uplands of Tampico Ridge and Coffin Butte and flowing downgradient along the potentiometric surface. The higher elevation hills and recharge areas create local groundwater divides that separate the basin containing landfill operations from areas north of Coffin Butte and south of Tampico Ridge. Between the two hills, a lower groundwater divide exists near the topographic saddle, where the northern component of groundwater flow from Tampico Ridge meets the southern component of groundwater flow from Coffin Butte. Groundwater then flows towards the east and west generally following the long axes of the valleys. Based on almost 30 years of measurement, the seasonal groundwater flow pattern measured along the northern flanks of Tampico Ridge and at the Coffin Butte Landfill has not changed significantly.

As noted earlier, historical measurements in wells south of Coffin Butte Road, specifically MW-8S, MW-15, and now decommissioned MW-16, depicted groundwater along the northern slope of Tampico Ridge flowing towards the north-northeast as shown in Figure 2. These wells were supplemented with two temporary piezometers installed in 2022 near the upslope, southern boundary of the proposed landfill footprint. Groundwater elevations in these newer piezometers support the premise that groundwater flow on the northern slope of Tampico Ridge is northerly. On the northwest side of Tampico Ridge, groundwater flow documented by wells P-8, Merril, Phillips, Berkland, and Duplex, is toward the northwest away from Tampico Ridge. These wells, in addition to the newly proposed monitoring wells installed as part of site development (see Figure 4 and discussion in the section on water quality monitoring program), will be used to verify this conceptual hydrogeologic model.

Groundwater Supply

Water wells in this area produce primarily from fractured basalt bedrock. Predicting where and at what depth the basalt will be fractured enough to produce enough water for a supply well is problematic. This is because the lateral and vertical geometry of fractures in the bedrock basalt flows is naturally not uniform. In addition, the basalt is commonly altered to low permeability clays along fractures and in brecciated zones, thus reducing the ability of groundwater to flow within fractures. Domestic wells in this part of Benton County typically produce water from the basalt bedrock (frequently called "Blue- or Black Basalt" on the drillers' logs). As indicated on logs available from the Oregon Water Resources Department, when initially tested by drillers as part of pumping tests from one to four hours long, the water level in the wells draws down significantly, more than half the depth of the well on many of the logs. In terms of production, this means that the recharge of the aquifer to the well cannot keep up with what is being pumped out. This can happen for a number of reasons. For this area, the basalt aquifer has a limited capacity to provide water to wells because of low porosity (storage capacity) of the aquifer and the fractures that provide the water are not extensively connected to each other over long distances. Put another way, the distance away from a well that the well draws water is limited because of the discontinuous nature of the fractures.

Protection of Groundwater Resources

Before 1991 when the U.S. Environmental Protection Agency (EPA) implemented solid waste rules that required owners of new landfills construct composite liners and collection systems for municipal solid waste landfills, many older landfills leaked and as a consequence contaminated groundwater. Since then, the DEQ which implements the EPA's landfill liner rules, requires that landfills on the west side of the Cascades build double composite liners with secondary collection and leak detection systems as described below. This change in landfill regulation and construction altered the old paradigm that associated dumps with groundwater contamination to one of state-of-the-art engineered landfills with containment and detection systems that protect the environment and underlying groundwater.

Along the same lines, groundwater resources in the area are protected from potential landfill impacts by two conditions: a groundwater divide between the proposed landfill footprint (described in the previous section) and the landfill liner system. With regard to groundwater supply, the landfill will not consume any additional groundwater from the local aquifer to support operations.

Groundwater Divide. As noted above and shown in Figure 1, after rainwater infiltrates uplands along Tampico Ridge, it flows in the subsurface downgradient, following the direction of the slope of the potentiometric surface. This means that groundwater below the landfill footprint on the north slope of Tampico Ridge flows north away from the peak elevation of the hill as depicted in Figure 2. Groundwater will flow downgradient along other aspects of Tampico Ridge in a similar manner, generally following the topography from the high points (from 500 to 600 feet above sea level), to the lower elevations on the

east and south. It is this groundwater divide, which subtly mimics the ground surface, that prevents groundwater from one side of the hill to flow to the other.

Landfill Liner System. To protect groundwater resources, federal and state governments require state-of-the-art landfill liner systems for all new landfills. The current design planned for the composite liner system extends below the entire landfill from the upper part of landfill footprint at approximate elevation 380 feet above sea level, to the lower areas of the footprint near the current elevation of Coffin Butte Road at 250 to 270 feet above sea level. The footprint of the liner is shown in Figures 2 and 4 as a dashed green line within the development area. The design of the liner system prevents leachate from infiltrating to groundwater through the base of the landfill. In the western part of the state of Oregon and specifically at Coffin Butte Landfill, this consists of a double-liner composite system that contains five key components as shown in Figure 3. From bottom to top, these are:

- An underdrain layer of sand or gravel (or other possible geosynthetic component) that keeps the groundwater from impinging on the liner.

- A tertiary geomembrane, referred to as a flexible membrane liner (FML), of high density polyethylene (HDPE) that separates the groundwater from lower layers of the liner system.

- A second layer of sand or gravel (or other possible geosynthetic component) that provides for detection and secondary containment of possible leaks. This layer is monitored for volume and water quality as part of the detection monitoring program.

- Two more FML layers (primary and secondary geomembranes separated by a geosynthetic clay liner) to provide containment of leachate and fluids produced within the landfill.

- Leachate collection and removal system designed to collect and remove leachate generated in the landfill and convey the liquid to a pond for treatment; this prevents the accumulation of leachate along the base of the landfill and removes any downward hydraulic pressure that could drive leachate from this layer into the underlying secondary layer and to groundwater.

The liner system design and installation will be approved by the DEQ and construction will be closely monitored, tested and certified by a professional engineer, consistent with a DEQ-approved quality assurance and quality control plan.

Water Quality Monitoring Program. Water quality monitoring is required at the Coffin Butte Landfill by Solid Waste Permit 306, issued by the DEQ. Environmental monitoring has been conducted at Coffin Butte Landfill since 1975 when the DEQ started collecting water quality data from the leachate lagoon and from surface water around the site. Groundwater monitoring began in 1977 and since then, the monitoring network has evolved

in response to different monitoring and site characterization needs required by the solid waste permit. The current water quality monitoring network has five components:

- Groundwater monitoring wells, which include compliance and detection wells, and water supply wells
- Observation wells and piezometers used for measuring water levels
- The secondary leachate collection system (also referred to as the leak detection system or LDS)
- Leachate sumps
- Surface water monitoring points

The rationale for the network design and the media monitored can be found in the environmental monitoring plan. As part of landfill development, the groundwater monitoring network will be expanded to include the development area south of Coffin Butte Road. Proposed locations of new monitoring wells associated with this development are shown in Figure 4.

As noted earlier, this expanded monitoring network will include:

- Three upgradient wells along the southern perimeter of the landfill footprint (MW-B, MW-C, and MW-D). Depth-to-water can be measured in these wells to define the potentiometric surface south of the landfill, and the wells will also be tested for water quality parameters. Moreover, these will function as detection monitoring wells between the landfill and properties to the south and southeast.

- One well on the west side (MW-E) and one on east side (MW-A) of the landfill will serve as cross-gradient/compliance wells.

- Existing monitoring wells downgradient of the new cell (e.g., MW-8S/8D and MW-14S/14D) will be designated as compliance boundary wells.

- The leachate ponds will be covered and double-lined with a leak detection layer. Any fluids that might seep through the primary liner into this secondary leak detection layer will be collected and tested for landfill contaminants in a manner similar to the process for monitoring the secondary layer below the landfill. A piezometer (PZ-1) to the southeast of the ponds will monitor the groundwater elevation to define groundwater flow direction and if needed, can be sampled for groundwater quality.

In addition to environmental monitoring specified by the solid waste permit, stormwater samples are collected four times per water year and the results submitted to the DEQ annually under a National Pollutant Discharge Elimination System (NPDES), Industrial Stormwater Discharge Permit No. 1200-Z.

Landfill Operations Water Use. Landfill operations and construction activities use water supplied by Adair Village, not groundwater from onsite wells. The only groundwater used from onsite wells is for the existing office and the scale house. The volume of groundwater consumed at these two locations will not change. Overall, no additional groundwater will be used for the landfill development above current volumes.

GEOTECHNICAL ISSUES AND SEISMIC STABILITY

Geologic hazards and earthquake safety for the Coffin Butte Landfill have been discussed in site development plans and as part of reviewing federal and state location criteria for siting municipal solid waste landfills. These reports found that there were no known Holocene faults within 200 feet of the landfill boundary, and that landfill cells have been, and will continue to be, designed for potential seismic events as defined in federal and state solid waste rules.

The development area will be founded on a firm, competent geologic formation comprised of fresh basalt, weathered basalt, and some thin veneers of alluvium in the flatter downslope areas. In areas of prior landfill construction north of Coffin Butte Road, the only geotechnical constraints at the site were slope stability issues driven by the relative geometries of the bottom liner system, and the height and slope of the final landfill. Moreover, there were no unusual unstable areas or foundation conditions known to exist that would adversely affect landfill development. Detailed geotechnical evaluations are routinely conducted as part of each new cell development and will be part of the South Development Area Design Report, which will be submitted by the landfill design engineer Civil & Environmental Consultants, Inc. (CEC), before the landfill is constructed.

As part of the site characterization efforts, earlier planning and site characterization documents as well as recently conducted field and laboratory testing will be used as a basis to support our understanding for the geologic hazards analysis. Tasks for this element as they relate to the development area include:

- Discuss geologic hazards that could potentially be relevant to the site consistent with DEQ Landfill Guidance Section 2.7, and that includes location restrictions under OAR 340-94-0030 (and 40 CFR, Part 258, Subpart B), to address considerations such as Holocene fault zones, seismic impact areas, and unstable areas.

- Evaluate the earthquake safety of the site, including relative to its seismotectonic setting and seismic history of the area, the potential for the area to be affected by surface rupture, probable response of site to likely earthquakes, including estimated ground motion, maximum ground acceleration, velocity and displacement, the potential for the area to be affected by earthquake-induced landslides or soil liquefaction, and the potential for the area to be affected by regional tectonic deformation (subsidence or uplift). This evaluation will be presented as part of the geotechnical investigation for the site.

The proposed geotechnical scope of work was developed to provide design-level data for relevant engineering analyses. The data will be used to assess the suitability of on-site material for facility construction and the integrity of the soil and underlying material for stability in constructing the landfill. Types of data collected during field tasks included mapping the types and distribution of soils at the site, as well as noting the engineering properties of soil structure in test pits, geotechnical borings, and cone penetration tests.

SOIL DEPTH AND CLASSIFICATION

Reconnaissance mapping by the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) identified the soil series as Witzel-Ritner, very cobbly loam near the top of Tampico Ridge with Jory silty clay loam, Waldo silty clay loam, and Bashaw clay in the drainage basin to the north. Soil characteristics of these soil types as published by the NRCS are:

- Witzel-Ritner – well drained with moderately high to high capacity to transmit water, loamy or clayey colluvium derived from basalt along slopes of 12 to 60 percent.

- Jory – well drained with moderately high capacity to transmit water, loamy colluvium derived from basalt over clayey residuum weathered from basalt along slopes of 2 to 20 percent.

- Bashaw – poorly drained with very low to moderately low capacity to transmit water, clayey alluvium derived from basalt on slopes of 3 to 12 percent.

- Waldo – poorly drained with moderately low to moderately high capacity to transmit water, silty clay loam derived from clayey alluvium on slopes of 0 to 3 percent.

From past field studies, the depth of soil ranged from no soil over hard rocky outcrops in the steeper northern slopes to a depth of 16 feet on intermediate slopes of Tampico Ridge. In the borehole for monitoring well MW-16, located on the north slope of Tampico Ridge near the east leachate pond, clayey silt was present from the surface to a depth of 3 feet, basalt bedrock weathered to silt and clayey gravel from 3 to 16 feet, and hard basaltic bedrock was logged at a depth of 16 feet. Test pits completed in August 2021 found a range of soil types and depths consistent with these past findings. This included soils at the surface to depths that ranged from 2.5 to over 10 feet deep of typically fine-grained clay and silt. The fine grained soils are typically underlain by a sandy gravel interval from 2 to 5 feet thick, which is weathered basalt bedrock. The gravelly interval overlies hard basalt bedrock.

EROSION CONTROL FACTORS

To control potential erosion and reduce the debris and sediment in the stormwater discharge during landfill construction and operations, stormwater management practices will be

employed as described in the Erosion and Sediment Control Plan (ESCP) that will be developed for construction and approved by the DEQ.

Implementation of stormwater management practices limit the amount of erosion associated with stormwater runoff. These practices may include structural or nonstructural control measures such as debris and sediment control, stormwater diversion, and preventative maintenance.

Debris and Sediment Control

The extent of construction activities at the landfill will make debris and sediment control critical. The following practices may be used as appropriate to control erosion.

- Temporary seeding and sodding of disturbed areas such as landfill side slopes, stockpile areas, and interim cover areas. Permanently seed areas that have been brought to final grade such as final cover areas, embankments, ditches, and drainage swales.

- Surface roughening of disturbed soil slopes after they are graded and before they are seeded to help establish the vegetative cover, reduce runoff velocity, and allow sediment trapping.

- Mulching and matting to protect soil surfaces from raindrop impact and reduce the velocity of overland flow.

- Plastic sheet cover to provide immediate erosion protection to small temporary soil stockpiles, erosion-troubled soil areas, and slopes and disturbed areas when vegetative cover cannot be established because of soil characteristics, slope steepness, or time of year.

- Buffer zones of natural grassy vegetation will be cultivated and left unmowed along areas of sheet flow runoff.

- Filter fences and straw bale barriers intercept and detain small amounts of sediment from disturbed areas during constructions activity. These will be appropriately installed both below areas of sheet or rill erosion, such as along the toe of graded areas, soil stockpiles, and embankments.

- Sedimentation traps and basins allow for sediment contained in stormwater runoff to settle out and will be installed as needed throughout the development of the landfill.

- Dust control such as road watering, temporary and permanent vegetation, and plastic covering will be used to reduce the amount of soil lost from exposed surfaces.

- Outlet protection including riprap aprons, riprap plunge pools, or energy dissipating devices will be installed at stormwater discharge points to prevent scour and to minimize downstream erosion.

- Riprap may be used as permanent ground cover at outlets, ditches, and toes of slopes to protect soil surfaces from concentrated runoff, slow the runoff velocity, and stabilize slopes with seepage problems.

Stormwater Diversion

Stormwater is diverted away from the landfilled waste areas. The design will call for interceptor dikes and swales to intercept stormwater runoff from drainage areas above unprotected slopes and direct it to a stabilized outlet. Interceptor dikes or swales are placed above sharp grade breaks and soil stockpile areas. In areas within the active landfill operations, temporary stormwater structures divert runoff from equipment maintenance areas, spill areas, exposed waste, and from leachate seep areas so that any surface water that contacts the exposed waste drains internal to the landfill boundary where it can be collected by the leachate collection system. This type of grading and the structures prevent the escape of stormwater runoff that has contacted exposed waste.

Preventative Maintenance

Routine preventive maintenance is crucial to reducing the amount of erosion produced by stormwater runoff. Each month during the rainy season, routine inspections for debris and sediment in the stormwater control structures will be performed. Inspection will be followed by, as needed, cleaning and repairing stormwater control features, structures and facilities including: seeding and planting areas, mulching and matting areas, plastic sheet cover, buffer zones, haul road, filter fences and straw bale barriers, sediment basins, dust control, surface roughening, interceptor dikes and swales, inlet/outlet protection, ditches, and culverts.

COVER MATERIALS

Type of Cover

There are three types of landfill cover based on the phase of landfill development. The first is a daily operations layer (typically a minimum of 6-inches thick) of soil materials spread over the daily lifts of refuse to control odor, disease vectors, fires, blowing litter, and scavenging. Tarps, or other DEQ-approved alternatives can also be used for daily cover. The second is an interim cover, typically 12 inches of soil covered by tarps made of griffolyn that is placed over those parts of the operating cell that have achieved final grade. This cover is placed to reduce infiltrating rainfall until the entire cell has been filled, at which time a final cover is installed. The third type of cover is the final cover for the landfill cell which is constructed after the entire cell has reached final grade. The final cover is generally constructed of both geosynthetic and soil materials, consistent with federal and state solid waste regulations.

Available Quantity of Soil Cover

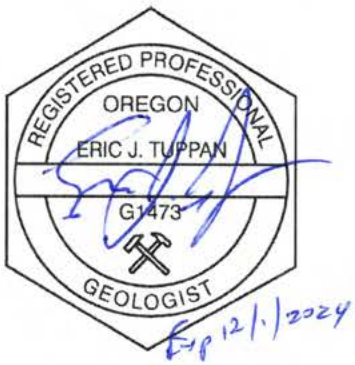
Estimates from the current design show approximately 300,000 cubic yards of soil available from the existing parcel for cover material. This soil will likely be removed and stockpiled at an appropriate location near the landfill during the excavation and construction phase until it is needed. Depending on the landfill design and soil characteristics, this soil may be used for daily cover or as the soil component of an interim or final cover.

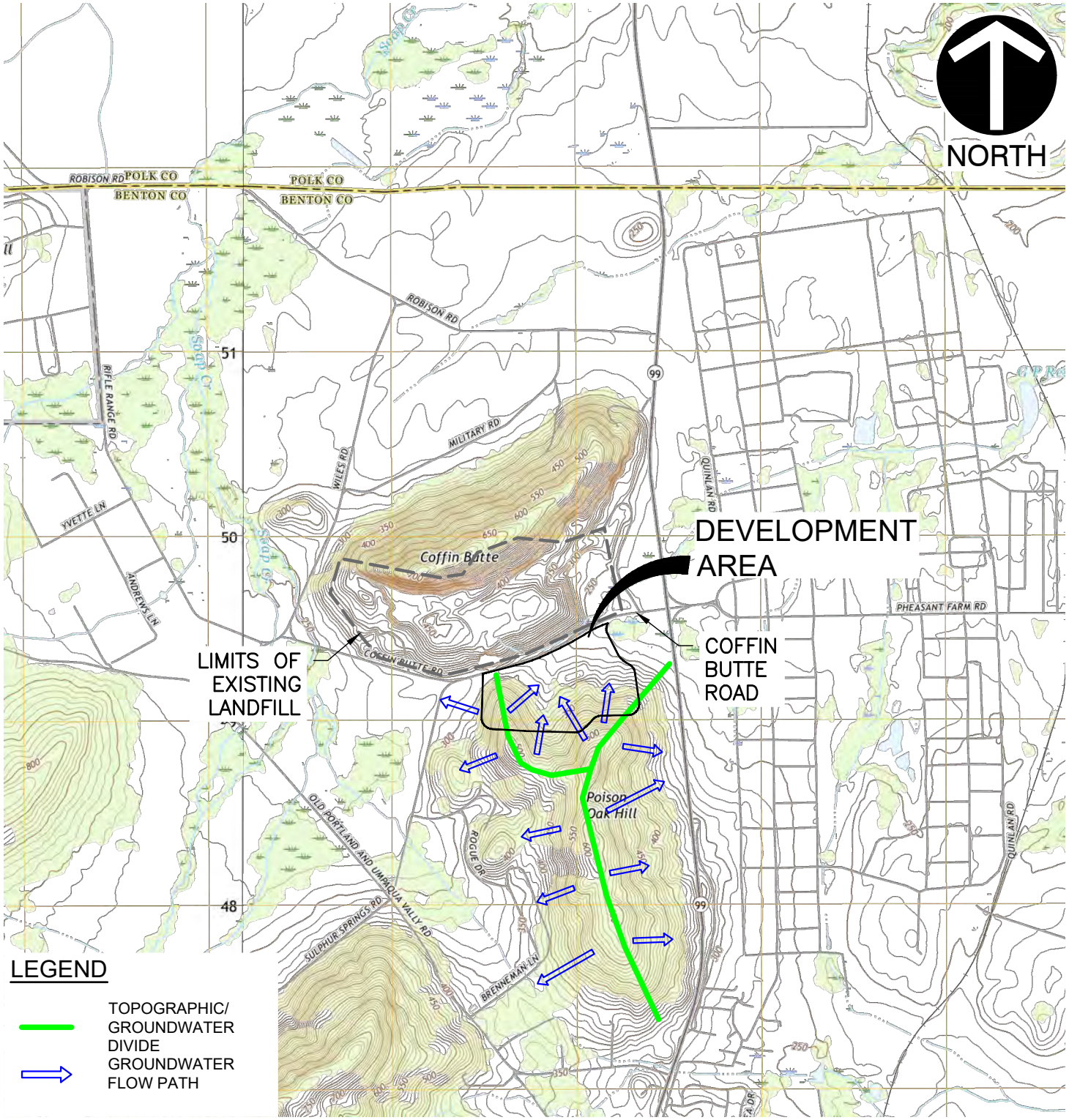
Additional soil cover material may be required depending on the design of the landfill cells. This soil would be borrowed from other parts of the facility property or from other nearby sources.

Transportation of On-Site Soil Materials

Soil and rock materials excavated from on-site will be hauled to designated locations using off-road dump trucks. Soil that is encountered during excavation will most likely be hauled and placed into on-site stockpiles to be used later during cell or final cover construction. Rock that is encountered during excavation will also be stockpiled or hauled to the Knife River Facility for crushing so that it can be used as road base materials or used in the construction of the landfill or final cover systems.

Attachments: Figure 1 – Conceptual Groundwater Divide and Flow Direction
Figure 2 – Groundwater Contours – April 2023
Figure 3 – Landfill Liner Cross Section
Figure 4 – Groundwater Monitoring Network





REFERENCE

1. U.S.G.S. 7.5' TOPOGRAPHIC MAP, LEWISBURG QUADRANGLE, OREGON DATED: 2011.

SCALE IN FEET

0 2,500 5,000

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CONDITIONAL USE PERMIT APPLICATION
USGS LEWISBURG TOPOGRAPHY

DRAWN BY:	JS	CHECKED BY:	JAS	APPROVED BY:	JAS	FIGURE NO.:
DATE:	SEPTEMBER 2023	DWG SCALE:	1"=2,500'	PROJECT NO:	322-142	1

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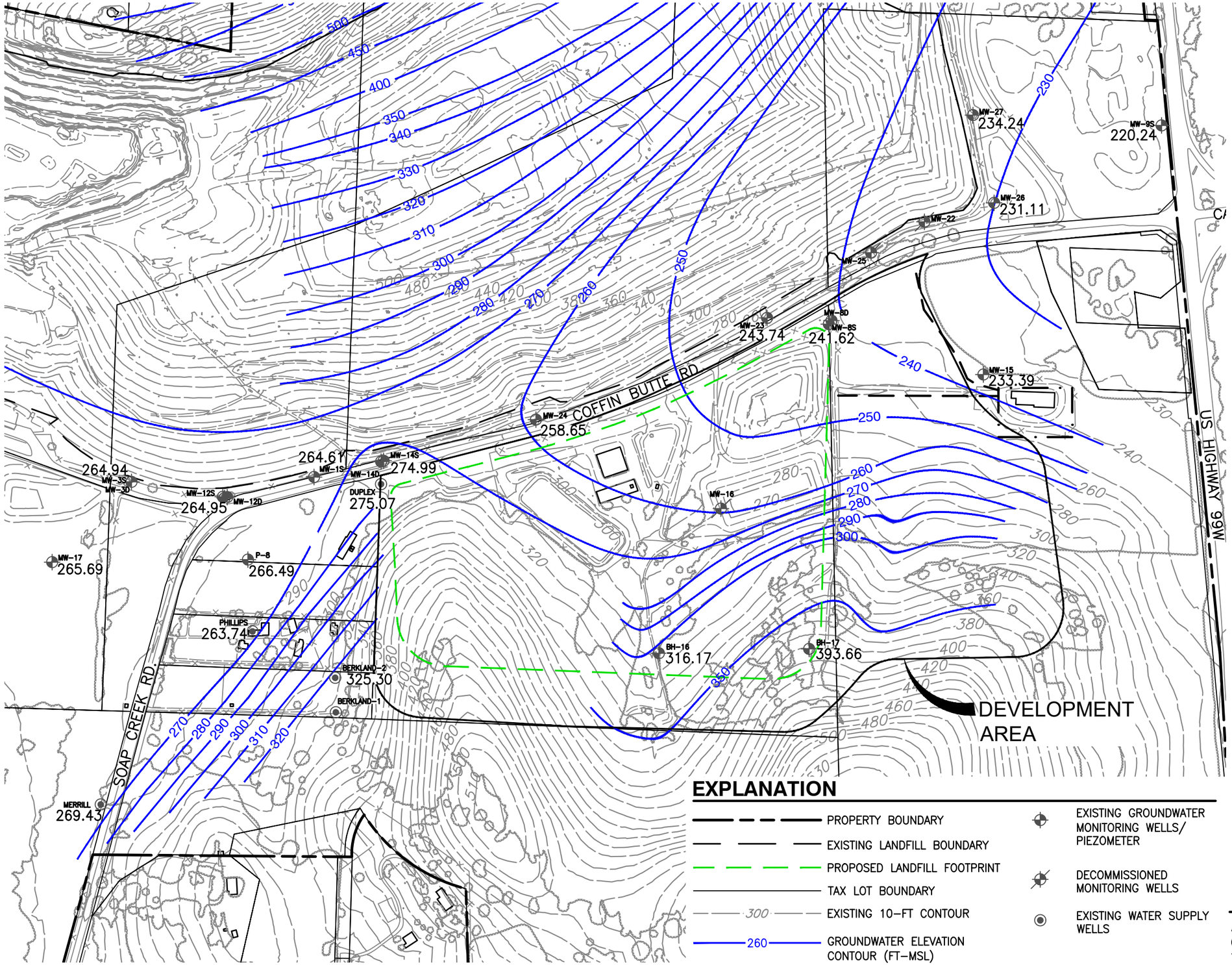

EXPLANATION

- PROPERTY BOUNDARY
- EXISTING LANDFILL BOUNDARY
- PROPOSED LANDFILL FOOTPRINT
- TAX LOT BOUNDARY
- 300 — EXISTING 10-FT CONTOUR
- 260 — GROUNDWATER ELEVATION CONTOUR (FT-MSL)
- EXISTING GROUNDWATER MONITORING WELLS/ PIEZOMETER
- DECOMMISSIONED MONITORING WELLS
- EXISTING WATER SUPPLY WELLS

NORTH

SCALE IN FEET

0 400 800

REFERENCE

AERIAL TOPOGRAPHY FROM AERIAL SURVEY BY COOPER AERIAL SURVEYS COMPANY; DATE OF TOPOGRAPHY: OCTOBER 07, 2021.

VALLEY LANDFILLS, INC.
COFFIN BUTTE LANDFILL
CONDITIONAL USE PERMIT APPLICATION
CORVALLIS, OR 97330

GROUNDWATER CONTOURS - APRIL 2023

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DRAWN BY:	JS	CHECKED BY:	JAS
DATE:	SEPTEMBER 2023	DWG SCALE:	AS SHOWN
APPROVED BY:	JAS	FIGURE NO.:	2
PROJECT NO:	322-142		

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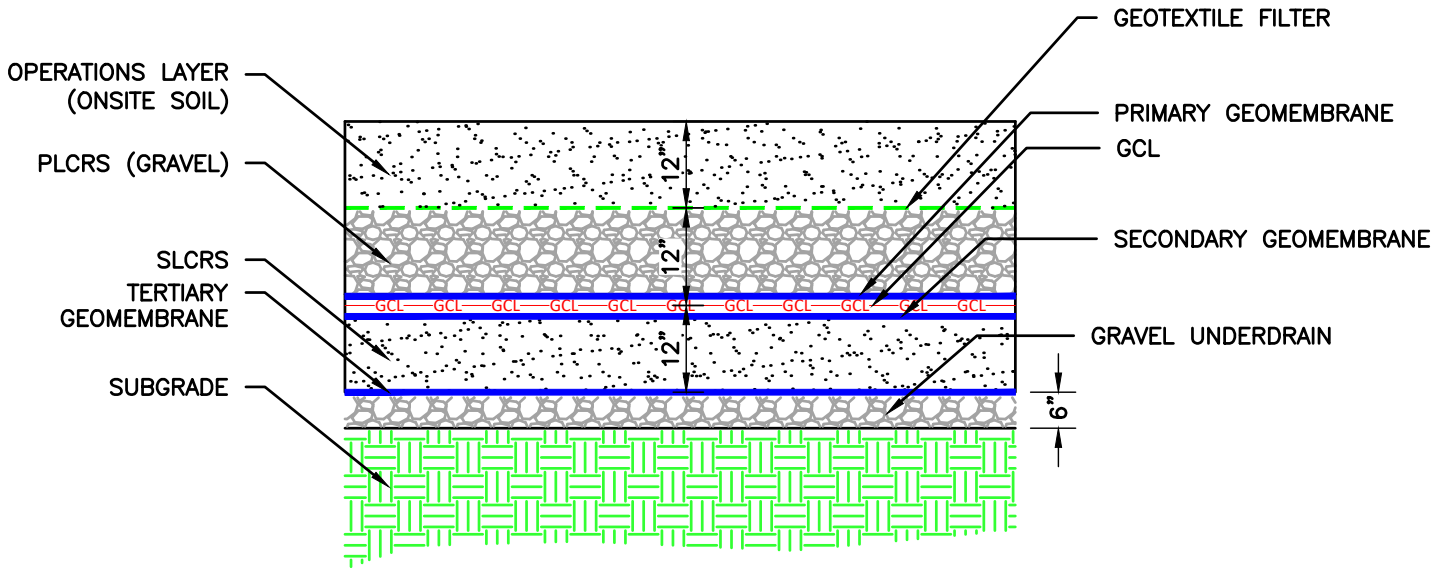

ABBREVIATIONS

PLCRS	PRIMARY LEACHATE COLLECTION AND REMOVAL SYSTEM
SLCRS	SECONDARY LEACHATE COLLECTION AND REMOVAL SYSTEM
GCL	GEOSYNTHETIC CLAY LINER

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CONDITIONAL USE PERMIT APPLICATION
LINER CROSS SECTION

DRAWN BY:	JS	CHECKED BY:	JAS	APPROVED BY:	JAS	FIGURE NO.:	3
DATE:	SEPTEMBER 2023	DWG SCALE:	N.T.S.	PROJECT NO:	322-142		

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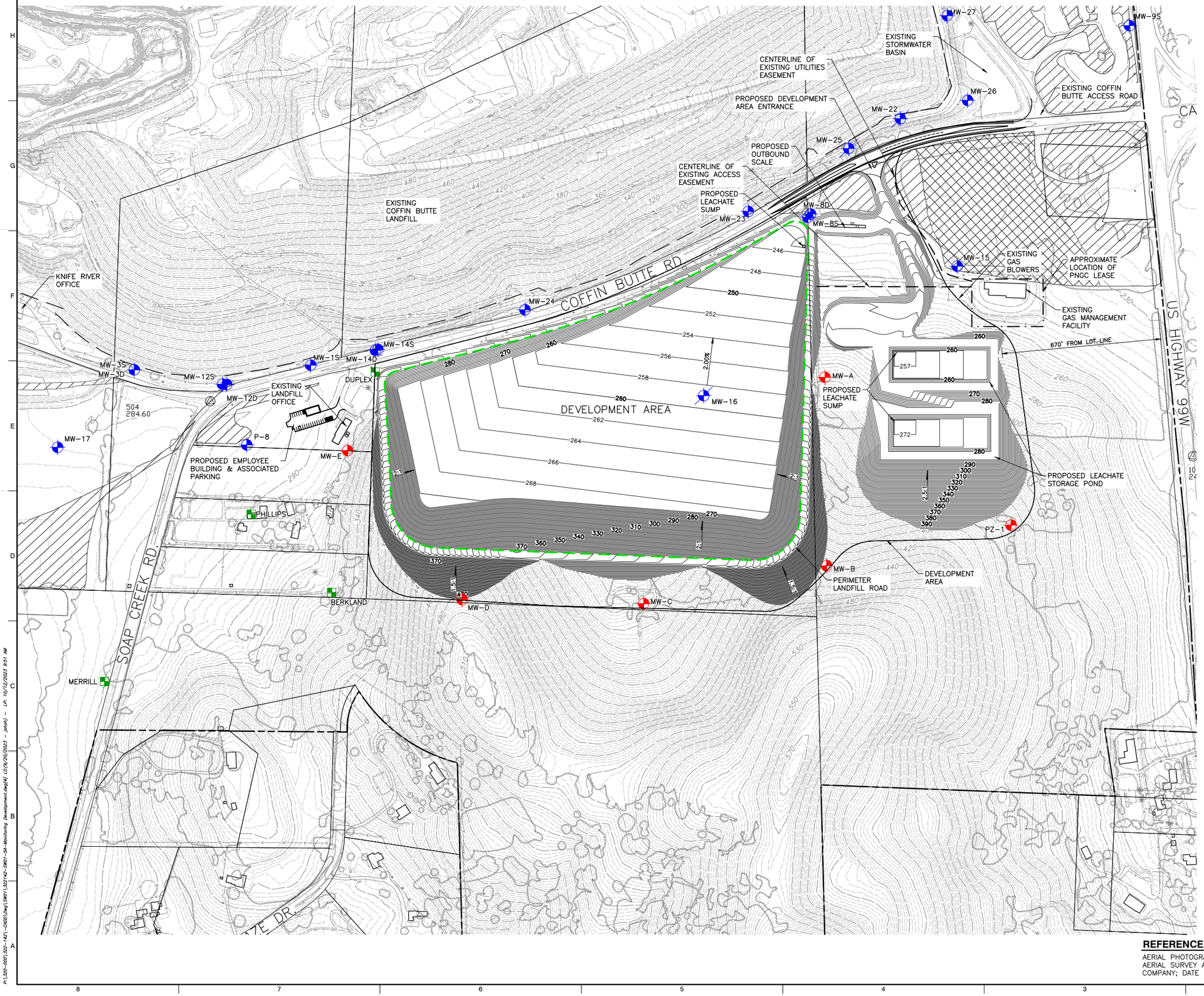

LEGEND

- PROPERTY BOUNDARY
- EXISTING LANDFILL BOUNDARY
- TAX LOT BOUNDARY
- 300 EXISTING 10-FT CONTOUR
- EXISTING 2-FT CONTOUR
- EXISTING PALUSTRINE FORESTED WETLAND
- EXISTING PALUSTRINE EMERGENT WETLAND
- -10 ISOPACH 10-FT CUT CONTOUR
- 0 ISOPACH ZERO CUT/ FILL CONTOUR
- 10 ISOPACH 10-FT FILL CONTOUR
- PROPOSED LANDFILL FOOTPRINT
- EXISTING GROUNDWATER MONITORING WELLS/PIEZOMETER
- DECOMMISSIONED MONITORING WELLS
- EXISTING WATER SUPPLY WELLS
- PROPOSED WELLS/PIEZOMETER

NOTES

1. TAX LOT BOUNDARIES FROM BENTON COUNTY ZONING MAP PANEL 41047C0975G, DATED 01/19/2000 (TAX LOT BOUNDARIES MAY DIFFER FROM ZONING DATED 2021).
2. DEVELOPMENT AREA PERIMETER DESIGNED ONLY FOR PICKUP TRUCKS OR SMALLER VEHICLES.

NORTH

SCALE IN FEET
0 200 400

DRAFT

REFERENCE

AERIAL PHOTOGRAPH, TOPOGRAPHIC INFORMATION FROM AERIAL SURVEY AND GRID BY COOPER AERIAL SURVEYS COMPANY; DATE OF PHOTOGRAPHY: OCTOBER 07, 2021.

REVISION RECORD

NO	DATE	DESCRIPTION

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VALLEY LANDFILLS, INC.
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CONDITIONAL USE PERMIT
APPLICATION
CORVALLIS, OR 97330

GROUNDWATER MONITORING NETWORK

DATE:	APRIL 2022	DRAWN BY:	JS
DWG SCALE:	AS SHOWN	CHECKED BY:	DRAFT
PROJECT NO:			322-142
APPROVED BY:			DRAFT

DRAWING NO.: 4

EXHIBIT 17
CEC PRELIMINARY DRAINAGE REPORT

PRELIMINARY DRAINAGE REPORT

COFFIN BUTTE LANDFILL
CORVALLIS, OREGON

Prepared For:

REPUBLIC SERVICES

Prepared By:

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
PHOENIX, ARIZONA

CEC Project: 332-142

JANUARY 2024

EXPIRES: 06-30-2024

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1.0 INTRODUCTION

The purpose of this drainage report is to provide the analysis for the proposed Coffin Butte Landfill expansion project located at 28972 Coffin Butte Road, Corvallis, OR 97330. The proposed project will be an expansion of the landfill to the south side of Coffin Butte Road. This will be referred to in this report as the Proposed Development Area. For the design, the SCS method within Civil 3D's HydraFlow was used to calculate onsite flows. For onsite stormwater management, a combination detention and wet pond facility was designed using the Corvallis stormwater design standards. The outflow of all onsite stormwater is conveyed by way of a graded swale to a 12-inch culvert crossing to the north side of Coffin Butte Road and ultimately discharging into an existing detention facility.

2.0 EXISTING DRAINAGE CONDITIONS

The existing expansion area drains from west to east towards Coffin Butte Road which includes a drainage ditch. To the north of Coffin Butte Road is another existing drainage channel conveying flows for the existing landfill area.

3.0 PROPOSED DRAINAGE CONDITIONS

3.1 STORMWATER DRAINAGE ANALYSIS

3.1.1 General

The drainage control systems for the Coffin Butte Landfill expansion have been designed to accommodate the anticipated volume of precipitation and resulting run-off generated from the peak 25-year, 24-hour rainfall event. The stormwater hydrology was calculated using the SCS method within Civil 3D's HydraFlow. It was then used to determine the 25-year, 24-hour stormwater discharge based on intensities for a 10-min time of concentration. Pond routing was performed to attenuate the peak flows of a 25-year, 24-hour storm event.

3.1.2 Rainfall Distribution

Rainfall distribution is represented as one of the four regional time-distribution types, which define the portion of rainfall that falls at any time within the 24-hour storm event type. Shown in **Figure 1**, all of western Oregon, including the Proposed Development Area, is located within the Soil Conversation Service (SCS) Type IA rainfall distribution zone. Thus, the Type IA rainfall distribution was used for the current drainage analysis.

3.1.3 Rainfall Amount

The rainfall amounts used in the hydrologic analysis of the Proposed Development Area were obtained from National Oceanic and Atmospheric Administration (NOAA) Atlas 2 rainfall frequency maps. The peak 2-year, 5-year, 10-year, and 25-year, 24-hour storm events were determined to be 3.1, 3.8, 4.4, and 5.1 inches, respectively. The corresponding rainfall frequency maps are shown in **Figures 2, 3, 4,** and **5**.

3.2 PEAK RUN-OFF DETERMINATION

The SCS Unit Hydrograph method was used within Civil 3D's HydraFlow to compute the onsite peak discharges for the 2-year, 24-hour and 25-year, 24-hour storm events, assuming a 10-minute time of concentration. A runoff curve number (CN) of 84 was used, which is representative of a hydrologic soil type D material with grass covering 50-75% of the area.
Refer to **Appendix A** for Hydrologic Calculations.

3.3 ONSITE HYDRAULICS AND DRAINAGE INFRASTRUCTURE

Onsite drainage for the site will be captured by graded swales and conveyed to proposed catch basins. The proposed catch basins direct flows to a combined detention and wet pond facility. The design 25-year, 24-hour storm event was estimated to generate a total site peak discharge of approximately 45.13 cubic feet/second (cfs). The use of an 8-inch HDPE storm pipe with an orifice restrictor plate in the combined wet pond detention facility outfall structure was designed to limit the outlet flow. The outlet flow is designed to outfall to an existing channel north of Coffin Butte Road and is conveyed to an existing detention facility located on the southeast corner of the Coffin Butte Landfill.
Refer to **Appendix B** for Hydraulic Calculations.

3.3.1 Stormwater management

The combined detention and wet pond were designed for the project site according to the Corvallis, Oregon Stormwater Design Standards, dated December 2015. The manual outlines the design criteria and process for both a wet pond and a detention facility. When combined, the detention facility can be stacked above the wet pond to reduce loss of development area. Both criteria are required when designing a combined system. When conflicting requirements are encountered, the stricter requirements are utilized for design. Wet ponds using this design criteria are expected to meet a treatment goal of 70 percent TSS removal. For wet pond analysis, the required wet pond volume ($V_b = fV_r$) is used to determine the overall dimensions of the storage facility. To calculate the wet pond volume, a minimum volume factor (f) of 3 is applied to the final required volume found for the site, as per Corvallis Stormwater Design Standards. Based on the 100-yr, 24-hr storm event, the rainfall from the mean annual storm (R) is reported in the design standards as 0.61 inches. Finally, the runoff from the mean annual storm (V_r) is calculated based on the soil type for the developed site. There are four soil types that are considered for this method of analysis that correspond to soil types associated with SCS hydrological soil group classifications:

- Impervious (hard, non-penetrable surfaces).
- Till grass (post-development grass or landscaped area and onsite forested land on Type C or D soils).
- Till forest (permanent onsite forest and shrub cover located on type C or D soils); and
- Outwash (soil that infiltrates well and produces small amounts of runoff, type A and B soils).

For the proposed site, type D soil was used with the assumption of the till grass option (A_{tg}), landscaped areas and post-development grass. The overall area for the development is approximately 68.60 acres or 2,988,124 sf. The runoff from the mean annual storm is calculated using the following formula:

$$V_r = \left(0.9Ai + 0.25A_{tg} + 0.10A_{tf} + 0.01A_o\right) \times R$$

Where:

$V_r = Volume\ of\ runoff\ from\ mean\ annual\ storm\ (cf)$

$A_i = Area\ of\ impervious\ surface\ (sf)$

$A_{tg} = Area\ of\ till\ soil\ covered\ with\ grass\ (sf)$

$A_{tf} = Area\ of\ soil\ covered\ with\ forest\ (sf)$

$A_o = Area\ of\ outwash\ soil\ covered\ with\ grass\ or\ forest\ (sf)$

$R = Rainfall\ from\ mean\ annual\ storm\ (ft)$

$$V_r = (0 + 0.25(2{,}988{,}124\ sf) + 0 + 0) \times \left(\frac{0.61}{12} ft\right) \approx 37{,}974\ cf$$

Therefore, the wet pond volume is calculated as follows:

$$V_b = fV_r$$
$$V_b = 3 \times 37{,}975\ cf \approx 113{,}922\ cf$$

To determine the dimensions of the wet pond, the first wet pool cell must have the capacity to hold 25% to 35% of the wet pond volume. Refer to **Figure 6** for a typical plan view of a combined detention and wet pond design. For the proposed wet pond 35% of the required volume was used for design.

$$0.35 \times 113{,}922\ cf \approx 39{,}873\ cf$$

The overall wet pond dimensions were designed to be approximately 275 ft x 165 ft measured at the highest elevation, with a berm separating the primary and secondary cells. The primary cell dimensions are approximately 90 ft x 165 ft with a maximum depth (not including the sediment storage depth) of eight (8) ft, giving an approximate volume of 66,000 cf. The proposed wet pond design exceeds required capacity.

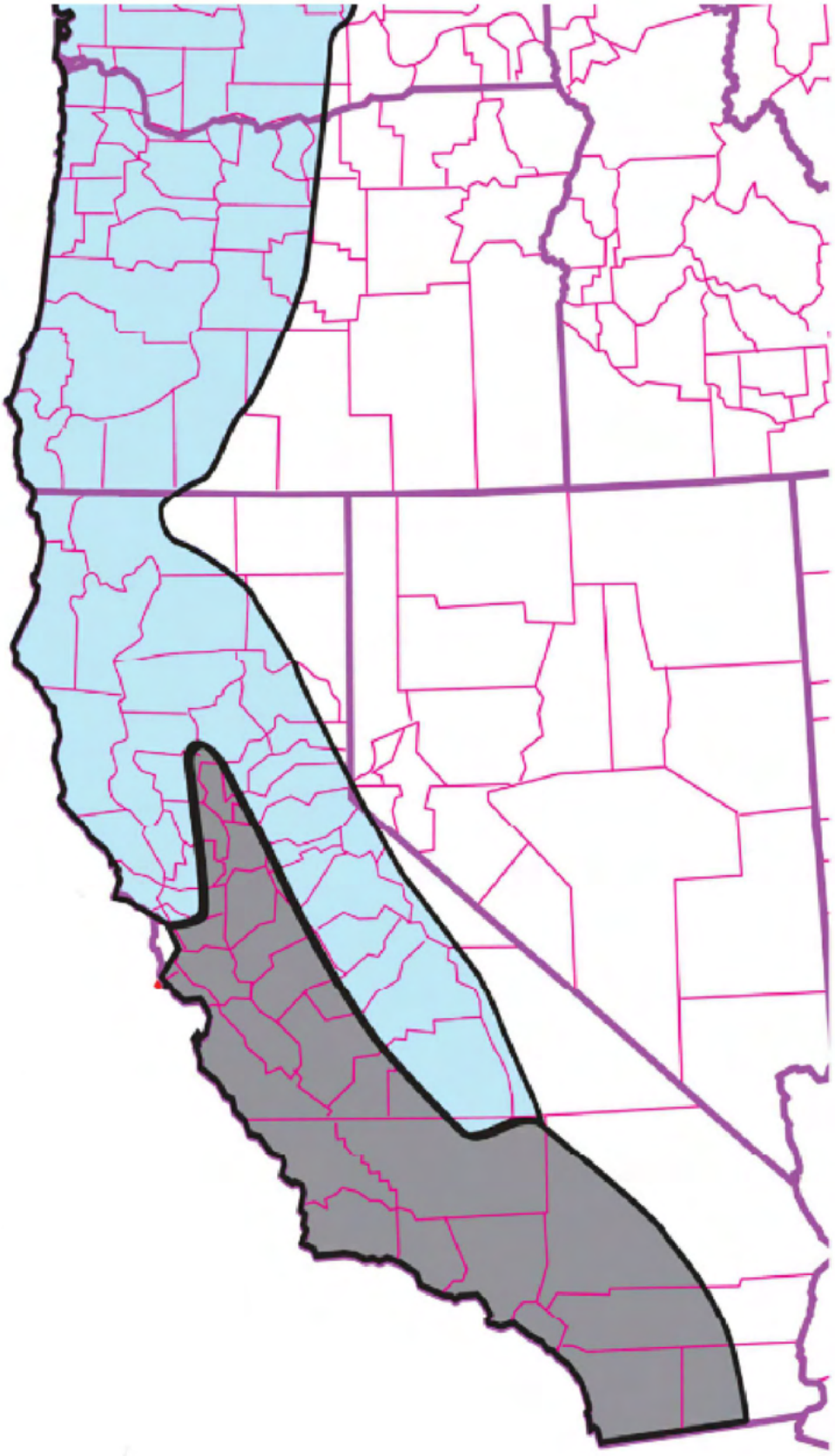
Refer to **Appendix A** for Stage Storage Report.

4.0 CONCLUSION

- The Coffin Butte Landfill expansion project will adhere to Corvallis stormwater design standards for Storm Drainage Facilities.
- When the Coffin Butte Landfill expansion area reaches final grades, the detention and wet pond facility will exceed the required stormwater storage capacity.
- An attenuated flow of 1.21 cfs will be added to the existing drainage channel north of Coffin Butte Road, ultimately discharging into the existing detention pond.

5.0 REFERENCES

- 2015 Stormwater Design Standards, Corvallis, Oregon.
- National Oceanic and Atmospheric Administration (NOAA) Atlas 2.



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REPUBLIC SERVICES, INC.
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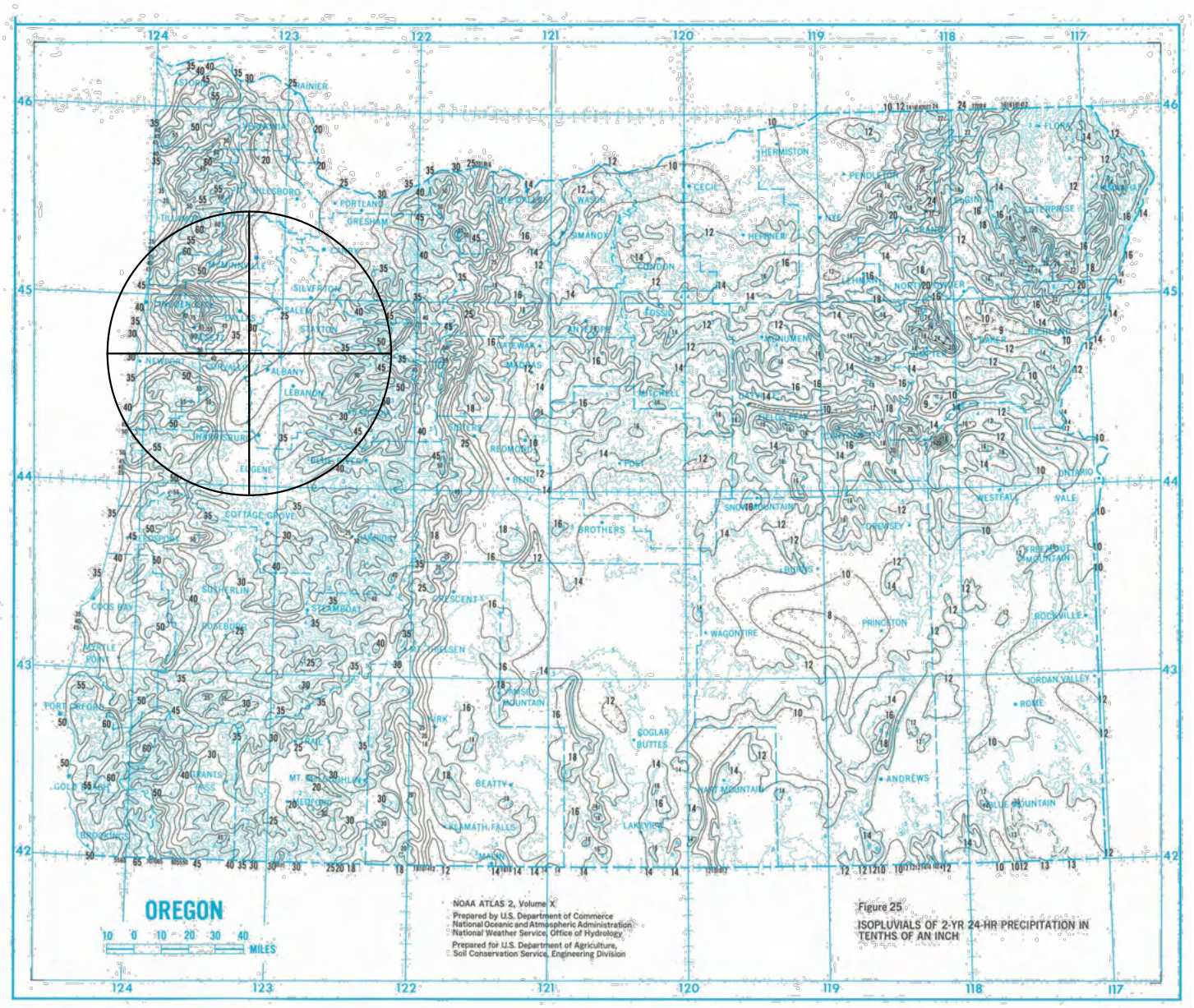
CORVALLIS, OR 97330

CONDITIONAL USE PERMIT APPLICATION
SCS RAINFALL DISTRIBUTION

DRAWN BY:	JS	CHECKED BY:	JAS	APPROVED BY:	JAS	FIGURE NO.:	1
DATE:	JANUARY 2024	DWG SCALE:	N.T.S.	PROJECT NO:	322-142		

P:\320-000\322-142\-CADD\Dwg\Exhibits\Drainage Report Exhibits\322142-1-SCS Rainfall Distribution.dwg{1} LS:(10/10/2023 - dbegell) - LP: 1/25/2024 3:52 PM



2–YEAR 24–HOUR STORM = 3.10 IN

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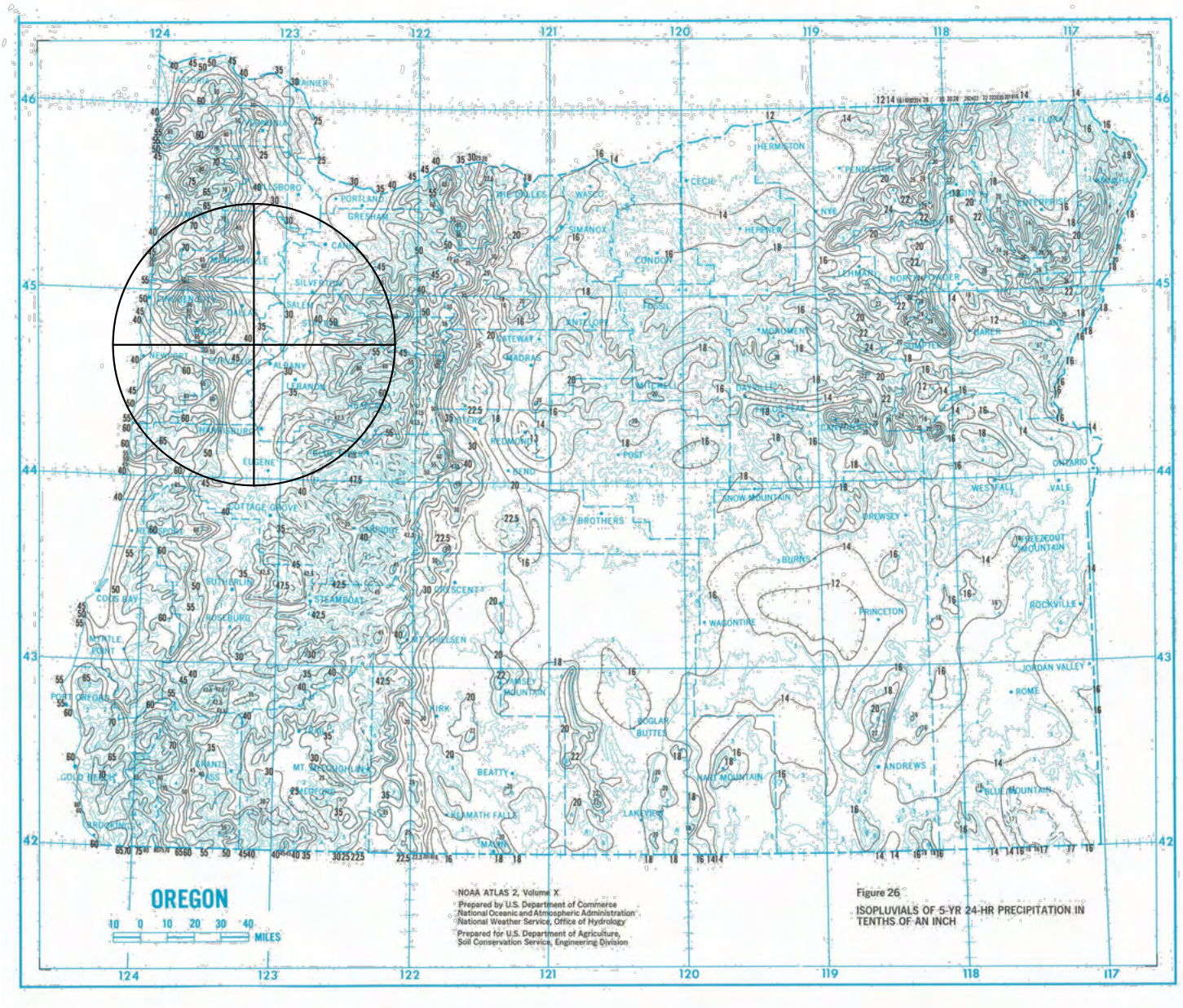
CONDITIONAL USE PERMIT APPLICATION
2-YR 24-HR RAINFALL DISTRIBUTION MAP

DRAWN BY:	JS	CHECKED BY:	JAS	APPROVED BY:	JAS	FIGURE NO.:	2
DATE:	JANUARY 2024	DWG SCALE:	N.T.S.	PROJECT NO:	322-142		

P:\320-000\322-142\-CADD\Dwg\Exhibits\Drainage Report Exhibits\322142-2-Storm event 1.dwg{1} LS:(1/25/2024 - jshah) - LP: 1/25/2024 4:22 PM



5–YEAR 24–HOUR STORM = 3.80 IN

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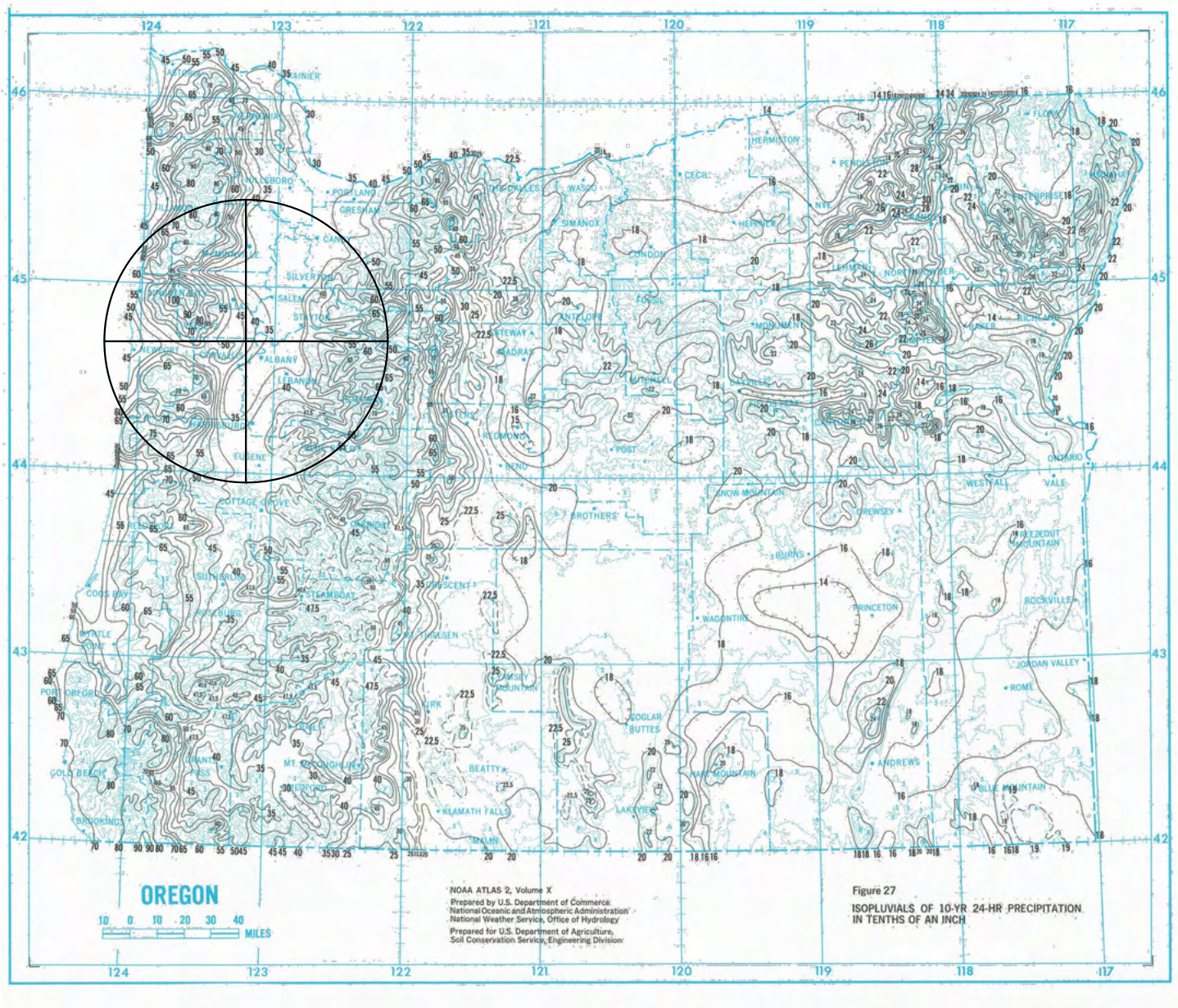
CONDITIONAL USE PERMIT APPLICATION
5-YR 24-HR RAINFALL DISTRIBUTION MAP

DRAWN BY:	JS	CHECKED BY:	JAS	APPROVED BY:	JAS	FIGURE NO.:	3
DATE:	JANUARY 2024	DWG SCALE:	N.T.S.	PROJECT NO:	322-142		

P:\320-000\322-142\-CADD\Dwg\Exhibits\Drainage Report Exhibits\322142-5 Yr Storm event.dwg{2} LS:(1/25/2024 - jshah) - LP: 1/26/2024 9:11 AM



10–YEAR 24–HOUR STORM = 4.40 IN

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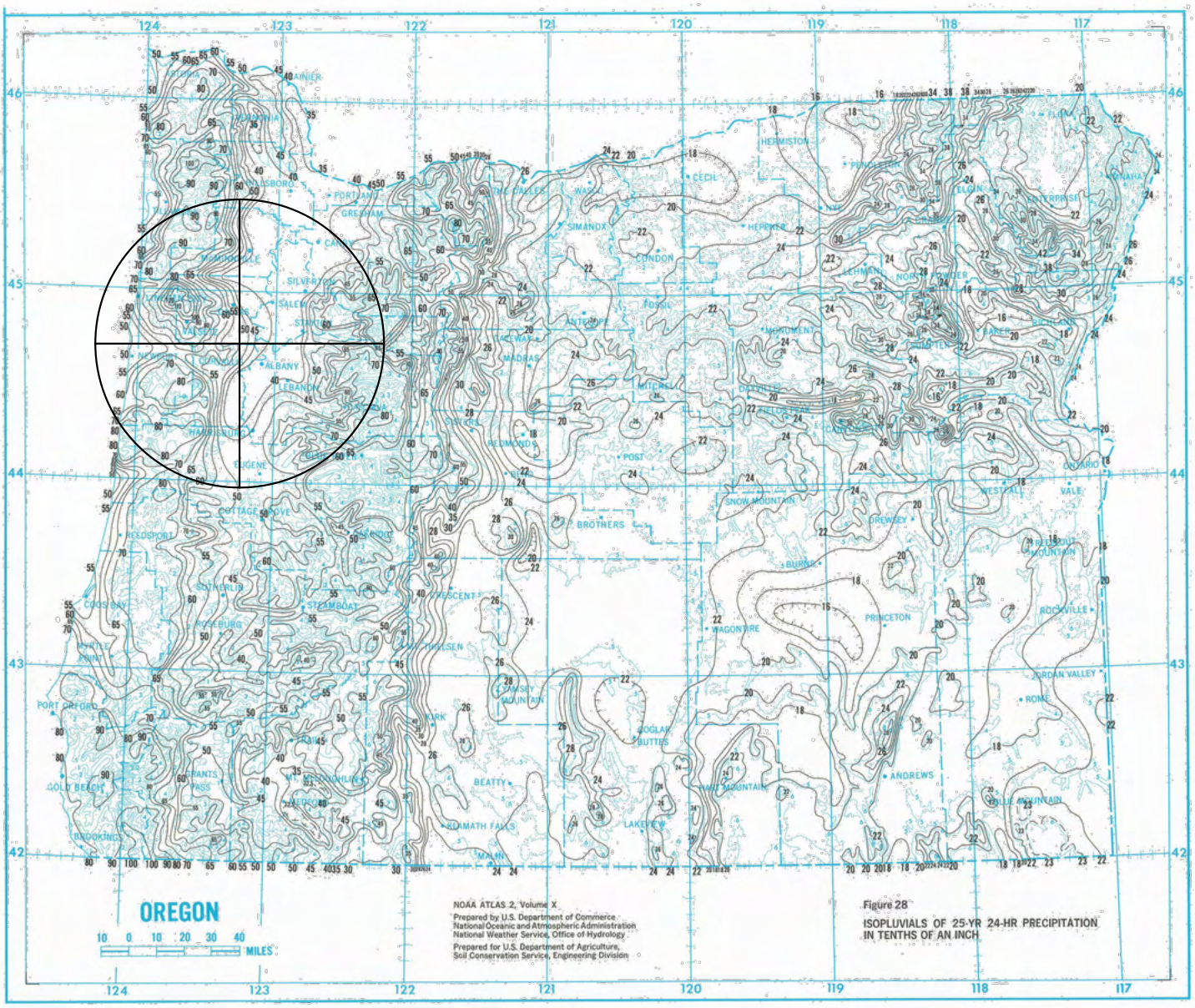
CONDITIONAL USE PERMIT APPLICATION
10-YR 24-HR RAINFALL DISTRIBUTION MAP

DRAWN BY:	JS	CHECKED BY:	JAS	APPROVED BY:	JAS	FIGURE NO.:	4
DATE:	JANUARY 2024	DWG SCALE:	N.T.S.	PROJECT NO:	322-142		

P:\320-000\322-142\-CADD\Dwg\Exhibits\Drainage Report Exhibits\322142-10 Yr Storm event.dwg{3} LS:(1/25/2024 - jshah) - LP: 1/26/2024 9:17 AM



25–YEAR 24–HOUR STORM = 5.10 IN

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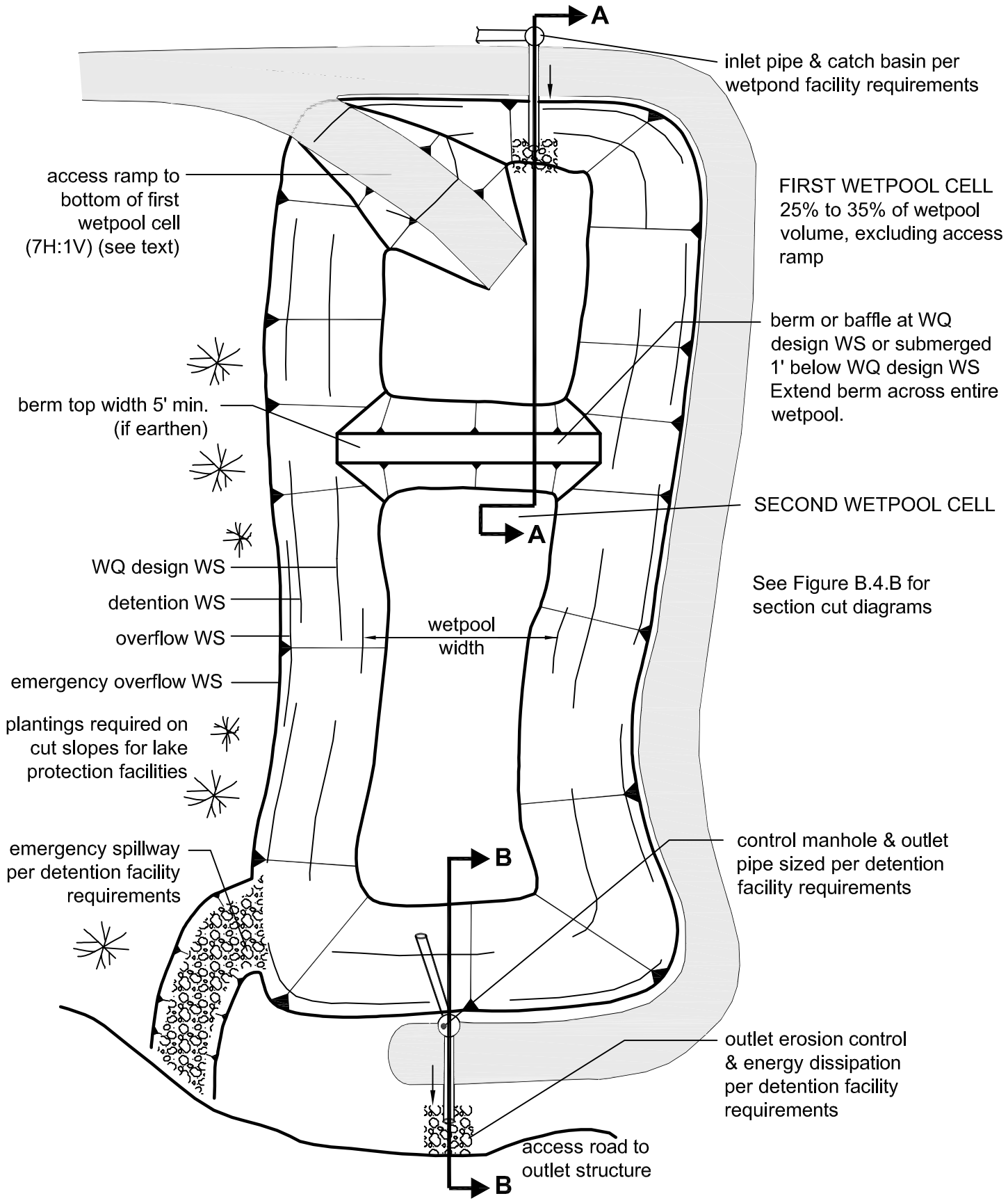
CONDITIONAL USE PERMIT APPLICATION
25-YR 24-HR RAINFALL DISTRIBUTION MAP

DRAWN BY:	JS	CHECKED BY:	JAS	APPROVED BY:	JAS	FIGURE NO.:
DATE:	JANUARY 2024	DWG SCALE:	N.T.S.	PROJECT NO:	322-142	5

P:\320-000\322-142\-CADD\Dwg\Exhibits\Drainage Report Exhibits\322142-25 Yr Storm event.dwg{4} LS:(1/26/2024 - jshah) - LP: 1/26/2024 9:30 AM

FIGURE 6. COMBINED DETENTION AND WETPOND

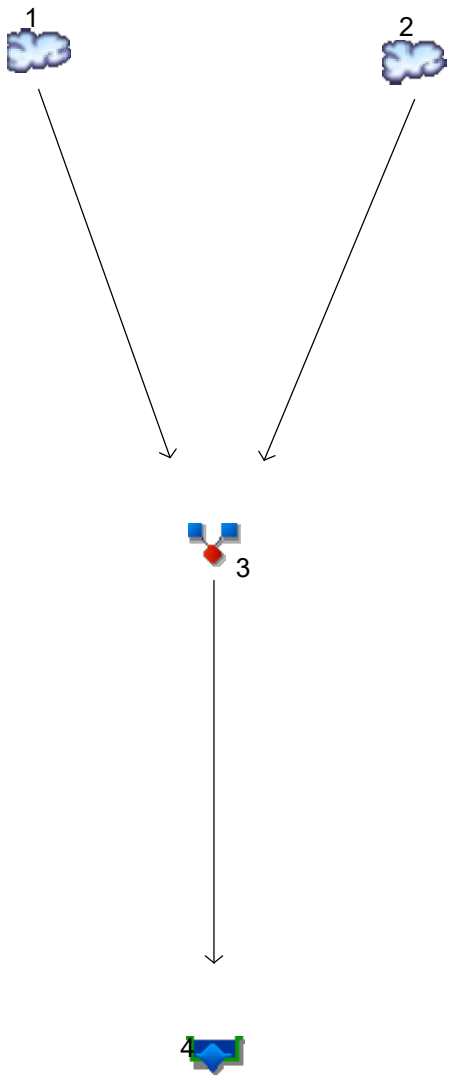


PLAN VIEW
NTS

APPENDIX A

HYDROLOGIC CALCULATIONS

Watershed Model Schematic



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	6.757	2	480	103,789	------	------	------	DA-1
2	SCS Runoff	19.98	2	480	306,819	------	------	------	DA-2
3	Combine	24.62	2	476	372,682	1, 2	------	------	Combine
4	Reservoir	0.686	2	1446	141,428	3	243.46	353,891	Pond Routing

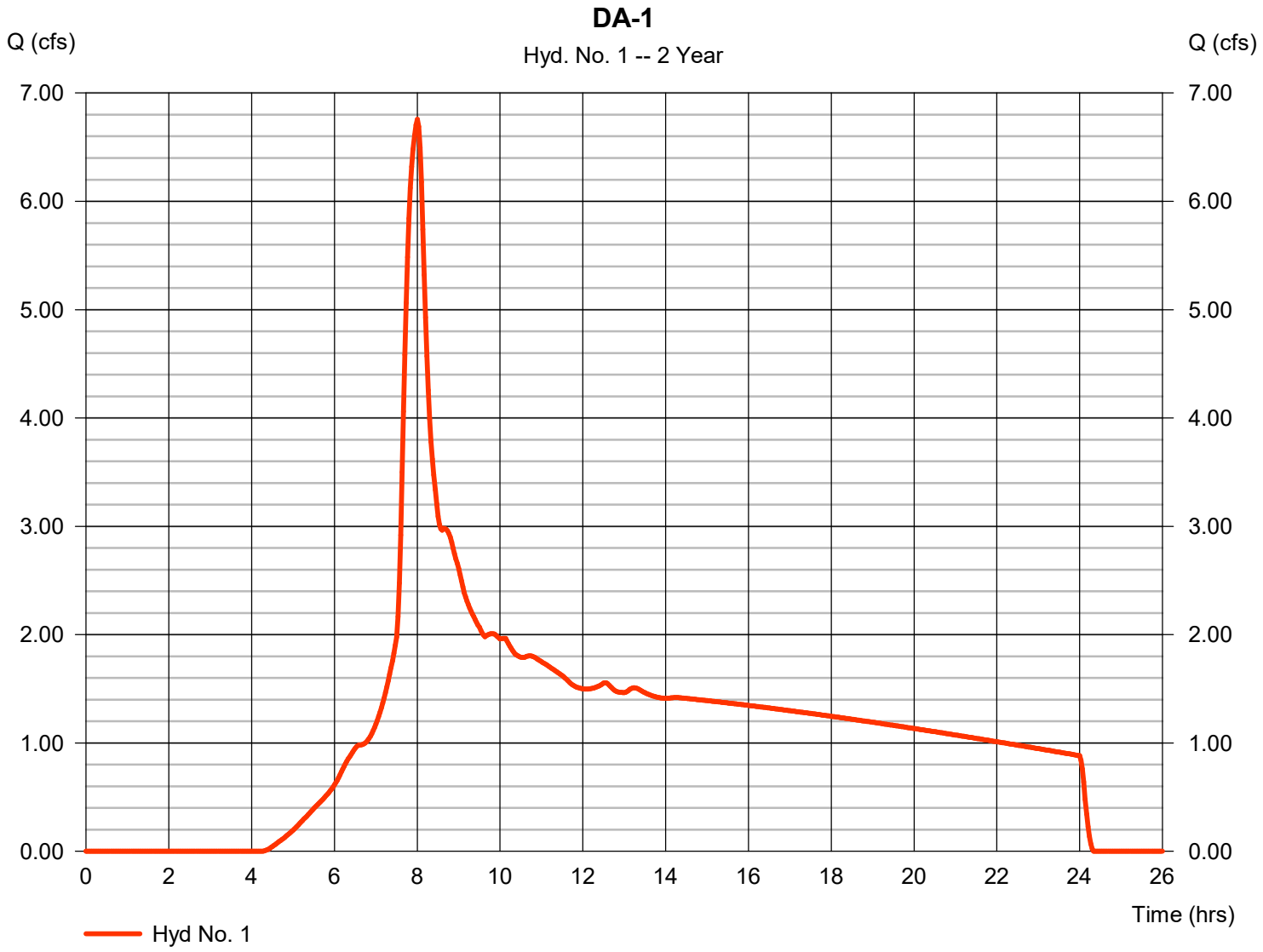
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Thursday, 01 / 25 / 2024

Hyd. No. 1

DA-1

Hydrograph type	=	SCS Runoff	Peak discharge	=	6.757 cfs
Storm frequency	=	2 yrs	Time to peak	=	8.00 hrs
Time interval	=	2 min	Hyd. volume	=	103,789 cuft
Drainage area	=	17.340 ac	Curve number	=	84
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	10.00 min
Total precip.	=	3.10 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



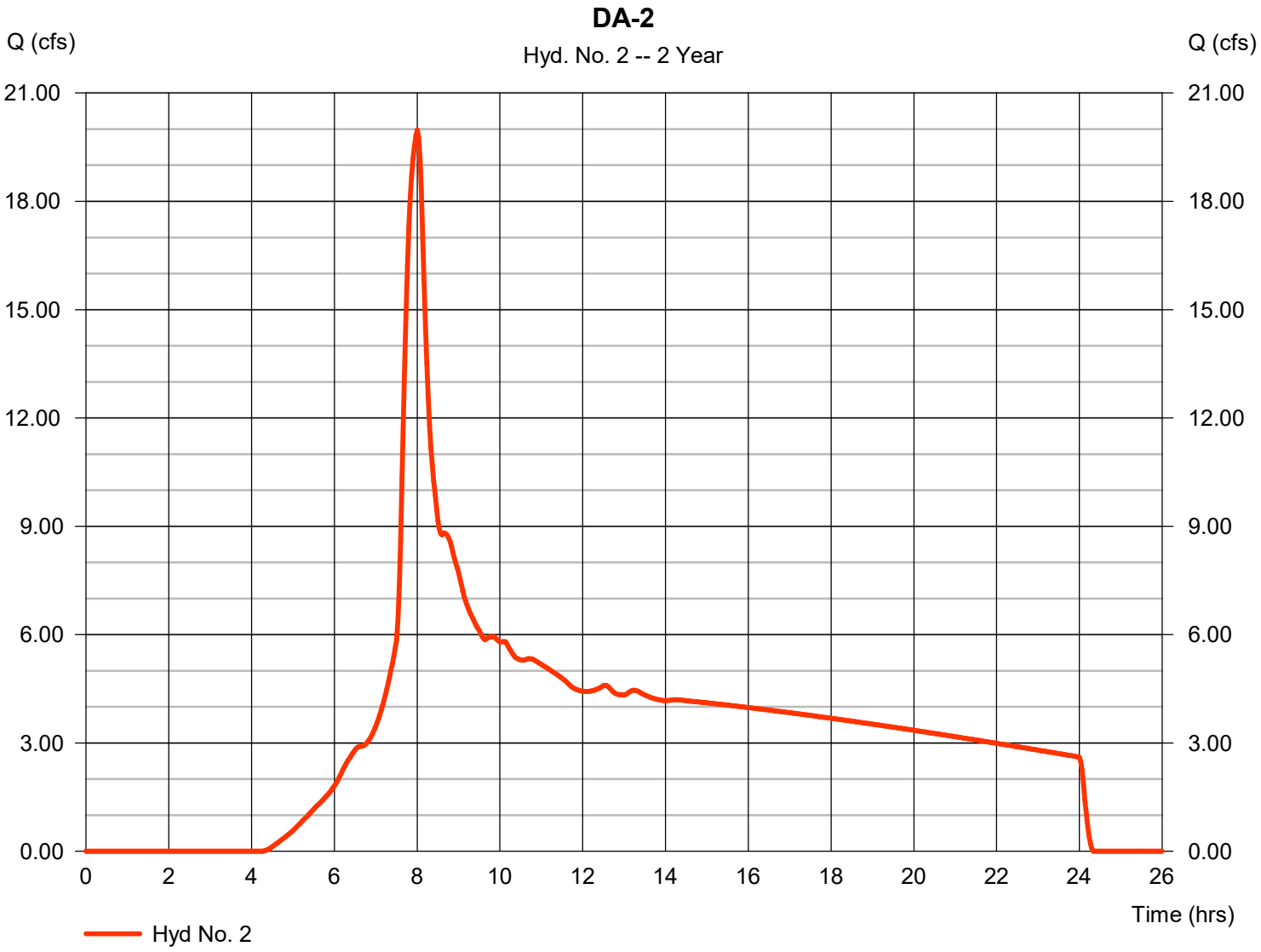
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Thursday, 01 / 25 / 2024

Hyd. No. 2

DA-2

Hydrograph type	=	SCS Runoff	Peak discharge	=	19.98 cfs
Storm frequency	=	2 yrs	Time to peak	=	8.00 hrs
Time interval	=	2 min	Hyd. volume	=	306,819 cuft
Drainage area	=	51.260 ac	Curve number	=	84
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	10.00 min
Total precip.	=	3.10 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



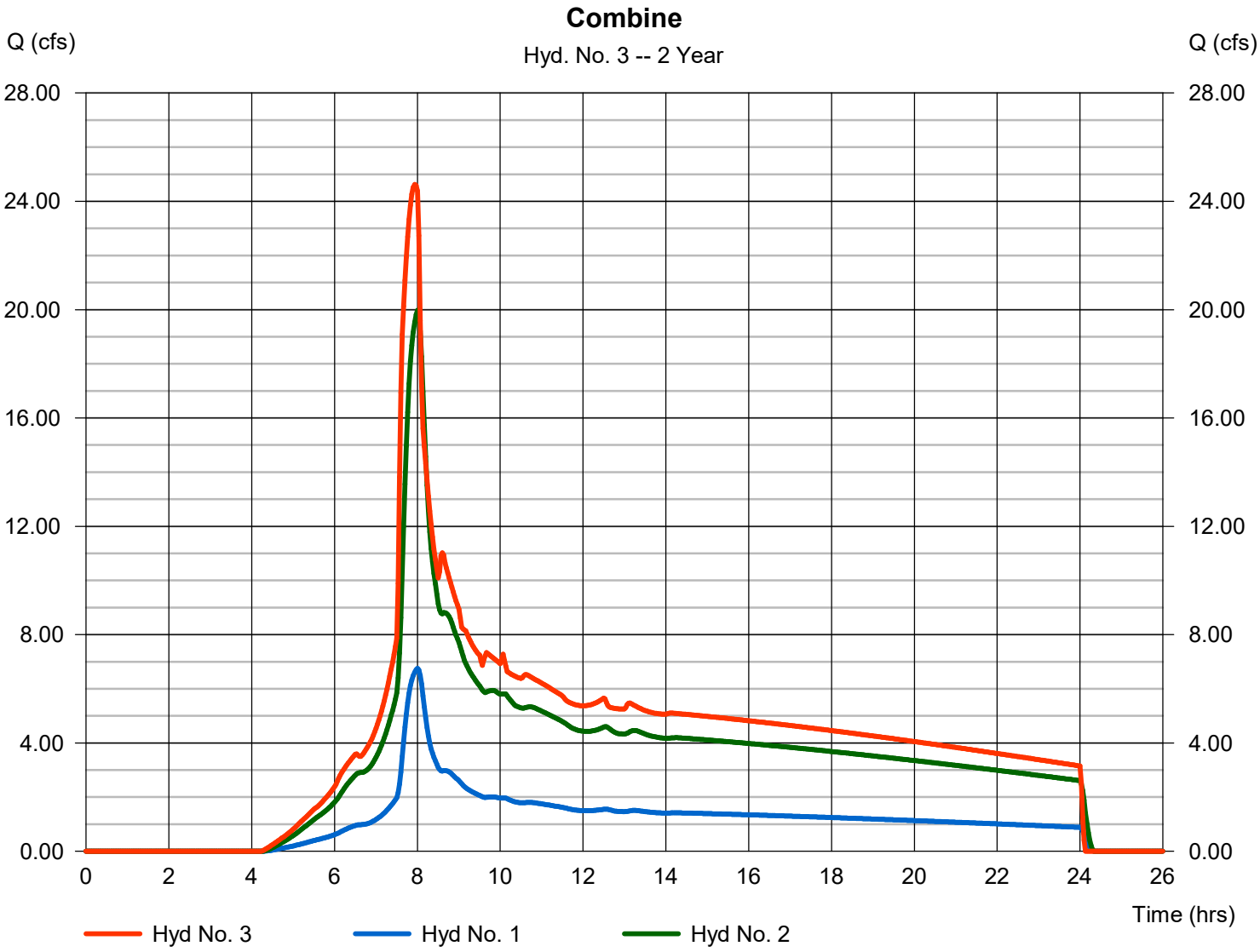
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Thursday, 01 / 25 / 2024

Hyd. No. 3

Combine

Hydrograph type	=	Combine	Peak discharge	=	24.62 cfs
Storm frequency	=	2 yrs	Time to peak	=	7.93 hrs
Time interval	=	2 min	Hyd. volume	=	372,682 cuft
Inflow hyds.	=	1, 2	Contrib. drain. area	=	68.600 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	15.27	2	480	218,233	------	------	------	DA-1
2	SCS Runoff	45.13	2	480	645,134	------	------	------	DA-2
3	Combine	55.48	2	474	783,620	1, 2	------	------	Combine
4	Reservoir	1.211	2	1446	327,037	3	249.45	728,996	Pond Routing

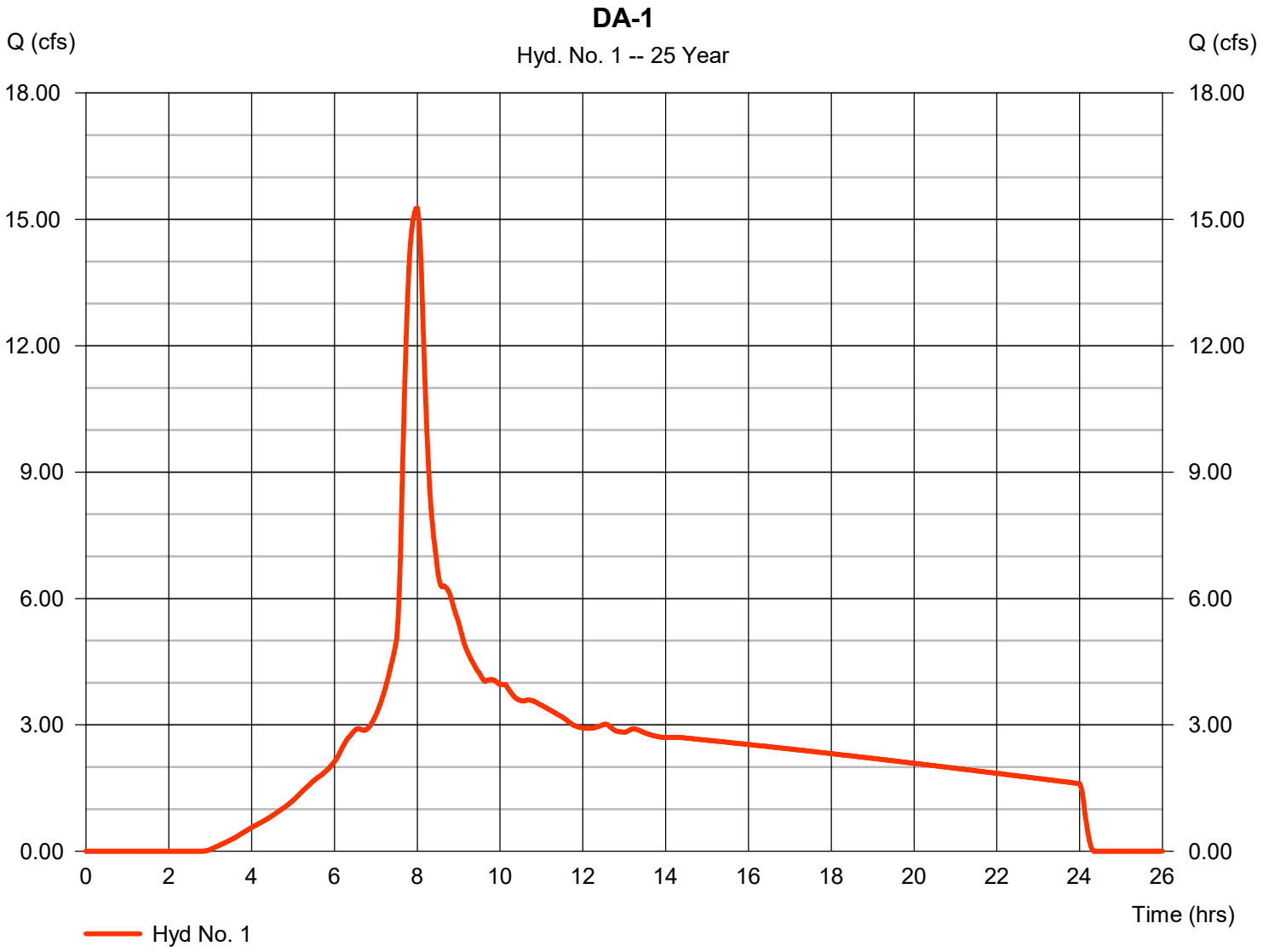
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Thursday, 01 / 25 / 2024

Hyd. No. 1

DA-1

Hydrograph type	=	SCS Runoff	Peak discharge	=	15.27 cfs
Storm frequency	=	25 yrs	Time to peak	=	8.00 hrs
Time interval	=	2 min	Hyd. volume	=	218,233 cuft
Drainage area	=	17.340 ac	Curve number	=	84
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	10.00 min
Total precip.	=	5.10 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



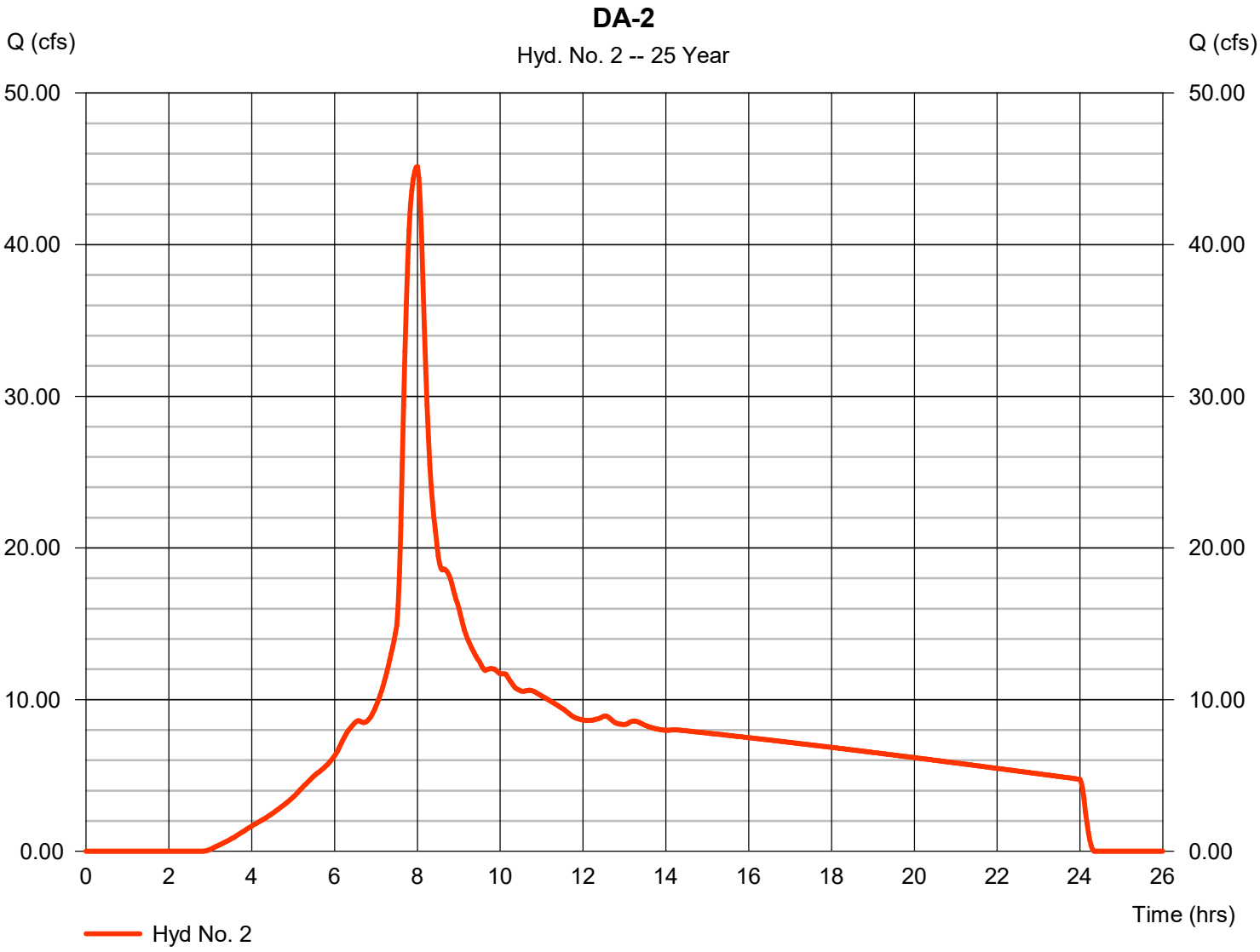
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Thursday, 01 / 25 / 2024

Hyd. No. 2

DA-2

Hydrograph type	=	SCS Runoff	Peak discharge	=	45.13 cfs
Storm frequency	=	25 yrs	Time to peak	=	8.00 hrs
Time interval	=	2 min	Hyd. volume	=	645,134 cuft
Drainage area	=	51.260 ac	Curve number	=	84
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	10.00 min
Total precip.	=	5.10 in	Distribution	=	Type IA
Storm duration	=	24 hrs	Shape factor	=	484



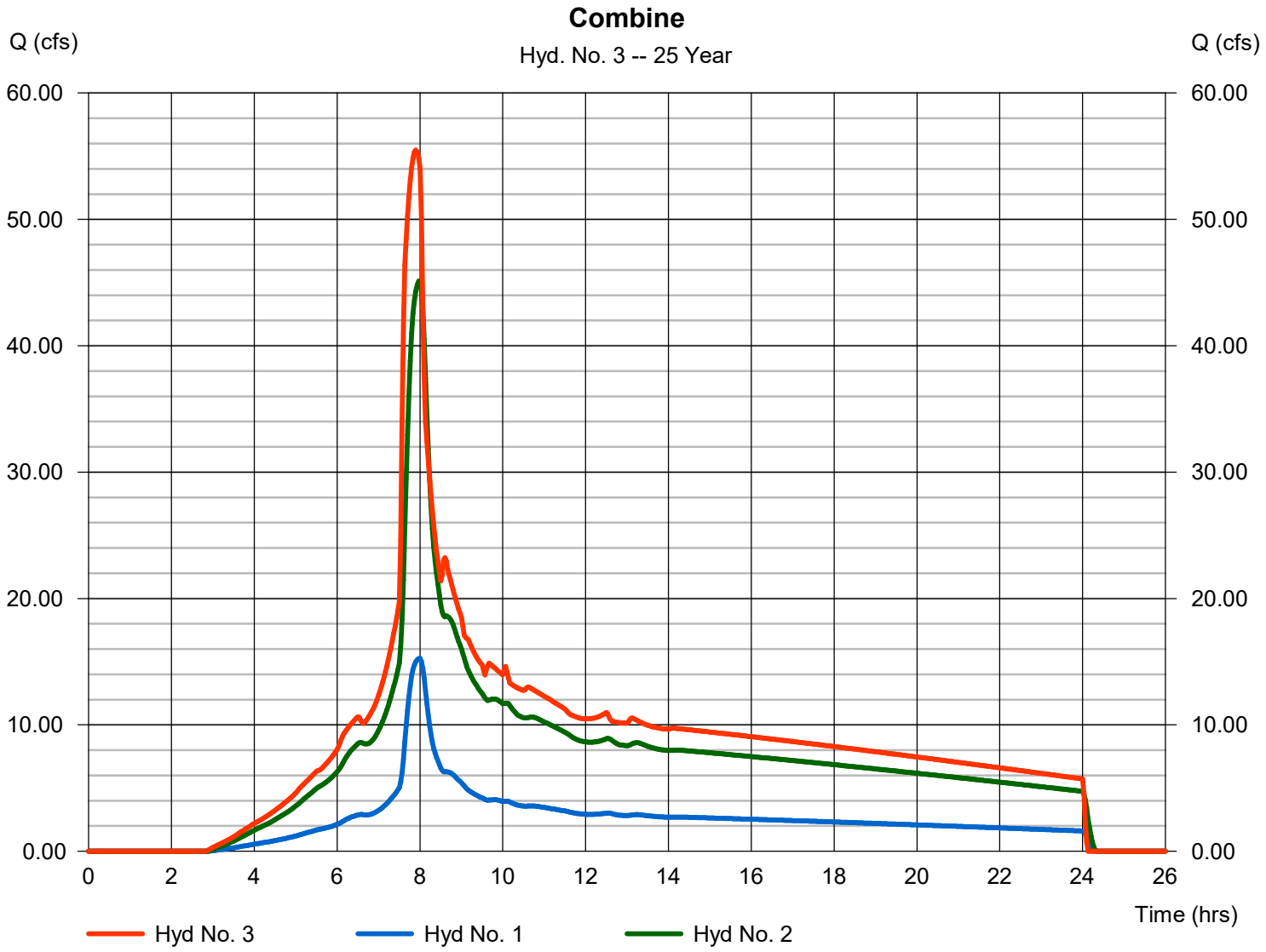
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Thursday, 01 / 25 / 2024

Hyd. No. 3

Combine

Hydrograph type	=	Combine	Peak discharge	=	55.48 cfs
Storm frequency	=	25 yrs	Time to peak	=	7.90 hrs
Time interval	=	2 min	Hyd. volume	=	783,620 cuft
Inflow hyds.	=	1, 2	Contrib. drain. area	=	68.600 ac



Pond Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Thursday, 01 / 25 / 2024

Pond No. 1 - Pond 1

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 234.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	234.00	22,907	0	0
2.00	236.00	28,323	51,129	51,129
4.00	238.00	34,399	62,618	113,747
6.00	240.00	41,042	75,336	189,083
8.00	242.00	48,702	89,626	278,709
10.00	244.00	54,668	103,303	382,012
12.00	246.00	60,881	115,482	497,493
14.00	248.00	67,458	128,270	625,763
16.00	250.00	74,547	141,932	767,696

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 8.00	4.00	0.00	0.00
Span (in)	= 8.00	4.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 240.29	240.29	0.00	0.00
Length (ft)	= 40.00	0.00	0.00	0.00
Slope (%)	= 2.52	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Contour)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	234.00	0.00	0.00	---	---	---	---	---	---	---	---	0.000
2.00	51,129	236.00	0.00	0.00	---	---	---	---	---	---	---	---	0.000
4.00	113,747	238.00	0.00	0.00	---	---	---	---	---	---	---	---	0.000
6.00	189,083	240.00	0.00	0.00	---	---	---	---	---	---	---	---	0.000
8.00	278,709	242.00	0.48 ic	0.48 ic	---	---	---	---	---	---	---	---	0.481
10.00	382,012	244.00	0.75 ic	0.75 ic	---	---	---	---	---	---	---	---	0.749
12.00	497,493	246.00	0.95 ic	0.95 ic	---	---	---	---	---	---	---	---	0.946
14.00	625,763	248.00	1.11 ic	1.11 ic	---	---	---	---	---	---	---	---	1.107
16.00	767,696	250.00	1.25 ic	1.25 ic	---	---	---	---	---	---	---	---	1.248

APPENDIX B

HYDRAULIC CALCULATIONS

Worksheet for 8" HDPE Pipe @ 2.52%

Project Description	
Friction Method	Manning Formula
Solve For	Discharge

Input Data	
Roughness Coefficient	0.013
Channel Slope	2.520 %
Normal Depth	8.0 in
Diameter	8.0 in

Results	
Discharge	1.92 cfs
Flow Area	0.3 ft²
Wetted Perimeter	2.1 ft
Hydraulic Radius	2.0 in
Top Width	0.00 ft
Critical Depth	7.4 in
Percent Full	100.0 %
Critical Slope	2.179 %
Velocity	5.50 ft/s
Velocity Head	0.47 ft
Specific Energy	1.14 ft
Froude Number	(N/A)
Maximum Discharge	2.06 cfs
Discharge Full	1.92 cfs
Slope Full	2.520 %
Flow Type	Undefined

GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Average End Depth Over Rise	0.0 %
Normal Depth Over Rise	100.0 %
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	8.0 in
Critical Depth	7.4 in
Channel Slope	2.520 %
Critical Slope	2.179 %

Worksheet for 18" HDPE Pipe @ S=0.2%

Project Description	
Friction Method	Manning Formula
Solve For	Discharge

Input Data	
Roughness Coefficient	0.013
Channel Slope	0.200 %
Normal Depth	18.0 in
Diameter	18.0 in

Results	
Discharge	4.70 cfs
Flow Area	1.8 ft²
Wetted Perimeter	4.7 ft
Hydraulic Radius	4.5 in
Top Width	0.00 ft
Critical Depth	10.0 in
Percent Full	100.0 %
Critical Slope	0.566 %
Velocity	2.66 ft/s
Velocity Head	0.11 ft
Specific Energy	1.61 ft
Froude Number	(N/A)
Maximum Discharge	5.05 cfs
Discharge Full	4.70 cfs
Slope Full	0.200 %
Flow Type	Undefined

GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Average End Depth Over Rise	0.0 %
Normal Depth Over Rise	0.0 %
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	18.0 in
Critical Depth	10.0 in
Channel Slope	0.200 %
Critical Slope	0.566 %

Worksheet for 18" HDPE Pipe @ S=3.98%

Project Description	
Friction Method	Manning Formula
Solve For	Discharge

Input Data	
Roughness Coefficient	0.013
Channel Slope	3.980 %
Normal Depth	18.0 in
Diameter	18.0 in

Results	
Discharge	20.95 cfs
Flow Area	1.8 ft²
Wetted Perimeter	4.7 ft
Hydraulic Radius	4.5 in
Top Width	0.00 ft
Critical Depth	17.7 in
Percent Full	100.0 %
Critical Slope	3.580 %
Velocity	11.86 ft/s
Velocity Head	2.19 ft
Specific Energy	3.69 ft
Froude Number	(N/A)
Maximum Discharge	22.54 cfs
Discharge Full	20.95 cfs
Slope Full	3.980 %
Flow Type	Undefined

GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Average End Depth Over Rise	0.0 %
Normal Depth Over Rise	100.0 %
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	18.0 in
Critical Depth	17.7 in
Channel Slope	3.980 %
Critical Slope	3.580 %

EXHIBIT 18
CURRENT VIEWS OF LANDFILL AND AERIAL RENDERINGS OF COFFIN BUTTE LANDFILL

1. LOOKING SOUTH–SOUTHWEST TOWARDS THE LANDFILL FROM PACIFIC HIGHWAY (99W).

2. LOOKING SOUTHWEST TOWARDS THE LANDFILL FROM LOCAL ROAD.

3. LOOKING WEST TOWARDS THE LANDFILL FROM CAMP ADAIR ROAD.

4. LOOKING NORTHWEST TOWARDS THE LANDFILL FROM QUINLAN ROAD.

REGISTERED PROFESSIONAL ENGINEER
92360PE
OREGON
JULY 13, 2017
JEFF A. SHEPHERD
EXPIRES: 06/30/2026

REVISION RECORD

NO	DATE	DESCRIPTION

Civil & Environmental Consultants, Inc.
11811 N. Tatum Blvd., Suite 3057 · Phoenix, AZ 85028
Ph: 602.760.2324 · 877.231.2324 · Fax: 602.760.2330
www.cecinc.com

VALLEY LANDFILLS, INC.
COFFIN BUTTE LANDFILL
CONDITIONAL USE PERMIT
APPLICATION
CORVALLIS, OR 97330

EXHIBIT 18 - VISUAL DOCUMENTATION OF LANDFILL VIEWS

DATE:	JULY 2024	DRAWN BY:	JS
DWG SCALE:	AS SHOWN	CHECKED BY:	JAS
PROJECT NO:	322-142		
APPROVED BY:	JAS		

DRAWING NO.:
A

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7. LOOKING SOUTHEAST TOWARDS THE LANDFILL FROM RIFLE RANGE ROAD.

6. LOOKING EAST TOWARDS THE LANDFILL FROM TAMPICO ROAD.

5. LOOKING NORTHEAST TOWARDS THE LANDFILL FROM INTERSECTION OF TAMPICO ROAD AND NW SOAP CREEK ROAD.

REGISTERED PROFESSIONAL ENGINEER
92360PE
OREGON
JULY 13, 2011
JEFF A. SHEPHERD
EXPIRES: 06/30/2026

REVISION RECORD

NO	DATE	DESCRIPTION

CEC
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VALLEY LANDFILLS, INC.
COFFIN BUTTE LANDFILL
CONDITIONAL USE PERMIT
APPLICATION
CORVALLIS, OR 97330

EXHIBIT 18 - VISUAL DOCUMENTATION OF LANDFILL VIEWS

DATE:	JULY 2024	DRAWN BY:	JS
DWG SCALE:	AS SHOWN	CHECKED BY:	JAS
PROJECT NO:	322-142	APPROVED BY:	JAS

DRAWING NO.:
B

P:\320-001\322-142\-CAD\Dwg\Exhibits\322142-SM01-18-Visual Documentation.dwg[B] LS(10/21/2024 - jsmith) - LP: 10/21/2024 2:49 PM

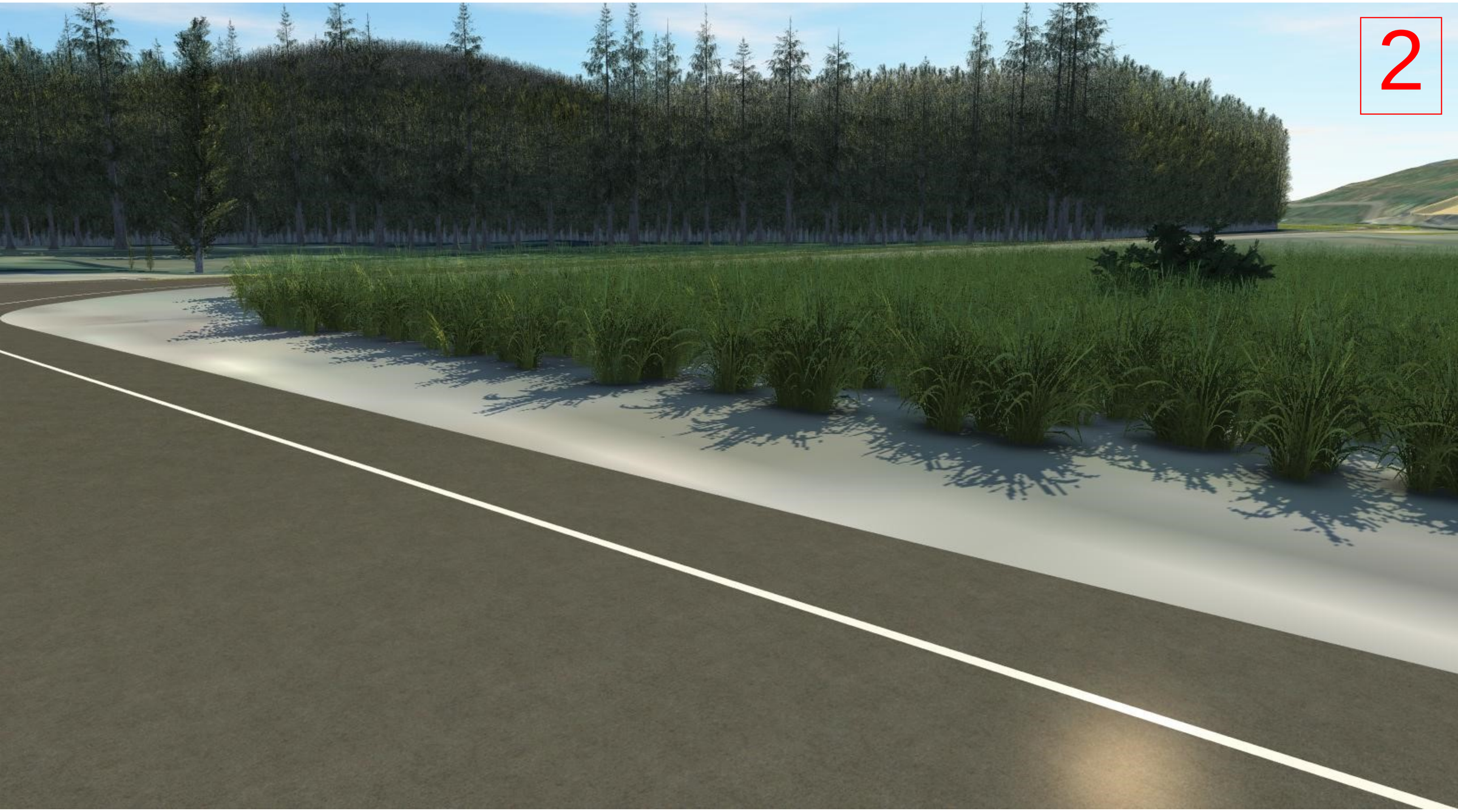
Artist renderings of Coffin Butte Landfill (with Proposed Expansion)

Build-out of Coffin Butte Landfill, with approved expansion

1. Northwest view towards the landfill from Pacific Highway (99 W)

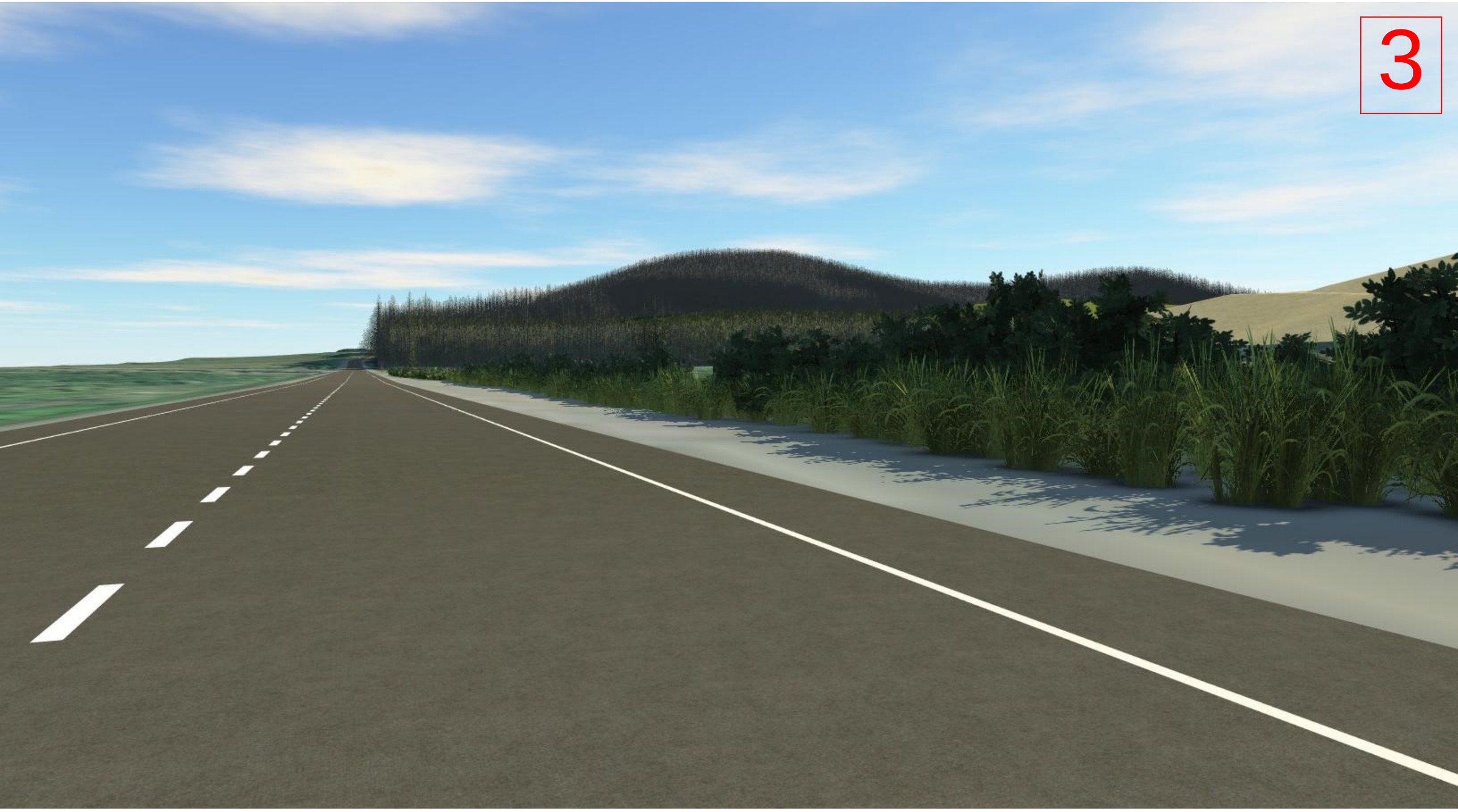
Build-out of Coffin Butte Landfill, with approved expansion.

2. Southwest view towards the landfill from Pacific Highway (99 W)



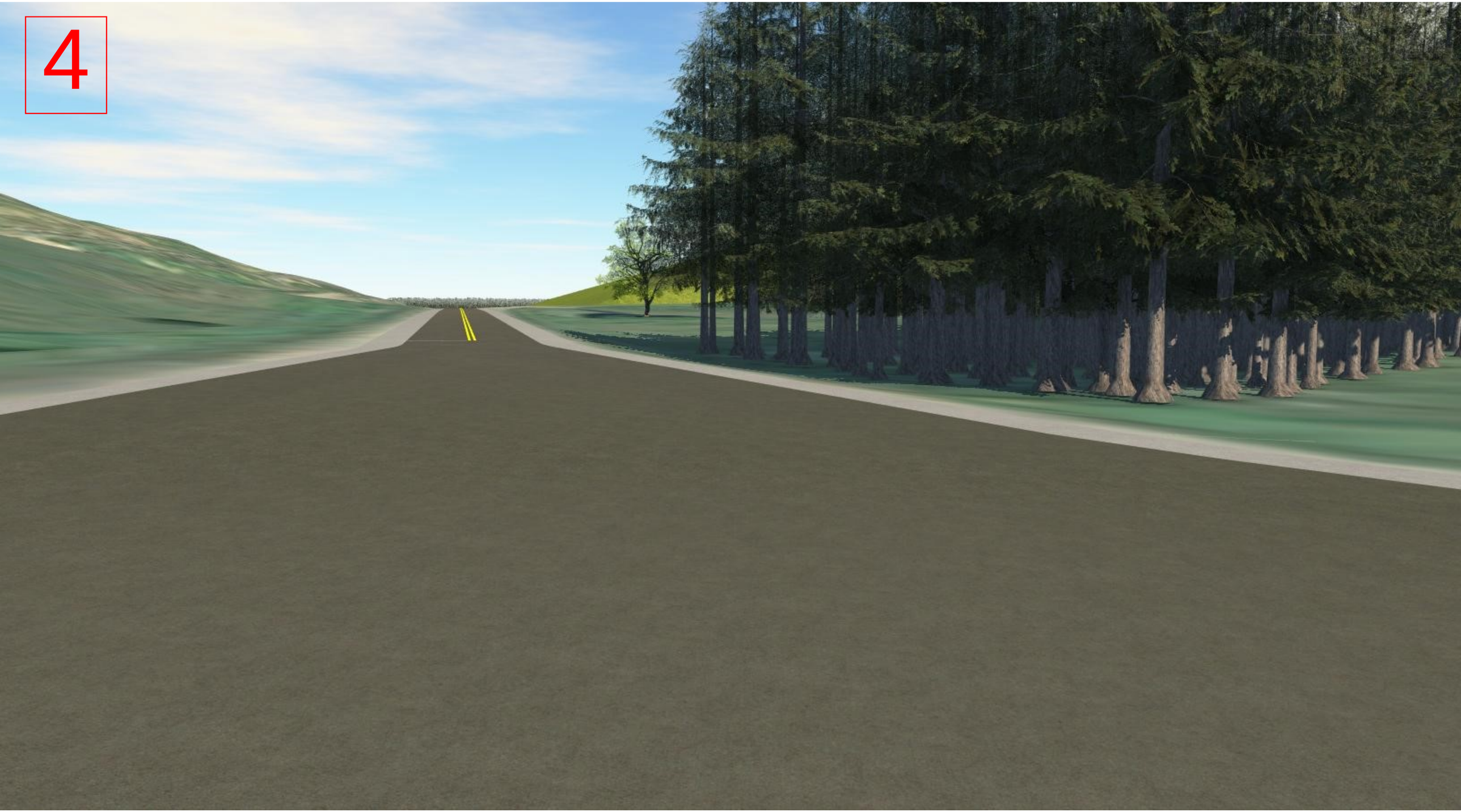
Build-out of Coffin Butte Landfill, with approved expansion.

3. Southwest view towards the landfill from Pacific Highway (99 W)



Build-out of Coffin Butte Landfill, with approved expansion.

4. Southwest view towards the landfill from Coffin Butte Rd



Build-out of Coffin Butte Landfill, with approved expansion.

EXHIBIT 19
SITE LIGHTING SUMMARY

SITE LIGHTING SUMMARY

The current operation of the Coffin Butte Landfill allows the site to open around 4:30 AM and ceases waste acceptance at 5:00 PM, Monday through Saturday. The site uses temporary lights or mobile lighting plants at the tipping face to allow for the landfill operations to be safely conducted, to see what is being disposed of at the tipping face, and complete daily cover placement. These lights are only used when natural light is insufficient to conduct safe operations. This same operation would eventually be moved to the expansion area.

The only additional lights that would be added to the Coffin Butte Landfill, would be security lights near the new parking lot for the new locker room building. These lights would be shielded or hooded so that they only face down towards the ground. These new lights would be designed and installed in accordance with all Benton County code requirements.

Other lights that might be installed, including some at the new scale house and leachate storage ponds would be activated by motion or be motion censored lights. They would also be shielded or hooded so that they only face down towards the ground.

EXHIBIT 20
FIRE RISK ASSESSMENT OF COFFIN BUTTE LANDFILL

FIRE RISK ASSESSMENT OF COFFIN BUTTE LANDFILL, CORVALLIS, OREGON
PREPARED BY JAMES J. WALSH, P.E., BCEE
SCS ENGINEERS
NOVEMBER 29, 2023

Report Purpose

SCS Engineers has been contracted to Republic Services to assess the risks of fire associated with the Coffin Butte Landfill (the "Landfill"). This report will identify possible fire scenarios, including alternative sources, likelihood of occurrence, control measures in place to mitigate fires, and the potential for fires to expand to a size sufficient to have a material impact on the local community or environment.

Landfill Background

The Landfill is located at 29175 Coffin Butte Road, Corvallis, Oregon 97330. It is an active municipal solid waste (MSW) landfill operating under a conditional use permit (CUP) from Benton County, Oregon, and a landfill operating permit from the Oregon Department of Environmental Quality (DEQ). The Landfill serves multiple nearby counties as a designated "Regional Landfill." The current operating permit is dated 2020 and was part of the state's required ten-year renewal process.

The site is permitted for up to 1.1 million tons of MSW per year. In 2022, the site received 660,000 tons, far under its limit. Since the site is open six days per week, that comes to an average of 2,100 tons per day. The site is staffed and open for waste receipt and disposal Monday through Friday from 5 a.m. to 5 p.m. for commercial access, and from 8 a.m. to 5 p.m. for public access. The site is open to all from 8 a.m. to 5 p.m. on Saturdays and is closed on Sundays.

Wastes received at the Landfill are 70 percent conventional MSW, mostly from residential and commercial sources. About 30 percent are special nonhazardous wastes, mostly from industrial sources. These include POTW sludges, industrial wastes, petroleum-contaminated soils (PCS), and other special wastes. All special wastes are approved for disposal at the Landfill by both DEQ and Republic Services. Republic has a robust Special Waste Acceptance Program administered from their corporate headquarters in Arizona. Republic reviews all applications, and sources for disposal of special wastes, to any of its landfills, and approvals are generally more conservative than even DEQ would require. Republic rejects any special waste that has any potential to be problematic to handle or bury at its landfills—especially reactive or ignitable wastes.

As at any active landfill, the Coffin Butte site has a combination of areas with final cover, intermediate cover, and daily cover. Final cover has been applied to 45 acres at present, mostly outslopes of the Landfill already at final grade. Final cover includes a prescriptive cap of geomembrane plastic sheet, cover soils, drainage layer, and vegetation—mostly grass. Intermediate cover is over 66 acres of fill, which includes 12 inches of soil topped with an exposed geomembrane cover (EGC) of plastic, which is either EPDM or a 12-mil-thick plastic tarp. Daily cover areas are held to a minimum size, generally no more than 4 acres at any time, before intermediate cover is applied instead. A tarp is applied to the active working face as Alternative Daily Cover (ADC). The ADC is fully approved by DEQ. Six inches of soil or PCS—the latter also approved by DEQ—is periodically applied as daily cover instead of a tarp.

The working face of the Landfill is the open face where waste is dumped during the working day. As is done at any active MSW landfill, wastes are exposed at the working face until the end of the day when daily cover, as described above, is applied. Good practice dictates that the working face be kept to the minimum size practicable, leaving enough room for the number of trucks dumping waste at any one time. On any given day, the working face at the Landfill is about 200 feet wide, which is appropriate for any landfill receiving as much as 2,100 tons per day.

An important environmental control at any MSW landfill is a gas-collection and control system (GCCS). The intent of any GCCS is to collect as much landfill gas as possible at its source by utilizing a system of individual gas-extraction wells installed deep into the landfill. Gas collected from the wells is directed through connected header pipes, which typically provide suction and direct flow back to a single blower/flare facility.

The Landfill currently has over 300 gas-extraction wells that are mostly vertical. Most wells are plastic pipe (PVC or HDPE), but some are steel. Connective headers amount to several miles of HDPE plastic pipe. Most of those headers are buried below ground, but some are above ground and laid across the landfill surface, mostly in areas brought to final grade with final cover applied. All headers are connected together, leading to a single blower facility. From there, the gas is partly sent to a gas-to-energy plant that uses the methane to power electric generators producing power for the local electric grid. That plant has a capacity of 2,000 cubic feet per minute (cfm). There is more gas flow than the power plant can use, so the balance of landfill gas is combusted on-site in two flares, with capacities of 1,000 cfm and 2,000 cfm. The power plant is owned and operated by PNGC, the local power company, which then transmits the electric power into its local electric grid.

The design, construction, and operation of the GCCS is regulated under provisions of the Clean Air act (New Source Performance Standards (NSPS) for MSW Landfills). The effect of the NSPS rules is to capture the majority of gas generated by landfills to reduce fugitive gas emissions from the landfill surface to atmosphere to the lowest level practicable. Design, construction, and operation of a GCCS must comply with the NSPS regulations. Semiannual reports demonstrating compliance with the operating rules under NSPS must be submitted to state and local air authorities. The Landfill also has a Clean Air Act Title V permit, with additional conditions to manage air emissions and overall air quality at the site. Routine compliance reporting on Title V is required as well. From our review of recent NSPS and Title V reporting, the Landfill appears to be in substantial compliance with both of those regulatory programs.

History of Prior Landfill Fires

The first notable fire at the Landfill occurred in 1999 and was its largest fire to date, as reported in local media at the time. The site was owned and operated by Valley Landfills Inc., before site ownership and operation was assumed by large national waste companies—Allied Waste and Republic Services. The fire broke out in the exposed waste area of the daily working face and reportedly came from an undetected hot load from a large waste-transfer trailer known as a “waste tipper.” Apparently, the fire was not spotted and/or responded to quickly enough and spread over the full extent of exposed waste surfaces. It reportedly expanded beyond exposed waste and burned some grass atop the Landfill and also burned and melted some of the above-ground plastic pipe serving as landfill gas headers.

Valley Landfills operating staff soon responded to extinguish the fire using a combination of smothering soils and water. On-site staff was joined by the local fire department, Adair Rural Fire and Rescue (Adair Fire), which assisted to extinguish the fire after several hours.

Another fire broke out at the Landfill's working face about five years ago. The source of the fire is unknown, but was likely from a smoldering portion of a waste load delivered to the site during working hours. The fire went undetected during staffed daytime operations and broke through to the surface during the night and spread through some of the working face before it was observed by neighbors. Adair Fire quickly extinguished the fire with water.

A third fire occurred on grassed areas adjacent to the Landfill flare. The cause of the fire is unknown, but site operators believe there may have been an ember from charcoal buildup in the flare that ignited grass. The incident occurred during the workday and was quickly extinguished by Landfill personnel. Since then, the areas around the two flares at the site have been covered with gravel. With this improvement, it is believed that a repeat of a fire starting in this manner cannot occur. (The author of this report, having significant experience with landfill fires, has never heard of a surface fire starting from landfill gas flare. I am skeptical that the fire occurred from this source and believe this grass fire likely came from some other source.)

These three cases were reported to me by Landfill staff as being memorable to them with details. As at any landfill, hot loads in delivered waste occur multiple times per year and likely do so at the Landfill. Landfill staff reported that these fires have been quickly spotted and extinguished with smothering soil.

Fire Mitigation Plans

Adair Fire has full access to the Landfill and is available to lead or assist operating personnel in extinguishing fires at any time. Water would be used as a primary means of extinguishing fires, with pumper trucks bringing water onto the site and/or filling or refilling trucks from public water available at the site.

The Landfill has addressed a plan for responding to fires written into the Landfill Operations Plan. Section 8.1 of that Plan states:

"In case of fire, the following actions are to be taken:

- *The landfill operations manager and site supervisor are notified.*
- *An assessment is made as to where the landfill can expose and douse the fire using site equipment, or whether fire department help is needed.*
- *If it is decided that help is needed, the fire department is contacted.*
- *Appropriate actions are taken to divert traffic and customers away from firefighting activities.*
- *The DEQ is notified of the event."*

Several contingencies have been put in place to address any fire that may break out at the Landfill. Those measures include:

1. Soil stockpiles arranged in a U-shape are always available near the Landfill working face in accordance with Standard Operating Procedures (SOPs) developed by Republic Services corporate staff for all their landfills nationwide. If a waste truck is determined to contain a hot

load, the driver is to immediately notify site operating personnel and back the load into the U-shaped soil stockpiles to deposit the waste on solid ground not connected to or a part of the working face. Once on the ground, any burning parts of the waste are quickly covered with soil by operating personnel to extinguish the fire. The waste is kept separate from the working face and is moved to the working face only after personnel determine that the fire is completely extinguished.

2. Soil stockpiles are always nearby and available for use near the Landfill working face for immediate application by site personnel to extinguish any fire detected on the landfill working face. As any landfill operator knows, the safest and most effective way to extinguish a fire at a landfill working face is to smother it with soil. This contingency is also in full accord with Republic Services SOPs for landfill fire management.

3. The site can readily use water to extinguish grass fires on the landfill or to supplement soil application at the landfill working face. The site has a 4,000-gallon water truck with spray bar and hose attachment that is used routinely in dry weather for dust control. The water truck is loaded with fresh water from a truck-loading station connected to the public water supply.

Landfill Fire Sources, Risk Profiles, and Specific Mitigation Measures

This section will identify the three sources of fires that have a material risk of occurring at the Landfill. For each source, we will describe how and where the fire would occur, the likelihood of occurrence, the control measures in place to mitigate fires, and the potential for fires to expand to a size sufficient to have a material impact on the local community or environment. These three types of fires are generally true for any landfill and are thus appropriate to identify as such for the Landfill. The three landfill fire sources are (1) working face fires, (2) grass fires, and (3) gas well fires.

Working Face Fires

As suggested above, surface fires at the landfill working face are quite common at any landfill. They generally derive from a smoldering part of a waste transfer vehicle's much larger waste load. Once dumped, the smoldering waste can expand to a larger fire when exposed to atmosphere and placed atop other exposed wastes already deposited at the working face. The key to controlling these fires is to quickly identify and extinguish them.

There are ways to avoid a hot waste load being placed atop the working face in the first place. As described above, operating personnel at the Landfill are trained to identify a hot load before it is dumped at the working face. In that case, it is dumped in a separately prepared area, atop solid ground not containing waste, with soil stockpiles always alongside to quickly cover and extinguish any fire before expanding beyond that load, much less to other waste already deposited at the working face.

While some hot loads can be managed in this manner, some inevitably are not detected until unloaded atop other waste at the working face. But again, operating personnel at the Landfill have been trained to quickly spot and contain that kind of fire before it expands beyond its original waste load. Soil stockpiled adjacent to the working face is immediately applied and compacted over the smoldering waste. Several layers of soil are applied and compacted to make absolutely sure that the fire is smothered and sealed

off from atmospheric oxygen to help prevent reignition. Additional waste deposits received thereafter are placed in other areas of the working face, so the sealed-off surface atop the hot load can be observed and kept stable for the rest of the day.

They key is to quickly identify and extinguish working face fires with soil to prevent expansion. Quick reaction ensures minimal risk of the fire expanding and consuming larger portions of the working face. Although usually unnecessary, water can be applied to supplement the soil application.

There are three keys to keeping working face fires under control and tightly confined. First, keep the size of the overall working face as small as practicable during the day, appropriate for the size of the landfill operation and the number of trucks dumping at the working face at any one time. Second, cover the waste at the end of each working day, limiting air and oxygen to fuel the fire and the amount of refuse exposed to atmosphere overnight. Third, keep the working face limits, whether during the day when exposed to atmosphere or at night when covered, a sufficient buffer distance from grassland or other flammable materials.

If those provisions are implemented, the risk of a fire consuming the whole working face, much less expanding beyond to grassy areas, is de minimis. The controls put in place by the current owner (Republic Services) makes a recurrence of a working face fire as large and uncontrolled as the 1999 fire highly unlikely.

In summary, fires at any landfill's working face are not unusual, considering that wastes brought to any landfill may from time to time arrive as a hot load, with parts of the load smoldering. Republic Services has put in place a number of contingency supplies and conditions that provide a high level of assurance that such fires will be promptly identified, controlled, and extinguished without expanding beyond the limits of the hot load.

Grass Fires

A portion of the Landfill's existing fill areas and on-property buffer areas are grassland and subject to fires. Grass on the landfill property can be ignited from either on-site or off-site sources.

The risk is low for wildfires starting off site to come on site, and there is no history of wildfires in the area of the Landfill. This part of the county is generally wet most of the year, and wildfires are rare. Wildfires are more likely to be created and expand at higher, dryer elevations in the county, with low risk of spreading the full distance to the Landfill.

If such off-site fires did enter the Landfill, it is assumed that Adair Fire would already be working at controlling the fire. Those efforts could be supplemented by operating personnel using water from the site's water truck, or stockpiled soil would be used to smother the fire. Other control measures could be employed, such as firebreaks and soil barriers, to keep such fires off the Landfill property.

There has been some stated concern that a grass fire entering the Landfill's fill areas would be fueled and exacerbated by methane at the site—presumably by either gas in the GCCS wellheads, in above-grade gas-collection headers, or by surface emissions through the landfill cover. In our judgment, there is no risk that methane from the Landfill would further fuel a grass fire entering the site. Such wildfires have blazed across several MSW landfills with GCCS systems in place in southern California. Such wildfires may destroy portions of the GCCS gas-collection system that are above ground, but these

collection systems operate under vacuum; when the plastic components burn, the vacuum is disconnected and gas flows stop. In the end, grass fires entering the Landfill site are no different from fires crossing undeveloped grassy areas far removed from landfills. The fact that it spreads across a landfill makes no difference in the size, spread, or intensity of the fire.

The next concern is grass fires that are created on the Landfill property. These fires are unlikely to come from a working face fire, since working face fires would be quickly identified and controlled within the working face itself, as previously described. Providing a buffer between the working face and grassy areas also assures that a working face fire cannot spread to grassy areas.

As previously described, one reported fire at the Landfill came from the site's landfill gas flare, reportedly via a burning ember that was expelled from the flare. We are skeptical that a grass fire came from this kind of source. Landfill flares tend to burn clean, with no residue or solids of any kind expelled from the flare. Nonetheless, the Landfill has since taken the precaution of maintaining a significant gravel-covered buffer between the flare and grassy areas with no chance of ignition.

There is some risk that vehicles at the landfill could ignite a grass fire if they operate in or travel across grassy areas. Some undercarriage parts of vehicles, such as mufflers and catalytic converters, do have elevated temperatures and have some potential to be hot enough to ignite grass or other combustible materials that may come in contact with vehicles. However, waste vehicles entering the Landfill traverse paved and graveled roads when approaching and returning from the working face. Landfill operating vehicles mostly travel on nonflammable surfaces as well.

If a grass fire occurs on site from on-site sources, the Landfill would quickly identify it and respond with its water truck or by using other operating equipment to cover and extinguish the fire with soil. As described above, even if the GCCS gas system is burned and destroyed in the process, methane from that system or any emissions from the landfill surface have no risk of fueling or otherwise exacerbating the fire. This again is based on experience with such wildfires sweeping over landfills with and without gas systems in southern California.

In summary, we believe there is low risk of a grass fire occurring from either on-site or off-site sources at the Landfill. And if a grass fire were to develop, it would not be fueled by landfill gas in any way, including gas in wellheads or header lines. In any event, such fires could be quickly extinguished by operating staff or, if necessary, with support of Adair Fire.

Gas Well Fires

A third possible source of landfill fire is a gas well fire. As previously described, a GCCS collects landfill gas at many landfills such as at Coffin Butte. A blower is used to provide suction to landfill gas wells, and gas then flows from wells through a system of connecting gas pipes known as landfill gas headers. Collected gas at the Landfill ultimately flows to the blower station where part of the gas is directed to a landfill gas-to-energy plant, and the balance to the landfill gas flares. These gas systems are carefully operated, monitored, and maintained. A precise amount of vacuum is applied to each well to provide a steady flow of methane from each gas well. If the vacuum applied and induced flow is too low, methane gas may find ways other than wells and the gas-collection system to exit the landfill as an uncollected surface emission. If too much vacuum is applied, its induced flow can generate an oversized zone of

collection around a well—one that breaches the landfill surface and "short-circuits" atmospheric oxygen downward and thence into the wells and headers.

The waste inside a landfill usually decomposes in an "anaerobic" condition, since the waste is at depth in the landfill and sealed off from the landfill surface and atmosphere above. Anaerobic means lacking air or oxygen. Anaerobic conditions in a landfill generate anaerobic decomposition, which has as its primary gaseous byproducts both methane and carbon dioxide. The methane component is natural gas, the same gas used by local natural gas utilities and used to heat our homes.

If excess vacuum is applied to a gas well, it can draw oxygen into the landfill inducing "aerobic" (in the presence of air and oxygen) decomposition and oxidation, with carbon dioxide as its primary gaseous byproduct, with little or no methane. As oxidation progresses, it can end up at the extreme end of oxidation—namely, spontaneous combustion and fire.

If a GCCS is not tightly operated, monitored, and maintained, a landfill fire can break out in the manner described above. Fortunately, such fires stay subsurface in the landfill and are of a limited extent vertically and horizontally, staying in close proximity to the gas well. These fires do not manifest themselves above ground, nor do they have any potential to create a surface fire.

Nonetheless, landfill gas well fires can and do occur at landfills with GCCS gas-collection systems. Identification of these fires can be observed in gas monitoring results recorded at the gas wellhead—with elevated temperatures, increased carbon dioxide, and decreased methane. Physical signs may also appear with rapid settlement around the wellhead, and in rare cases melted and destroyed gas wells and even low-level smoke emissions.

Being subsurface in the landfill, waste can create some challenges when it comes to extinguishing gas well fires. The first step to extinguish these fires is to close the wellhead valve, cutting any suction or gas flow from the well into the gas-collection system. Sealing off the area around the well with tight compacted soils can help cut the intrusion of atmospheric oxygen to the subsurface fire. Applying water to the landfill surface above the fire, and letting it seep into the landfilled waste below, is unlikely to directly extinguish the fire. By implementing the measures described here, the fire should snuff out on its own over time. Elevated temperatures may persist for months, but will eventually subside.

It should be reiterated that Republic Services has detailed SOPs for operating, monitoring, and maintaining gas-collection systems for their landfills. One of those SOPs addresses ways to avoid "Subsurface Oxidation Events" such as these from ever occurring. That SOP also addresses ways to identify the onset of these events and prescribes action(s) to extinguish them.

Based on our interviews of Landfill staff, no gas well fires have ever occurred at the site. From our review of landfill gas wellhead data over the past several months, including primarily the temperature of extracted gas at all gas wellheads, we see no evidence of such gas well fires at the Landfill at this time. There is always the potential for gas well fires to occur at this or any landfill in the future. However, with proper operation, monitoring, and maintenance of the overall GCCS, the potential for these fires is reduced for the future. And if such a fire were to occur, it would be quickly identified and extinguished using the techniques described above.

In summary, landfill gas well fires can be reduced or avoided altogether with proper operation, monitoring, and maintenance of the GCCS at the gas wellhead. Landfill gas fires have occurred at other

MSW landfills with active gas-collection systems installed, but operating staff at the Landfill report that no such fires have occurred to date. Our review of current gas wellhead monitoring data shows no evidence that any wells are poorly operated or have a developing or current gas well fire at this time. Landfill staff have the knowledge and tools to avoid gas well fires in the future, and if one were to occur, can identify and rapidly take steps to extinguish it.

Conclusion

We have identified three possible sources of landfill fires that have a material chance of ever developing at the Landfill. These include (1) working face fires, (2) grass fires, and (3) gas well fires.

With the potential for a hot load to arrive at this or any landfill, working face fires have occurred at the Landfill in the past, and that potential remains. However, the controls implemented by operating staff since the 1999 fire with respect to a working face fire provide assurance that an event of that size will not reoccur. Any fire that occurs at the working face in the future will be promptly identified and extinguished with little to no expansion of that fire beyond the contents of the hot load itself.

The potential for grass fires to develop on Landfill property is low, and certainly no more than anywhere that vehicles come in proximity to grassed areas, such as alongside public highways. Fortunately for the Landfill, operating staff are well trained and attentive to identify the development of any on-site grass fires, and they have the tools and methods to quickly extinguish grass fires before they spread.

There is no history of large wildfires in the part of the county surrounding the Landfill. But like almost anywhere, given dry weather and areas overgrown with natural vegetation like grassland or forest land, that risk, although low, does exist. It is possible that such fires could spread from off-site to on-site areas at the Landfill, but we assume that any such fire, whether off site or spreading onto the Landfill, would be addressed by Adair Fire. To make clear, the presence of a wildfire sweeping across Coffin Butte or any landfill would not be exacerbated at all by the presence of the landfill, its landfill gas, or its gas-collection system. Several wildfires have swept across landfills like Coffin Butte in southern California with no evidence that the fire was in any way affected or accelerated by the landfill beneath.

Lastly, gas well fires can occur with any landfill having a gas-collection system, like Coffin Butte. However, those fires stay subsurface and localized to a given single gas well. There is no evidence that any such fire has occurred in the past at the Landfill. Our review of wellhead monitoring data indicates that none are occurring now. Considering the current procedures in place, the risk of gas well fires occurring in the future is low. And finally, if a gas well fire did occur, the staffing, procedures, and tools are in place to quickly identify, control, and extinguish those fires in the future.

Based upon our analysis, we conclude that operations at the Coffin Butte Landfill do not present a significant fire risk.

EXHIBIT 21
APPLICANT PROPOSED CONDITIONS OF APPROVAL

PROPOSED CONDITIONS OF APPROVAL

Applicant's proposal is hereby granted Preliminary Conditional Use Approval. Operating (Final) Approval is subject to completion of all Preliminary Approval Conditions listed below. Applicant shall adhere to the following conditions under the terms of approval of this conditional use permit.

Until Applicant completes the Preliminary Approval Conditions, Applicant shall not:

(A) Construct the internal haul road;

(B) Construct the leachate ponds;

(C) Construct the employee building;

(D) Construct the new landfill cell.

Upon Applicant submitting documentation demonstrating that the Preliminary Approval Conditions have been met, the Planning Official will issue a written notice of Operating Approval at which time Applicant may initiate construction of items (A) through (D) above, subject to the Operating Approval Conditions below.

Operating Approval Conditions shall remain in effect for the duration of the Project. Failure by Applicant to comply with the Operating Approval Conditions may result in revocation of the Conditional Use Permit.

Preliminary Approval Conditions

The following Preliminary Approval Conditions shall be completed during the four-year period that begins on the later of: (a) the date of final decision (including resolution of any appeals) of the Conditional Use Permit; or (b) from the date of Oregon Department of Environmental quality ("DEQ") approves of all required environmental permits ("Preliminary Approval Period"). The Planning Official may grant one extension for up to a year prior to the expiration of the Preliminary Approval Period if Applicant makes a written extension request stating the reasons preventing completion within the approval period. Failure to commence the Preliminary Approval Conditions within the Preliminary Approval Period shall render this Conditional Use Permit void.

Phase 1 Preliminary Approval Conditions – Only those activities necessary to complete the following conditions are authorized until all of these Phase 1 Preliminary Approval Conditions have been met.

PA-1 Wetlands. On Tax Lot 1200, Applicant shall prepare and obtain approval from the Oregon Department of State Lands of a wetland delineation. Applicant shall not locate any portion of the project within the mitigation wetland and required buffer of the mitigation wetland as shown in Applicant's Exhibit 2.

PA-2 Site Plan Map. Applicant shall submit to the Planning Official a final site plan map of the approved proposal. The map shall contain a scale, north arrow, assessor map numbers, location of existing landfill, access, proposed alteration, leachate treatment or monitoring areas surface water systems, and existing and proposed screening (location and types of materials). A statement shall be placed on the map that the site plan map and narrative together are considered as the Site Development Plan. A signature block shall be included for the date the approval is given and the signature of the Planning Official indicating approval.

PA-3. Covenant. If not already completed, the property owner shall sign a declaratory statement to be recorded into the County Deed Records for the subject property on which the conditional use is located that recognizes the rights of adjacent and nearby land owners to conduct forest operations consistent with the Forest Practices Act and Rules, and that recognizes the hazards associated with the area.

PA-4. Screening. Applicant shall install the landscape screening as shown in Applicant Exhibit 2 and the Site Development Plan. The trees shall be at least 8 feet tall upon planting and be of a species to reach a height of at least 40 feet upon maturity.

Phase 2 Preliminary Approval Conditions – Upon completion of the Phase 1 Preliminary Approval Conditions, Applicant may initiate the ground-disturbing activities identified in the following Phase 2 Preliminary Approval Conditions. Elements of this phase that do not include ground disturbance may be initiated in Phase 1.

PA-5 Public Works.

(A) Applicant shall provide calculations, design, and specifications for all proposed public infrastructure to Benton County Public Works staff for review and approval.

(B) Prior to receiving operating approval of this conditional use permit, Applicant shall fulfill ONE of the following TWO options to meet the conditions for improvements noted above:

(i) Applicant shall construct the improvements noted above as required, OR

(ii) Applicant shall enter into an Agreement for Improvements (AFI) with the County. The AFI will require security for the full amount of the work to be performed plus a 20% contingency. The security may take the form of a bond, a conditional irrevocable line of credit, or a cash deposit. The security serves to assure faithful performance of the required improvements, as outlined above, within 18 months of execution of the AFI.

(C) Upon completion of the proposed improvements to Coffin Butte Road as shown in the Engineer Plans attached as Applicant Exhibit 2 and acceptance

by the County Engineer, Applicant shall dedicate the improvements and any necessary additional right-of-way to the County.

Operating Approval Conditions (to be met for the duration of the Project):

OA-1. Hours of Operation. Operating hours for disposal of waste in the landfill shall be as follows:

(A) Monday through Saturday, the site may open to vehicles using the commercial tipping area starting at 5 a.m. and to all other customers starting at 8 a.m. The site shall close to both commercial and other customers at 5 p.m. Internal operations, including but not limited to leachate hauling, infrastructure construction, disposal area activities and site maintenance is permitted to occur prior to and after these hours.

(B) On Sunday, the site will not open before 12 p.m. and will close no later than 5:00 p.m. Internal operations, including but not limited to leachate hauling, infrastructure construction, disposal area activities, and site maintenance, are permitted to occur prior to and after these hours.

(D) During an emergency or when requested by a State, Federal, or County agency, Applicant may open the landfill outside of these hours.

OA-2. **Vehicle Noise.** All Applicant vehicles being used for operations on the new site shall be outfitted with white noise back up alarms.

OA-3 Noise Study Updates. Applicant shall provide an updated noise study prepared Applicant's noise consultants once every three years. Applicant will implement mitigation measures to bring any non-compliant noise levels into compliance with DEQ noise regulations.

OA-4 Maintenance of Tree Buffer. Applicant shall maintain the existing tree buffer along Hwy 99W and the new screening measures required in PA-4 above. Applicant will replace any dead trees during the rainy season.

OA-5 Eastern Blue Heron Rookery. Applicant shall continue to monitor the eastern Great Blue Heron Rookery in 2025 as recommended in Applicant's Addendum to the Final 2024 Wildlife Habitat Assessment and Surveys attached as Applicant's Exhibit 3. Applicant shall protect the eastern rookery and buffer areas as set forth in Exhibit 3 unless and until it is determined to be abandoned under the rules of the Oregon Department of Fish and Wildlife following the 2025 survey.

OA-6. Outdoor Lighting. On all outdoor lighting, Applicant shall install light shields or use lights with the correct beam angle encased above and to the sides in order to channel the light downward and reduce the amount of light pollution.

OA-7. **Maximum Elevation.** The final grade of the new landfill cell shall not exceed 500 feet in elevation.

OA-9. **Compliance with Application Materials.** Applicant shall construct and operate the expanded landfill as described in the application materials, except as modified by these conditions of approval.

OA-10 Odor Monitoring and Mitigation. After Applicant completes construction of the new landfill cell, but prior to commencing disposal operations, Applicant shall determine a minimum of four odor survey points located on the perimeter of the Development Site boundary. Applicant shall designate two site personnel to be trained to detect odors on an n-butanol scale by using a Nasal Ranger Field Olfactometer or comparable technology. Each working day, one of the trained personnel will conduct at least one odor survey at each odor survey point and record the observations on a survey form, including data about the time, location, weather conditions, and intensity and description of any odor. If odors are detected, steps shall be taken to attempt to identify the source. If it is determined to be attributable to the Project, Applicant shall mitigate the source of the odor consistent with the practices set forth in Applicant's Exhibits 12 and 15. Applicant shall maintain the survey documentation and documentation about steps taken to mitigate odors detected at the survey points for a minimum of four years. A summary format of the information will be provided in Applicant's annual report to the County. In addition, while site personnel is conducting the daily odor patrol, he/she will wear a portable gas monitor (or similar portable device) set to measure the level of hydrogen sulfide ("H2S"), which at certain thresholds can indicate the presence of landfill gas odors. The monitor will be set to an appropriate threshold and if the monitor detects levels of H2S above the threshold, it will be recorded in the survey documentation and site personnel will promptly attempt to identify and mitigate the source of the elevated level if it is determined to be attributable to the Project.

OA-11. **Maintenance of Other Require Permits.** Applicant shall obtain and maintain all required federal, state and Benton County permits for construction and operation of the landfill.

QA-12 Compliance with Archeological Report Conditions. Applicant will comply with the operational conditions set forth in Applicant's Exhibit 26.

Advisory Notices:

Advisory 1. Endangered Species Act. Federal law requires that Applicant comply with the federal Endangered Species Act and is responsible for obtaining any required permit approvals from the U.S. Fish and Wildlife Service. Failure to do so may be a violation of federal law.

Advisory 2. Public Works.

(A) Existing survey monuments must be preserved and protected. Any survey monuments disturbed during construction must be replaced at the expense of Applicant or Applicant's contractor.

(B) All public improvements shall be subject to a 3-year warranty period. At the start of the 3-year warranty period, Applicant shall provide Public Works with a warranty bond in the amount of 15% of the value of the work performed within the Benton County right-of-way.

(C) Applicant shall apply and obtain approval for a Permit to Perform Work in the County right-of-way for all work within County rights of way. The permit will be issued when construction drawings are approved and all supporting documentation has been provided to the County.

(D) Applicant shall provide the County with a unit price cost estimate for the work to be performed within Benton County rights of way. This estimate shall include trenching, backfilling, paving, striping, signing, grading/restoration, seeding, mulching, fence replacement, and any required landscaping. Permit fees will be 4.0% of the estimate provided.

(E) Applicant shall obtain a DEQ 1200-C permit, and a Benton County ESC permit prior to start of land disturbing activities.

(F) Applicant shall obtain approval for all required local, state and federal permits prior to start of land disturbing activities.

(G) Construction and post-construction storm drainage discharge shall conform to the standards and tenets established by Oregon Drainage Law and shall conform to all Oregon Department of Environmental Quality and Benton County stormwater quality standards using Oregon Department of Transportation erosion and sediment control details and best management practices.

Advisory 3. Wetlands. Prior to ground disturbance, Applicant shall prepare and obtain approval from Oregon Department of State Lands of a wetland delineation and removal fill permit. Any amount of disturbance to a compensatory mitigation area requires a removal-fill permit. A Federal permit may be required by the Army Corps of Engineers.

EXHIBIT 22
RECLAMATION PLAN FOR EXPANSION AREA

RECLAMATION PLAN FOR EXPANSION AREA

COFFIN BUTTE LANDFILL
BENTON COUNTY, OREGON

APRIL 2022

PREPARED FOR:
VALLEY LANDFILLS, INC.
28972 Coffin Butte Road
Corvallis, Oregon 97330

Civil & Environmental Consultants, Inc.

PREPARED BY:
Civil & Environmental Consultants, Inc.
11811 N. Tatum Boulevard, Suite 3057
Phoenix, Arizona 85028

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FIGURE 2 **PROPOSED FILL PLAN**

1.0 INTRODUCTION

1.1 General

This Reclamation Plan documents the procedures necessary to completely close the Expansion Area of the Coffin Butte Landfill (CBLF) located in Corvallis, Oregon. This report was prepared as part of the CBLF's Conditional Use Permit for Landfill Expansion South of Coffin Butte Road dated April 2022 in accordance with Oregon Administrative Rules (OAR) 340-094-0110 and 40 Code of Federal Regulations (CFR), Part 258, Subpart F, and is a submittal to the Oregon Department of Environmental Quality (ODEQ). This report is to be periodically updated as the landfill footprint grows and should be replaced by a Final Engineered Site Closure Plan within five years before the anticipated final closure date of the entire landfill [OAR 340-094-0110(1)(b)]

1.2 Site Description

The CBLF is located in Benton County, Oregon, approximately 10 miles north of the city of Corvallis. The CBLF is owned and operated by Valley Landfills, Inc. (VLI), a subsidiary of Republic Services (RS). The CBLF is an active municipal solid waste landfill (MSWLF) operating under ODEQ Solid Waste Permit No. 306. The site address is 28972 Coffin Butte Road, Corvallis, Oregon. Valley Landfills, Inc. is applying for a Conditional Use Permit to expand the Coffin Butte Landfill to the south of the existing permitted landfill on property that Valley Landfills, Inc. owns. This expansion area will include a new cell of approximately 41.2 acres in size. The proposed development plan, and general site layout are shown in Figure 1.

2.0 RECLAMATION PLAN

2.1 General

OAR 340-094-0110(2)(a) states that the requirements for the reclamation plan shall include all elements specified in 40 CFR §258.60, and consist of at least the following:

- A description of the steps necessary to close all municipal solid waste landfill units at any point during their active life;
- A description of the final cover system that is designed to minimize infiltration and erosion;
- An estimate of the largest area of the municipal solid waste landfill unit ever requiring a final cover;
- An estimate of the maximum inventory of wastes ever on-site over the active life of the landfill facility; and
- A schedule for completing all activities necessary to satisfy the closure criteria in 40 CFR §258.60.

2.2 Final Cover System

The final cover system for closure of the expansion area at CBLF is detailed below. This final cover system is the same that is detailed in the site's most recent Site Development Plan (SDP) authored by Geo-Logic Associates (2021). The planned final cover is a geosynthetic composite cover system that will be constructed over the entire lined waste footprint, consisting of the following from top to bottom:

- Vegetative Cover (1.5 Feet Thick)
- Drainage Layer
- Geomembrane Liner
- Soil Barrier Layer (1.5 Feet Thick)
- Geocomposite Gas Collection Layer
- Existing Waste/Interim Cover

Primary drainage of the expansion area proposed final cover system may be achieved with the same drain liner system, and may also be achieved by using a double sided geocomposite drainage layer over a double textured geomembrane liner. The soil barrier layer will be a compacted fill and is specified to have a saturated hydraulic conductivity of 1.0×10^{-5} cm/s or less. Hydroseeding of the vegetative cover layer will be performed using the site's native grass and wildflower seed mix from Willamette Valley Ecoregion stocks between August 15th and October 15th, or during periods when successful growth results can be obtained.

2.3 Areas to Receive Final Closure

The present reclamation plan consists of constructing a final cover over the proposed development area. The new proposed cell south of the existing permitted landfill is approximately 41.2 acres. Therefore, the area to receive final cover is 41.2 acres.

2.4 Inventory of Waste

Based on the proposed grading plan, the new cell in the expansion area south of the existing permitted landfill will have an airspace volume of 6,524,162 cubic yards (CY). The proposed fill plan is shown in Figure 2.

2.5 Closure Schedule

In terms of schedule, the CBLF will be closed in accordance with OAR and CFR requirements. The closure reclamation schedule is defined in 40 CFR §258.60 (f), (g), and (h) as follows:

> The owner or operator must begin closure activities no later than 30 days after the date on which the MSWLF unit receives the known final receipt of wastes or, if the MSWLF unit has remaining capacity and there is a reasonable likelihood that the MSWLF unit will receive additional wastes, no later than one year after the most recent receipt of wastes. Extensions beyond the one-year deadline for beginning closure may be granted by the Director of an approved State if the owner or operator demonstrates that the MSWLF unit has the capacity to receive additional wastes and the owner or operator has taken and will continue to take all steps necessary to prevent threats to human health and the environmental from the unclosed MSWLF unit.

> The owner or operator of all MSWLF units must complete closure activities of each MSWLF unit in accordance with the closure plan within 180 days following the beginning of closure. Extensions of the closure period may be granted by the Director of an approved State if the owner or operator demonstrates that closure will, of necessity, take longer than 180 days and he has taken and will continue to take all steps to prevent threats to human health and the environment from the unclosed MSWLF unit.

Following closure of each MSWLF unit, the owner or operator must notify the State Director that a certification, signed by an independent registered professional engineer or approved by Director of an approved State, verifying that closure has been completed in accordance with the reclamation plan, has been placed in the operating record.

3.0 RECLAMATION POST-CLOSURE PLAN

3.1 General

OAR 340-094-0115(1) defines the requirements for two types of written reclamation post-closure plans as follows:

- "Subtitle D" reclamation post-closure plan as required by 40 CFR §258.61(c)
- A Final Engineered Reclamation Post-Closure Plan as required by OAR 340-094-0100 (Closure and Post-Closure Care: Closure Permits)(2)(b). When prepared, this shall include all requirements of and replace the "Subtitle D" reclamation post-closure plan

This document was written in accordance with the "Subtitle D" reclamation post-closure plan, which OAR 340-094-0115(3)(a) requires to address the following:

- Maintaining the integrity and effectiveness of any final cover;
- Maintaining and operating the leachate collection system;
- Monitoring the groundwater;
- Maintaining and operating the gas monitoring system;
- Monitoring and providing security for the landfill site; and
- Description of the planned uses of the property during the post-closure care period.

3.2 Maintenance Requirements

Maintenance activities associated with landfill closure systems are described in this section. A record of all maintenance activities at the CBLF will be kept at VLI's office throughout the reclamation post-closure care period, and such information will be included with monitoring results in annual reports.

- Reclamation Post-closure maintenance will consist of the following activities:
    - Maintaining the integrity and effectiveness of the final cover system including the effects of settlement, subsidence, erosion, and/or vegetative coverage;
    - Maintaining and operating the leachate collection system;
    - Maintaining and operating the landfill gas monitoring system;
    - Maintaining the integrity and effectiveness of stormwater drainage features; and
    - Maintaining the integrity and effectiveness of miscellaneous site infrastructure such as active buildings, security fences, survey monuments, and roads.

3.3 Reclamation Post-Closure Monitoring Requirements

Reclamation Post-Closure monitoring requirements are described in this section. A record of all monitoring activities at the CBLF will be reported in annual report which will be kept at VLI's office throughout the post-closure care period. Reclamation Post-Closure monitoring requirements consist of the following activities:

- Groundwater monitoring;
- Landfill gas monitoring;
- Inspecting the integrity of the final cover system;
- Inspecting the integrity and effectiveness of stormwater drainage features; and
- Inspecting the integrity and effectiveness of miscellaneous site infrastructure such as active buildings, security fences, survey monuments, and roads.

Monitoring programs are described in the site's Environmental Monitoring Plan (Tuppan Consultants, 2014). Monitoring events and inspections will be performed at the frequencies listed in the CBLF's most recent Environmental Monitoring Plan. Immediate inspections will also be conducted after any major event such as significant earthquakes, fires, storms, and other unforeseen significant events that may impact the integrity of the landfill and it control systems, human health or the environment.

3.4 Reclamation Post-Closure Land Use

The final closed surface of the completed landfill will appear to be a sloped grassy savanna that blends with, and appears to be part of, the adjacent butte. Planned land use for the property will be open space grassland. Any development over filled areas of the CBLF should not include permanent enclosed structures where differential settlement and/or methane gas may cause risk.

3.5 Reclamation Post-Closure Contact Person

At the start of post-closure activities, CBLF will create a roster of contact persons responsible for post-closure care. The list will be updated as necessary to reflect changes in personnel throughout the post-closure period. The current contact for post-closure is:

Valley Landfills, Inc.
28972 Coffin Butte Road
Corvallis, OR 97330
541-745-5792

3.6 Reclamation Post-Closure Schedule

Reclamation Post-Closure care is to be conducted for 30 years following closure. The length of the reclamation post-closure period may be decreased by ODEQ if the owner or operator demonstrates that the reduced period is sufficient to protect human health and the environment and this demonstration is approved by the ODEQ. The length of the reclamation post-closure period may be increased by ODEQ if the ODEQ determines that the lengthened period is necessary to protect human health and the environment.

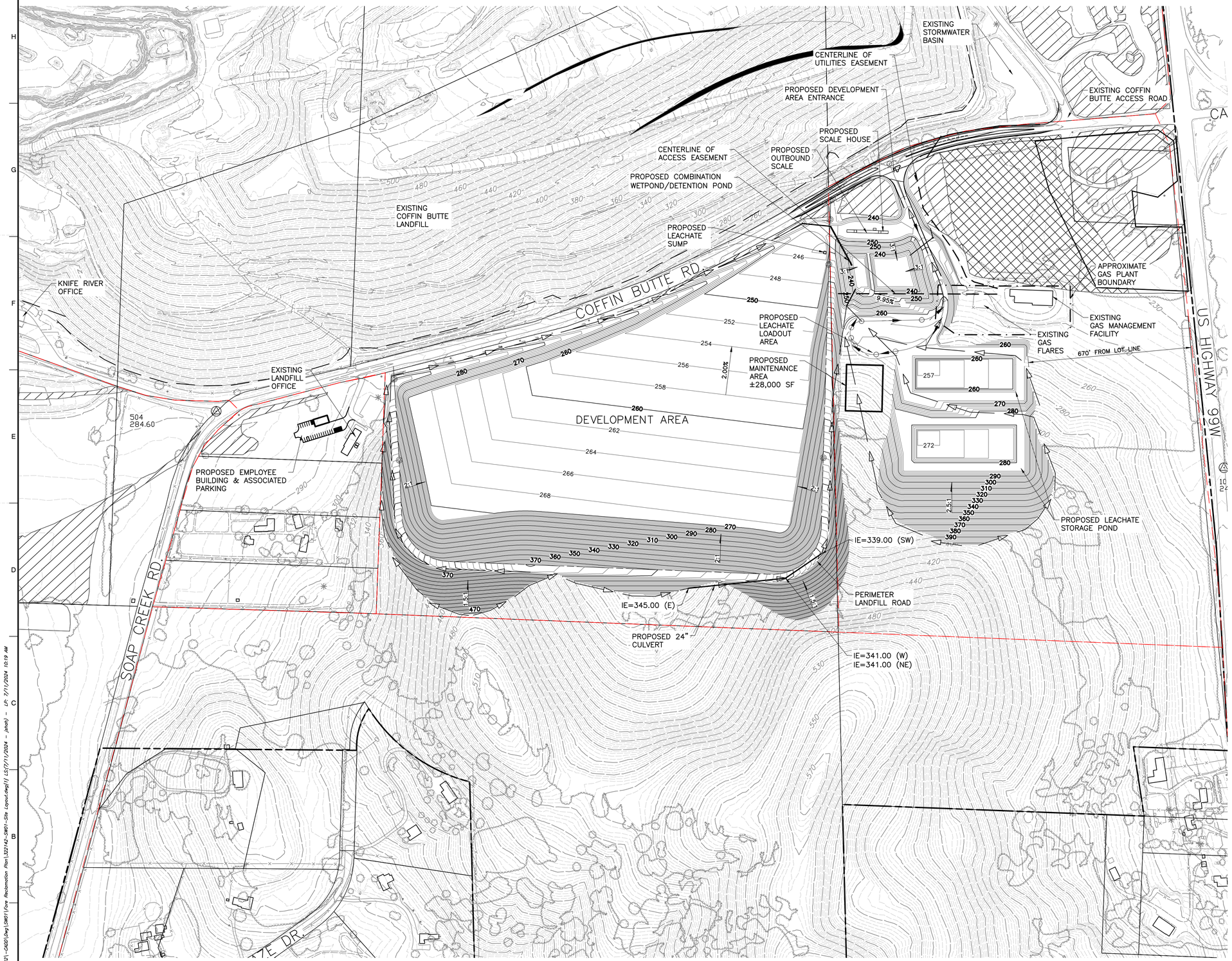
4.0 REFERENCES

Geo-Logic Associates (2021). “Site Development Plan,” Coffin Butte Landfill, Benton County, Oregon, Prepared for Valley Landfills, Inc., December 30, 2021.

Tuppan Consultants (2014). “Environmental Monitoring Plan,” Coffin Butte Landfill, Benton County, Oregon. Prepared for Valley Landfills, Inc. by Tuppan Consultants LLC, Lake Oswego,
Oregon, Rev.3, June 27, 2014.

FIGURE 1

SITE LAYOUT



LEGEND

- PROPERTY BOUNDARY
- EXISTING LANDFILL BOUNDARY
- TAX LOT BOUNDARY
- ZONING BOUNDARY
- WETLAND MITIGATION BOUNDARY
- 300 — EXISTING 10-FT CONTOUR
- EXISTING 2-FT CONTOUR
- EXISTING PALUSTRINE FORESTED WETLAND
- EXISTING PALUSTRINE EMERGENT WETLAND
- 250 — PROPOSED 10-FT CONTOUR
- 254 — PROPOSD 2-FT CONTOUR
- FLOW PATH

NOTES

1. TAX LOT BOUNDARIES FROM BENTON COUNTY ZONING MAP PANEL 41047C0975G, DATED 01/19/2000 (TAX LOT BOUNDARIES MAY DIFFER FROM ZONING DATED 2021).
2. PERIMETER LANDFILL ROAD WILL ONLY BE FOR PICKUP TRUCKS OR SMALLER VEHICLES.

NORTH

SCALE IN FEET
0 200 400

REFERENCE

AERIAL PHOTOGRAPH, TOPOGRAPHIC INFORMATION FROM AERIAL SURVEY AND GRID BY COOPER AERIAL SURVEYS COMPANY; DATE OF PHOTOGRAPHY: OCTOBER 07, 2021.

REVISION RECORD

NO	DATE	DESCRIPTION

CEC
Civil & Environmental Consultants, Inc.
11811 N. Tatum Blvd., Suite 3057 · Phoenix, AZ 85028
Ph: 602.760.2324 · 877.231.2324 · Fax: 602.760.2330
www.cecinc.com

VALLEY LANDFILLS, INC.
COFFIN BUTTE LANDFILL
CONDITIONAL USE PERMIT APPLICATION
CORVALLIS, OR 97330

SITE LAYOUT

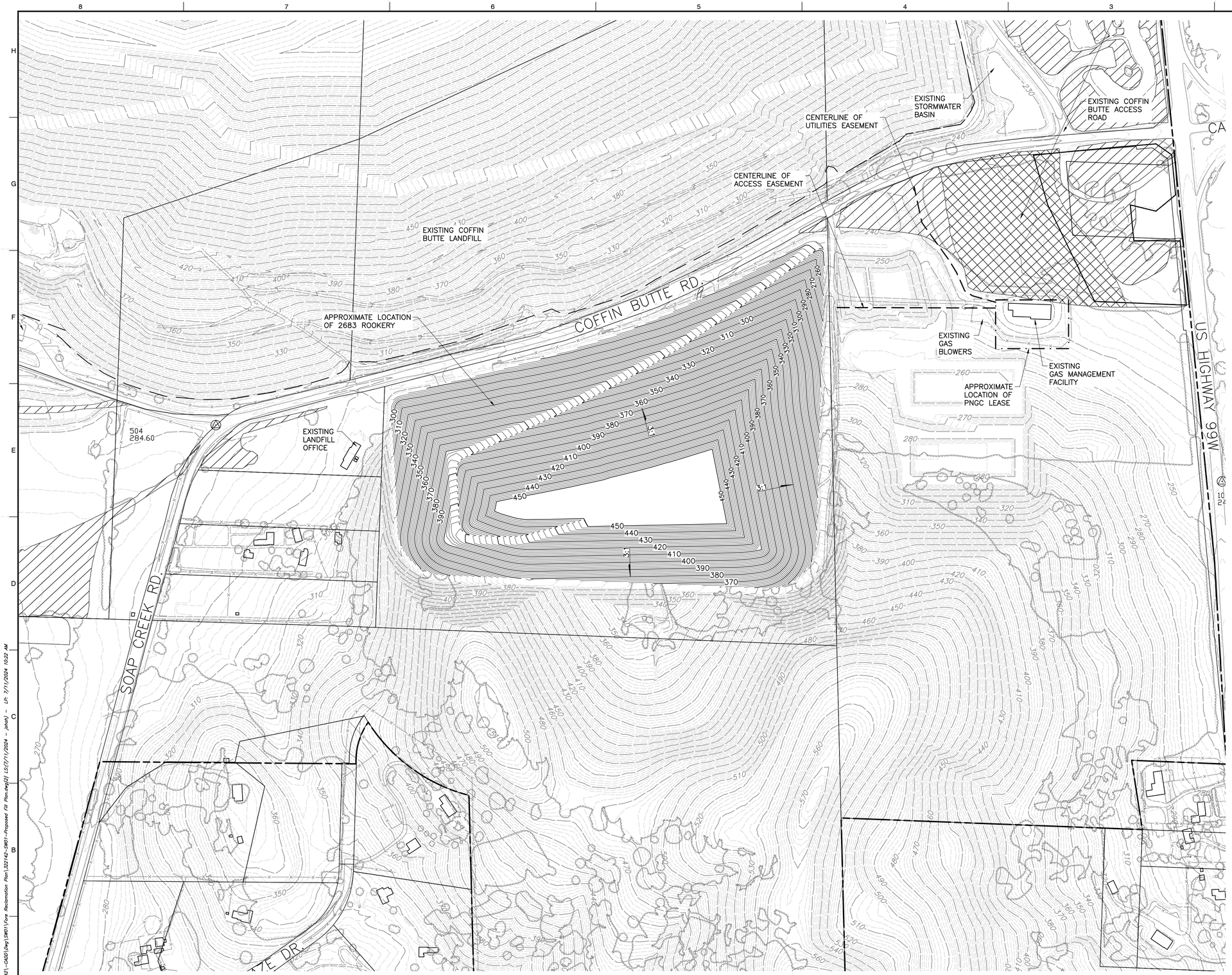
DATE:	JULY 2024
DWG SCALE:	AS SHOWN
PROJECT NO:	322-142
DRAWN BY:	JS
CHECKED BY:	JAS
APPROVED BY:	JAS

DRAWING NO.: 1

P:\320-0001\322-142\-CAD\Dwg\SWD1\Fore Reclamation Plan\322142-SWD1-Site Layout.dwg[1] LS(7/11/2024 - jshah) - LP: 7/11/2024 10:19 AM

FIGURE 2

PROPOSED FILL PLAN

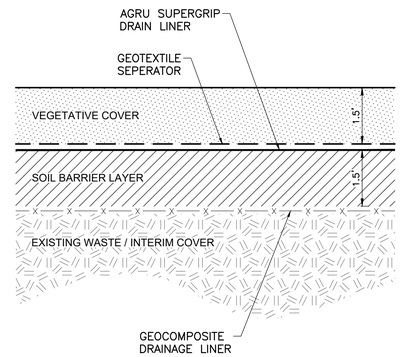


LEGEND

- PROPERTY BOUNDARY
- EXISTING LANDFILL BOUNDARY
- TAX LOT BOUNDARY
- WETLAND MITIGATION BOUNDARY
- 300 EXISTING 10-FT CONTOUR
- EXISTING 2-FT CONTOUR
- EXISTING PALUSTRINE FORESTED WETLAND
- EXISTING PALUSTRINE EMERGENT WETLAND
- 250 PROPOSED 10-FT TOP OF WASTE CONTOUR
- 254 PROPOSD 2-FT TOP OF CONTOUR

NOTES

1. TAX LOT BOUNDARIES FROM BENTON COUNTY ZONING MAP PANEL 41047C0975G, DATED 01/19/2000 (TAX LOT BOUNDARIES MAY DIFFER FROM ZONING DATED 2021).
2. PERIMETER LANDFILL ROAD WILL ONLY BE FOR PICKUP TRUCKS OR SMALLER VEHICLES.



FINAL COVER SYSTEM

NORTH

SCALE IN FEET

0 200 400

REFERENCE

AERIAL PHOTOGRAPH, TOPOGRAPHIC INFORMATION FROM AERIAL SURVEY AND GRID BY COOPER AERIAL SURVEYS COMPANY; DATE OF PHOTOGRAPHY: OCTOBER 07, 2021.

REVISION RECORD

NO	DATE	DESCRIPTION

Civil & Environmental Consultants, Inc.
11811 N. Tatum Blvd., Suite 3057 - Phoenix, AZ 85028
Ph: 602.760.2324 · 877.231.2324 · Fax: 602.760.2330
www.cecinc.com

VALLEY LANDFILLS, INC.
COFFIN BUTTE LANDFILL
CONDITIONAL USE PERMIT
APPLICATION
CORVALLIS, OR 97330

PROPOSED FILL PLAN

DATE:	JULY 2024	DRAWN BY:	JS
DWG SCALE:	AS SHOWN	CHECKED BY:	JAS
PROJECT NO:			322-142
APPROVED BY:			JAS

DRAWING NO.: 2

P:\320-000\322-142\-CADD\Dwg\SW01\Fore Reclamation Plan\322142-SW01-Proposed Fill Plan.dwg[2] LS:(7/11/2024 - jahah) - LP: 7/11/2024 10:22 AM

EXHIBIT 23
OREGON DEQ PERMIT #306 MATERIALS

State of Oregon Department of Environmental Quality

SOLID WASTE DISPOSAL SITE PERMIT:

Municipal Solid Waste Landfill

Oregon Department of Environmental Quality
165 E. Seventh Ave., Suite 100
Eugene, OR 97401-3049
541-687-7465

Issued as authorized by ORS 459.245 and in accordance with the provisions of Oregon Revised Statutes Chapter 459, 459A, Oregon Administrative Rules 340 Divisions 64, 90, 93, 95, 96 and 97 and subject to the Land Use Compatibility Statement referenced below.

ISSUED TO:

Valley Landfills, Inc.
28972 Coffin Butte Road
Corvallis, OR 97330

541-745-5792

FACILITY NAME AND LOCATION:

Coffin Butte Landfill
28972 Coffin Butte Road
Corvallis, OR 97330

Section 13&18, T10S, R5&4W, Benton County

OWNER:

Valley Landfills, Inc.
28972 Coffin Butte Road
Corvallis, OR 97330

541-745-5792

OPERATOR:

Coffin Butte Landfill
28972 Coffin Butte Road
Corvallis, OR 97330

541-230-5546

ISSUED IN RESPONSE TO:

- Solid waste permit renewal application received Dec 6, 2019
- Land Use Compatibility Statement from Benton County dated Dec. 20, 2000.

The determination to issue this permit is based on findings and technical information included in the permit record.

ISSUED BY THE OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY

Brian Fuller
Material Management Manager
Western Region

July 28, 2020
Date

Permitted Activities

Until this permit expires or is modified or revoked, the permittee is authorized to establish, operate, and maintain a solid waste land disposal site in conformance with the requirements, limitations, and conditions set forth in this document, including all attachments.

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INTRODUCTION

This document is a solid waste permit issued by the Oregon Department of Environmental Quality in accordance with Oregon Revised Statutes (ORS) 459 and Oregon Administrative Rules (OAR), Chapter 340.

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PERMIT ADMINISTRATION

1.0 PERMIT ISSUANCE

1.1 Permittee

This permit is issued to Valley Landfills, Inc.

1.2 Permit number

This permit is DEQ Solid Waste Permit Number 306.

1.3 Permit term

The permit is issued on the date it is signed. The permit's expiration date is June 30, 2030.

1.4 Facility type

The facility is permitted as a municipal solid waste landfill.

1.5 Facility owner/ operator

The owner of this facility is:

Valley Landfills, Inc.
28972 Coffin Butte Road
Corvallis, OR 97330

The operator of this facility is:

Valley Landfills, Inc.
28972 Coffin Butte Road
Corvallis, OR 97330

1.6 Basis for permit issuance:

This permit is issued based upon the following documents submitted by the permittee:

- Solid waste permit application received Dec. 6, 2019
- Land Use Compatibility Statements from Benton County dated Dec. 20, 2000

1.7 Definitions

Unless otherwise specified, all terms are as defined in OAR 340-093-0030.

1.8 Legal control of property

The permittee shall at all times maintain legal control of the disposal site property; including maintaining a current permit, contract or agreement that allows the operation of the facility if the site is not owned by the permittee.

1.9 Submittal & notification address

Unless otherwise specified, all submittals and notifications to DEQ under this permit must be sent to:

Oregon Department of Environmental Quality
Manager, Materials Management Program
165 E Seventh Ave., Suite 100
Eugene, OR 97401-3049

Telephone: 541-687-7465

All submittals must include, at a minimum, one paper copy and one electronic copy in a format that is approved by the DEQ project manager. Note that some submittals may require more paper copies. Therefore, the permittee must confirm with the permit manager how many copies are necessary prior to submittal of a document.

Note: Whenever possible, the permittee should submit two-sided paper copies of all reports. DEQ may accept electronic submittals for portions of some reports, as approved in the Environmental Monitoring Plan or by DEQ.

2.0 DISCLAIMERS

2.1 Property rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights.

2.2 Department liability

DEQ, its officers, agents or employees do not sustain any liability on account of the issuance of this permit or on account of the construction, maintenance or operation of facilities pursuant to this permit.

3.0 AUTHORITY

3.1 Ten year permit

This permit is issued for a maximum of 10 years as authorized by Oregon Revised Statutes 459.245 (2).

3.2 Documents superseded

This document is the primary solid waste permit for the facility, superseding all of other solid waste permits issued for Coffin Butte Landfill by DEQ.

3.3 Permittee responsibility and liability

Conditions of this permit are binding upon the permittee. The permittee must conduct all facility activities in compliance with the provisions of the permit. The permittee is liable for all acts and omissions of the permittee's contractors and agents in carrying out the operations and other responsibilities pursuant to this permit.

3.4 Other compliance

This permit's issuance does not relieve the permittee from the responsibility to comply with all other applicable federal, state, or local laws or regulations, including the following solid waste requirements, and any future updates or additions to these requirements:

- Solid waste permit application received Dec. 6, 2019
- Oregon Revised Statutes, Chapters 459 and 459A
- Oregon Administrative Rules Chapter 340
- Any documents submitted by the permittee and approved by DEQ

3.5 DEQ access to disposal site

The permittee shall allow representatives of DEQ access to the disposal facility at all reasonable times for the purpose of making inspections, surveys, collecting samples, obtaining data and carrying out other necessary functions related to this permit.

Reference: OAR 340-093-0050(6).

3.6 Penalties

Violation of permit conditions will subject the permittee to civil penalties of up to $25,000 for each day of each violation.

Reference: ORS 459.995(1)(a)

4.0 PERMIT MODIFICATION

4.1 Five year review

In the permit's 4th to 6th year, DEQ will review the permit and amend it if necessary. DEQ will consider the following factors in making this determination:

- Compliance history of the facility
- Changes in volume, waste composition, or operations at the facility
- Changes in state or federal rules which should be incorporated into the permit

- A significant release of leachate or landfill gas to the environment from the facility
- Significant changes to a DEQ-approved site development plan, and/or conceptual design
- Other significant information or events

4.2 Permit modification

DEQ or the permittee may, at any time during the permit's term, propose to change the permit.

Once approved by DEQ, any permit-required plans become part of the permit by reference. DEQ may provide notice and opportunity for review of permit-required plans.

4.3 Modification and revocation by DEQ

DEQ may, at any time before the expiration date, modify, suspend or revoke this permit in whole or in part, in accordance with Oregon Revised Statutes 459.255, for reasons including but not limited to the following:

- Violation of any terms or conditions of this permit or any applicable statute, rule, standard or order of the Commission;
- Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts
- A significant change in the quantity or character of solid waste received or in the operation of the disposal site

4.4 Modification by permittee

The permittee must apply for a modification to this permit if there is a significant change in facility operations or a deviation from permitted activities.

4.5 Public participation

DEQ will issue a public notice to inform the public of any significant changes to the permit.

4.6 Changes in ownership or address

At least 10 days in advance, the permittee must report to DEQ any change in the facility's ownership or the permittee's or operator's name and/or address.

Reference: OAR 340-093-0070(6)(a)(A)

ALLOWABLE ACTIVITIES

5.0 AUTHORIZATIONS

5.1 Wastes authorized for receipt

This permit authorizes the facility to accept:

- Solid waste as defined in OAR 340-093-0030(91)
- The following waste, when special handling and management requirements for their disposal are included in a special waste management plan approved by DEQ:
    - Cleanup Materials Contaminated with Hazardous Substances as defined in OAR 340-093-0030(19), in accordance with OAR 340-093-0170
    - Waste requiring special management as defined in OAR 340-093-0190
    - Industrial solid wastes as defined in OAR 340-093-0030(53)

5.2 Authorization of other wastes

DEQ may authorize the permittee to accept other waste if:

- The permittee develops a Special Waste Management Plan and submits it to DEQ for review and approval;
- DEQ approves the Special Waste Management Plan
- The permittee can demonstrate that the materials are not hazardous waste, as defined by state and federal regulations or otherwise a threat to human health or waters of the state.

5.3 Tires for recycling

This permit authorizes the permittee to accept up to 100 whole tires at this facility for storage and removal.

This permit authorizes the permittee to accept up to 2,000 whole tires at this facility for storage and removal if the permittee maintains a continuous contract with a waste tire carrier to remove the tires from the site.

5.4 Salvaging and recycling

This permit authorizes the permittee to conduct salvaging and recycling in a controlled and orderly manner. The permittee must notify DEQ prior to changing salvaging and recycling operations. These operations must be described in the site Operations Plan.

6.0 PROHIBITIONS

6.1 Hazardous waste disposal

The permittee must not accept any regulated hazardous waste.

Reference: 40 CFR 258.20 (b).

In the event discovered waste is hazardous or suspected to be hazardous, the permittee must, within 24 hours, notify DEQ and initiate procedures to identify and remove the waste. Hazardous waste must be removed within 90 days, unless DEQ approves otherwise. The permittee's temporary storage and transportation practices must comply with DEQ rules.

6.2 Liquid waste disposal

The permittee must not accept liquid waste for disposal.

Definition: Liquid waste is waste that does not pass the paint filter test performed in accordance with EPA Method 9095B.

6.3 Vehicle disposal

The permittee must not accept discarded or abandoned motor vehicles, including trailers or mobile homes, for disposal.

6.4 Used oil disposal

The permittee must not accept used oil for disposal.

6.5 Battery disposal

The permittee must not accept lead-acid batteries for disposal.

6.6 Tire disposal

The permittee must not accept waste tires for disposal.

6.7 Recyclable material disposal

The permittee must not landfill or dispose of any source separated recyclable material brought to the disposal site.

Exception: If the source separated material is unusable or not recyclable it may be landfilled. DEQ must agree to such disposal and pre-approve the identified sources of unusable source separated material prior to its disposal.

6.8 Open burning

The permittee must not conduct any open burning at the site.

6.9 Electronic waste disposal

The permittee must not knowingly accept the following covered electronic devices for disposal:

- Computer monitors having a viewable area greater than four inches diagonally
- Televisions having a viewable area greater than four inches diagonally

- Desktop computers
- Portable computers

Reference: Oregon Revised Statutes 459.247 and 459A.300-365.

OPERATIONS AND DESIGN

7.0 OPERATIONS PLAN

7.1 Operations plan submittal

Within 270 days of the permit issue date, the permittee must review and submit any necessary updates to the site Operations Plan to DEQ for review and approval. The updated plan must be consistent with the conditions of this permit. A DEQ-approved plan becomes an integral part of the permit.

7.2 Plan content

The Operations Plan must describe facility operations, including the elements listed below, and demonstrate how the facility will comply with all regulatory and permit requirements:

General Topics	Describe plans or procedures for:
General operations	• Screening incoming waste to detect unauthorized or prohibited waste as required by 40 CFR 258.20(a) • Handling and removing unauthorized wastes discovered at the facility • Managing landfill gas • Managing landfill leachate in compliance with Subsection 9.15 • Recirculating landfill leachate & gas condensate in compliance with Subsections 5.5 and 9.15 • Monitoring landslide stability in compliance with Subsection 9.22 • Designing surface water and erosion control structures • Responding to non-compliance events or situations
Disposal operations	• Placing daily and interim cover • Detecting and preventing the disposal of regulated hazardous waste, and any other DEQ-prohibited waste • Disposing of putrescible waste • Disposal, handling and recordkeeping of cleanup materials contaminated with hazardous substances • Waste unloading and handling • Disposing of special waste • Using, stockpiling and tracking the receipt and use of waste approved for use as alternative daily cover • Reducing and controlling the risk of a landfill fire • Fill progression and phasing that is consistent with landslide stability recommendations, and takes into account other operational considerations
Special Waste Management Plan	• Identifying and characterizing special waste (i.e., waste which requires special management or waste streams not otherwise authorized by this permit) • Identifying the source of all special waste • Determining appropriate handling and disposal procedures • Documenting plan implementation, including waste characterization and location of waste disposition References: OAR 340-093-0190, OAR 340-094-0040[11][b][J]
Ancillary operations	• Waste unloading and handling • Solidifying liquid waste prior to disposal

General Topics	Describe plans or procedures for:
	• Handling and removal of waste tires • Placing and maintaining interim cover over inactive landfill areas • Managing transfer containers
Inspection and maintenance	• Washing equipment • Maintaining leachate and gas collection systems • Maintaining monitoring stations and devices • Periodically inspecting the continuity and integrity of primary leachate collection pipes • Maintaining surface water control structures
Operating record	• Establishing and maintaining the operating record
Contingency	• Backup methods for storing and/or disposing of leachate • Providing fire protection equipment, and arrangements made with local fire control agency • Notifying DEQ about emergencies and fires

7.3 Operations and maintenance manual

Within 60 days of the Operations Plan's approval the permittee must prepare and submit an updated Operations and Maintenance Manual which includes detailed inspection and maintenance procedures and an associated schedule for all facility components that require periodic inspection. The manual must include specific procedures for routine preventative maintenance and repairs and for response to emergency situations. The preventative inspection and maintenance program should address the following equipment and facilities: personnel safety equipment, operating equipment, support facilities, environmental control systems, environmental monitoring systems, and the transportation system. The permittee must keep a copy of the Operations and Maintenance Manual with the Operating Record, readily available for DEQ inspection and review.

7.4 Plan and manual updates

The permittee must update and revise both the Operations Plan and the Operations and Maintenance Manual as necessary to reflect current and future facility conditions and procedures.

The permittee must submit any associated revisions or updates to DEQ for review and approval.

7.5 Plan and manual compliance

The permittee must operate the facility in accordance with the approved Operations Plan and Operations and Maintenance Manual, and any amendments to these documents.

8.0 RECORDKEEPING AND REPORTING – OPERATIONS

8.1 Non-compliance reporting

The permittee must take immediate corrective action for any violations of permit conditions or DEQ rules and notify DEQ.

DEQ response: DEQ may investigate the nature and extent of the compliance problem and evaluate the adequacy of the permittee's corrective action plans.

8.2 Permit display

The permittee must display this permit where operating personnel can easily refer to it.

8.3 Access to records

DEQ must have access, when requested, to all records and reports related to the permitted facility.

8.4 Procedures

The permittee's recordkeeping and reporting procedures are as follows:

Step	Action
1	Keep the Operating Record at the facility or at another DEQ-approved location.
2	Place information required by 40 CFR 258.29 and this permit in the Operating Record.
3	During facility operations, record the daily amount of each waste type received and approved alternative daily cover - qualified waste used for daily cover. Record 0 if the waste is not received. *Identify the following waste types received and categorize them as either in- or out-of-state waste:* • Domestic solid waste and construction and demolition waste • Industrial solid waste • Asbestos • Contaminated cleanup materials (except materials counted as alternative daily cover qualified waste) • Approved alternative daily cover qualified waste received • Other (i.e., specify any waste type not included in the above list).
4	If applicable, every quarter, record the amount of each material recovered for recycling or other beneficial purpose.
5	Submit the information collected in Step 3 above on the Solid Waste Disposal Report/Fee Calculation form provided by DEQ. Pay solid waste fees as required by OAR 340-097. Date due: last day of the month following the end of the calendar quarter.
6	Submit the information collected in Steps 3 & 4 above to the Wasteshed Representative on DEQ provided or approved form. Date due: Jan. 25 of each year.
7	Retain copies of all records and reports for 10 years after their creation.
8	Update all records to reflect current conditions at the facility.

8.5 Submittal address

Send required submittals to:

Oregon Department of Environmental Quality
Materials Management Section
Environmental Solutions Division
700 NE Multnomah St., Suite 600
Portland OR 97232

503-229-5913

9.0 SPECIFIC OPERATING CONDITIONS

9.1 Discovery of prohibited waste

If the permittee discovers prohibited wastes, the permittee must notify DEQ within 24 hours and begin to isolate or remove the waste. In addition, the permittee must take digital photos of the prohibited waste to document its quantity, nature, identity and source.

Within 60 days following the discovery, the permittee must transport non-putrescible, non-hazardous prohibited waste to a disposal or recycling facility authorized to accept such waste, unless otherwise approved or restricted by DEQ. The permittee must obtain DEQ's written approval to store putrescible, non-hazardous, prohibited waste.

9.2 Spills notification

Oregon Revised Statue 466.635 and Oil and Hazardous Materials Emergency Response Requirements, Chapter 340, Division 142 require immediate notification to Oregon Emergency Response System (OERS) after taking any required emergency actions to protect human health and the environment when

oil or hazardous materials are spilled. The spill must be immediately reported to OERS at 1-800-452-0311 if the spill is of a reportable quantity. Reportable quantities include:

- *Any* amount of oil spilled to waters of the state
- Oil spills on land in excess of 42 gallons
- Two hundred pounds (25 gallons) or more of spilled pesticide residue
- Spills of hazardous materials that are equal to, or greater than, the quantity listed in the Code of Federal Regulations, 40 CFR Part 302 (List of Hazardous Substances and Reportable Quantities), and amendments adopted before July 1, 2002.

For a complete list of hazardous materials required to be reported, please refer to OAR 340-142-0050.

9.3 Access roads

The permittee must provide all-weather access roads from the landfill property line to the active operational area and the environmental monitoring stations, and maintain them in a manner that prevents traffic hazards, dust and mud.

The permittee must use appropriate means, including truck washing, as needed to prevent haul trucks from tracking mud on external roadways outside the landfill boundaries. Any truck washing activities must be conducted on a hard surface and any disposal of wastewater must be accomplished in a manner approved by DEQ.

9.4 Unloading area

The area(s) for unloading incoming waste must be clearly defined by signs, fences, barriers or other devices. The permittee must minimize width of the unloading area to the maximum extent practicable.

9.5 Daily cover

At the end of each working day the permittee must cover all solid waste with a six inch, or thicker, layer of compacted soil or with a DEQ-approved, alternative daily cover.

9.6 Interim cover

As specified in DEQ-approved design and operations plans, the permittee must place and maintain interim cover over fill areas that will not receive additional waste for an extended period of time [i.e., greater than 120 days] and actively revegetate, in a DEQ-approved manner, any interim cover that will remain exposed for more than two years.

9.7 Surface water structures

The permittee must maintain all stormwater drainage structures in good functional condition, report to DEQ any significant malfunctions or damage and complete repairs within 60 days of discovery the problem.

9.8 Stormwater pollution control plan

The permittee must update and implement the Storm Water Pollution Control Plan consistent with site conditions and the stormwater permit requirements. Refer to the National Pollutant Discharge Elimination System Stormwater Discharge Permit No. 1200-Z. In addition, the permittee must keep a current copy of the permit in the facility Operating Record.

9.9 Asbestos waste management

The permittee must offload and dispose of friable asbestos-containing solid waste as specified in DEQ-approved Operations Plan, Operations & Maintenance Manual, and in OAR 340-248.

9.10 Leachate management systems

The permittee must operate the disposal site in a manner that deters leachate production to the maximum extent practicable, and construct, operate and maintain in good functional condition all DEQ-approved leachate containment, collection, detection, removal, storage and treatment systems. The permittee must remove leachate continuously from all landfill leachate collection systems, to minimize fluid buildup on the bottom liner and prevent the hydraulic head (fluid depth) from exceeding one foot.

9.11 Leachate surface impoundments

The permittee must: 1) completely contain leachate stored within lined surface impoundments; 2) maintain a minimum dike freeboard of two (2) feet above the maximum leachate level in those impoundments unless otherwise approved by DEQ; 3) fence the impoundments to control public access; and 4) lock all gates when no attendant is on duty. In addition, the permittee must post clearly legible, visible signs that describe the surface impoundment's contents and display the words "no trespassing".

9.12 Litter control

The permittee must at all times minimize windblown litter and collect it quickly and effectively to prevent scattering, nuisance conditions and unsightliness.

9.13 Vector control

The permittee must minimize vectors in the active disposal area, including insects, rodents and birds.

9.14 Air emissions

The permittee must control air emissions, including dust, malodors, air toxics, etc. related to disposal site construction, operation and other activities, and comply with DEQ air quality standards.

9.15 Access control

The permittee must control public access to the landfill as necessary to prevent unauthorized entry and dumping.

9.16 Landfill entrance sign

A prominently displayed sign must indicate the following:

- The name of facility
- The emergency telephone number
- The days and hours of operation
- The authorized and prohibited waste
- The Solid Waste Permit number
- The operator's address
- The consequences to haulers if they attempt to dispose of prohibited materials
- Any other information critical to the safe and efficient operation of the facility.

9.17 Fire protection and reporting

The permittee must provide complete and sufficient protection equipment and facilities in accordance with DEQ-approved Operations Plan.

Arrangements must be made with the local fire control agency to immediately acquire their services when needed. The permittee must implement preventative measures to ensure adequate on-site fire control, as determined by the local fire control agency. Fires must be immediately and thoroughly extinguished.

Fires shall be reported to DEQ within 24 hours.

9.18 Water supply

The permittee must provide water in sufficient quantities for fire protection, dust suppression, establishment of vegetation, and other site operations requiring water.

9.19 Landfill gas management

The permittee must control landfill gas in accordance with the requirements of 40 CFR Parts 51, 52 and 60 and OAR 340-094-0060(4).

9.20 Landfill gas control system operation and maintenance

The permittee must operate and maintain the landfill gas control and monitoring systems in good working order as required to prevent nuisance odors, air emissions and landfill gas migration (see methane compliance limits in Section 18).

If critical landfill gas equipment is significantly damaged or compromised, the permittee must replace or repair that equipment, within 60 days of discovering the problem, and submit a written inspection report to DEQ.

10.0 SITE DEVELOPMENT AND DESIGN

10.1 Site development plan

Within 360 days of the permit issue date, the permittee must submit any necessary update to the long-term Site Development Plan to DEQ for review and approval. Once approved, the plan becomes an integral part of this permit.

Reference: The *Solid Waste Landfill Guidance, September 1996,* describes the basic elements of a Site Development Plan. Organizing the plan in accordance with the Guidance will expedite DEQ's review.

10.2 Baseline design criteria

New municipal landfill waste landfill disposal units must include the following engineering controls:

- A composite liner system, including a DEQ-approved geomembrane liner (at least 60 mils thick for high density polyethylene, and at least 30 mils thick for approved alternative geomembranes) and at least two feet of compacted soil with an in-place permeability of 1 X 10^{-7} cm/sec or less, or a DEQ-approved alternative liner pursuant to 40 CFR Part 258.40(a)(1);
- A primary leachate collection and removal system (LCRS) which fully covers the liner system and maintains a leachate depth of less than a one foot above the liner, per 40 CFR 258.40(a)(2). All leachate collection pipes must be serviceable by clean outs;
- A secondary leachate collection and removal system(s) designed to effectively monitor the overlying composite-liner system's performance and (1) detect and collect leachate at locations of maximum leak probability; and (2) prevent groundwater intrusion and related monitoring biases;
- A leachate collection sump(s) with a double composite liner system and a leak detection and removal system. Each composite liner must meet the minimum design criteria previously cited in this subsection;
- An operations layer that covers and protects the primary LCRS and liner system from physical damage; and
- A leachate surface impoundment (if applicable) with a double liner and leak detection and removal system. One liner must meet the minimum composite liner criteria described above.

10.3 Design plans

At least six months prior to the anticipated construction date for new disposal units, closure of existing units, or development of other ancillary facilities, the permittee must submit engineering design plans to DEQ for review and approval. The design plans must be prepared and stamped by a qualified Professional Engineer with current Oregon registration and specify and/or provide the following:

- All applicable performance criteria, construction material properties and characteristics, dimensions and slopes
- The design basis and all relevant engineering analyses and calculations

10.4 Construction requirements

The permittee must construct all improvements in accordance with:

- The approved plans and specifications
- Any DEQ imposed conditions of approval
- Any future DEQ approved amendments to the plans and specifications
- Construction work must begin within 18 months of plan approval

10.5 Construction documents

Prior to constructing any landfill engineering controls (e.g., final cover, new disposal unit, or other waste containment facilities or improvements), the permittee must submit complete construction documents and receive DEQ's written approval. The construction documents must:

- Define the construction project team
- Specify material and workmanship requirements to guide the constructor in executing work and furnishing products
- Include a Construction Quality Assurance Plan that describes how the project team will monitor the quality of materials and the constructor's work performance and assure compliance with project specifications and contract requirements.

Reference: Follow the current *Solid Waste Guidance* to expedite DEQ review of the construction documents.

10.6 Construction inspection

During construction of a new landfill disposal unit, final cover system, or any other landfill controls or engineered features, the permittee must provide DEQ with a summary and schedule of planned construction activities to facilitate DEQ's inspection and oversight.

10.7 Construction report submittal

Within 90 days of completing construction of a new landfill disposal unit, a final cover system, or other engineering controls, the permittee must submit to DEQ a Construction Certification Report prepared by a qualified independent party. The report must document and certify that the construction of all required components and structures complies with this permit and DEQ-approved design specifications.

10.8 Construction report content

The construction report must include:

- An executive summary describing the construction project and any major problems encountered
- A list of the governing construction documents
- A summary of all construction and construction quality assurance activities
- The manufacturer's written certifications that all geosynthetic materials conform with project specifications
- Test data documenting that soil materials conform with project specifications
- A summary of all construction quality assurance observations, including daily inspection records and test data sheets documenting that materials deployment and installation conform with project specifications
- A description of the problems encountered and the corrective measures implemented
- The designer's acceptance reports for errors and inconsistencies
- A list/description of any deviations from the design and material specifications, including justification for the deviations, copies of change orders and recorded field adjustments, and copies of DEQ's written approvals for deviations and change orders
- Signed certificates for subgrade acceptance prior to placement of soil liner and for acceptance of the soil liner prior to deployment of geomembrane liner
- Photographs and as-constructed drawings, including record surveys of the subgrade, soil liner, granular drainage layer and protective soil layer
- The certification statement(s) and signatures of the construction quality assurance consultant, designer, and facility owner. One of these representatives must be a professional engineer with current Oregon registration.

10.9 Approval to use new disposal units

The permittee must not dispose of solid waste in newly constructed disposal units until DEQ has accepted the Construction Certification. If DEQ does not respond to the Construction Certification Report within 30 days of its receipt, the permittee may place waste in the unit.

11.0 RECYCLING REQUIREMENTS

11.1 Materials

The permittee must provide a place for receiving the following recyclable materials:

☒	ferrous scrap metal	☒	mixed paper
☒	motor oil	☒	non-ferrous scrap metal (including aluminum)

☒	newspaper	☒	corrugated cardboard and kraft paper (brown paper bags)
☒	container glass	☒	tin cans

11.2 Receiving location

The place for receiving recyclable material must be located at the disposal site or at another location more convenient to the population served by the disposal site. The recycling center must be available to every person whose solid waste enters the disposal site.

11.3 Material use

All source separated recyclable materials must be reused or recycled.

11.4 Recycling information

The permittee must provide, to disposal site users, the following recycling information on printed handbills:

- The on-site or off-site location of the recycling center
- The recycling center's hours of operation
- A list of acceptable materials for recycling
- Instructions for preparing source separated recyclable material
- Reasons why people should recycle

11.5 Sign

A prominently displayed sign must indicate the following:

- The availability of recycling at the disposal site or another location

Note: The sign must indicate the recycling center location, if not at the disposal site

- The materials accepted at the recycling center
- The recycling center's hours of operation (if different than disposal site hours)

11.6 Storage

Unless DEQ approves otherwise, all recyclable materials, except car bodies, white goods and other bulky items must be stored in containers.

SITE CLOSURE

12.0 CLOSURE CONSTRUCTION AND MAINTENANCE

12.1 Worst-case closure plan development

Within 90 days of permit issuance, the permittee must develop a conceptual "worst-case" closure plan and a conceptual post-closure plan(s), obtain DEQ approval of the plan(s), and maintain up-to-date copies of these plan(s) in the facility file.

Reference: The plans must comply with 40 CFR, Part 258, Subpart F, and OAR 340-094-0110.

12.2 Notification

The permittee must notify DEQ and receive DEQ approval when the conceptual "worst-case" closure and conceptual post-closure care plans are updated and placed in the file.

12.3 Closure permit

In accordance with OAR 340-094-0100, the permittee must apply for a closure permit at least five years prior to the landfill's anticipated final closure.

12.4 Closure plan approval

At least six months prior to final closure of any portion of the landfill, the permittee must submit detailed engineering plans, specifications, and a closure schedule to DEQ for review and approval.

The design plans must be prepared and stamped by a qualified professional engineer with a current Oregon registration and specify and/or provide the following:

- All applicable performance criteria, construction material properties and characteristics, dimensions and slopes
- The design basis and all relevant engineering analyses and calculations

Reference: The *Solid Waste Landfill Guidance, September 1996,* describes Closure Plan preparation. Following that format will expedite DEQ review of the plan.

12.5 Closure schedule

The permittee must initiate and complete closure of each landfill disposal unit in accordance with 40 CFR 258.60(f)&(g), or an alternate schedule approved by DEQ.

12.6 Final cover

Unless DEQ approves otherwise, the final landfill cover must be:

- At least three feet thick {OAR 340-094-0120(2)(a)}
- Designed to minimize infiltration of precipitation as required by 40 CFR Part 258.60
- Graded to compensate for estimated differential settlement and maintain positive drainage. Final (post-settlement) slopes must range between two percent and 30 percent.

12.7 Vegetation

The permittee must establish and maintain a dense, healthy growth of native vegetation over the closed areas of the landfill consistent with the proposed final use.

12.8 Final cover maintenance.

The permittee must maintain the final surface contours of the landfill cover such that:

- Erosion is minimized and ponding of water is prevented
- The integrity of the cover system is preserved in accordance with the approved plans

The permittee must reconstruct the cover system with approved materials and grade and seed all areas that have settled or where water ponds, and all areas where the cover soil has been damaged or thinned by cracking or erosion. Areas where vegetation has not been fully established shall be fertilized, re-seeded and maintained. Any damage repair or other reconstruction of a geomembrane barrier component in the final cover system shall be conducted in accordance with a construction quality assurance plan approved by the DEQ.

12.9 Slope stability

The permittee must maintain the stability of the landfill slopes and the overall structural integrity of the landfill.

12.10 Deed record

Within 30 days after the disposal site's final closure, the permittee must record a notation on the deed to the facility property as required by 40 CFR 258.60(i) and OAR 340-094-0130(1)(a), and submit a copy of the notation on the deed to DEQ.

13.0 FINANCIAL ASSURANCE

13.1 Financial assurance plan

The permittee must submit an updated financial assurance plan to the DEQ for review and approval and provide financial assurance for the costs of site closure, post-closure care, and potential corrective action. In addition, the permittee must place the plan in the facility file.

Reference: The plan must be prepared in accordance with OAR 340-094-0140. Acceptable mechanisms are described in OAR 340-094-0145.

13.2 Financial assurance required.

The permittee must comply with applicable financial assurance criteria requirements prescribed by OAR 340-094-0140. The permittee must maintain an up-to-date Financial Assurance Plan in the facility Operating Record, and provide financial assurance for landfill closure, post-closure care and, if required, corrective action. The financial assurance provided must:

- Be in the amount required by OAR 340-094-0140(5)
- Be updated, annually, in accordance with OAR 340-094-0140(6)(e)
- Consist of a financial assurance mechanism complying with OAR 340-094-0145

13.3 Recertification of financial assurance.

The permittee must annually review and update their financial assurance in accordance with OAR 340-094-0140(6)(e).

By April 1 of each year, a notarized annual recertification of financial assurance must be submitted to DEQ demonstrating that this review has been completed. If a discount rate is used to estimate costs, the annual update must also include the certifications listed in OAR 340-094-0140(6)(d).

13.4 Use of financial assurance

The permittee must not use the financial assurance for any purpose other than to finance the permitted facility's approved closure, post-closure, and corrective action activities or to guarantee that those activities will be completed.

13.5 Continuous nature

The permittee must continuously maintain financial assurance for the facility until the permittee or other person owning or controlling the site is no longer required by DEQ to demonstrate financial responsibility for closure, post-closure care or corrective action.

ENVIRONMENTAL MONITORING

14.0 SITE CHARACTERIZATION

14.1 Workplan

At least 270 days prior to any new landfill construction or expansion beyond the currently characterized and approved footprint, the permittee must submit two (or more) copies of a detailed workplan to DEQ for review and approval. The workplan must summarize all site characterization completed to date, describe further site characterization that will be accomplished and include at least the following elements:

- A description of the landfill expansion
- A proposal for monitoring all relevant media within the expansion area
- An update to the Environmental Monitoring Plan that reflects all approved changes to the facility
- A detailed description of the planned investigation
- A detailed project schedule

14.2 Site characterization report

Within 180 days of DEQ's approval of the workplan, the permittee must submit at least two copies of the report to DEQ for review and approval. This report must be based on DEQ-approved workplan and any conditions of the approval. The report must be prepared and stamped an Oregon registered geologist or an Oregon registered engineering geologist. The permittee must submit the report and receive DEQ's approval before starting construction or operation of the new landfill area. Once approved, this report and any conditions of approval become an integral part of the permit.

Reference: The *Solid Waste Landfill Guidance, September 1996,* describes the applicable elements of a Site Characterization Report. Organizing the report in that manner will expedite DEQ's review of the plan.

15.0 ENVIRONMENTAL MONITORING PLAN

15.1 Environmental Monitoring Plan Submittal

Within 120 days when requested by DEQ, the permittee must submit an updated Environmental Monitoring Plan to DEQ for approval.

Major changes in updates to the original plan require that the entire plan be submitted as a stand-alone document; at a minimum, this must be done at least once every 10 years. The plan, or any updates to the plan, must be prepared and stamped by an Oregon registered geologist or an Oregon registered engineering geologist. Upon approval, this plan is incorporated into this permit by reference.

15.2 Environmental Monitoring Plan contents

The updated plan must include plans (other than monitoring that is already handled by an NPDES permit) implementing an environmental monitoring program that will characterize potential facility impacts, including leachate collection, containment, treatment and disposal. The updated plan may incorporate parts of the previous approved plan with any changes or additions since that time (i.e., approved permit-specific concentration limits, revised parameter lists, revised schedules and new wells).

The updated plan must include the following contents, as well as applicable elements from the reference document:

- Monitoring Network Design and Construction
- Sampling and Analysis Plan
- Field QA/QC Procedures
- Lab QA/QC Procedures
- Data Analysis and Evaluation
- Report Format and Executive Summary

Reference: The *Solid Waste Landfill Guidance, September 1996,* provides information on applicable elements of an Environmental Monitoring Plan. Following the organizational format provided in the Guidance will expedite DEQ review of the plan.

15.3 Environmental Monitoring Plan revisions and updates

The permittee must revise the current plan as necessary to reflect current and future environmental conditions, facility development and regulatory requirements. A geologist or certified engineering geologist, with current Oregon registration, must prepare and stamp the plan revisions and submit two copies (one printed and one electronic) to DEQ for review and approval.

15.4 Environmental Monitoring Plan public comment period

Plan changes may require a public comment period.

15.5 Long-term monitoring plan

After DEQ approves any Risk-Based Concentration Limits (RBCs), Permit-Specific Concentration Limits (PSCLs), Concentration Limit Variances (CLVs), Action Limits (ALs), or Site-Specific Limits (SSLs), the permittee must update the EMP to reflect the long-term monitoring program and submit the updated plan for DEQ review and approval.

Note: Also see this permit's requirements for establishing PSCLs, ALs, or SSLs and OAR 340-040-0030(4) for procedures to establish CLVs.

15.6 Leak Detection System

Any significant increase in flow rate in the leak detection system (or degradation of water quality) that have not been corrected (or significant progress made) within two years, also require an updated plan submittal. This plan update is required if a statistical analysis indicates that normal monitoring of detection and compliance sampling points have shown a degradation of water quality. The analysis should cover the period of time from before the changes to after the increased leakage (or degradation of water quality) occurred. The updated plan submittal must detail any proposed increases in frequency or parameter monitoring, as well as any additional monitoring points.

15.7 Additional monitoring points

The permittee must incorporate any new or replacement monitoring point or device into the Environmental Monitoring Plan and submit the updated plan to DEQ for review and approval.

15.8 Environmental Monitoring Plan Compliance

The permittee must conduct all environmental monitoring at the facility in accordance with the approved plan, including any conditions of approval, amendments and updates.

16.0 ENVIRONMENTAL SAMPLING REQUIREMENTS

16.1 Notification of sampling events

The permittee must notify DEQ, in writing, at least 10 working days prior to a scheduled sampling event.

16.2 Split sampling events

The permittee must split samples with DEQ at DEQ's request, and schedule split-sampling events with DEQ's laboratory at least 45 days ahead of time.

Oregon Department of Environmental Quality
Laboratory, Groundwater Monitoring Section
7202 NE Evergreen Parkway, Suite 150
Hillsboro, OR 97124
Phone: 503-693-5700 Fax: 503-693-4999

The permittee must conduct the following split sampling events with DEQ:

Fall or Spring 2024 (TBD)
Fall or Spring 2029 (TBD)
Other sampling events if requested by DEQ

16.3 Monitoring schedule

The permittee must refer to the approved EMP for environmental monitoring procedures. Quarterly monitoring benchmarks are defined below:

If sampling in the...	Schedule the sampling event	
	On, or after....	But on, or before...
Winter	Jan. 1	Feb. 28
Spring	April 1	May 31
Summer	July 1	Aug. 31
Fall	Oct. 1	Nov. 30

16.4 Monitoring after Environmental Monitoring Plan approval

The permittee must monitor the facility in accordance with: 1) the approved plan; 2) any conditions of DEQ's approval; and 3) any DEQ-approved amendments and updates.

16.5 Changes in sampling or split sampling

The permittee must submit a written request and obtain DEQ's written approval before changing the sampling program, including sampling frequency, parameters, or locations. Approved changes will become an integral part of the plan.

DEQ reserves the right to add to or delete from the list of scheduled sampling events, sampling locations, and sampling parameters, and to conduct unscheduled sampling or split sampling events.

If the split-sampling schedule changes, DEQ will try to notify the permittee at least 30 days prior to the next scheduled event.

17.0 ESTABLISHING PERMIT-SPECIFIC CONCENTRATION LIMITS (PSCLs), ACTION LIMITS (ALs), CONCENTRATION LIMIT VARIANCES (CLVs) AND SITE-SPECIFIC LIMITS (SSLs)

17.1 Gathering data

The permittee must monitor the designated background wells in accordance with the approved Environmental Monitoring Plan or propose an alternative intrawell approach. Site specific limits (SSLs) exist for several parameters at two wells and remedial action concentration limits exist for additional parameters at some other wells. Background monitoring shall continue until all necessary data sets have been collected, and may be used for creation of additional PSCLs, ALs and/or SSLs for parameters of concern. The permittee then must demonstrate to DEQ's satisfaction that the selected background-data set is valid and unaffected by facility releases.

17.2 Future disposal units or cells

Before using a new landfill unit or cell for waste disposal, the permittee must collect enough samples to determine background groundwater quality. Alternatively, the permittee may develop a program, to be approved by DEQ, for determining background groundwater quality with wells installed at the time of landfill cell construction.

17.3 Statistical analysis

To establish compliance concentration limits (PSCLs, ALs, and SSLs), the permittee must perform statistical evaluations of the monitoring results for each sampling event.

Use methods outlined in 40 CFR 258.53 or other DEQ accepted statistical methods.

References:

The permittee should use methods outlined in Environmental Protection Agency's "Statistical Analysis of Groundwater Monitoring at RCRA facilities" (March 2009) or other DEQ accepted statistical methods. DEQ's 2011 Guidance Document "Developing Concentration Limits at Permitted Solid Waste Facilities" provides some examples of acceptable methods.

17.4 Proposing PSCLs, ALs, and/or SSLs

The permittee must propose for DEQ's review and approval, a PSCL, AL or SSL pursuant to the guidelines specified in OAR 340-040. The proposal must address all required parameters. Once a statistically valid data set (at least nine acceptable data points) are established from the appropriate background well(s), the permittee may generate a PSCL, AL, or SSL for each designated, long-term monitoring parameter.

17.5 Changing PSCLs, ALs, and/or SSLs

If the permittee demonstrates to DEQ's satisfaction that background groundwater quality has significantly changed since the PSCL, AL or SSL was established, and if the change is unrelated to the permitted facility's influence, the permittee can propose to DEQ a revised level for the affected PSCL(s), AL(s) or SSL(s).

17.6 Establishing and changing CLVs

The permittee should refer to DEQ's Groundwater Quality Protection Rules [OAR 340-040-0030(4)] for guidance in establishing and changing Concentration Limit Variances (CLVs).

18.0 ENVIRONMENTAL MONITORING STANDARDS

18.1 Applicable regulatory standard

The permittee must not allow the release of any substance from the landfill into groundwater, surface water, or any other media which will result in a violation of any applicable federal or state air or water limit, drinking water rules, or regulations, beyond the solid waste boundary of the disposal site or an alternative boundary specified by DEQ. Refer to OAR 340-094-0080.

18.2 Compliance points

Compliance wells are defined in the most current site Environmental Monitoring Plan.

18.3 Review of results

The permittee must review the analytical results after each monitoring event according to the protocols established in the most currently approved site-specific Environmental Monitoring Plan.

18.4 Resampling results

Upon receipt of data from resampling, the permittee must review the analytical results according to the protocols established in the most currently approved site-specific Environmental Monitoring Plan.

18.5 Secondary leachate collection system (SLCS)

If the permittee observes liquids in the leak detection system, the permittee must respond in accordance with the approved plan procedures for sampling, analysis and reporting. If testing confirms landfill impacts

in the leak detection or secondary leachate collection system, and that system is compromised as a compliance point, DEQ may require the permittee to install additional detection or compliance wells and conduct further investigations.

The permittee must design each secondary leachate collection system-equipped landfill cell or sub-unit to allow for discrete sampling of the secondary leachate collection system without mixing, co-mingling or compositing of samples with other leachate sources.

18.6 Methane limits

The methane concentration must not exceed:

- Twenty-five percent of methane's Lower Explosive Limit in onsite structures (excluding gas control structures or gas recovery system components)
- Methane's Lower Explosive Limit at the facility property boundary

Note: Methane's Lower Explosive Limit is equal to a concentration of five percent by volume in air.

18.7 Methane exceedance

If methane levels exceed the specified limits, the permittee must:

1. Take immediate steps to protect human health and safety and notify DEQ within 24 hours
2. Within seven days of detection, confirm the measures taken to protect human health and safety (unless DEQ approves an alternative schedule), and describe the methane test results and response measures in the facility operating record
3. Within 60 days of the methane exceedance, develop and implement a remediation plan, incorporate the plan into the monitoring records, and submit a progress report to DEQ.

18.8 Certified environmental laboratory data

To assure the best possible data quality, DEQ requests that the permittee contract with environmental labs certified under the Oregon Environmental Laboratory Accredited Program (ORELAP) or the National Environmental Laboratory Accreditation Program (NELAP). The permittee should include a copy of the lab's certification with every data submittal. Use of an ORELAP or NELAP approved lab will facilitate DEQ's future review of Environmental Monitoring Plan updates, Annual Environmental Monitoring Reports, and RI/FS documents.

19.0 RECORDKEEPING AND REPORTING – ENVIRONMENTAL MONITORING

19.1 Annual Environmental Monitoring Report (AEMR)

Prior to March 31 of each year, the permittee must submit to DEQ two copies (one paper copy and one electronic copy) of an annual monitoring report for the previous calendar year's monitoring period. The report must conform to the format detailed in the approved plan and be prepared and stamped by a geologist or a certified engineering geologist, with current Oregon registration. Extensive ancillary information such as laboratory reports, and the historical analytical database, may be provided only in the electronic copy and not in the printed copy.

Note: The permittee should submit two-sided copies of all reports and may submit electronic submittals of reports.

19.2 Statement of compliance

The Annual Environmental Monitoring Report must include a brief (approximately one-page) cover letter that:

- Compares the analytical results with the relevant monitoring standards (RBCs, PSCLs, CLVs, ALs, or SSLs)
- Documents any exceedances of or federal or state standards for relevant media
- Documents any significant change in water quality, land quality, air quality or methane levels in monitored media

19.3 Annual Environmental Monitoring Report contents

The Annual Environmental Monitoring Report must reflect the facility's current conditions, present accurate data that correspond with the original field and lab data, and include the elements presented in the most recently approved plan.

19.4 Annual leachate treatment report

Prior to March 31 of each year, the permittee must submit an annual leachate monitoring report.

Reference: The report format should reflect DEQ's guidance: *Solid Waste Landfill Guidance*, September 1996, or the format presented in the most recently approved plan.

19.5 Annual leachate treatment report contents

This annual report must include the elements presented in the most recently approved plan.

Reference: The report format should reflect DEQ's guidance: *Solid Waste Landfill Guidance*, September 1996, or the format presented in the most recently approved plan.

19.6 Split sampling submittal

Within 90 days of any split sampling event, the permittee must submit the following information to DEQ's laboratory:

- A copy of all information pertinent to the sample collection handling, transport and storage, including field notes
- Copies of all laboratory analytical reports
- Copies of all laboratory Quality Assurance Quality Control reports
- A copy of the lab certification (ORLAP or NVLAP, see Certified Environmental Lab Data condition above)
- A hydrogeologic map of the site showing groundwater flow directions and water table contours
- Any other data or reports requested by DEQ

19.7 Lab address

Report all required split sampling information to:

Oregon Department of Environmental Quality
Laboratory, Groundwater Monitoring Section
7202 NE Evergreen Parkway, Suite 150
Hillsboro, OR 97124

Phone: 503-693-5700 Fax: 503-693-4999

19.8 DEQ response to split samples

If the permittee submits all required split sampling data and requests DEQ's results, DEQ's lab may provide, to the permittee, copies of the following information:

- DEQ's analysis of the split sample
- The QA/QC report
- The analytical report
- The field data sheets

20.0 ENVIRONMENTAL MONITORING NETWORK

20.1 Monitoring device installation

For future disposal units or cells, the permittee must install DEQ-approved background and detection and/or compliance wells at least 12 months before refuse disposal occurs in the new cells. A Site Characterization Report may also be required for any proposed new cell. DEQ may waive or modify this requirement if the permittee provides adequate justification for an alternative approach.

20.2 Monitoring stations and equipment

To assure that every sample is representative of the site's environmental conditions, the permittee must protect, operate, and maintain all environmental monitoring stations and equipment in accordance with DEQ's requirements.

20.3 Access to monitoring stations and equipment

To facilitate sample collection and/or inspection and maintenance activities, the permittee must maintain reasonable all-weather access to all monitoring stations and associated equipment.

20.4 Reporting equipment damage

Within 14 days of discovering any damaged monitoring equipment or station, the permittee must submit to DEQ a report describing the damage, the proposed repair or replacement measures, and the schedule to complete this work.

Example: a well's impaired function or altered position/location.

20.5 Monitoring well construction

The permittee must complete any monitoring well or gas monitoring probe abandonment (decommissioning), replacement, repair, or installation in a manner that complies with the Water Resources Rules, OAR 690-240, and with DEQ's *Guidelines for Groundwater Monitoring Well Drilling, Construction, and Decommissioning*, dated August 1992.

20.6 Reporting well construction and repairs

The permittee must document all monitoring well or gas probe repair and construction activities, including driller's logs, well location information, and construction information in a report prepared and stamped by a geologist or certified engineering geologist, with current Oregon registration. The permittee must submit the report to DEQ within 30 days of the action and include this documentation in the next Annual Environmental Monitoring Report.

20.7 Well decommissioning or replacement

The permittee must submit a written recommendation to DEQ prior to decommissioning or replacing any well or gas monitoring probe in the monitoring network. After receiving DEQ's approval, the permittee must decommission or replace any well or gas probe that meets the following criteria:

- The well or gas probe was installed in a borehole that hydraulically intersects two saturated stratas
- The permittee lacks supporting documentation demonstrating that the well or gas probe was properly installed and constructed
- The well or gas probe was damaged beyond repair or destroyed
- Other reasons as determined by either the permittee or DEQ

COMPLIANCE SCHEDULE

21.0 SUMMARY OF DUE DATES

21.1 Summary

The permittee must comply with the event-driven schedule shown below. This compliance schedule does not apply to many of the routine reporting requirements specified in other sections of the permit.

Due Date	Activity	See section...
120 days prior to new landfill construction or expansion	Submit updated Environmental Monitoring Plan	15.1 Environmental Monitoring Plan submittal
Within 90 days of permit issuance	Review and submit conceptual "worst-case" closure and post closure plan	12.1 Worst case closure plan development

April 1st of each year	Submit financial assurance plan and mechanism	13.3 Recertification of financial assurance
Within 360 days of permit issuance	Review and submit site development plan update	10.1 Site development plan
Within 270 days of permit issuance	Submit updated Operations Plan	7.1 Operations plan submittal
Within 60 days of Operations Plan approval	Submit updated Operations and Maintenance Manual	7.3 Operations and Maintenance Manual
By March 31 for each year	Submit an Annual Environmental Monitoring Report	19.1 Annual Environmental Monitoring Plan
By March 31 for each year	Submit an Annual Leachate Treatment Report	19.4 Annual leachate treatment report
SAMPLING:		
At least 10 working days prior to scheduled sampling event	Notify DEQ	16.1 Notification of sampling events
At least 45 days prior to split sampling event	Schedule split sampling event with DEQ laboratory	16.2 Split sampling events
Within 90 days of split sampling event	Submit required data/documents to DEQ laboratory	19.6 Split sampling submittal
EVENTS:		
Within 30 days of DEQ notification of need to install monitoring well or probe	Install groundwater monitoring well and/or probe	20.1 Monitoring device Installation
Within 30 days of any well construction	Submit well construction report	20.6 Reporting well construction and repairs
At least 6 months before any new disposal unit and/or closure construction	Submit engineering design plans and, if applicable, closure schedule	10.3 Design plans 12.4 Closure plan approval
At least 270 days prior to new construction or expansion	Submit a Site Characterization Report Workplan	14.1 Workplan
Within 180 days of DEQ approval of SCR workplan	Submit a Site Characterization Report	14.2 Site characterization report
Within 90 days after completion of any major construction	Submit Construction Certification Report	10.7 Construction report submittal
Within 18 months of plan approval	Begin construction	10.4 Construction requirements

ATTACHMENTS

22.0 ATTACHMENT

Attachments to the permit include:

Number	Description
1	Parameter Groups
2	Permit-specific concentration limits

22.1 Attachment 1: Parameter Groups

Overview

This attachment describes the environmental-monitoring parameter groups and associated requirements

Due to the duration of this permit, suggested analytical methods may change. If that is the case, use the most currently promulgated EPA method or DEQ-approved equivalent.

Note: Method means EPA SW 846 Method [suggested methods are in square brackets].

Group 1a: Field indicators

The field indicators parameter group includes the following parameters:

Elevation of water level	Specific Conductance
pH	Dissolved Oxygen
Temperature	Eh

With instruments calibrated to relevant standards, measure these parameters in the field when collecting samples. Acceptable methods include:

- Down-hole in situ
- In a flow-through well
- Immediately following sample recovery

Group 1b: Leachate indicators

The laboratory indicators parameter group includes the following parameters:

Total Dissolved Solids (TDS)
Total Suspended Solids (TSS)
Total Organic Carbon (TOC)
Chemical Oxygen Demand (COD)

Proper techniques for sample handling, preservation, and analysis are specific to each individual analyte: Follow appropriate EPA techniques or AWWA Standard Methods.

Group 2a: Common anions and cations

The common anions and cations parameter group includes the following parameters:

Calcium (Ca)	Manganese (Mn)
Sulfate (SO_4)	Magnesium (Mg)
Total Ammonia (NH_3+NH_4)	Chloride (Cl)
Sodium (Na)	Carbonate (CO_3)
Nitrate (NO_3)	Potassium (K)
Silicon (Si)	Bicarbonate (HCO_3)
Iron (Fe)	

Dissolved concentrations must be measured. Field-filter and field-preserve samples according to standard DEQ and/or EPA guidelines and analyze by appropriate EPA or AWWA Standard Methods techniques. Report results in mg/L and meq/L.

Group 2b: Trace metals

The trace metals parameter group includes the following parameters:

Antimony (Sb)	Chromium (Cr)	Selenium (Se)
Arsenic (As)	Cobalt (Co)	Silver (Ag)
Barium (Ba)	Copper (Cu)	Thallium (Tl)
Beryllium (Be)	Lead (Pb)	Vanadium (V)
Cadmium (Cd)	Nickel (Ni)	Zinc (Zn)

If the Total Suspended Solids concentration is...	analyze for...
less than or equal to 100.0 mg/L in the sample	total concentrations (unfiltered)
Greater than 100.0 mg/L in the sample	both total (unfiltered) and dissolved (field-filtered)

Field-preserve samples according to standard DEQ and/or EPA guidelines and analyze by EPA Method 6010C or DEQ-approved equivalent.

Group 3: Volatile organic constituents

Analyze for all compounds detectable by EPA Method 8260B (C- other method 8/06) or EPA Method 524.2, include a library search to identify any unknown compounds present. The volatile-organic-compounds parameter group is equivalent to the EPA Method 8260B list.

DEQ must pre-approve alternative methods like EPA Method 8021B

Group 4: Assessment monitoring

The assessment monitoring parameter group includes the following parameters:

Semi-volatile Organic Constituents, including Phenols, EPA Method 8270D
Mercury, EPA Method 7470A
Cyanide, EPA Method 9010C (manual distillation) or 9012B (automated distillation)
Nitrite

All Method 8270D analyses must include a library search to identify any unknown compounds present.

Group 5: Surface water and leachate

The surface water parameter group includes the following parameters:

Total Kjeldahl Nitrogen (TKN)	Total Coliform Bacteria [EPA Method 9131]
Total Phosphorus (P)	Fecal Coliform Bacteria [EPA Method 9131]
Orthophosphate (PO_4)	E. Coli
Biological Oxygen Demand (BOD)	

22.2 Attachment 2: Remedial Action Concentration Limits and Permit Specific Concentration Limits

In accordance with OAR 340-040-0050(2) and as defined in the site Record of Decision (dated October 2004); Remedial Action Concentration Limits are established for the "west side" monitoring points specified in Section 18.2 of this permit as follows:

Compound	RACL	Basis	COPC
Volatile Organic Compounds (µg/L)			
1,4-Dichlorobenzene (1,4-DCB)	75	MCL/RL	Yes
Tetrachloroethene (PCE)	5	MCL	Yes
Trichloroethene (TCE)	5	MCL/RL	Yes
Vinyl chloride	2	MCL/RL	Yes
Trace Metals (µg/L)			
Antimony	6	MCL	No
Arsenic	10	MCL	Yes
Barium	1,000	RL	No
Beryllium	4	MCL	No
Cadmium	5	MCL	Yes
Chromium	50	RL	No
Lead	50	RL	No
Nickel	100	MCL	No
Selenium	10	RL	No
Silver	50	RL	No
Thallium	2	MCL	No
Dissolved Metals (µg/L)			
Iron	300	SMCL	Yes
Manganese	50	SMCL	Yes
Inorganic Compounds (mg/L)			
Chloride	250	SMCL	Yes
Total Dissolved Solids (TDS)	500	SMCL	Yes

RACL: Remedial Action Concentration Limit

Basis: The lower of either Federal primary Maximum Contaminant Level (MCL) or State Reference Level (OAR 340-040-0020, Tables 1 through 3).

SMCL: Secondary MCL

COPC: Chemical of Potential Concern

In accordance with Section 17 of this permit, Permit-Specific Concentration Limits are established for the "east side" monitoring points specified in Section 18.2 of this permit as follows:

Site Specific Limits for MW 26 and 27
Assumes 2 Compliance Wells, 7 or 8 COCs, Semiannual Sampling

Indicator Parameters (Date set: 2011-2018)	Statistical Distribution	Prediction Limits (mg/L)		Retesting
		MW-26	MW-27	
Bicarbonate	Normal	175[a]	495	1 of 2
Chloride	Normal	6.2	15.0	1 of 2
TDS	Normal	246[a]	499	1 of 2
Calcium	Normal	32.0[a]	100	1 of 2
Iron	NP/Normal	4.5	17.6	1 of 2
Magnesium	Normal	10.1	46.0	1 of 2
Manganese	Normal	0.74	8.9	1 of 2
Sodium	Normal	30.0	44.4	1 of 2

Note: [a] surrogate value calculated from MW-22.
Retesting scenario achieves annual site wide false positive rate of 10% per EPA Unified guidance.

EXHIBIT 24
OREGON DEQ PERMIT WORK PLAN

DEVELOPMENT AREA HYDROGEOLOGIC AND GEOTECHNICAL CHARACTERIZATION WORKPLAN

COFFIN BUTTE LANDFILL

BENTON COUNTY, OREGON

Prepared for

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Valley Landfills, Inc.
28972 Coffin Butte Road
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July 9, 2021

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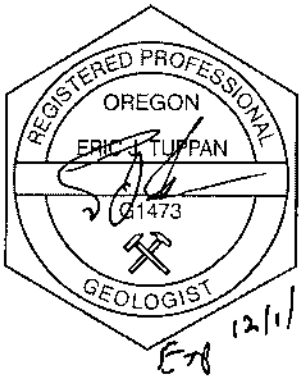
Project CEC-001-002

Development Area
Hydrogeologic and Geotechnical Characterization Workplan
Coffin Butte Landfill
Benton County, Oregon

The material and data in this report were prepared under the supervision and direction of the undersigned.



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1 INTRODUCTION

This document presents a plan for site characterization at the Coffin Butte Landfill in Benton County, Oregon, which is owned and operated by Valley Landfills, Inc., a subsidiary of Republic Services, Inc. Republic is in the process of permitting, site characterization, and preliminary planning and design to develop the landfill south of Coffin Butte Road. In addition to the landfill development, Republic is also planning to move or build new support areas and structures for the landfill, including: a new access road around the south side of the landfill, leachate ponds proposed for east of the landfill footprint, an employee building area, and pump stations.

1.1 Background and Plan Organization

Past investigations have extensively characterized site hydrogeology and geotechnical parameters for the area north of Coffin Butte Road, where a multiunit landfill has been operating since the mid 1970s. The area south of Coffin Butte Road is currently used for ancillary structures and buildings that support landfill operations. Hydrogeologic and geotechnical characterization has also occurred in the area south of the road, primarily as it relates to the construction and operations of the leachate holding ponds. Currently, characterization includes ongoing groundwater quality monitoring.

The workplan is organized in roughly three parts. The first describes the goals of site characterization as defined in Oregon Department of Environmental Quality's (DEQ) *Solid Waste Guidance, Municipal Solid Waste Landfills* (DEQ, 1996), including the elements specifically listed in Sections 2, 3, and 4 of that guidance. Second, the workplan summarizes information from past studies for Coffin Butte Landfill that focuses on the development area, and identifies elements where additional data are needed to refine our understanding of the site hydrogeology and geotechnical attributes of soil and bedrock. Last, we develop a scope of work that addresses the data gaps, provides the types of technical information that will be needed for a conceptual design for the landfill, and as appropriate, for developing design-level information that satisfies the permit requirement for hydrogeologic and geotechnical characterization.

1.2 Project Objectives

Over a period of over 40 years, consultants have studied the surface soils and subsurface geology of the site, as well as the groundwater hydrogeology and geochemistry. With this substantial historical record, at least for the area north of Coffin Butte Road, much of the site character for surface soils and for shallow and deep water-bearing zones, is known. However, south of Coffin Butte Road, less is known regarding the constructability of a landfill. Given this amount of known information, objectives for this study include:

- Update information to satisfy DEQ's Phase I site characterization elements which focus on regional and area-wide data needs.

- Evaluate the site geology and hydrogeology, including stratigraphic units and the water-bearing zones as part of Phase II site characterization. More specifically, this aspect will examine subsurface conditions that include the depth and extent of the water bearing hydrogeologic units, the hydraulic connection between units, the lithologic and hydraulic properties of these units, groundwater flow patterns, and other factors. It should be noted that the groundwater-related investigation will be phased later with a separate workplan as described in Section 4.3.

- Acquire geotechnical information about the site to satisfy both a Phase I and II geotechnical assessment, including design-level data on the distribution of overburden (i.e., alluvium), depth of bedrock, and competency of units in the south development area. This aspect of study will include:
  - Characterize the variability, depth, aerial extent and engineering properties of onsite soils and other overburden deposits.
  - Inventory soils and other overburden deposits suitable for use in construction, and identify a proposed use for these materials.
  - Identify geotechnical considerations (such as settlement and slope stability) which must be addressed in the engineering design.

- In a future phase, Republic will augment the groundwater monitoring network in the south development area. We anticipate that this will include installing upgradient, and cross- and down-gradient wells along the perimeter of the landfill footprint as well as decommissioning several wells along Coffin Butte Road that are within the planned footprint of the landfill.

1.3 Project Team

The characterization project will be overseen by Tuppan Consultant who will coordinate office and field tasks, and be the primary author of the site characterization report. The

Wallace Group, Inc., of Bend, Oregon, will provide field personnel for test pits and borings, in addition to performing geotechnical analyses necessary for the site characterization report. Civil & Environmental Consultants, Inc. (CEC) will provide CAD support for preparing figures for the report.

2 GOALS OF INVESTIGATION

This section provides background and context to the scope of work that will be developed later in the workplan. The primary goal of the site characterization report is to satisfy the various elements outlined in the DEQ's guidance on landfill characterization. In the guidance, these are organized into two phases that focus on geology and hydrogeology, plus another phase for the geotechnical evaluation.

2.1 Phase I Site Characterization

The main objectives of the Phase I site characterization study are to describe existing site conditions, determine if the site is suitable for landfill construction, provide sufficient base-line information for developing the facility design, construction program, operations plan, and the environmental monitoring program. As the site has already been zoned and developed as a landfill, many of the site suitability elements have been provided in past reports. Specific topics taken from the Section 2 of the DEQ guidance are described below.

2.1.1 Existing Conditions

Much of this information on existing conditions at the site has been presented in documents listed in the references. This includes:

- Site Location. Describe the site location with respect to known or easily identifiable landmarks, include the section, township, and range location for the site. Describe access to the site from the nearest U.S. or State Highway.

- Legal Description. Provide a legal description of the tract or tracts of land which have been or are proposed to be used for waste disposal activities.

- Vicinity Map. This will include a map or series of maps showing the facility and the area within at least a five-mile radius of the site boundary. Additional elements to be included on the vicinity map are provided in the guidance.

- Aerial Photographs. Prepare a stereo pair of standard size (9 inches by 9 inches) recent vertical aerial photographs with a scale up to 1:40,000, which

shows the site and the area within at least a one-mile radius of the site boundary.

- Adjacent Landowners. Show on a location map or on County Tax Lot map(s), the names and mailing addresses of all landowners within one-quarter mile of the property and any other landowners identified as being affected by the proposed facility.

- Site Map. Prepare a detailed site map scaled at not more than one inch equals 200 feet (or other scale approved by the Department) that shows existing conditions in addition to the proposed landfill development footprint, soil borrow areas, and wells.

2.1.2 Climate and Meteorology

Current information based on or extrapolated from data collected at the closest reporting weather station or stations including:

- Average annual precipitation and monthly distribution of precipitation.
- Average annual evaporation and monthly distribution of evaporation.
- Average annual prevailing wind direction and monthly variation in wind direction.
- Average and maximum wind velocities and monthly variations in wind velocity.
- Average annual temperature and monthly variations in temperature.

2.1.3 Hydrology

Evaluate and describe the surface water drainages of the site and of the surrounding area within at least a one-mile radius of the site. This information should include a map or maps at a scale of 1:24,000 showing major perennial, ephemeral and intermittent drainage channels, and their tributaries.

2.1.4 Water Balance

Analyze the average annual site water budget including precipitation, runoff, infiltration and evapotranspiration. Determine the monthly variations of each of these parameters for a one-year period. Acceptable water balance methods include Thornthwaite-Mather (1957), the EPA Water Balance (1975), the EPA Help Model (1984), and/or other methods approved in advance by the Department.

2.1.5 Water Use Inventory

Identify all active and inactive water wells, irrigation wells, and surface water usage points within the targeted radius. As needed, identify and field check water usages within this radius which are listed in the drillers' log files or other records of the Oregon Water Resources Department (WRD). Areas within the radius of investigation that are served by a municipal water supply should be included in the WRD well records search.

2.1.6 Geology and Hydrogeology Investigation

Conduct a preliminary geology and hydrogeology investigation. Evaluate the regional geology and hydrogeology based on geological reconnaissance field mapping and existing published or unpublished reports and data from state and federal agencies, universities, consultants or other sources.

In addition to the hydrogeology, describe the geologic hazards that may include seismic impacts, mass movement (e.g., landslides), unstable soils, flood inundation, shallow groundwater levels, tsunami, and volcanic eruptions. Location restrictions under OAR 340-94-030 address considerations such as Holocene fault zones, seismic impact areas and unstable areas.

Assessment of geologic hazards will also evaluate the earthquake safety of the site, including:

- A description of the seismotectonic setting and seismic history of the area, including size, frequency, and location of historic earthquakes. ·
- Potential for area to be affected by surface rupture, including sense and amount of displacement, and width of surface deformation zone.
- Probable response of site to likely earthquakes, including estimated ground motion, maximum ground acceleration, velocity and displacement.
- Potential for area to be affected by earthquake-induced landslides or soil liquefaction.
- Potential for area to be affected by regional tectonic deformation (subsidence or uplift).

Finally, to the extent possible, identify and evaluate other known or suspected geologic hazards which may affect the design, construction, and operation of the facility.

2.2 Phase II Characterization

The main objective of the Phase II site characterization is to describe and evaluate the site geology and hydrogeology, including stratigraphic units encountered, the uppermost

aquifer or water-bearing zone, and other potential zones of contaminant transport. Elements will include:

- Surface investigations such as surface geologic mapping and excavating test pits.
- Subsurface investigations will include geotechnical borings, and, in a later phase, groundwater monitoring wells.
- Hydrogeologic testing to provide aquifer parameters, also as part of subsequent phase for future monitoring wells.
- Environmental testing to assess groundwater and surface water quality.

2.3 Geotechnical Characterization

Section 4 of landfill guidance calls for characterizing the variability, depth, aerial extent, and engineering properties of onsite soils and other overburden deposits. This should include:

- Inventory soils and other overburden deposits suitable for use in construction, and identify the proposed use for these materials.
- Identify geotechnical considerations, such as settlement and slope stability as listed in Phase I geotechnical investigation guidance.
- Perform additional geotechnical investigations as required by a Phase II work scope that includes design calculations and analyses, and that could include:
  - Potentially unstable natural slopes and other on-site areas that could be destabilized by construction activities such as excavation, regrading or other site modifications.
  - Stability of the landfill foundation considering site-specific topographic and geologic conditions, static and dynamic loads, pore-water pressures at the subgrade-liner interface, and any other relevant factors.
  - Compressibility of underlying geologic units and potential settlement of the landfill unit. Estimate total and differential settlement based on appropriate field and laboratory methods and design parameters.

3 SITE BACKGROUND

The information summarized in this section provides the framework for identifying data needs and in developing the proposed scope of work. Technical details are provided in several reports cited in the references section. Much of the information discussed below was summarized in the *Site Characterization - Cell 3 Coffin Butte Landfill* (EMON, 1999), the *Environmental Monitoring Plan* (EMP)(Tuppan, 2014), and the *2020 Annual Environmental Monitoring Report* (Tuppan, 2021), and the reader is referred to those documents for more details.

3.1 Site Location and History

Coffin Butte Landfill is in the west-central Willamette Valley, eleven miles north of Corvallis, Oregon (see Figure 1). Topographic elevations in the area range from 220 to over 740 feet above mean sea level (msl) at the summit of Coffin Butte. The landfill is in a predominantly agricultural area. The land adjacent to the site is zoned exclusive farm use, forest conservation, and rural residential with either a 5- or 10-acre lot minimum.

Landfilling began in 1945 on the southwest flank of Coffin Butte and has continued to the east along the southern flank (Figure 2). The first area of landfilling (referred to as the Closed Landfill) was initially quarried for crushed rock after which it received waste from 1945 to 1977. In 1977, the Closed Landfill was capped with soil and closed. Subsequent landfill development progressed eastward across the site. Recently, in 2019, VLI began source removal of the Closed Landfill, which physically removed the old waste and hauled it to Cell 5 in the active part of the landfill. This process continued into 2021 at which time the entire waste mass of the Closed Landfill will have been removed.

In 1975, VLI began filling Cells 1 and 1A, with most waste being placed in Cell 1 beginning in 1977. Cell 1A (approximately 4 acres) primarily handled waste from Teledyne Wah Chang and was not used for disposal after 1988. Cell 1 (approximately 30 acres) has a clay bottom liner and leachate collection system that conveyed the leachate to an adjacent holding pond. Placement of waste in Cell 1 stopped in early 1993, when cell 2B was constructed. Cell 1A has gone through final closure, and Cell 1 has been closed along the southern, central, and western parts. A “piggyback” liner system was constructed over the east side of Cell 1 as part of the development of Cell 3D. The lower half was constructed in 2006, and the upper half constructed in 2008. Final stages of

filling Cell 2 ended in 2004 with final cover constructed along its southern flank in summer 2003.

Cell 3 has also been filled, and final closure construction has occurred over a portion of the south face of Cell 3. Cell 4 was constructed in summer 2011 with operations moving into the northern half of that cell in fall 2011. In summer 2012, the remaining features of Cell 4 were completed, including moving the primary and secondary leachate sumps to their locations on the southern perimeter of the cell. Cell 5A was excavated north of Cell 4 in summer 2012 with construction completed in 2013. Cells 5B, 5C, 5D and 5E were excavated over the summers of 2015 to 2017. Cell 5B was subsequently completed in the summer of 2017, Cell 5C during the summer of 2019, and Cell 5D completion is currently under construction. Filling operations are currently taking place in Cell 5C.

Coffin Butte serves Benton, Linn, Polk, Lincoln, and Tillamook counties. The facility is permitted as a municipal solid waste disposal site and is authorized under Section 5 of its solid waste permit to accept domestic, commercial, industrial, construction, demolition, and agricultural waste, sewage sludge and grit, petroleum contaminated soil, and asbestos.

3.2 Site Geology and Hydrogeology

The geology and hydrogeology of the site have been described in a number of documents. One of the most comprehensive was the site characterization report for Cell 3 (EMCON, 1999), which synthesized the regional and site geology and hydrogeology from a number of earlier reports and the scientific literature. Discussions of water quality conditions at the site are summarized in annual reports (since 1992), the remedial investigation and its addendum (EMCON, 1994, 1996b), the preliminary assessment for the area downgradient of the 1977-closed landfill (EMCON, 1996a), previous versions of the EMP (EMCON, 1997; TC, 2005, 2011a, 2012b) and the focused risk assessment and feasibility study (TC, 2003a). The following descriptions are taken primarily from the EMP, and has been updated to include information from more recent drilling associated with Cell 5, and with regard to current trends in groundwater quality at the site as it is relevant to the south development area.

3.2.1 Hydrogeologic Units

The current cells of the landfill are situated along the south flank of Coffin Butte (Figure 2). In undeveloped areas, the upper third (approximately) of the butte consists of steep grass-covered slopes, the middle third of exposed bedrock with little vegetation, and the lower third of gentle, soil-covered slopes. The development area borders an interior, north-facing drainage of Poison Oak Hill. The upper part of the hill is steeper, forest-covered slopes, with the lower areas either grassy or developed as part of the landfill infrastructure. Generally, the upper slopes from the top of Poison Oak Hill to

approximately the current locations of the leachate ponds are underlain by basalt bedrock and the lower, flatter slopes underlain by alluvium that generally consist of silty clay to clayey silt with variable amounts of thin, interbedded sands and silty to sandy gravel (commonly referred to as Willamette Silt). The lower slope transitions eastward to the relatively flat Willamette Valley where alluvium is transected by small drainages or creeks. For the current landfill, solid waste in Cells 1/1A and the Closed Landfill is generally inferred to rest on bedrock, which in places was lined with clay (e.g., in Cell 1). Cells 2 through 5 are constructed with composite liners and leak detection systems, with Cells 3 through 5 also designed with underdrains. The vertical relationship of alluvium, bedrock, and waste units in the east side of the landfill, Cell 2 and 4 area is illustrated in Appendix A, Figure 2-2 from the EMP.

There are two principal water-bearing units: unconsolidated alluvium and bedrock volcanics. Groundwater occurs in both units, although the alluvial deposits are absent or unsaturated over much of the site where the development area occurs. Where both units are present, they are not separated by a confining layer but are hydraulically interconnected. The two units are monitored separately by groundwater monitoring wells.

3.2.2 Groundwater Occurrence and Flow

Depth to groundwater depends on season and topography. In site wells, the groundwater depths can range from over 80 feet below the ground surface midway up the slopes of Coffin Butte (in bedrock) to less than 1 foot in the flat lowland area southeast of the butte (in alluvium). For wells MW-8S, MW-8D, MW-15, and MW-16 (now decommissioned), which are within or adjacent to the development area, seasonal fluctuations vary, depending on the hydrogeologic position of the monitoring point (see Figure 3 for monitoring well locations). Typically, the lowest groundwater elevations are in late summer to fall and the highest in winter and spring. This is illustrated in Figure 4, which are historical hydrographs for those wells.

The direction of groundwater flow is controlled by the topographic setting of Coffin Butte and Poison Oak Hill and the intervening low areas. Groundwater in the bedrock generally flows downslope from the hills until it reaches a groundwater divide near the southeast corner of Cell 1 and southwest part of Cell 3. At the divide, groundwater flows toward the east and west, generally following the long axes of the valleys (Appendix A, Figure 2-3). Groundwater flow direction in the saturated portion of the alluvium mimics the underlying bedrock (Appendix A, Figure 2-4). In areas dissected by surface drainages, groundwater in the upper part of the alluvial aquifer discharges to surface creeks, such as Soap Creek west of the landfill, or Luckiamute Creek to the east, and during the summer months provides base flow. Near upland areas, groundwater in bedrock also can provide base flow to surface creeks, for instance, in Soap Creek, weathered basalt bedrock is exposed in the stream bed between surface water locations

S-2 and S-4. Groundwater contours for the entire site for the most recent sampling events in April and October 2020 are shown in Appendix A, Figures 3-5 and 3-6.

Estimates of horizontal groundwater velocity (Vh) are typically calculated at the Coffin Butte Landfill for the east side, beneath Cell 4. Beneath this part of the landfill, Vh is calculated at approximately 6.4 ft/yr, given a hydraulic conductivity of 0.22 ft/day for the alluvium, an estimated effective porosity of 25 percent (literature values in Morris and Johnson, 1967), and a hydraulic gradient of 0.02 ft/ft.[1] Current estimates of groundwater flow for other parts of the site can be found in the 2020 annual report (Tuppan, 2021).

3.3 Water Quality

The discussion of water quality focuses on the east side of the landfill, and includes current monitoring and underdrains in the development area. For the east side of the landfill, monitoring is in the detection mode, focusing on characteristics of the natural or baseline water quality and how to recognize impacts from the landfill. Additional water quality information and time-series concentration plots for groundwater and underdrains can be found in the 2020 annual report (Tuppan, 2021).

3.3.1 East Side – North of Coffin Butte Road

Cell 2 and Cell 3 – Detection Well MW-24. Wells near Cell 2 include detection well MW-24 at the southern intersection of Cells 2A and 3, and MW-23 discussed below. Well MW-24 is completed in shallow weathered bedrock (the alluvium is not saturated in this area). Trends for indicator parameters in MW-24 are stable and reflect natural water quality in the area.

Cell 2 – Detection Well MW-23. Early in its history, detection well MW-23 had shown increases for bicarbonate alkalinity, chloride, hardness, total dissolved solids (TDS), for five of the major dissolved metals, and for arsenic. This had been attributed to localized seepage of leachate from the south side of the landfill that was remedied soon thereafter. Since 2000 to 2001, the upward trends for indicator parameters have peaked, and after about 2009 to 2011, most of these constituents declined to within or just above the range of background concentrations. With the exception of chloride, which is a few milligrams per liter higher than background, the concentrations in 2020 were at these lower values near or within background levels.

Cell 4 – Compliance Wells MW-26 and MW-27. These wells were first sampled in November 2011 and accumulated quarterly baseline water quality data throughout 2013.

[1] The mean hydraulic conductivity for alluvium and bedrock was evaluated from pumping and slug test data collected from 1985 to 1993 as reported in the remedial investigation (EMCON, 1994). Geometric means were calculated for each unit after examining boring logs to verify hydrogeologic unit. Values used in annual reports are as follows: alluvium, 0.22 ft/day; bedrock, 2.7 ft/day.

Examination of the trends show relatively lower and stable concentrations at MW-26 than at MW-27, which typically has a wider range of concentrations. Concentrations for several parameters at MW-27 can be quite variable. This is likely caused by two conditions at MW-27. First, the water bearing zone that the well monitors has very low permeability, requiring the well to be purged one day and then sampled the following after it recharges adequately. This does not allow the purge water to stabilize during sampling, so that water samples can be affected unevenly from sampling event to sampling event. The second condition is the mineral composition of the formation opposite the screened interval, which is composed of organic clay with up to 10 percent fine sand. The presence of the organics is likely from an ancient bog that was mapped in the base of the Cell 4 excavation.

3.3.2 Development Area – North Slope of Poison Oak Hill

In wells MW-8S and MW-15, concentrations of inorganic indicators in 2020 continued longer-term trends of past years. At MW-8S, an earlier increasing trend for chloride peaked in 2001 and is now declining gradually, while at MW-15, chloride concentrations have been more variable to upward since 2010; other indicatory parameters have been relatively stable or declining. Trace metals were detected at low to trace concentrations, or were not detected in 2020 and no VOCs were detected. Before it was decommissioned in 2004, concentrations of chloride and sodium at MW-16, which was upgradient of MW-15, were typically lower than at MW-15. This is likely due to naturally occurring saline, connate water in the fine-grained sediments in this area, in which MW-15 is screened. This water quality contrasts with MW-16, which is screened in fresh bedrock, and has naturally lower concentrations for site indicator compounds than the alluvium.

3.3.3 Surface Water and Underdrains

Surface water is not sampled in the development area. However, underdrains that daylight to surface water are sampled in two location: S-U4 that drains from below the East Leachate Pond and S-U5, which drain from below the West Leachate Pond.

Water quality from underdrain S-U4 represents baseline concentrations, with values for inorganic compounds and dissolved metals comparable to or lower than concentrations at MW-16, which was the background well that monitored bedrock in the pond location before it was decommissioned in 2004. Since monitoring began, concentrations for the indictor parameters have been steady and exemplify a condition of no leakage from the overlying pond.

Beginning in October 2010, VLI began sampling S-U5, which drains from below the West Leachate Pond. The drain pipe also connects with another pipe that drains from below the concrete pad of the non-operational Leachate Treatment Plant. It should be noted that minor differences are expected between underdrain S-U5 water quality and

groundwater quality at MW-16, since these two monitoring points are not immediately proximal to each other. Nevertheless, trend plots illustrate that water quality at the two points is very close. Similar to water quality results at S-U4, the steady trends at S-U5 suggest no leakage from the overlying liner system for the West Leachate Pond.

3.4 Existing Monitoring Network

The water quality monitoring network at Coffin Butte Landfill has five components: (1) groundwater monitoring wells, which include compliance and detection wells, (2) water level observation wells and piezometers, (3) the secondary leachate collection system (SLCS), (4) leachate sumps, and (5) surface water monitoring points. In addition to water quality, landfill gas is monitored at probes surrounding the landfill, and in buildings or structures near the landfill. The rationale for the network design and the media monitored was presented in the EMP (Tuppan, 2014b). The water quality monitoring locations are summarized on Table 1. A summary of the well construction, survey information, and lithologic completion intervals is provided in Table 2. Boring logs and construction diagrams for wells in the development and adjacent area are provided in Appendix B.

3.5 Geotechnical Information

Information about geotechnical considerations and landfill liner designs can be found in design or characterization reports for Cell 3 (Thiel, 1999), Cell 4 (Tuppan, 2011), Cell 5A (Thiel, 2012), the west leachate pond (Thiel, 1998), and from site development reports completed in 2000 (Thiel, 2000), 2011 (Ausenco-Vector, 2011), with an amendment to the 2011 plan in 2013 (Thiel, 2013). These reports contain geotechnical data, calculations, stability analyses, groundwater seepage estimates, geotechnical laboratory testing results, logs for test pits and boring logs, and design drawings for the landfill cells or pond. While potentially relevant to the current development project, much of the specific data is for soil or areas outside the planned landfill footprint. Therefore, more site-specific data will be collected as part of the scope of work to be developed in Section 4 of this plan.

As part of locating the test pits and geotechnical borings, we will incorporate information from past site investigations, specifically for boring and test pits from the west leachate pond study which are shown on Figure 5 along with the proposed locations. We will also be using information from monitoring wells drilled within the development area or along Coffin Butte Road to assist with identifying potential depths of borings based on existing knowledge. Finally, surface geologic mapping of the subgrade of the East Leachate Pond will be used as the starting point for extending surface mapping to other areas of the development footprint.

4 DATA GAPS AND PROPOSED CHARACTERIZATION

This section reviews the available hydrogeologic and geotechnical data reported in past investigations and compares it with the elements of DEQ's site characterization guidance to identify data gaps as the basis for the proposed scope of work and approach. We intend to mine the trove of available documents to meet these data needs where possible. In addition, this section discusses goals of the proposed characterization, the types of information to be gathered, and the rationale for the proposed work scope. The intent is to define general tasks that will be described in more detail in Section 5.

4.1 Phase I Data Elements Evaluation

4.1.1 Existing Conditions

Information from earlier documents, Benton County assessors office, and mapping done for previous studies will be consolidated for the development area. Tasks will include:

- Prepare the report sections on the site location, legal description, and the vicinity, including area and site maps, from earlier documents, as available. If information is out of date, then provide current data.

- Aerial photographs of the site are typically taken annually to evaluate amount of fill at the active landfill area. Depending on the year, these images also include areas outside the landfill area. For this task we will find recent aerial views of the site and vicinity, using either custom images or those from readily available sources such as from the University of Oregon or from Google.

4.1.2 Climate and Meteorology

This information has been included in both the Cell 3 report (EMCON, 1999) and West Leachate Pond report (Thiel, 1998). Tasks will include summarizing this earlier information and, if available from the Oregon Climate Service at Oregon State University's webpage, updating it to include data through the year 2020.

4.1.3 Hydrology

Information on surface water drainages at the site and of the surrounding area was included in the Cell 3 report and can be found as Figure 1 in Appendix A. Tasks for this element will be to include a figure similar to Figure 1, and in addition, include larger scale maps (1:24,000) from the U.S. Geological Survey. These topographic quadrangle maps (Airlie South and Lewisburg 7.5 minute quadrangles) show the drainages and topography of the surrounding area. The landfill development area will be indicated on the maps.

4.1.4 Water Balance

Analysis of the site area's water balance presented in the Cell 3 site characterization report (EMCON, 1999). The purpose of the water balance calculated in the report was to evaluate the landfill's predevelopment environment (i.e., if no landfill was present at the site), and to predict the relative amount of recharge to groundwater expected in the area. The Thornwaite and Mather (1957) method was used to estimate the average annual balance between precipitation, evapotranspiration, runoff, and percolation (groundwater recharge). This analysis is still valid for the area and will be used for the development area site characterization report. The task for this element will be to include the water balance as an appendix to the development area report.

4.1.5 Water Use Inventory

As part of the Cell 3 characterization, a door-to-door survey of water wells was performed for residences within a one-mile radius of the Coffin Butte Landfill in May and June 1999. That survey was an update of water well surveys previously submitted, which included the original survey conducted in 1986 by Sweet, Edwards & Associates (SEA, 1986), the Cell 2 site characterization report (EMCON, 1992) the response to review of Cell 2 site characterization report (EMCON, 1993a), and the remedial investigation and additional hydrogeologic report (EMCON, 1994). The 1999 survey consisted of obtaining copies of well logs from the Oregon WRD and interviewing the residences within a one-mile radius of the landfill. Interviews were documented in an appendix to that report.

Given that a door-to-door survey was already completed in 1999, and since then, documentation by drillers for the installation of new water supply wells is required, this new well information is part of the database kept by the WRD. Therefore, no door-to-door survey is proposed for this phase of development. However, the following tasks will be completed to update the older water use inventory:

- Search the WRD website for wells drilled since 1999 within the area of interest, and then download copies of those wells and create a table that lists the wells and information from both the earlier survey and the new well search.

- Develop a drawing that illustrates locations of wells by property within a one-mile radius of the development area. Well identifications will be cross-indexed to the compiled table with the well information.

- Compile an appendix with well logs and survey sheets from the 1999 survey, and well logs from the 2021 WRD database search. Because of its volume, this appendix will be in a portable document format (PDF) only.

4.1.6 Geology, Hydrogeology and Geologic Hazards Summary

Most of the information required for a preliminary geology and hydrogeology investigation is available from past studies at the site. Sections 3.2 and 3.3 briefly summarized some of the available information. Tasks for this part of the development area report will include:

- Describe the regional site setting for the landfill as augmented by available geologic and hydrogeologic maps from technical literature and from site specific studies completed for the site.

- Provide supporting documentation and figures illustrating the relationship between hydrogeologic units at the site and the proposed landfill.

Geologic hazards and earthquake safety have been discussed in site development plans (SDP) and a SDP amendment (Thiel, 2000; Ausenco, 2011; Thiel, 2013) as part of reviewing location criteria for siting municipal solid waste landfills. These reports found that there were no known Holocene faults within 200 feet of the landfill boundary, and that landfill cells have been, and will continue to be, designed for potential seismic events as described in the solid waste rules. In addition, there were no unusual unstable areas or foundation conditions known to exist that would adversely impact landfill development. Moreover, detailed geotechnical evaluations had been routinely conducted as part of each new cell development.

These earlier planning documents will be used to initially support our understanding for the geologic hazards analysis. Tasks for this element as they relate to the development area include:

- Discuss geologic hazards that could potentially be relevant to the site consistent with guidance Section 2.7 and that includes location restrictions under OAR 340-94-030 to address considerations such as Holocene fault zones, seismic impact areas and unstable areas.

- Evaluate the earthquake safety of the site, including relative to its seismotectonic setting and seismic history of the area, the potential for area to be affected by surface rupture, probable response of site to likely earthquakes, including estimated ground motion, maximum ground acceleration, velocity and displacement, the potential for area to be affected by earthquake-induced landslides or soil liquefaction, and the potential for the area to be affected by regional tectonic deformation (subsidence or uplift). This evaluation will be presented as part of the geotechnical investigation for the site.

4.2 Phase II Characterization Goals and Tasks

The Phase II site characterization will combine a compilation of the known data for the development area with a scope of work to acquire and assess new field data. Goals of the field work are to round out our knowledge of the geology and hydrogeology of this area, including stratigraphic units encountered; the depth to the uppermost water-bearing zone, and other potential zones of contaminant transport; and acquiring geotechnical data that will be used to support an engineering analysis for the landfill design. The following sections briefly summarize some the of existing information and then propose tasks to fill data gaps. A detailed scope of work that describes field tasks, including locations and depths of borings and test pits is provided in Section 5.

4.2.1 Distribution of Geologic and Hydrogeologic Units

The surficial soil in the development area is alluvium which is underlain by bedrock that is weathered to varying degrees. The goal of geologic characterization is to supplement existing lithologic information with regard to the horizontal and vertical extent of geologic units in the development area and to characterize their engineering properties. One of the products of this work will be to create an isopach map of the alluvium and identify the horizontal and vertical extent relative to the underlying bedrock. Another goal will be to further characterize the degree of weathering in the basalt bedrock. In areas across the site, the degree of bedrock weathering ranges from clay and silt to sand, gravel, a mix of sand and gravel, or a combination of weathered rock fine-grained rock and unweathered, hard rock.

Office and field tasks will include:

- Review lithologic data from test pits, boreholes, and surface mapping.
- Supplement surface geologic mapping as needed, beginning with existing mapping done for the east leachate pond.
- Log lithology of cores or cuttings from the proposed borings and test pits and test samples as described below.

- Note groundwater and moisture conditions in test pits and borings.

4.2.2 Geotechnical Evaluation

The site is founded on a firm, competent geologic formation comprised of fresh basalt, weathered basalt, and some thin veneers of alluvium in the flatter areas away from Poison Oak Hill. At other areas of landfill development north of Coffin Butte Road, the only geotechnical constraints at the site were global slope stability issues driven by the relative geometries of the bottom liner system, and the height and slope of the final landfill (Ausenco, 2011).

The proposed scope of work was developed to provide design-level data for relevant engineering analyses. The data will be used to assess the suitability of on-site material for facility construction and the integrity of the soil and underlying material for stability in constructing the landfill. Types of data collected during field tasks include mapping the types and distribution of soils at the site, as well as noting the engineering properties of soil structure in test pits and borings. Wallace Group staff will oversee tasks that will include:

- Review and evaluate available geologic, hydrogeologic, and geotechnical data for the Coffin Butte Landfill and surrounding Benton County area.

- Drill borings within the proposed landfill footprint, proposed leachate ponds area, and a new access road. The borings will be drilled to depths of approximately 25 to 150 feet below ground surface (bgs).

- Excavate test pits within the proposed landfill footprint and leachate ponds area. Exploration depth(s) are estimated at 10 to 12 feet bgs.

- Measure and record the depth to groundwater, if encountered, at each exploration location.

- Perform laboratory testing to evaluate and confirm the engineering and index properties of the soil and rock materials encountered. We anticipate laboratory testing will include grain-size analysis, moisture content, Atterberg limits, hydraulic conductivity, consolidation, unconsolidated undrained triaxial testing (TxUU), and consolidated undrained triaxial testing (TxICU).

- Conduct a design-level geotechnical engineering analyses focused on providing site-specific design criteria based on the project design documents.

4.3 Groundwater Characterization Elements

The solid waste guidance provides for characterization of the groundwater aspects of the proposed landfill development. Objectives of tasks typically include determining the direction and rate of groundwater flow beneath the site, as well as testing the water quality. While not included with this workplan, these site characterization elements are planned for future phases as described below.

4.3.1 Monitoring Network Modifications

The scope of work and details for modifying the groundwater monitoring network in the development area are contingent on the design for the landfill and ancillary structures. After these designs are further along and the timing (e.g., for earthwork and construction) has been finalized, we will be able to better determine the phasing and details of the tasks, such as well installation or decommissioning, and water quality sampling.

Having said that, in general we anticipate the following changes to the monitoring network:

- Install upgradient piezometers. Up to four piezometers will be installed along the new access road that is planned south of the landfill footprint. These piezometers will provide piezometric control along the upgradient boundary of the landfill.

- Install one cross/downgradient well along the eastern side of the landfill, approximately 500 feet upslope of existing wells MW-8S/8D.

- Re-designate wells MW-8S/8D, on the northeast perimeter of the development area, as compliance wells.

- Install one downgradient compliance well on the west side of the landfill, at the approximate location of the landfill office.

- Potentially re-designate MW-14S/14D, which are along the northwest edge of the development footprint, as compliance wells.

- Decommission wells along Coffin Butte Road that are within the development area footprint. These include: MW-23 and MW-24, and methane probes GP-5A, and GP-6.

4.3.2 Water Quality Monitoring

As noted earlier, installation of new groundwater monitoring wells is not proposed for this phase of site characterization for several reasons. First, the locations being considered for upgradient wells are along the new access road that will be constructed south of the landfill footprint. The wells can only be installed after the road is constructed because of the amount of excavation (over 100 feet vertical) from the current topography to the proposed road elevation. Second, cross gradient to potentially downgradient locations will be in the way of earthwork activities if they are installed too soon—and could be destroyed. Therefore we advise to install these wells after most of the landfill construction is complete. And last, two wells that we are considering at a downgradient location (MW-8S and MW-8D) will hopefully be preserved during landfill and infrastructure construction. During the interim, we will continue to monitor them consistent with the current monitoring program.

4.3.3 Hydraulic Testing

Hydraulic properties of site hydrogeologic units have been estimated in the past from pumping tests and slug tests. Pumping tests indicate that shallow (weathered) and deeper (unweathered) parts of the bedrock hydrogeologic unit are hydraulically interconnected. During the remedial investigation, slug tests were conducted in seven site wells. Results for horizontal hydraulic conductivity were consistent with those estimated from earlier pumping tests.

The differences in hydraulic properties between units can be accounted for by observing variations in site lithology (EMCON, 1999). In wells completed in alluvial sediments, soils consist of clays and clayey gravels or sands, and the associated hydraulic conductivity is relatively low. The range of values for bedrock can be attributed to the degree of weathering and fracturing in the bedrock. In wells completed in basalt that is intensely fractured with deep to moderate weathering, and where fractures are not filled with clays, the hydraulic conductivity values are higher. In wells completed in rocks that are deeply weathered or decomposed to clay and sand, and that are intensely fractured with clay minerals filling the fractures, the values for hydraulic conductivity are lower.

It is expected that the hydraulic properties from the existing landfill wells will be similar to those proposed for the development area because of the comparable range of rock types. Therefore, on a preliminary basis, values for hydraulic conductivity from the site will be assumed for the development area. However, as part of future scope of work after new upgradient and cross/down gradient wells are installed, we will develop a testing program to verify that this assumption is valid.

5 SCOPE OF WORK

The scope of work outlined in this section describes tasks that will be completed during the 2021 field season in anticipation of site development in subsequent years. Expanding into the area south of Coffin Butte Road is currently planned for summers of 2023 (earthwork) and 2024 (liner construction). The first two sections below provide the rationale and criteria for lateral distribution and depths of geotechnical borings in the investigation areas. Later sections described in more detail the procedures for field activities and laboratory testing. Data collected during field tasks include mapping the types and distribution of soils, as well as noting the presence of soil structure in test pits and borings.

5.1 Distribution of Test Pits and Geotechnical Borings

Objectives of the field work will be to identify thickness of alluvium and soil conditions at depth, provide information on the types of soils in areas of cut or fill, and better understand limits of bedrock weathering and soil stability at depth. Findings will be used to develop geologic cross sections that can then be used to identify what to expect with earthwork excavation, design of the engineered excavation, and road construction phases of development, as well feed into design considerations for the landfill.

The proposed distribution of new borings and test pits balances the need for equally-spaced locations across the development area with existing information from borings, test pits, and mapping. We also considered access and the presence of existing structures or soil stockpile, which occupies an area along Coffin Butte Road in the northeast sector of the landfill footprint. The locations shown in Figure 5 are preliminary, and may be moved depending on access issues such as steepness of existing slopes and forest cover. In addition, the depth of the borings may be adjusted depending on the formation, resistance to drilling, and soil moisture content noted during drilling.

Overall, fourteen geotechnical borings from approximately 20- to 140-feet deep and at least 10 test pits are planned in the following areas:

- **Landfill Footprint Borings.** Seven geotechnical borings are spaced throughout the area consistent with existing information from geotechnical borings and wells previously constructed. Borings are shown for areas with

both saturated and unsaturated alluvium, as well as uphill of the surface contact with alluvium in basalt.

- **Landfill Footprint Test Pits.** Up to seven test pits are planned for this area. The locations focus on defining the thickness of the alluvium and competence of soils below alluvial clay, as well as thickness of colluvium or weathered soil above competent bedrock.

- **Leachate Pond Borings.** Three geotechnical borings are spaced throughout the area, with one of the borings (BH-12) also serving to inform the conditions below the new access road.

- **Leachate Pond Test Pits.** Three test pits are planned for this area, one of which also will be placed along the new access road.

- **Access Road Boring.** Along the new access road located on the south side of the development area, cuts are planned for over 100 feet. To better understand the rock quality at these depths, in addition to other locations along the road, four geotechnical borings are planned.

5.2 Proposed Boring Depths

The anticipated depths are based on existing borehole information that indicates depth to basalt bedrock (i.e., to competent soils or rock) below alluvium within the footprint could be up to 23 feet deep. As needed, the borings will be extended deeper until competent soils, or refusal, are encountered, or to more fully characterize rock conditions potentially associated with cut slopes associated with the new access road.

The borings will be drilled to the approximate depths shown on Table 3, which lists the existing ground elevation and the design elevation, the expected boring depth, as well as coordinates. The table is meant to provide borehole details relative to the landfill liner, but also to assist the field geologist with regard to the depth at which to expect lithologic units. Several criteria were considered in estimating borehole depth. These include:

- For boreholes within areas of cut/excavation, based on our current understanding of site geology, it is likely that the cut will be in bedrock, which could be hard basalt or weathered to varying degrees. The target depth is to drill at least 20 feet below the estimated liner base and penetrate deep enough to encounter competent soil or rock.

- For boreholes in areas of fill, drill through the thickness of alluvium into underlying bedrock until competent soils are encountered or refusal at bedrock, this is estimated at approximately 25 feet. This will allow estimating the

thickness of the underlying hydrogeologic unit (alluvium) below the fill and liner, as well as note groundwater conditions within the underlying unit.

- For the borings along the access road or deepest cut, drill to the elevation of the proposed road or cut, which is estimated at a depth of 140 feet (e.g., BH-5).

5.3 Field Activities

Preliminary locations for test pits and borings may be moved as field conditions dictate on the basis of access or the presence of overhead obstructions. In addition, the depth of the borings may be adjusted depending on the formation and soil moisture content noted during drilling.

5.3.1 Geologic Mapping

The purpose of geologic mapping will be to better understand the lateral continuity of lithologic units, the transition laterally between units, and how geologic material and structural fabric could affect the flow of groundwater in the subsurface. In the development area, exposures of weathered basalt pillow structures are present along southwest embankment of the West Leachate Pond. Mapping of the East Leachate Pond subgrade in 2004 found basalt weathered to varying degrees: from extremely weathered zones consisting of plastic clay with abundant secondary minerals, to less weathered zones that contained fine- to coarse-grained sand with cobbles. The weathered zones transition from clay above sandy and friable soil, which is underlain by fresh basalt that is hard.

A geologist will map the surface geology of the northern side of Poison Oak Hill to identify any features of geologic interest and to help optimize placement of geotechnical borings or test pits. The mapping will extend from existing surface mapping that was completed in 2004. Ultimately, the goal of surface mapping will be integrate this information with subsurface exploration that includes the test pits and borings.

5.3.2 Test Pits

The primary purpose of test pits is to acquire information on the engineering properties of shallow soils in a rapid fashion to assess the distribution, character, and geotechnical properties of shallow soil. For the development project, the test pits will be excavated with three goals: (1) define the upper limit of alluvium against Poison Oak Hill, (2) explore the geotechnical properties of the alluvium in landfill areas that will be founded on alluvium, and (3) explore the area where the new leachate ponds will be constructed.

Up to ten test pits will be excavated with a backhoe within the proposed landfill and leachate pond areas. Total exploration depth(s) are estimated at 10 to 12 feet bgs. The geologist will log the soil and collect bulk samples for geotechnical evaluation and lab testing. Soil and rock conditions logged during excavation will be recorded in the field on test pit logs. If groundwater is encountered during excavation, the level at which the water was first encountered and the water level at the end of excavation activities will be recorded. We will also perform Dynamic Cone Penetrometer (DCP) tests to evaluate relative density or strength of near-surface alluvial soils. An example of a test pit log can be found in Appendix C.

5.3.3 Borehole Drilling and Soil Sampling

Borings will be drilled within the proposed landfill development and proposed leachate pond areas using a track-mounted drilling rig equipped with mud-rotary drilling/rock coring equipment. The field geologist will collect soil samples during drilling using Shelby tube, modified California, and standard penetration testing (SPT). Sampling and SPT testing will be performed at approximate 2.0-foot intervals until auger refusal is encountered.

Boreholes will be abandoned consistent with applicable rules and guidelines described in "Construction, Maintenance and Abandonment of Monitoring Wells and Other Holes in Oregon" (OAR 690-240; 1995) and the DEQ guidelines for Groundwater monitoring well drilling, construction, and decommissioning (DEQ, 1992).

The borings will be drilled with 6-inch-outside diameter solid-flight auger or using rotary wash methods to a minimum depth of 25 feet. This depth should adequately penetrate the alluvium in all areas of proposed exploration. The borings will be sampled at an approximately 2.0-foot interval using one of four sampling techniques, depending on the depth interval, soil type, and requirements of the geotechnical testing program. These include:

- Standard penetration test (SPT) split spoon samples with autohammer: test every 2 feet as conditions allow or until refusal.
- 2.5-inch-diameter modified California sampler: test every 2 feet as conditions allow or until refusal.
- Undisturbed 3-inch-diameter Shelby Tube samples: test as needed where soft to medium stiff silt and clay are encountered.
- HQ-wireline rock coring: advance after auger refusal is encountered to the proposed boring refusal depth.

A geologist or professional engineer, registered in Oregon, will log the soil samples or cores consistent with the procedures of the American Society for Testing and Materials. The logging will describe texture, color, mineralogy, moisture content, degree of weathering, or other relevant characteristics of the sampled material. Field procedures will follow Wallace quality assurance and quality control standards. Drilling and soils information will be recorded in the field on boring-log forms (example of the form can be found in Appendix C). The borehole will be backfilled with bentonite chips and hydrated with clean water.

5.3.4 Laboratory Testing

Table 4 outlines the proposed geotechnical laboratory testing program for test pit soil and borehole core samples. The testing will used to evaluate and confirm the engineering and index properties of the soil and rock materials encountered. We anticipate laboratory testing will include grain-size analysis, moisture content, Atterberg limits, hydraulic conductivity, consolidation, unconsolidated undrained triaxial testing (TxUU), and consolidated undrained triaxial testing (TxICU).

Test Pits. Tests will be assigned by the engineer based on a review of the test pit logs. A typical suite of tests could include grain size (ASTM D422), Atterberg limits (ASTM D4318), and moisture content (ASTM D2216). If the material will be used for fills, then it is possible that moisture-density relations testing will be performed ("proctor" curve, ASTM D1557). If a local deposit of soft soil is encountered, it is possible that the engineer may assign additional testing from test pit samples.

Soil Borings. At a minimum, samples from each lithologic unit from each boring will be tested for the following:

- Particle size distribution by both sieve and hydrometer following ASTM methods D422 and D1140
- Atterberg limits following ASTM method D4318
- Classification by unified soil classification system following ASTM standard D2487.

In the event that soft soils are encountered that may affect foundation settlement and strength, additional sampling may be performed so that samples can be tested for consolidation and shear strength, as deemed appropriate by the geotechnical engineer. This may require deepening borings beyond the prescribed depths.

5.3.5 Surveying

Locations for borings and test pits will initially be laid out as described above on Figure 5. The northing and easting coordinates referenced to the Oregon State Plane Coordinate System will be estimated from the base map and then the locations surveyed and staked in the field for the drilling and test pit exploration. These locations can then be used to create site-specific cross sections that depict the geology of the development area.

6 REPORTING

A report documenting the investigation's findings will be submitted after completing site characterization activities and data interpretation. Hydrogeologic aspects, geotechnical findings, and laboratory testing results of the study will be reported in the following general format:

- Introduction
- Site background
- Investigation methods and procedures
- Discussion of findings
- Summary and conclusion

The report will be supported by necessary tables, figures, and appendices to provide detailed information. This will include boring logs and test pit logs, a geologic map and cross sections, piezometric map of the site as estimated from existing wells, hydrographs for site wells in the area of interest. The Wallace Group will prepare a separate report documenting the field and laboratory testing and providing geotechnical analyses or conclusions. The Wallace report will be an appendix to the site characterization report.

The geotechnical exploration report will include the following elements:

- Report text that characterizes and describes subsurface conditions and engineering properties of overburden deposits and on-site soils.
- Discussion of regional geology and seismicity.
- Vicinity and site maps illustrating development plans and exploration locations.
- Test pit and boring logs.
- Results of the laboratory testing program.
- Seismic site class, and discussion of seismic-induced hazards per 2019 OSSC Section 1803.7.

- Slope stability and settlement analysis.
- Retaining wall and lateral load design criteria.
- Guidelines for earthwork construction including recommendations for engineered excavations, site preparation, fill placement, and compaction.
- Site drainage recommendations.
- Supplemental Phase II Geotechnical Investigation scope recommendations, if warranted.

One bound copy of the report and a PDF version will be submitted to the DEQ.

7 SCHEDULE

The field activities are staged depending on the type of activity. In general, drilling activities are scheduled for drier summer months to avoid saturated surface soil. Tentative schedule is as follows, but will depend on the availability of the driller and constructing road access to the locations on the northern slope of Poison Oak Hill.

- Excavate test pits: mid August 2021
- Drill geotechnical borings: late August – early September 2021
- Laboratory testing: fall and winter of 2021

A report will be submitted to the DEQ within 180 days of completing the 2021 field activities.

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LIMITATIONS

The services described in this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, nor the use of segregated portions of this report.

The purpose of a geologic/hydrogeologic study is to reasonably characterize existing site conditions based on the geology/hydrogeology of the area. In performing such a study, it is understood that a balance must be struck between a reasonable inquiry into the site conditions and an exhaustive analysis of each conceivable environmental characteristic. The following paragraphs discuss the assumptions and parameters under which such an opinion is rendered.

No investigation is thorough enough to describe all geologic/ hydrogeologic conditions of interest at a given site. If conditions have not been identified during the study, such a finding should not therefore be construed as a guarantee of the absence of such conditions at the site, but rather as the result of the services performed within the scope, limitations, and cost of the work performed.

We are unable to report on or accurately predict events that may change the site conditions after the described services are performed, whether occurring naturally or caused by external forces. We assume no responsibility for conditions we were not authorized to evaluate, or conditions not generally recognized as predictable when services were performed.

Geologic/hydrogeologic conditions may exist at the site that cannot be identified solely by visual observation. Where subsurface exploratory work was performed, our professional opinions are based in part on interpretation of data from discrete sampling locations that may not represent actual conditions at unsampled locations.

TABLES

Table 1
Description of Monitoring Network
Hydrogeologic and Geotechnical Characterization Workplan
Coffin Butte Landfill

Monitoring Program	Monitored Area	Position
Landfill Water Quality Monitoring Program		
Compliance Wells		
MW-1D, MW-3D, MW-12S, MW-12D	Cell 1	Downgradient
MW-10S, MW-10D, MW-11S, MW-11D	Cell 1A	Downgradient
MW-20, MW-21	Closed Landfill	Downgradient
MW-26, MW-27	Cells 2/3/4/5	Downgradient
Detection Wells		
MW-8S, MW-15	Former Leachate Irrigation Fields A/B	Downgradient
MW-17, MW-18, MW-19	Cells 1/1A	Downgradient
MW-23	Cell 2	Crossgradient
MW-24	Cells 2/3	Crossgradient
P-8	Cell 1	
Phillips	Domestic Water Quality	—
Other Monitoring Well Sites		
MW-9S	East boundary of property	—
Observation Wells/Piezometers		
MW-1S, MW-3S, MW-8D, MW-14S, MW-14D, PW-2, P-8, P-9, P-10, P-19, P-22, P-23 Duplex, Merril, Berkland	Various	—
Wetland Piezometers		
WP-1, WP-3, WP-5, WP-6, WP-8, WP-9	Fields South of Coffin Butte Road	Various
Quarry Piezometers		
QP-3S, QP-4S, QP-5N, QP-6N, QP-7N	Knife River Quarry and Coffin Butte	Various
Secondary Leachate Collection System		
LDS-2B	Cells 2B, 2C	Underneath
LDS-3	Cell 3	Underneath
LDS-4	Cell 4	Underneath
LDS-5	Cell 5	Underneath
LDS-WLP (formerly LDS-SP)	West Leachate Pond	Underneath
LDS-ELP	East Leachate Pond	Underneath
Leachate		
L-1	Cell 1	—
L-2B	Cells 2A, 2B, 2C, 2D	—
L-3	Cell 3	—
L-4	Cell 4	—
L-5	Cell 5	—
L-Pond	Active Leachate Pond (composite of cells)	
Surface Water		
S-1	Background (Soap Creek)	Upstream
S-2, S-4	Cell 1, 1A, Closed Landfill	Downstream
Underdrains		
S-U2 (end of pipe not accessible for sampling)	Cell 2C/D & Cell 4 (north half)	Underneath
S-U3	Cell 3	Underneath
S-U4	East Leachate Pond	Underneath
S-U5	West Leachate Pond	Underneath
S-U6 (typically dry-disharges to ditch)	Cell 4 (south half)	Underneath
S-U7 (Manhole east of cell-not accessible)	Cell 5A	Underneath
Stormwater Monitoring Program (1200Z Permit)		
Outfall (monitored by rock quarry operator)	Quarry/part of Cell 1A & Closed Landfill	Downstream
Outfall 001 (west end of western bioswale)	Cell 1	Downstream
Outfall 002 (northeast end of eastern bioswale)	Cells 2/3/4/5	Downstream

Table 2
Well Construction Summary
Hydrogeologic and Geotechnical Characterization Workplan
Coffin Butte Landfill

Location	Status	Northing	Easting	Ground Surface Elevation (ft msl)	Surveyed Reference Elevation (ft msl)	Casing Total Depth (ft bgs)	Screened Interval (ft bgs)	Filter Pack Interval (ft bgs)	Seal (ft bgs)	Well Casing Diameter (Inches)	Drilling Method	Date Well Installed	Lithology Screened
MONITORING/OBSERVATION WELLS													
MW-1S[a]		387,416.66	7,491,201.90	288.50	289.87	23.0	18-23	16-23	0-16	2	Air Rotary	1977	Weathered basalt
MW-1D[a]		387,416.66	7,491,201.90	288.50	289.89[b]	40.0	35-40	34-40	23-34	2	Air Rotary	1977	Weathered/fresh basalt
MW-3S[a]		387,396.95	7,490,459.59	284.70	285.86	26.0	21-26	20-26	0-20	2	Air Rotary	1977	Weathered basalt
MW-3D[a]		387,396.95	7,490,459.59	284.70	285.94[b]	54.3	49-54	47-54	26-47	2	Air Rotary	1977	Weathered/fresh basalt
MW-8S		388,038.13	7,493,295.09	240.63	244.01[b]	30.8	21-31	16-31	0-16	2	Air Rotary	07/30/85	Weathered basalt
MW-8D		388,052.73	7,493,306.08	240.50	244.04	75.0	65-75	60-75	0-60	2	Air Rotary	07/30/85	Fresh basalt
MW-9S		388,845.65	7,494,648.37	221.50	223.27	35.0	25-35	20-35	0-20	2	Air Rotary	08/02/85	Clay
MW-10S[c]		387,660.77	7,489,746.08	289.03	291.42[b]	41.1	30.1-40.1	25.8-41.1	0-25.8	2	Air Rotary	08/02/85	Weathered basalt
MW-10D[c]		387,643.53	7,489,746.11	289.02	291.38[b]	82.2	73.0-82.2	60.1-82.2	0-60.1	2	Air Rotary	08/02/85	Fresh basalt
MW-11S		387,680.08	7,489,428.44	274.80	274.71[b]	31.8	22-32	20-32	0-20	2	Air Rotary	08/05/85	Weathered basalt
MW-11D		387,686.42	7,489,409.28	274.80	274.96[b]	75.0	65-75	55-75	0-55	2	Air Rotary	08/05/85	Fresh basalt
MW-12S		387,336.24	7,490,830.96	283.80	285.59[b]	26.1	21-26	18.9-26.2	2-18.9	2	Air Rotary	09/19/91	Weathered/fresh basalt
MW-12D		387,334.96	7,490,848.71	283.80	285.43[b]	60.3	55-60	52.6-61.3	1.5-52.6	2	Air Rotary	09/19/91	Fresh basalt
MW-14S		387,482.52	7,491,484.81	287.50	289.58	30.1	19.5-29.5	16.5-30	1.5-16.5	4	Air Rotary	07/27/92	Weathered basalt
MW-14D		387,479.36	7,491,474.42	287.80	290.27	70.6	60-70	57.5-71	1-57.5	2	Air Rotary	07/24/92	Fresh basalt
MW-15		387,833.16	7,493,923.82	233.45	235.66[b]	28.9	19.0-28.0	16.5-29.0	0-16.5	2	HSA	07/14/93	Silt and gravel
MW-16	Decom. 5/24/04	113.19	2,052.21	281.70	284.03[b]	27.3	17.2-26.6	15.6-27.3	0-15.6	2	HSA	07/19/93	Fresh basalt
MW-17		387,070.74	7,490,136.83	277.45	279.67[b]	26.9	16.7-26.2	15.0-27.0	0-15.0	2	HSA	07/15/93	Weathered basalt and silt
MW-18		387,375.30	7,489,529.13	267.70	269.90[b]	20.9	11.2-20.8	9.0-21.4	0-9.0	2	HSA	07/15/93	Weathered basalt
MW-19		387,488.50	7,489,035.48	261.00	263.29[b]	23.0	13.5-23.0	11.7-24.1	0-11.7	2	HSA	07/16/93	Weathered basalt
MW-20		388,119.00	7,488,673.03	256.81	259.22[b]	21.4	11.3-20.7	9.5-22.5	0-9.5	2	HSA	07/15/93	Clay and gravel
MW-21		388,628.80	7,488,408.71	254.25	256.67[b]	16.9	11.0-16.7	9.0-17.0	0-9.0	2	HSA	07/15/93	Fresh basalt
MW-22	Decom. 5/24/11	1,275.42	2,857.32	232.73	235.30[b]	24.2	14.0-23.6	11.0-24.2	0-11.0	2	HSA	07/22/94	Silt
MW-23		388,063.30	7,493,044.16	242.81	244.76[b]	22.7	12.4-22.1	9.6-22.7	0-9.6	2	HSA	08/02/94	Silt, clay, and gravel
MW-24		387,649.83	7,492,104.33	273.94	276.76[b]	34.9	19.5-34.5	18.0-35.0	0-18.0	2	HSA	08/31/98	Weathered basalt
MW-25	Decom. 5/24/11	1,181.50	2,626.80	240.39	242.79[b]	32.5	13.5-23.5	11.0-24.0	0-11.0	2	HSA	06/04/99	Silt and clayey silt
MW-26		388,531.15	7,493,967.51	235.18	237.91	27.2	17.1-26.9	15.5-28.0	0-15.5	2	Sonic	10/17/11	Silt
MW-27		388,887.59	7,493,881.47	252.12	254.76	35.1	25.0-34.8	23.5-35.5	0-23.5	2	Sonic	10/17/11	Clay with organics
LANDFILL WATER SUPPLY													
PW-2		390,336.45	7,494,030.76	248.90	250.27	199.0	95-199 OH	none	0-95	8	Air Rotary	07/30/92	Fresh basalt
PRIVATE WATER SUPPLY													
Duplex		387,387.70	7,491,474.23	289.01	289.01	74.0	26-74 OH	none	0-20	6	Rotary	07/17/72	Basalt (?)
Berkland		386,460.23	7,491,290.65	327.63	327.63	220.0	20-220 OH	none	0-20	6	Rotary	05/01/78	Basalt and sandstone
Phillips		386,788.95	7,490,951.64	291.00	291.00	—	—	—	—	—	—	—	(?)
PIEZOMETERS													
P-8		387,080.97	7,490,932.94	282.40	284.02	28.4	18.7-27.6	16.4-29.0	0-16.4	2	HSA	07/13/93	Weathered basalt
P-9		388,471.86	7,488,728.28	273.66	276.01	23.3	17.2-23.0	15.0-23.3	0-15.0	2	HSA	07/15/93	Fresh basalt

Table 2
Well Construction Summary
Hydrogeologic and Geotechnical Characterization Workplan
Coffin Butte Landfill

Location	Status	Northing	Easting	Ground Surface Elevation (ft msl)	Surveyed Reference Elevation (ft msl)	Casing Total Depth (ft bgs)	Screened Interval (ft bgs)	Filter Pack Interval (ft bgs)	Seal (ft bgs)	Well Casing Diameter (Inches)	Drilling Method	Date Well Installed	Lithology Screened
P-10		388,460.45	7,488,223.46	243.00	245.12	18.0	7.7-17.2	5.7-18.5	0-5.7	2	HSA	07/20/93	Weath. basalt, gravel, silt
P-19		389,840.33	7,492,921.45	383.15	385.65	106.5	96.3-106.1	94.2-106.5	0-94.2	2	Air Rotary	08/17/12	Fresh basalt
P-22		389,903.79	7,492,050.39	636.87	638.60	77.5	57.5-77.1	53.9-77.5	0-53.9	2	Air Rotary	09/10/15	Fresh basalt
P-23		389,618.74	7,491,365.81	690.96	693.11	183.5	163.5-183.2	160.0-183.5	0-160.0	2	Air Rotary	09/10/15	Fresh basalt
QP-3S		389,271.51	7,489,751.98	601.70	502.02	354.4	333.4-353.8	330.5-354.4	0-330.5	2	Air Rotary	09/09/98	Fresh basalt
QP-4S	Domestic supply	389,331.43	7,490,639.37	717.15	718.95	403.1	363.1-403.1	NA	0-28.4	5	Air Rotary	09/15/98	Fresh basalt
QP-5N		389,743.36	7,490,857.39	601.48	601.53	230.9	200.3-230.3	197.7-230.9	0-197.7	2	Air Rotary	09/16/98	Fresh basalt
QP-6N		390,259.59	7,490,886.35	445.39	445.82	150.0	119.4-149.4	117.3-150.0	0-117.3	2	Air Rotary	09/18/98	Fresh basalt
QP-7N		390,199.84	7,490,195.48	374.43	374.80	119.6	89.0-119.0	85.2-119.6	0-85.2	2	Air Rotary	09/09/98	Fresh basalt
WP-1		387,199.43	7,488,891.35	257.33	259.83	13.8	8.6-13.1	Prepack	0-1	2	Push probe	01/18/08	Clay
WP-3		386,661.80	7,489,643.80	271.01	273.39	9.8	4.6-9.2	Prepack	0-1	2	Push probe	01/18/08	Clay-sandy silt
WP-5		386,542.49	7,488,194.58	258.94	261.55	12.0	6.8-11.3	Prepack	0-2	2	Push probe	01/18/08	Sandy clay - clay
WP-6		385,925.20	7,487,996.18	262.17	264.85	13.0	7.8-12.3	Prepack	0-1	2	Push probe	01/19/08	Silty clay - clay
WP-8		387,861.89	7,487,856.57	253.15	255.80	10.3	5.1-9.7	Prepack	0-1	2	Push probe	01/19/08	Silty clay
WP-9		387,470.03	7,486,845.01	255.21	257.90	10.1	4.9-9.4	Prepack	0-1	2	Push probe	01/19/08	Clay

Notes: msl = mean sea level; bgs = below ground surface; OH= open hole; na = not available.
Drilling methods: HSA = hollow stem auger; SSA = solid stem auger

[a] Multiple well completion in single borehole.

[b] Measuring point is 0.02' higher than surveyed reference elevation shown due to installation of bladder pump enclosure. Groundwater elevations calculated from corrected elevation.

[c] Ground level and casing elevation were raised in June 1996 as part of regrading for truck scale. Wells and ground level elevation were resurveyed by Darryl Harms of Corvallis, OR.

[d] Estimated 20 feet higher than original elevation (added two 10-foot long pieces of 2-inch PVC pipe in 8/12/99 and 10/12/99). Well completion depths relative to original ground surface.

Table 3
Proposed Soil Boring and Test Pit Program
Hydrogeologic and Geotechnical Characterization Workplan
Coffin Butte Landfill

	Current Ground Level Elevation	Design Elevation	Below/ Above GL to Design Ele.[a]	Boring in Cut or Fill	Depth to Bottom of Boring (BGL)	Boring Bottom Depth-Elevation	Northing	Easting
Boring ID								
BH-1	291.7	314.3	-22.6	Fill	50.0	241.7	386,993.30	7,491,228.00
BH-2	244.0	244.6	-0.6	Fill	50.0	194.0	387,994.86	7,493,125.12
BH-3	510.0	502.3	7.7	Cut	110.0	400.0	386,177.39	7,491,884.63
BH-4	343.9	362.5	-18.6	Fill	50.0	293.9	386,458.65	7,492,451.61
BH-5	443.4	324.0	119.4	Cut	140.0	303.4	386,726.13	7,491,792.60
BH-6	291.2	307.4	-16.2	Fill	25.0	266.2	386,966.17	7,492,565.95
BH-7	338.9	321.6	17.3	Cut	25.0	313.9	367,015.13	7,493,175.46
BH-8	309.3	292.6	16.7	Cut	25.0	284.3	387,329.59	7,491,740.75
BH-9	359.1	301.9	57.1	Cut	100.0	259.1	387,151.79	7,491,742.28
BH-10	263.1	279.9	-16.8	Fill	25.0	238.1	387,441.49	7,492,703.58
BH-11	274.8	265.0	9.8	Cut	50.0	224.8	387,429.86	7,493,839.53
BH-12	270.7	278.5	-7.8	Fill	25.0	245.7	387,429.88	7,493,839.53
BH-13	390.2	376.9	13.2	Cut	50.0	340.2	388,760.08	7,493,861.25
BH-14	239.0	253.0	-14.0	Fill	25.0	214.0	387,972.34	7,493,517.97
Total Footage					**750.0**			
Test Pit ID								
TP-1	323.7	331.6	-7.9	Fill	12.0	311.7	386,961.84	7,491,410.53
TP-2	302.0	297.8	4.1	Cut	12.0	290.0	387,254.49	7,491,572.23
TP-3	306.3	311.0	-4.7	Fill	12.0	294.3	386,912.70	7,492,395.46
TP-4	334.2	345.5	-11.4	Fill	12.0	322.2	386,643.02	7,492,745.75
TP-5	297.8	298.6	-0.8	Fill	12.0	285.8	387,100.73	7,492,831.97
TP-6	274.2	289.5	-15.3	Fill	12.0	262.2	387,296.90	7,492,529.39
TP-7	260.0	266.4	-6.4	Fill	12.0	248.0	387,678.75	7,492,637.64
TP-8	247.7	248.6	-0.9	Fill	12.0	235.7	387,926.99	7,492,978.07
TP-9	253.2	265.4	-12.2	Fill	12.0	241.2	387,697.22	7,493,843.05
TP-10	256.3	265.0	-8.7	Fill	12.0	244.3	387,516.53	7,494,061.62
Total Footage					**120.0**			

Notes:

[a] negative number indicates liner above current ground level, boring in area of fill.

All measurements in feet

BGL: below ground level

GL: current ground level

Borings in fill, assume boring depth of 25 ft.

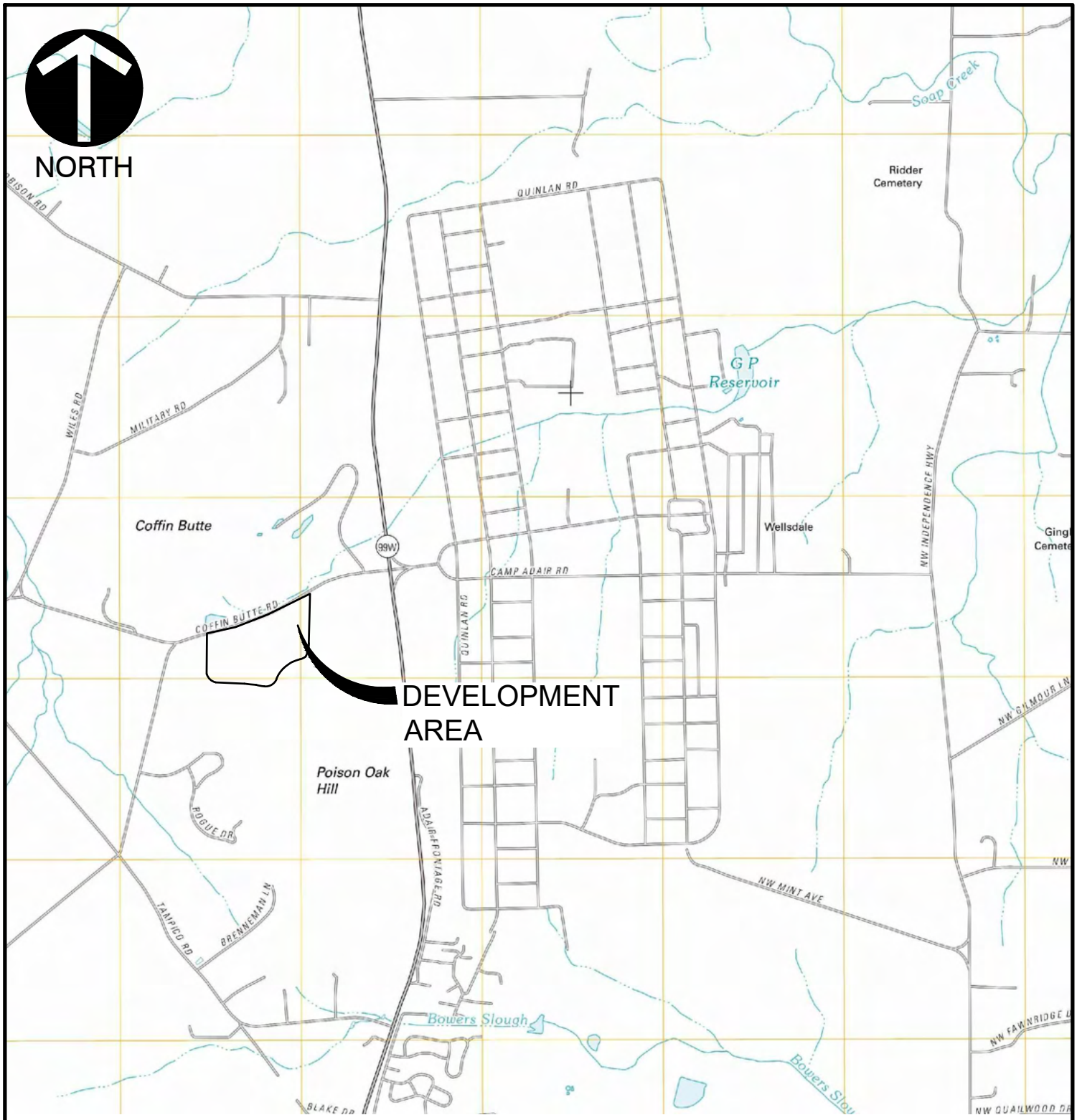
Borings in cut, depth is 20 feet below base of liner

Table 4
Geotechnical Testing Program
Hydrogeologic and Geotechnical Characterization Workplan
Coffin Butte Landfill

ASTM Test Number	Sample Type	Atterburg Limits D4318	Particle Size Distribution D422	Standard Classification D2487	Moisture Content D2216	Ring Shear Testing D6467	Triaxial Shear Testing (CU) D2664	Consolidation Testing D2435	Rock Core Compressive Strength D7012
Geotechnical Boreholes									
Landfill Footprint: BH-4, BH-5, BH-6, BH-7, BH-8, BH-9, BH-10	Core/bulk	X	X	X	X	X	X	X	X
Leachate Ponds: BH-11, BH-12, BH-13		X	X	X	X	X	X	X	X
Access Road: BH-1, BH-2, BH-3, BH-14		X	X	X	X	X	X	X	X
Test Pits									
Landfill Footprint: TP-2 to TP-8	Bulk/ composite	X	X	X	X	—	—	—	—
Leachate Pond: TP-9, TP-10		X	X	X	X	—	—	—	—
Access Road: TP-1, TP-9		X	X	X	X	—	—	—	—

Typical suite of tests; actual testing to be determined by engineer based on review of test pit log.
ED: engineer to determine based on review of log.

FIGURES



REFERENCE

1. U.S.G.S. 7.5' TOPOGRAPHIC MAP, LEWISBURG QUADRANGLE, OR DATED: 2011.

SCALE IN FEET

0 2500 5000

Civil & Environmental Consultants, Inc.

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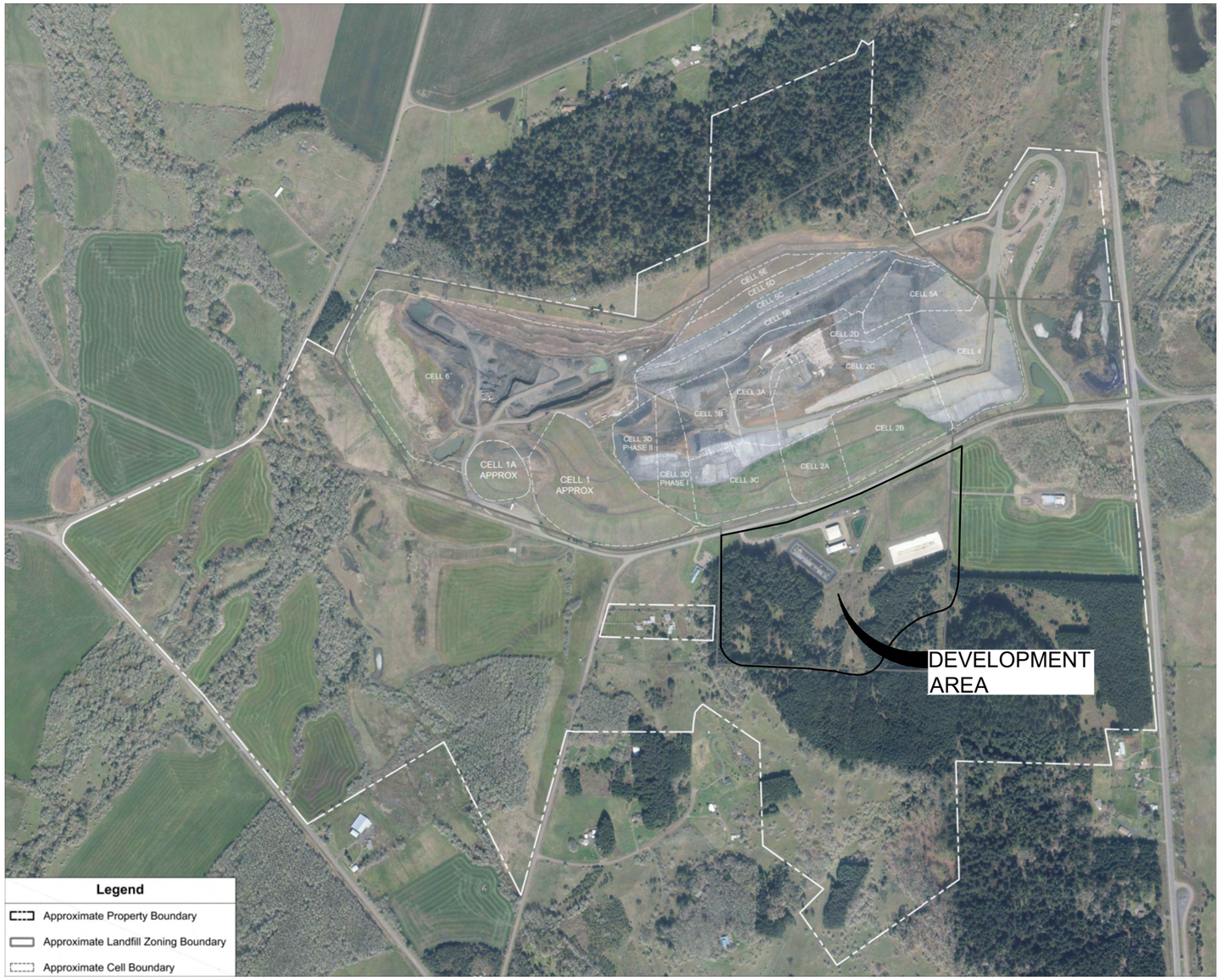
COFFIN BUTTE LANDFILL
29175 COFFIN BUTTE ROAD
CORVALIS, OR 97330

SITE LOCATION MAP

DRAWN BY:	LAR	CHECKED BY:	PFB	APPROVED BY:	PFB	FIGURE NO.:	1
DATE:	JUN. 2021	DWG SCALE:	1"=2,500'	PROJECT NO:	310-145		

\\svr-okc\Projects\310-000\310-145\-CADD\Dwg\310145-1-Site Location.dwg LS:(7/1/2021 - Ireforma) - LP: 7/1/2021 8:53 AM

NORTH



SCALE IN FEET

0 1000 2000

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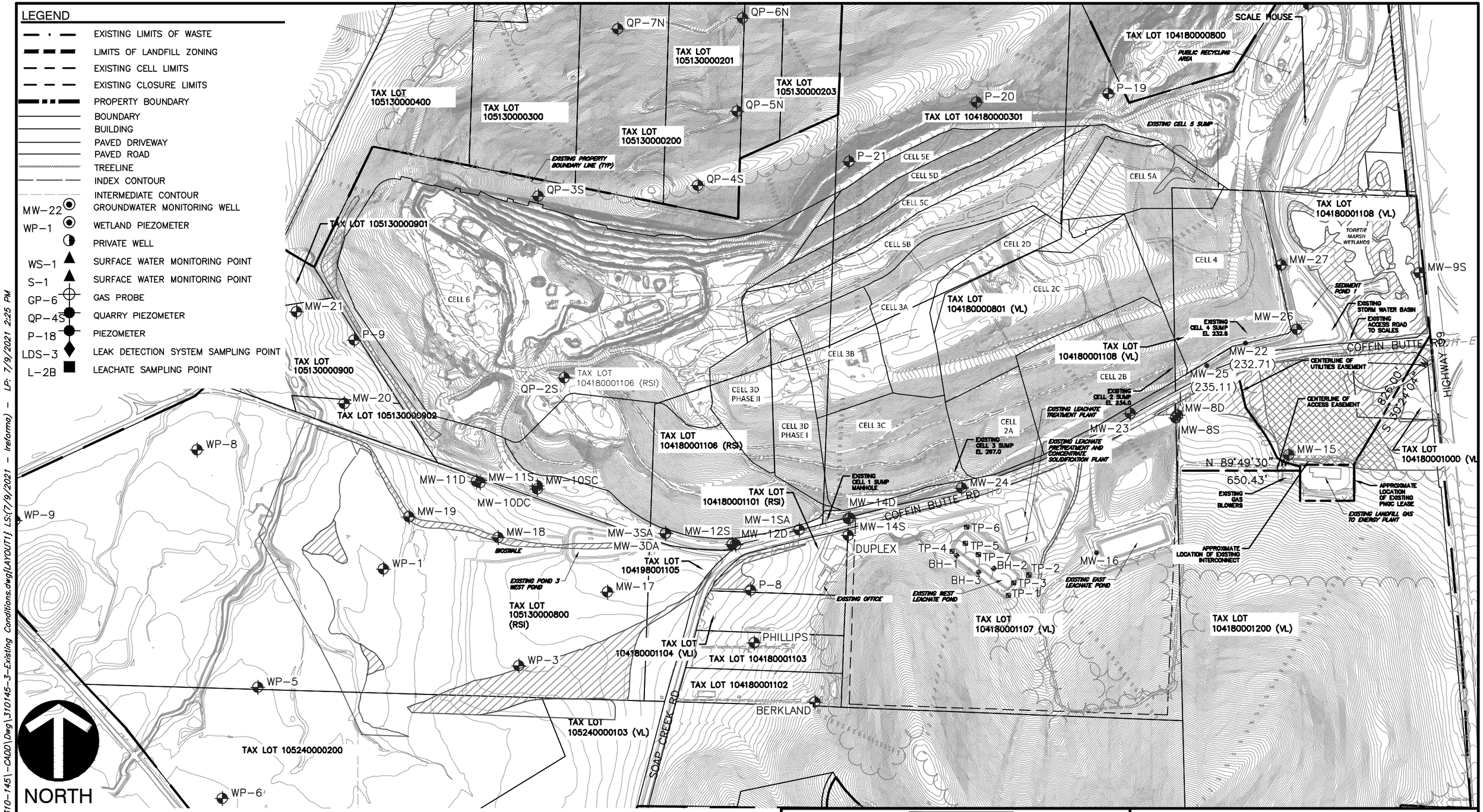
CORVALIS, OR 97330

LANDFILL CELLS - AERIAL VIEW

DRAWN BY:	LAR	CHECKED BY:	PFB	APPROVED BY:	PFB	FIGURE NO.:	2
DATE:	JUL. 2021	DWG SCALE:	1"=1000'	PROJECT NO:	310-145		

\\svr-okc\Projects\310-000\310-145\-CADD\Dwg\310145-2-Landfill Cells - Aerial View.dwg, LS:(7/1/2021 - Ireforma) - LP: 7/9/2021 2:12 PM



REFERENCE

1. EXISTING TOPOGRAPHY FROM AERIAL SURVEY BY COOPER AERIAL SURVEYS CO. ON APRIL 3, 2013, UPDATED WITH GROUND SURVEY BY NORTHSTAR SURVEYING, INC. ON MAY 23, 2013.

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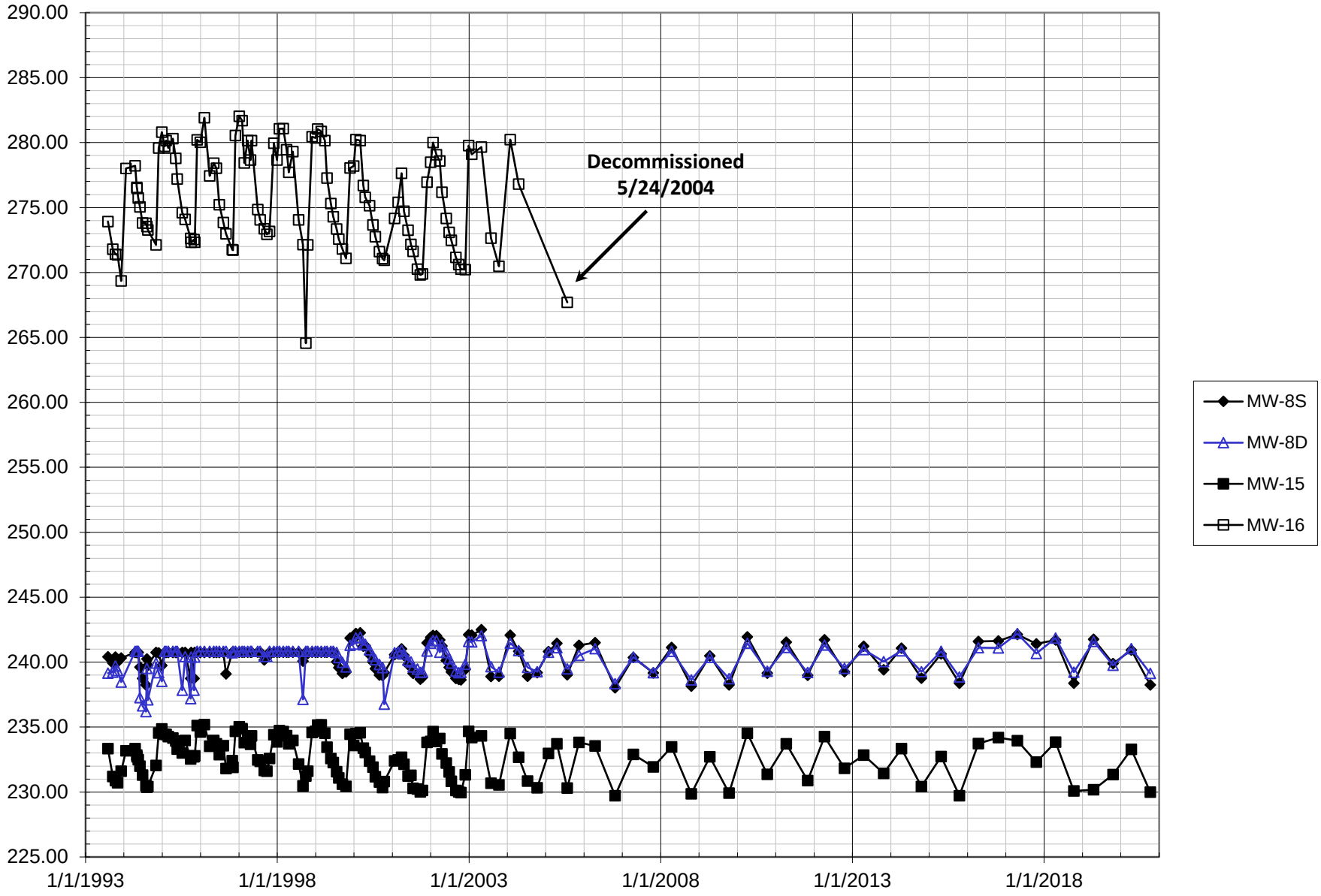
CORVALIS, OR 97330

DEVELOPMENT AREA
EXISTING CONDITIONS

DRAWN BY:	LAR	CHECKED BY:	PFB	APPROVED BY:	PFB	FIGURE NO.:	3
DATE:	JUL.2021	DWG SCALE:	1" = 500'	PROJECT NO:	310-145		

\\svr-okc\Projects\310-000\310-145\-CADD\Dwg\310145-3-Existing Conditions.dwg[LAYOUT] LS:(7/9/2021 - Ireforma) - LP: 7/9/2021 2:25 PM

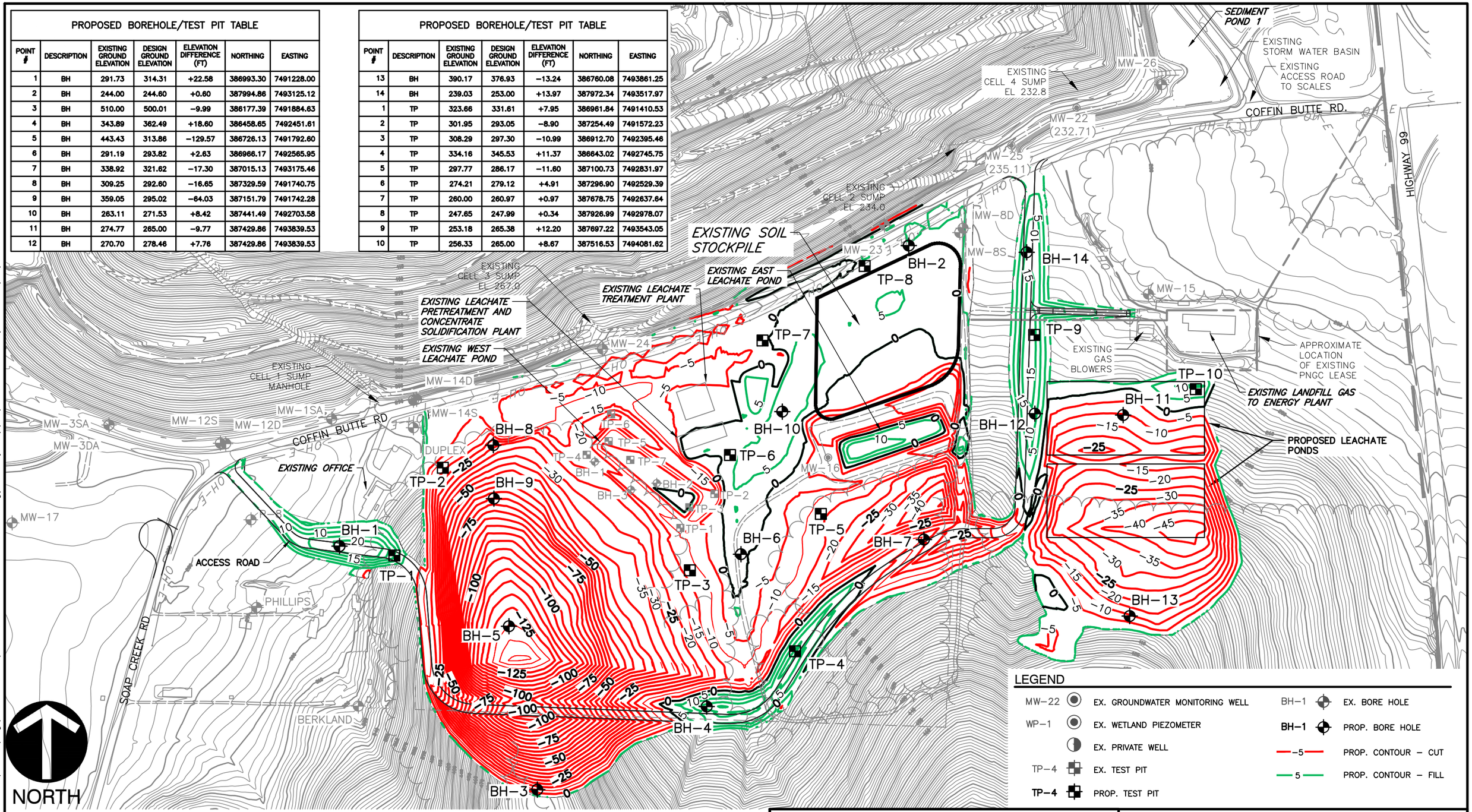
Figure 4
Hydrographs for Development Area Wells
Hydrogeologic and Geotechnical Characterization Workplan
Coffin Butte Landfill



H20MASTER-Dev.xlsx\MW-8S-15-16

PROPOSED BOREHOLE/TEST PIT TABLE						
POINT #	DESCRIPTION	EXISTING GROUND ELEVATION	DESIGN GROUND ELEVATION	ELEVATION DIFFERENCE (FT)	NORTHING	EASTING
1	BH	291.73	314.31	+22.58	386993.30	7491228.00
2	BH	244.00	244.60	+0.60	387994.86	7493125.12
3	BH	510.00	500.01	−9.99	386177.39	7491884.63
4	BH	343.89	362.49	+18.60	386458.65	7492451.61
5	BH	443.43	313.86	−129.57	386726.13	7491792.60
6	BH	291.19	293.82	+2.63	386966.17	7492565.95
7	BH	338.92	321.62	−17.30	387015.13	7493175.46
8	BH	309.25	292.60	−16.65	387329.59	7491740.75
9	BH	359.05	295.02	−64.03	387151.79	7491742.28
10	BH	263.11	271.53	+8.42	387441.49	7492703.58
11	BH	274.77	265.00	−9.77	387429.86	7493839.53
12	BH	270.70	278.46	+7.76	387429.86	7493839.53

PROPOSED BOREHOLE/TEST PIT TABLE						
POINT #	DESCRIPTION	EXISTING GROUND ELEVATION	DESIGN GROUND ELEVATION	ELEVATION DIFFERENCE (FT)	NORTHING	EASTING
13	BH	390.17	376.93	−13.24	386760.08	7493861.25
14	BH	239.03	253.00	+13.97	387972.34	7493517.97
1	TP	323.66	331.61	+7.95	386961.84	7491410.53
2	TP	301.95	293.05	−8.90	387254.49	7491572.23
3	TP	308.29	297.30	−10.99	386912.70	7492395.46
4	TP	334.16	345.53	+11.37	386643.02	7492745.75
5	TP	297.77	286.17	−11.60	387100.73	7492831.97
6	TP	274.21	279.12	+4.91	387296.90	7492529.39
7	TP	260.00	260.97	+0.97	387678.75	7492637.64
8	TP	247.65	247.99	+0.34	387926.99	7492978.07
9	TP	253.18	265.38	+12.20	387697.22	7493543.05
10	TP	256.33	265.00	+8.67	387516.53	7494081.62



LEGEND

MW−22	EX. GROUNDWATER MONITORING WELL	BH−1	EX. BORE HOLE
WP−1	EX. WETLAND PIEZOMETER	BH−1	PROP. BORE HOLE
	EX. PRIVATE WELL	−5	PROP. CONTOUR – CUT
TP−4	EX. TEST PIT	5	PROP. CONTOUR – FILL
TP−4	PROP. TEST PIT		

SCALE IN FEET

0 300 600

REFERENCE

1. EXISTING TOPOGRAPHY FROM AERIAL SURVEY BY COOPER AERIAL SURVEYS CO. ON APRIL 3, 2013, UPDATED WITH GROUND SURVEY BY NORTHSTAR SURVEYING, INC. ON MAY 23, 2013.

Civil & Environmental Consultants, Inc.
11811 N. Tatum Blvd., Suite 3057 - Phoenix, AZ 85028
Ph: 602.760.2324 · 877.231.2324 · Fax: 602.760.2330
www.cecinc.com

REPUBLIC SERVICES, INC.
COFFIN BUTTE LANDFILL
29175 COFFIN BUTTE ROAD
CORVALIS, OR 97330

DEVELOPMENT AREA
PROPOSED DRILLING AND TEST PIT LOCATIONS

DRAWN BY:	LAR	CHECKED BY:	PFB	APPROVED BY:	PFB	FIGURE NO.:	5
DATE:	JUL.2021	DWG SCALE:	1"=300'	PROJECT NO:	310-145		

\\svr-okc\Projects\310-000\310-145\-CADD\Dwg\310145-5-Proposed Drill and Test Pit Locations.dwg{LAYOUT1} LS:(7/14/2021 - Ireforma) - LP: 7/14/2021 5:53 PM

APPENDIX A

INFORMATION FROM OTHER REPORTS

A (NORTHWEST) — (EAST) **A'**

ELEVATION (MSL)

550 500 450 400 350 300 250 200 150 100

Note: Top of liner and subgrade for cell 2 are schematic and are not meant to accurately represent composite liner system at scale of drawing.

BEND IN SECTION

BEND IN SECTION

CELL 2D

CELL 2C

CELL 2B

P–18

HAUL ROAD

EXISTING GRADE

TOP OF LINER

SUBGRADE

CELL 2 SUMP

P–15 (Decom 5/95)

P–5 (38' Offset) (Decom 5/93)

P–3 (Decom 5/93)

Waste

Tsr

TD 74.5'

SEDIMENTATION BASIN

TOKETE MARSH

HWY 99W

MW–22 (13' Offset)

MW–9S (25' Offset)

TD 31.6'

TD 126.8'

Siletz River Volcanics (Tsr)

Quaternary Alluvium (Qal)

Explanation

MW–4 Monitoring Well

Screened Interval

Groundwater Elevation Measured 4/19/99

Sand Pack Interval

TD 17.5' Total Depth

0 300 600

SCALE IN FEET

VERTICAL EXAGGERATION = 5X

Tuppan Consultants LLC
680 Iron Mountain Blvd.
Lake Oswego, Or 97034
Ph. 503.675.9103 Fax. 503.675.9107

DATE 11–12–03
DWN G. Haffner
APP
REV
PROJECT NO.
VLI–001–005

FIGURE 2-2
VALLEY LANDFILLS, INC.
COFFIN BUTTE LANDFILL
BENTON COUNTY, OREGON

GEOLOGIC CROSS SECTION A-A'

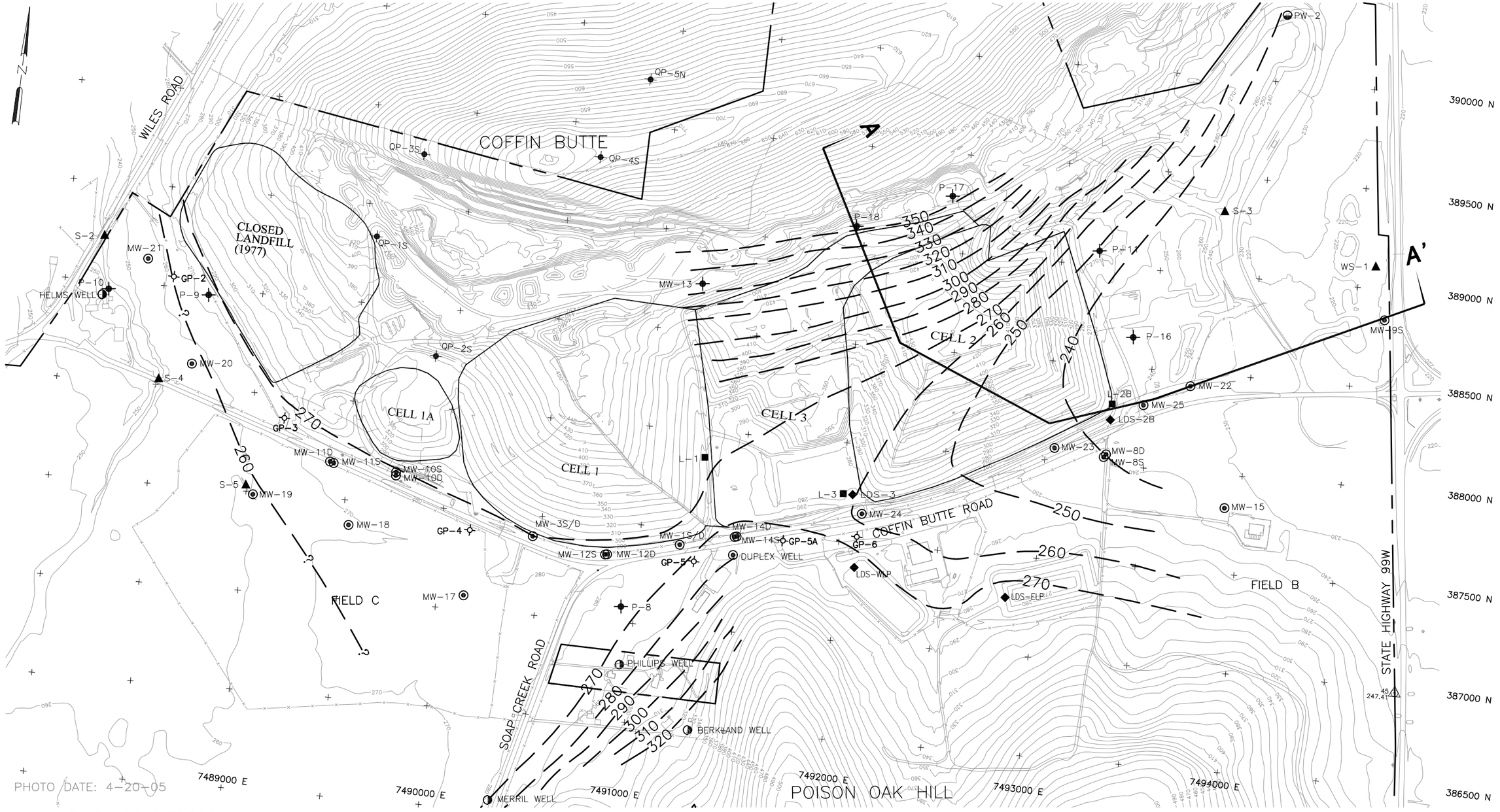


PHOTO DATE: 4-20-05

EXPLANATION

- MONITORING WELL
- PRIVATE WELL
- OBSERVATION WELL/PIEZOMETER
- LANDFILL WATER SUPPLY WELL
- SURFACE WATER MONITORING STATION
- GAS PROBE
- LEACHATE SUMP
- LEAK DETECTION SYSTEM
- PROPERTY LINE
- GROUNDWATER ELEVATION CONTOUR (FT-MSL) IN BEDROCK (4-19-99)

0 500 1000

SCALE IN FEET

Tuppan Consultants, LLC

460 Second Street, Suite 103
Lake Oswego, Or 97034

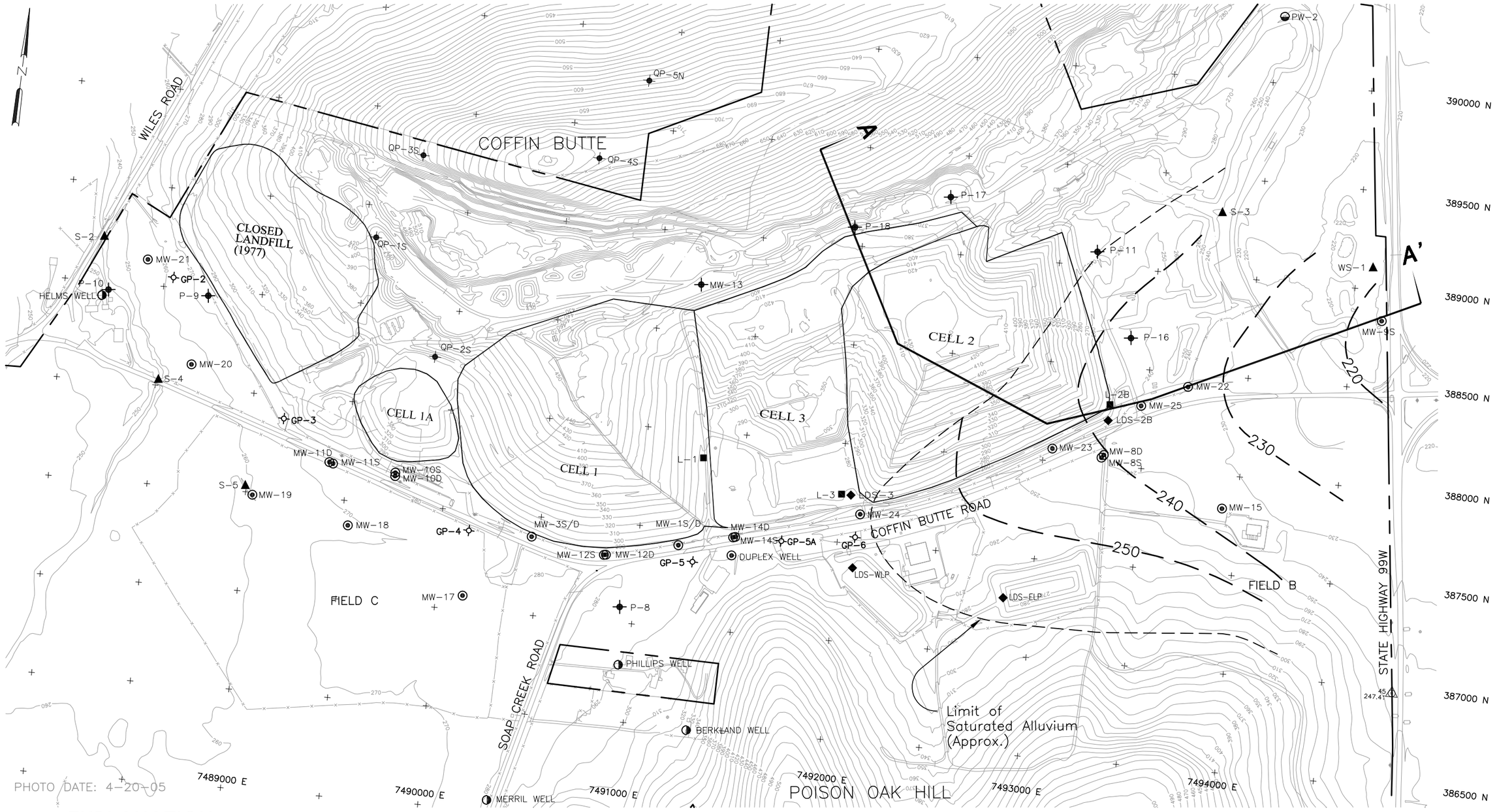
Ph. 503.675.1335 Cell 503.866.2551

DATE 12-14-05
DWN GRH
APP
REV
PROJECT NO. VL1-001-005

FIGURE 2-3
COFFIN BUTTE LANDFILL
BENTON COUNTY, OREGON

BEDROCK GROUNDWATER CONTOURS

March 17, 2011
C:\000Projects\00Tuppan\Coffin Butte\Envir. mon. plan 2005\fig2-3.dwg



EXPLANATION

- MONITORING WELL
- PRIVATE WELL
- OBSERVATION WELL/PIEZOMETER
- LANDFILL WATER SUPPLY WELL
- SURFACE WATER MONITORING STATION
- GAS PROBE
- LEACHATE SUMP
- LEAK DETECTION SYSTEM
- PROPERTY LINE
- GROUNDWATER ELEVATION CONTOUR (FT-MSL) IN ALLUVIUM (4-19-99)

0 500 1000

SCALE IN FEET

Tuppan Consultants, LLC
460 Second Street, Suite 103
Lake Oswego, Or 97034
Ph. 503.675.1335 Cell 503.866.2551

DATE 12-14-05
DWN GRH
APP
REV
PROJECT NO. VL1-001-005

FIGURE 2-4
COFFIN BUTTE LANDFILL
BENTON COUNTY, OREGON

ALLUVIUM GROUNDWATER CONTOURS

March 17, 2011
C:\000Projects\00Tuppan\Coffin Butte\Envir. mon. plan 2005\fig2-4.dwg

N

QP-7N 364.92
QP-6N 392.11
QP-5N 503.36
QP-4S 608.31
QP-3S 336.14
QP-2S 275.81
P-22 592.53
P-23 583.81
P-20
P-21
P-19 369.69
PW-2 236.96
COFFIN BUTTE
Wiles Road
CLOSED LANDFILL (1977)
Knife River Quarry
CELL 1A
CELL 1
CELL 2
CELL 3
CELL 4
CELL 5A
PUBLIC DISPOSAL & RECYCLING
TRUCK SCALE
BIOSWALE
SEDIMENT POND 2
SEDIMENT POND 1
S-2 236.23
MW-21 253.04
P-10 245.12
P-9 266.85
MW-20 255.87
S-4 239.58
WP-8 250.55
MW-19 258.82
WP-1 255.88
MW-18 263.58
MW-11D
MW-11S 264.60
MW-10S 265.39
MW-10D
MW-3D 264.88
MW-12S
MW-12D 264.31
MW-1S
L-1
MW-14D
MW-14S 272.36
DUPLEX WELL 272.16
266.26
MW-17 264.99
P-8 265.57
Landfill Office
WP-3 269.18
WP-5 255.04
S-1
WP-6 258.55
PHILLIPS WELL 263.53
BERKLAND WELL 323.7*
MERRIL WELL 268.17
Poison Oak Hill
LDS-WLP
LDS-ELP
EAST LEACHATE POND
WEST LEACHATE POND
LDS-3
L-3
MW-24 257.20
S-U3
S-U5
S-U4
LDS-4
L-4
S-U6
L-2B
LDS-2B
MW-23 242.89
MW-8D
MW-8S 240.92
MW-27 233.42
MW-26 230.58
MW-9S 219.89
WS-1
TOKETIE MARSH WETLANDS
MW-15 233.29
PNGC
Coffin Butte Road
State Hwy. 99W

600 550 500 450 400 350 340 330 320 310 300 290 280 270 260 250 240 230

PHOTO DATE: 2017

MONITORING WELL/PIEZOMETER
OBSERVATION WELL/PIEZOMETER
LANDFILL WATER SUPPLY WELL
GAS PROBE
AVERAGE FOR APRIL
PRIVATE WELL
LEACHATE SUMP
LEAK DETECTION SYSTEM
SURFACE WATER MONITORING STATION
?— GROUNDWATER ELEVATION CONTOUR (FT-MSL) QUERIED WHERE PROJECTED

0 500 1000
SCALE IN FEET

3-1-21:\Tuppan\Coffin Butte\GW APRIL 2020.dwg

Tuppan Consultants LLC
460 Second Street, Suite 103
Lake Oswego, Or 97034
Ph. 503.675.1335

DATE 2-23-21
DWN GRH
APP
REV
PROJECT NO.
VLI-001-002

FIGURE 3-5
COFFIN BUTTE LANDFILL
BENTON COUNTY, OREGON
APRIL 18, 2020
GROUNDWATER CONTOURS

N

QP-7N 361.96
QP-6N 391.35
QP-5N 502.15
COFFIN BUTTE
QP-4S 603.92
QP-3S 335.6*
P-23 579.02
P-22 589.51
P-20
P-19 365.04
P-21
PW-2 233.94
SEDIMENT POND 2
PUBLIC DISPOSAL & RECYCLING
TRUCK SCALE
BIOSWALE
Wiles Road
S-2 236.31
MW-21 248.52
P-10 242.24
GP-2
P-9 265.01
CLOSED LANDFILL (1977)
Knife River Quarry
CELL 5A
L-5
SU-7
LDS-5
CELL 4
MW-27 232.17
TOKETIE MARSH WETLANDS
WS-1
MW-9S 217.67
MW-20 250.72
S-4 239.21
QP-2S 267.9*
CELL 1A
CELL 1
CELL 2
CELL 3
MW-26 229.13
SEDIMENT POND 1
LDS-4
L-4
L-2B
LDS-2B
S-U6
Coffin Butte Road
WP-8 245.73
GP-3
MW-11S 259.99
MW-10S 260.73
S-5
MW-19 256.91
MW-23 242.20
MW-8D
MW-8S 238.25*
S-U4
LDS-3
L-3
MW-24 254.06
S-U3
S-U5
MW-18 259.11
GP-4
MW-3D 262.3*
MW-1D 262.4*
MW-14D 269.17
L-1
MW-12S
MW-12D 260.29
MW-14S
GP-5A
GP-6
DUPLEX WELL 268.31
LDS-WLP
L-POND
MW-15 229.99
PNGC
WP-1 247.18
MW-17 260.76
P-8 261.34
Landfill Office
LDS-ELP
EAST LEACHATE POND
WEST LEACHATE POND
State Hwy. 99W
WP-5 250.92
PHILLIPS WELL 261.49
WP-3 261.82
Poison Oak Hill
S-1
BERKLAND WELL 317.8*
WP-6 256.14
MERRIL WELL 257.71

600 550 500 450 400 350 340 320 310 300 290 280 270 260 250 240 230 220

PHOTO DATE: 2017

MONITORING WELL/PIEZOMETER
OBSERVATION WELL/PIEZOMETER
LANDFILL WATER SUPPLY WELL
GAS PROBE
* AVERAGE FOR OCTOBER

PRIVATE WELL
LEACHATE SUMP
LEAK DETECTION SYSTEM
SURFACE WATER MONITORING STATION
? GROUNDWATER ELEVATION CONTOUR (FT-MSL) QUERIED WHERE PROJECTED

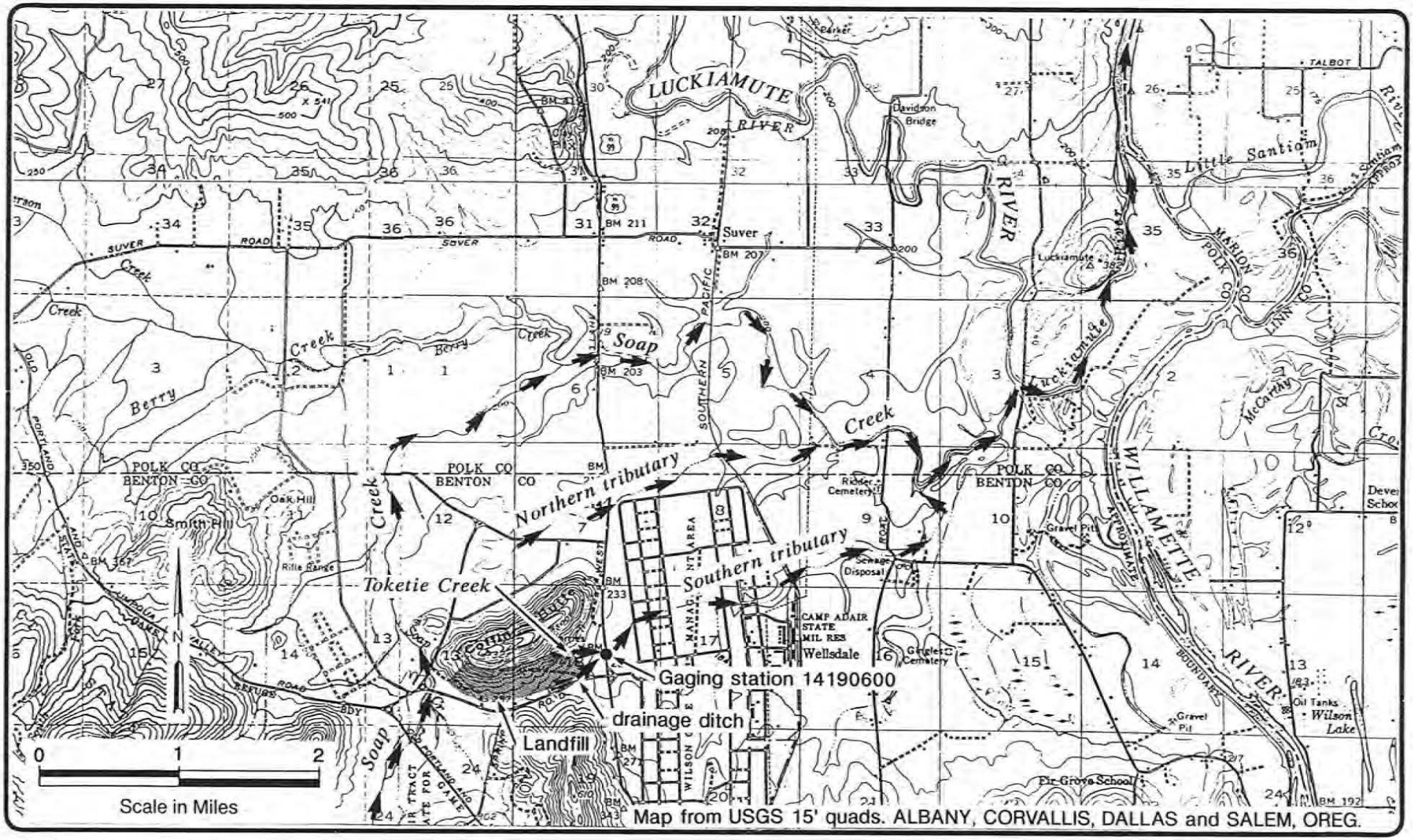
0 500 1000
SCALE IN FEET

3-1-21:\Tuppan\Coffin Butte\GW OCTOBER 2020.dwg

Tuppan Consultants LLC
460 Second Street, Suite 103
Lake Oswego, Or 97034
Ph. 503.675.1335

DATE 2-21-21
DWN GRH
APP
REV
PROJECT NO. VLI-001-002

FIGURE 3-6
COFFIN BUTTE LANDFILL
BENTON COUNTY, OREGON
OCTOBER 8, 2020
GROUNDWATER CONTOURS



EMCON Northwest, Inc.

DATE 5/93
DWN. mk
APPR.
REVIS.
PROJECT NO. 0139001.12

Figure 1
VALLEY LANDFILLS, INC.
COFFIN BUTTE LANDFILL
BENTON COUNTY, OREGON

SURFACE WATER FEATURES

APPENDIX B

BORNG LOGS – DEVELOPMENT AND ADJACENT AREAS

Appendix B
Boring Logs, Test Pit Logs, and Well Construction Diagrams
Coffin Butte Landfill
Development and Adjacent Areas

MW-8S, MW-8D
MW-9S, MW-9D
MW-14S, MW-14D
MW-15
MW-16
MW-22
MW-23
MW-24
MW-25
Berkland Domestic Well (2 wells)
Duplex Well
West Leachate Pond Borings and Test Pits
- **BH-1**
- **BH-2**
- **BH-3**
- **TP-1**
- **TP-2**
- **TP-3**
- **TP-4**
- **TP-5**
- **TP-6**

Sweet, Edwards & Associates, Inc.

BORING LOG

PROJECT COFFIN BUTTE LANDFILL

Location SE of Landfill

Boring No. MW-8S

Surface Elevation

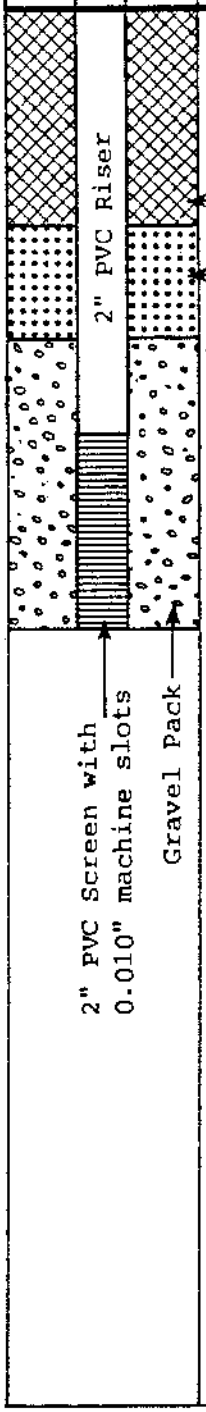
Drilling Method Air Rotary

Total Depth 32 feet

Drilled By Jones Drilling Co.

Date Completed 7/30/85

Logged By S.R. Henshaw

WELL DETAILS	PENETRATION TIME/ RATE	DEPTH (FEET)	SAMPLE NO.	SAMPLE TYPE	PERMEABILITY TESTING	SYMBOL	LITHOLOGIC DESCRIPTION	WATER QUALITY
		0 10 20 30 40					See boring log MW-8D for lithologic details.	

Sweet, Edwards & Associates, Inc.

BORING LOG

PROJECT COFFIN BUTTE LANDFILL

Location SE of Landfill

Boring No. MW-8D

Surface Elevation

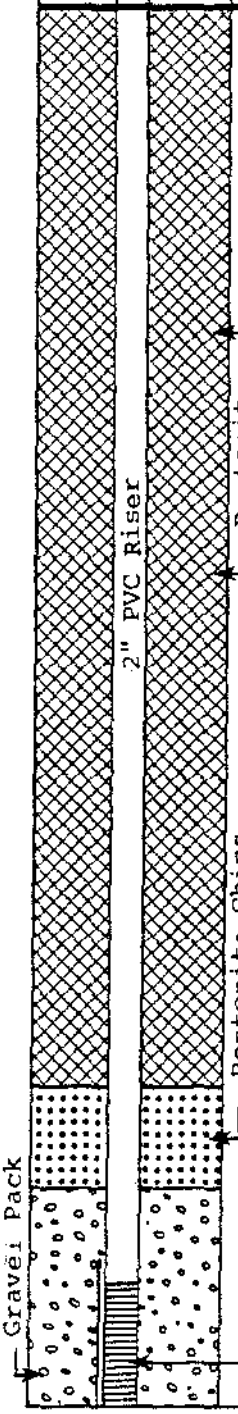
Drilling Method Air Rotary

Total Depth 75 feet

Drilled By Jones Drilling Co.

Date Completed 7/30/85

Logged By S.R. Henshaw



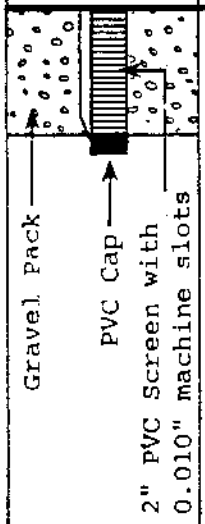
PENE-TRATION TIME/ RATE	DEPTH (FEET)	SAMPLE NO.	SAMPLE TYPE	PERME-ABILITY TESTING	SYMBOL	LITHOLOGIC DESCRIPTION	WATER QUALITY
	0					0-5.0' CLAYEY-GRAVEL, light brown.	
	10					5.0-22.0' CLAY to CLAYEY-SILT, light brown to gray to black, cohesive, highly plastic lens of gravel and color transition from brown to gray-black at 15'.	
	20					22.0-62.0' TUFFACEOUS BASALIC CONGLOMERATE, brown to black, transition from weathered and poorly consolidated at top to well indurated at bottom. Some larger gravel at 40'.	▽ 600 conductivity micromohs/cm
	30						
	40						475 conductivity micromohs/cm
	50						500 conductivity micromohs/cm
	60						480 conductivity micromohs/cm
	70					62.0-75.0' BASALT, black to blue gray, hard.	

Sweet, Edwards & Associates, Inc.

BORING LOG

PROJECT COFFIN BUTTE LANDFILL

Boring No. MW-8D

WELL DETAILS	PENE-TRATION TIME/ RATE	DEPTH (FEET)	SAMPLE NO.	SAMPLE TYPE	PERME-ABILITY TESTING	SYMBOL	LITHOLOGIC DESCRIPTION	WATER QUALITY
		70					62.0-75.0' See previous page for lithology description.	500 conduc-tivity micro-mohs/cm

Sweet, Edwards & Associates, Inc.

BORING LOG

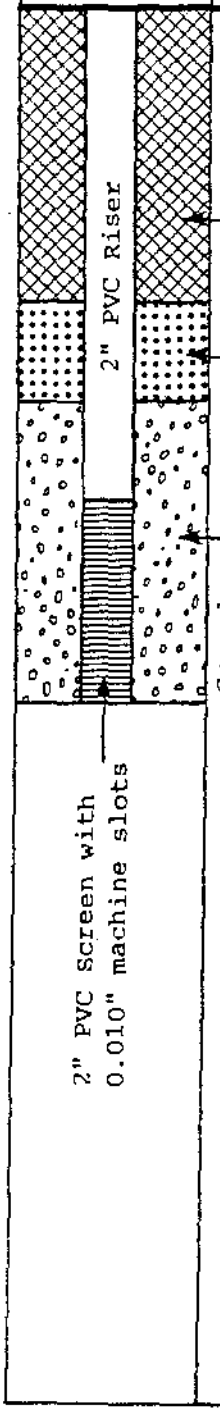
PROJECT COFFIN BUTTE LANDFILL **Page** 1 **of** 1

Location East of Landfill **Boring No.** MW-9S

Surface Elevation **Drilling Method** Air Rotary

Total Depth 35 feet **Drilled By** Jones Drilling Co.

Date Completed 8/2/85 **Logged By** S.R. Henshaw

WELL DETAILS	PENE-TRATION TIME/ RATE	DEPTH (FEET)	SAMPLE NO.	SAMPLE TYPE	PERME-ABILITY TESTING	SYMBOL	LITHOLOGIC DESCRIPTION	WATER QUALITY
		0					See boring log MW-9D for lithologic details.	
		10						
		20						
		30						
		40						

Sweet, Edwards & Associates, Inc.

BORING LOG

PROJECT COFFIN BUTTE LANDFILL **Page** 1 **of** 2

Location East of Landfill **Boring No.** MW-9D

Surface Elevation _____ **Drilling Method** Air Rotary

Total Depth 125 Feet **Drilled By** Jones Drilling Co.

Date Completed 8/1/85 **Logged By** S.R. Henshaw

WELL DETAILS	PENETRATION TIME/ RATE	DEPTH (FEET)	SAMPLE NO.	SAMPLE TYPE	PERMEABILITY TESTING	SYMBOL	LITHOLOGIC DESCRIPTION	WATER QUALITY
ABANDONED RISER Cement slurry backfilled from 115' to 0'. Settled to ___ and backfilled with bentonite chips.		0 10 20 30 40 50 60 70					0-5.0' FILL, brown, soil and gravel. 5.0-19.0' CLAYEY SILT to CLAY, light brown, cohesive, hard, very plastic, sticky, some gravel. 19.0-36.0' CLAY, blue gray, hard, very plastic, sticky. 36.0-110.0' CLAYEY-SILT to SILTY-CLAY, light gray to light brown and red, firm, exhibits shale properties as observed from cuttings, moderately plastic, some small rock fragments 1-2 mm. Little sample recovered due to mixing.	1000 conductivity micromohs/cm 1000 conductivity micromohs/cm 1075 conductivity micromohs/cm 1050 conductivity micromohs/cm

SEA-300-02a

Sweet, Edwards & Associates, Inc.

BORING LOG

PROJECT COFFIN BUTTE LANDFILL

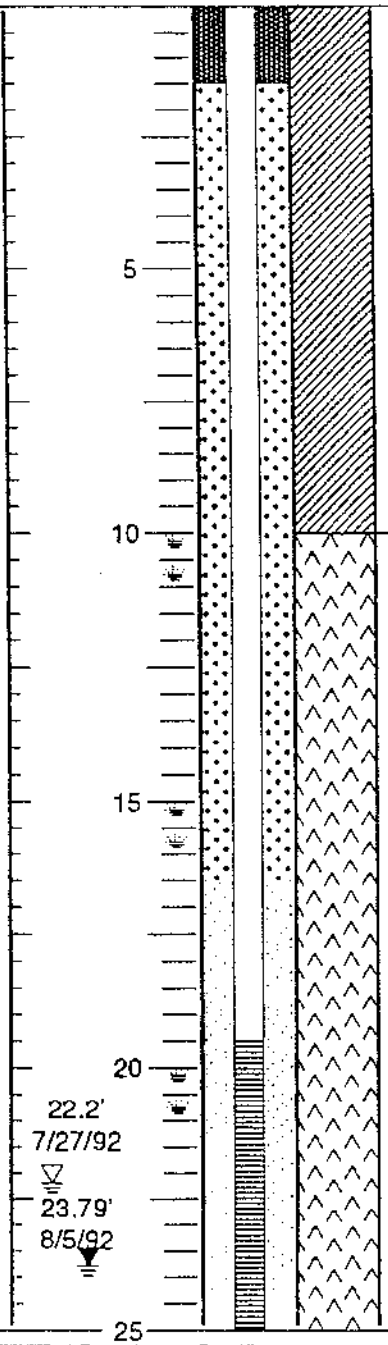
Boring No. MW-9D

WELL DETAILS	PENE-TRATION TIME/ RATE	DEPTH (FEET)	SAMPLE NO.	SAMPLE TYPE	PERME-ABILITY TESTING	SYMBOL	LITHOLOGIC DESCRIPTION	WATER QUALITY
ABANDONED RISER; Cement Slurry backfilled from 115' to 0'. Settled to ___ and backfilled with bentonite chips.		70					36.0-110.0' CLAYEY-SILT to SILTY CLAY. See previous page for lithology detail.	
		80						
		90						
		100						
		110					110.0-125.0' WEATHERED COLLUVIAL MATERIAL, characterized by angular rock fragments (1-4mm) and clay matrix. Some sand and clay stringers, good water yield, Artesian flow. Conductivity on 8/6/85 = 11,000 micro-mohs/cm.	2500 conductivity micro-mohs/cm
2" PVC Screen with 0.010" machine slots		120						5000
								6000 conductivity micro-mohs/cm.

LOG OF EXPLORATORY BORING

PROJECT NAME	COFFIN BUTTE LANDFILL	BORING NO.	MW- 14S
LOCATION	Benton County, Oregon	PAGE	1 OF 3
DRILLED BY	Staco Well Services	REFERENCE ELEV.	287.50'
DRILL METHOD	Air Rotary	TOTAL DEPTH	35.50'
LOGGED BY	Creig Fanshier	DATE COMPLETED	7/27/92

SAMPLE NUMBER SAMPLE TYPE	RECOVERY PERCENT	BLOW COUNTS (N COMP)	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	WELL DETAILS	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
								0-10 feet: SILTY CLAY (CL), yellowish brown, soft, damp, trace (<5%) 3/8-inch angular gravel. (COLLUVIUM)
S-1 GRAB								10-27 feet: BASALT, brown to orange brown, slightly fractured, strongly weathered on fractures, carbona.. veinlets. (Siletz River Volcanics)
S-2 GRAB								
S-3 GRAB			22.2' 7/27/92 ▽ 23.79' 8/5/92					



REMARKS

Exploratory boring B-14 drilled by 8-inch dia. hollow stem auger from 0-9.7 feet; continuously diamond cored from 9.7-70 feet. Boring backfilled with cement-bentonite grout. Monitoring well boring MW-14S drilled approx. 20 feet east of B-14 by air rotary with 8-inch downhole hammer from surface to 35.5 feet.

LOG OF EXPLORATORY BORING

PROJECT NAME	COFFIN BUTTE LANDFILL	BORING NO.	MW- 14S
LOCATION	Benton County, Oregon	PAGE	2 OF 3
DRILLED BY	Staco Well Services	REFERENCE ELEV.	287.50'
DRILL METHOD	Air Rotary	TOTAL DEPTH	35.50'
LOGGED BY	Craig Fanshier	DATE COMPLETED	7/27/92

SAMPLE NUMBER SAMPLE TYPE	RECOVERY PERCENT	BLOW COUNTS (N COMP)	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	WELL DETAILS	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
S-4 GRAB								**10-27 feet:** BASALT, brown to orange brown, slightly fractured, strongly weathered on fractures, carbonate veinlets. (Siletz River Volcanics)
								27-35.5 feet: BASALT, greenish gray to dark green, highly fracture, propylitic alteration, fine carbonates, (quartz) veinlets, trace pyrite.
S-5 GRAB				30				
S-6 GRAB				35				Bottom of boring at 35.5 feet below ground surface. **WELL COMPLETION DETAILS:** +2.08-19.5 feet: 4-inch dia. schedule 40 PVC flush threaded blank casing with "O" rings. 19.5-29.5 feet: 4-inch dia. schedule 40 PVC screen with 0.020-inch machine slots. 29.5-30.1 feet: 4-inch dia. schedule 40 PVC end cap. 0-1.5 feet: Concrete. 1.5-16.5 feet: 4.5 - 50 pound bags of 3/4-inch bentonite chips. 16.5-30.5 feet: 4.5 - 100 bags of 8x12 graded silica sand. (FILTER PACK) 30.5-35.5 feet: 2.25 - 50 pound bags of 3/4-inch bentonite chips. **SURFACE COMPLETION DETAILS:** 6-inch steel locking protective casing, surrounded by 3 - 5-foot long, 3-inch dia. protective posts. Ground surface elevation: 287.5 feet MSL. Top of casing elevation: 289.58 feet MSL. Coffin Butte base map coordinates: Eastings: 674.78 feet. Northings: 251.74 feet.
				40				
				45				
				50				

REMARKS

Exploratory boring B-14 drilled by 8-inch dia. hollow stem auger from 0-9.7 feet; continuously diamond cored from 9.7-70 feet. Boring backfilled with cement-bentonite grout. Monitoring well boring MW-14S drilled approx. 20 feet east of B-14 by air rotary with 8-inch downhole hammer from surface to 35.5 feet.

LOG OF EXPLORATORY BORING

PROJECT NAME	COFFIN BUTTE LANDFILL	BORING NO.	MW-14S
LOCATION	Benton County, Oregon	PAGE	3 OF 3
DRILLED BY	Staco Well Services	REFERENCE ELEV.	287.50'
DRILL METHOD	Air Rotary	TOTAL DEPTH	35.50'
LOGGED BY	Craig Fanshier	DATE COMPLETED	7/27/92

SAMPLE NUMBER SAMPLE TYPE	RECOVERY PERCENT	BLOW COUNTS (N COMP)	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	WELL DETAILS	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
				55				Sample depth indicates where a discrete interval sample was collected and archived. Air rotary cuttings were semi-continuously monitored at the discharge during the drilling process.
				60				
				65				
				70				
				75				

REMARKS

Exploratory boring B-14 drilled by 8-inch dia. hollow stem auger from 0-9.7 feet; continuously diamond cored from 9.7-70 fee Boring backfilled with cement-bentonite grout. Monitoring well boring MW-14S drilled approx. 20 feet east of B-14 by air rotary with 8-inch downhole hammer from surface to 35.5 feet.

LOG OF EXPLORATORY BORING

PROJECT NAME	COFFIN BUTTE LANDFILL	BORING NO.	MW- 14D
LOCATION	Benton County, Oregon	PAGE	1 OF 4
DRILLED BY	Staco Well Services	REFERENCE ELEV.	287.80'
DRILL METHOD	Air Rotary	TOTAL DEPTH	75.00'
LOGGED BY	Craig Fenshier	DATE COMPLETED	7/24/92

SAMPLE NUMBER SAMPLE TYPE	RECOVERY PERCENT	BLOW COUNTS (N COMP)	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	WELL DETAILS	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
S-1 GRAB				5				0-10 feet: SILTY CLAY (CL), brown, soft, damp, trace (5%) 3/8-inch angular gravel. (COLLUVIUM)
S-2 GRAB				10				10-27 feet: BASALT, brown to orange brown, slightly fractured, strongly weathered on fractures, carbonate veinlets. (Siletz River Volcanics)
S-3 GRAB				15				
S-4 GRAB				20				
			▼ 23.27' 7/29/92	25				

REMARKS

Exploratory boring B-14 drilled by 8-inch dia. hollow stem auger from 0-9.7 feet; continuously diamond cored from 9.7-70 feet. Boring backfilled with cement-bentonite grout. Monitoring well boring MW-14D drilled approx. 10 feet east of B-14 by air rotary with 6-inch downhole hammer from surface to 75 feet.

LOG OF EXPLORATORY BORING

PROJECT NAME	COFFIN BUTTE LANDFILL	BORING NO.	MW- 14D
LOCATION	Benton County, Oregon	PAGE	2 OF 4
DRILLED BY	Staco Well Services	REFERENCE ELEV.	287.80'
DRILL METHOD	Air Rotary	TOTAL DEPTH	75.00'
LOGGED BY	Craig Fanshier	DATE COMPLETED	7/24/92

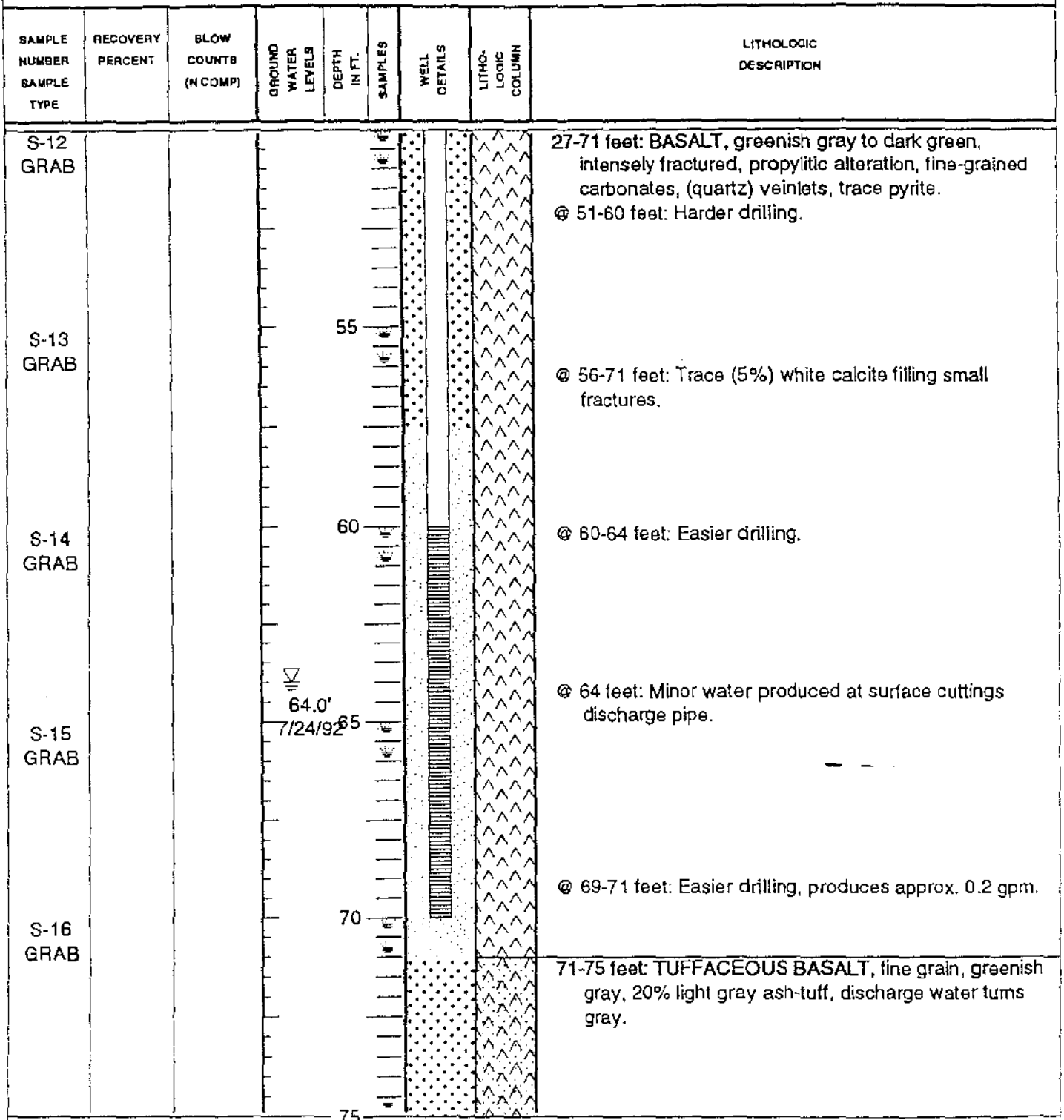
SAMPLE NUMBER SAMPLE TYPE	RECOVERY PERCENT	BLOW COUNTS (N COMP)	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	WELL DETAILS	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
S-5 GRAB								**10-27 feet:** BASALT, brown to orange brown, slightly fractured, strongly weathered on fractures, carbonate veinlets. (Siletz River Volcanics)
S-6 GRAB								**27-71 feet:** BASALT, greenish gray to dark green, intensely fractured, propylitic alteration, fine-grained carbonates, (quartz) veinlets, trace pyrite.
S-7 GRAB				30				
S-8 GRAB				35				@ 36 feet: 5% gray ash, tuff. @ 37 feet: 5% gray ash, tuff.
S-9 GRAB								
S-10 GRAB				40				
S-11 GRAB				45				
				50				

REMARKS

Exploratory boring B-14 drilled by 8-inch dia. hollow stem auger from 0-9.7 feet; continuously diamond cored from 9.7-70 feet. Boring backfilled with cement-bentonite grout. Monitoring well boring MW-14D drilled approx. 10 feet east of B-14 by air rotary with 6-inch downhole hammer from surface to 75 feet.

LOG OF EXPLORATORY BORING

PROJECT NAME	COFFIN BUTTE LANDFILL	BORING NO.	MW- 14D
LOCATION	Benton County, Oregon	PAGE	3 OF 4
DRILLED BY	Staco Well Services	REFERENCE ELEV.	287.80'
DRILL METHOD	Air Rotary	TOTAL DEPTH	75.00'
LOGGED BY	Craig Fanshier	DATE COMPLETED	7/24/92



REMARKS

Exploratory boring B-14 drilled by 8-inch dia. hollow stem auger from 0-9.7 feet; continuously diamond cored from 9.7-70 feet. Boring backfilled with cement-bentonite grout. Monitoring well boring MW-14D drilled approx. 10 feet east of B-14 by air rotary with 6-inch downhole hammer from surface to 75 feet.

LOG OF EXPLORATORY BORING

PROJECT NAME	COFFIN BUTTE LANDFILL	BORING NO.	MW- 14D
LOCATION	Benton County, Oregon	PAGE	4 OF 4
DRILLED BY	Staco Well Services	REFERENCE ELEV.	287.80'
DRILL METHOD	Air Rotary	TOTAL DEPTH	75.00'
LOGGED BY	Craig Fanshier	DATE COMPLETED	7/24/92

SAMPLE NUMBER SAMPLE TYPE	RECOVERY PERCENT	BLOW COUNTS (N COMP)	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	WELL DETAILS	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
S-17 GRAB				80 85 90 95 100				Bottom of boring at 75.0 feet below ground surface. WELL COMPLETION DETAILS: +2.47-60 feet: 2-inch dia. schedule 40 PVC flush threaded blank casing with "O" rings. 60-70 feet: 2-inch dia. schedule 40 PVC screen with 0.020-inch machine slots. 70-70.6 feet: 2-inch dia. schedule 40 PVC end cap. 0-3 feet: Concrete. 3-57.5 feet: 13.5 - 50 pound bags of 3/4-inch bentonite chips. 57.5-71 feet: 2.6 - 100 bags of 8x12 graded silica sand. (FILTER PACK) 71-75 feet: 0.8 50 pound bag of 3/4-inch bentonite chips. SURFACE COMPLETION DETAILS: 6-inch steel locking protective casing, surrounded by 3 - 5-foot long, 3-inch dia. protective posts. Ground surface elevation: 287.8 feet MSL. Top of casing elevation: 290.27 feet MSL. Coffin Butte base map coordinates: Eastings: 664.50 feet. Northings: 248.23 feet. Notes: Sample depth indicates where a discrete interval sample was collected and archived. Air rotary cuttings were semi-continuously monitored at the discharge during the drilling process.

REMARKS

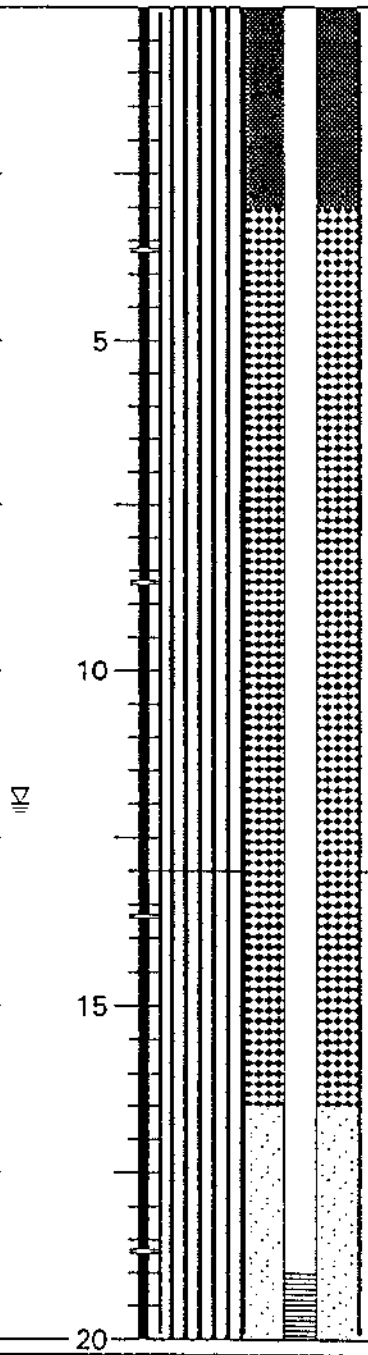
Exploratory boring B-14 drilled by 8-inch dia. hollow stem auger from 0-9.7 feet; continuously diamond cored from 9.7-70 feet. Boring backfilled with cement-bentonite grout. Monitoring well boring MW-14D drilled approx. 10 feet east of B-14 by air rotary with 6-inch downhole hammer from surface to 75 feet.

LOG OF EXPLORATORY BORING

PROJECT NAME Coffin Butte Landfill
LOCATION Coffin Butte, Benton County, Oregon
DRILLED BY GeoTech Explorations
DRILL METHOD H.S.A. with C.C.B.
LOGGED BY Mike Free

BORING NO. MW-15
PAGE 1 OF 2
GROUND ELEV.
TOTAL DEPTH 29.00'
DATE COMPLETED 07/14/93

SAMPLE TYPE	RECOVERY PERCENT	POCKET PENE-TROMETER (T/ft)
CCB	100	1
		0.8
		2
CCB	102	1.3
		1.5
		2
		1.3
		1.2
CCB	102	0.8
		1.6
		1.8
		1.5
		1.8
CCB	98	
		2
		2.5
		3.8
CCB	102	3



LITHOLOGIC DESCRIPTION

0 to 13.0 feet: CLAYEY SILT (MH), very dark gray to black (0 to 1.5 feet), dark grayish brown (1.5 to 2.6 feet), mottled brown and orange (2.6 to 13.0 feet), 75 percent silt, 25 percent clay, trace fine sand, soft to firm, moist, roots to 3.0 feet, micaceous, pore wetness at 13.0 feet. (ALLUVIUM)

13.0 to 20.4 feet: CLAYEY SILT (MH), dark grayish brown (13.0 to 15.9 feet), gray to dark reddish brown (15.9 to 18.0 feet), strong brown (18,0 to 20.4 feet), 75 percent silt, 20 percent clay, 5 percent fine to coarse gravel, soft to firm (overall somewhat crumbly), moist to wet. (ALLUVIUM)

REMARKS

LOG OF EXPLORATORY BORING

PROJECT NAME Coffin Butte Landfill
LOCATION Coffin Butte, Benton County, Oregon
DRILLED BY GeoTech Explorations
DRILL METHOD H.S.A. with C.C.B.
LOGGED BY Mike Free

BORING NO. MW-15
PAGE 2 OF 2
GROUND ELEV.
TOTAL DEPTH 29.00'
DATE COMPLETED 07/14/93

SAMPLE TYPE	RECOVERY PERCENT	POCKET PENE-TROMETER (T/ft)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	WELL DETAILS	LITHOLOGIC DESCRIPTION
CCB	94	2 1 2		25 30 35 40				13.0 to 20.4 feet: CLAYEY SILT (MH), continued. 20.4 to 21.8 feet: SANDY GRAVEL (GP), strong brown, 60 percent fine to coarse decomposed well-rounded gravel, occasional cobbles, 30 percent fine to coarse sand, 10 percent clay and silt. (ALLUVIUM) 21.8 to 29.0 feet: SANDY GRAVELLY SILT (ML), reddish brown to brown, 50 percent silt, 30 percent decomposed fine to medium gravel, 20 percent fine to coarse sand, mostly crumbly, soft to firm, moist. (ALLUVIUM)

Total depth drilled = 29.0 feet.
Total depth sampled = 29.0 feet.

WELL COMPLETION DETAILS:
0 to 19.0 feet: 2-inch-diameter, flush-threaded, schedule 40 PVC blank riser pipe.
19.0 to 28.0 feet: 2-inch-diameter, flush-threaded, schedule 40 PVC well screen with 0.010-inch machined slots.
28.0 to 29.0 feet: 2-inch-diameter, flush-threaded, schedule 40 PVC blank sump pipe.

0 to 3.0 feet: Concrete.
3.0 to 16.5 feet: Bentonite chips hydrated with potable water.
16.5 to 29.0 feet: 20 - 40 Colorado Silica Sand.

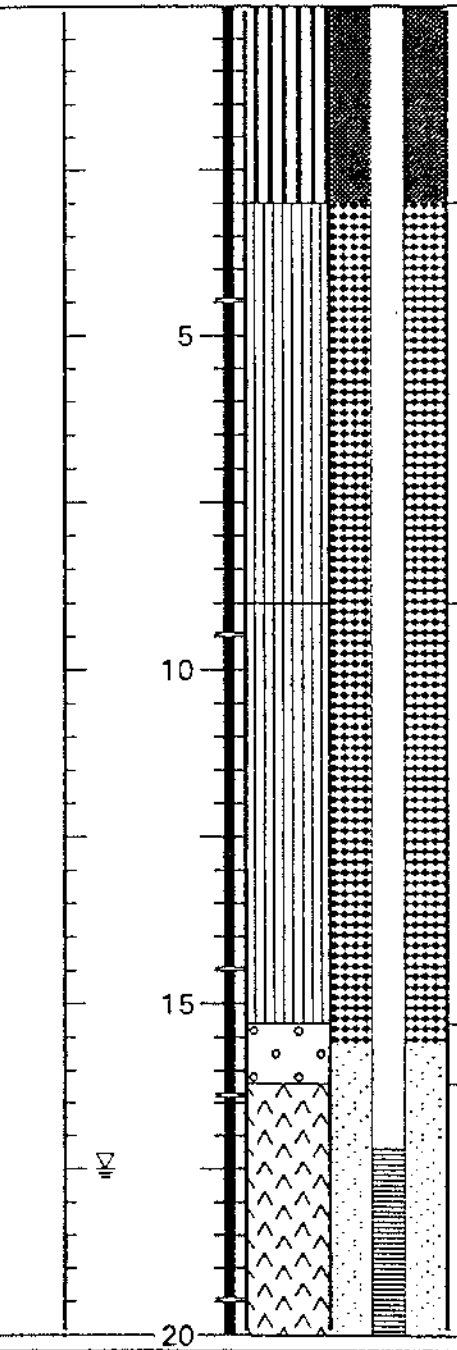
REMARKS

LOG OF EXPLORATORY BORING

PROJECT NAME Coffin Butte Landfill
LOCATION Coffin Butte, Benton County, Oregon
DRILLED BY GeoTech Explorations
DRILL METHOD H.S.A. with C.C.B.
LOGGED BY Mike Free

BORING NO. MW-16
PAGE 1 OF 2
GROUND ELEV.
TOTAL DEPTH 27.30'
DATE COMPLETED 07/19/93

SAMPLE TYPE	RECOVERY PERCENT	POCKET PENE-TROMETER (T/ft)
CCB	98	
CCB	104	
CCB	50	
CCB	100	
CCB	68	
CCB	100	



LITHOLOGIC DESCRIPTION

0 to 3.0 feet: CLAYEY SILT (MH), very dark grayish brown, 70 percent silt, 30 percent clay, trace fine sand, stiff to very stiff, dry to damp, crumbly dry from 0 to 1.0 foot. (ALLUVIUM)

3.0 to 9.0 feet: CLAYEY SILT (ML), dark yellowish brown, 60 percent silt, 25 percent clay, 10 percent fine to medium gravel, 5 percent fine to coarse sand, stiff (crumbly from 7.0 to 9.0 feet), moist. (COLLUVIUM)

9.0 to 15.2 feet: CLAYEY GRAVELLY SILT (ML), dark yellowish brown, 50 percent silt, 30 percent fine to coarse, fresh to slightly weathered, subangular basalt gravel, 20 percent clay, stiff, moist. (COLLUVIUM)

15.2 to 16.2 feet: SANDY SILTY GRAVEL (GP), orangy brown, 60 percent fine to coarse angular weathered basalt gravel, 20 percent basalt sand, 20 percent silt and clay. (COLLUVIUM)

16.2 to 27.3 feet: BASALT, black to very dark bluish gray, aphanitic, equigranular, crushed to intensely fractured, hard, fresh. (BEDROCK)

REMARKS

Augered with center bit from 20.8 to 27.3 feet; hard drilling.

LOG OF EXPLORATORY BORING

PROJECT NAME Coffin Butte Landfill
LOCATION Coffin Butte, Benton County, Oregon
DRILLED BY GeoTech Explorations
DRILL METHOD H.S.A. with C.C.B.
LOGGED BY Mike Free

BORING NO. MW-16
PAGE 2 OF 2
GROUND ELEV.
TOTAL DEPTH 27.30'
DATE COMPLETED 07/19/93

SAMPLE TYPE	RECOVERY PERCENT	POCKET PENE-TROMETER (T/ft)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOLOGIC COLUMN	WELL DETAILS	LITHOLOGIC DESCRIPTION
CCB	100			25				**16.2 to 27.3 feet: BASALT**, continued.
				30				Total depth drilled = 27.3 feet. Total depth sampled = 27.3 feet. **WELL COMPLETION DETAILS:** 0 to 17.2 feet: 2-inch-diameter, flush-threaded, schedule 40 PVC blank riser pipe. 17.2 to 26.6 feet: 2-inch-diameter, flush-threaded, schedule 40 PVC well screen with 0.020-inch machined slots. 26.6 to 27.3 feet: 2-inch-diameter, flush-threaded, schedule 40 PVC blank sump pipe. 0 to 3.0 feet: Concrete. 3.0 to 15.6 feet: Bentonite chips hydrated with potable water. 15.6 to 27.3 feet: 10 - 20 Colorado Silica Sand.
				35				
				40				

REMARKS

Augered with center bit from 20.8 to 27.3 feet; hard drilling.

LOG OF EXPLORATORY BORING

PROJECT NAME	**Coffin Butte Landfill**	BORING NO.	**MW-22**
LOCATION	**Benton County, Oregon**	PAGE	**1 OF 2**
DRILLED BY	**Geo-Tech Explorations, Inc.**	GROUND ELEV.	**232.73'**
DRILL METHOD	**Hollow Stem Auger**	TOTAL DEPTH	**29.00'**
LOGGED BY	**Eric Tuppan**	DATE COMPLETED	**07/22/94**

SAMPLE TYPE	RECOVERY PERCENT	POCKET PENETRO-METER	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	WELL DETAILS	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
CCB	75%							**0 to 1.0 foot:** GRAVEL FILL, grass at surface.
		3.3						**1.0 to 9.3 feet:** SILTY CLAY (CL), very dark grayish brown (10YR 3/2), some mottling with dark gray brown (10YR 2/6); medium plasticity fines; silty, minor fine to medium sand; root hairs; very stiff to stiff; damp. (ALLUVIUM)
CCB	100%	1.75	▼ 7/22/94	5				@ 5.5 feet: dark brown (10YR 3/3) with oxidized medium sand grains. @ 6.0 feet: root holes; moist to wet.
CCB	100%	2.5		10				@ 9 to 9.3 feet: basal layer of sandy clay. **9.3 to 14.0 feet:** CLAYEY SILT (ML), dark olive gray (5Y 3/2); very clayey; medium plasticity; trace fine to medium sand; very stiff; root hairs and root holes are wet to moist; crumbly texture. (ALLUVIUM)
CCB	100%	0.75	▽ 7/22/94	15				**14.0 to 24.7 feet:** SILT (MH), dark olive gray (5Y 3/2); minor clay; high plasticity; roots and organic matter common; root holes are wet. (ALLUVIUM) @ 17.0 feet: zones of very dark grayish brown (2.5Y 3/2); twigs horizontal to core axis; roots and root holes abundant; firm to very stiff; wet in root holes.
CCB	100%	3.25		20				

REMARKS

Boring drilled with 3.75-inch I.D. hollow-stem augers to 29 feet and sampled with continuous core barrel. Backfilled hole from 24 to 29 feet with bentonite chips and pulled augers. Reamed out hole with 6.25-inch hollow-stem auger to 24.2 feet and installed well.

EMCON

LOG OF EXPLORATORY BORING

PROJECT NAME	**Coffin Butte Landfill**	BORING NO.	**MW-22**
LOCATION	**Benton County, Oregon**	PAGE	**2 OF 2**
DRILLED BY	**Geo-Tech Explorations, Inc.**	GROUND ELEV.	**232.73'**
DRILL METHOD	**Hollow Stem Auger**	TOTAL DEPTH	**29.00'**
LOGGED BY	**Eric Tuppan**	DATE COMPLETED	**07/22/94**

SAMPLE TYPE	RECOVERY PERCENT	POCKET PENETRO-METER	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	WELL DETAILS	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
								14.0 to 24.7 feet: SILT (MH), continued. @ 20.0 feet: dark gray (5Y 4/1); uniform silt with abundant roots; very stiff; damp to moist.
		3.0						
CCB	100%							
				25				**24.7 to 29.0 feet: CLAY (CL)**, dark olive gray (5Y 3/2); low plasticity clay with minor silt; trace fine to medium sand; relict intergranular basalt texture; few roots; crumbly and breaks apart along what appear to be relict fractures(?); very stiff; moist. (WEATHERED BEDROCK)
		2.0						
				30				Boring terminated at 29.0 feet; sufficient data.
				35				
				40				

REMARKS

Boring drilled with 3.75-inch I.D. hollow-stem augers to 29 feet and sampled with continuous core barrel. Backfilled hole from 24 to 29 feet with bentonite chips and pulled augers. Reamed out hole with 6.25-inch hollow-stem auger to 24.2 feet and installed well.

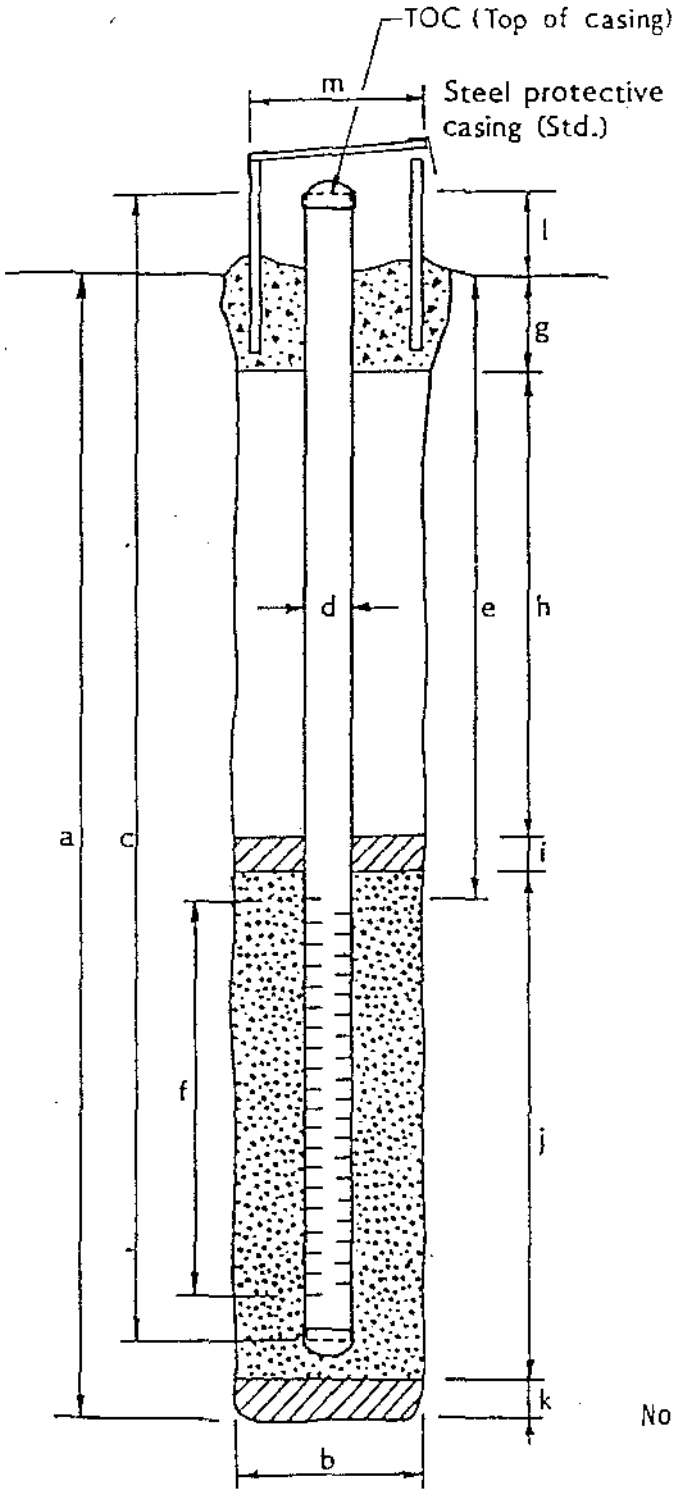
EMCON

WELL DETAILS

EMCON ASSOCIATES

PROJECT NUMBER 0139-001.47
PROJECT NAME Coffin Butte Landfill
LOCATION Benton County , Or
WELL PERMIT NO. 67395

BORING / WELL NO. MW-22
TOP OF CASING ELEV. 235.30
GROUND SURFACE ELEV. 232.73
DATUM Mean Sea level
INSTALLATION DATE 7-22-94



EXPLORATORY BORING

a. Total depth 29.0 ft.
b. Diameter 10 1/4 in.
Drilling method Hollow-stem auger

WELL CONSTRUCTION

c. Total casing length 26.7 ft.
Material Sch. 40 PVC
d. Diameter 2 in.
e. Depth to top perforations 14.0 ft.
f. Perforated length 9.6 ft.
Perforated interval from 14.0 to 23.6 ft.
Perforation type Machine Slotted
Perforation size 0.010 inch
g. Surface seal (0-2.0) 2.0 ft.
Seal material Concrete
h. Backfill ____ ft.
Backfill material NA
i. Seal (2.0 - 11.0) 9.0 ft.
Seal material Bentonite Chips
j. Gravel pack (11.0-24.2) 13.2 ft.
Pack material 20X40 Silica Sand
k. Bottom seal (24.2 - 29.0) 4.8 ft.
Seal material Bentonite Chips
l. Casing stickup 2.46 ft.
m. Protective casing diameter 6.5 in.

Note: SS Centralizers at 8.7' and 24.0'

Prepared by: Eric Tuppan

Reviewed by: [signature] Date: 8/12/94

LOG OF EXPLORATORY BORING

PROJECT NAME	**Coffin Butte Landfill**	BORING NO.	**MW-23**
LOCATION	**Coffin Butte, Benton County, Oregon**	PAGE	**1 OF 2**
DRILLED BY	**Geo-Tech Explorations, Inc.**	GROUND ELEV.	**242.81'**
DRILL METHOD	**Hollow Stem Auger**	TOTAL DEPTH	**24.30'**
LOGGED BY	**Mike Free**	DATE COMPLETED	**08/02/94**

SAMPLE TYPE	RECOVERY PERCENT	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	WELL DETAILS	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
CCB	45	▽ 8/2/94					**0 to 3.0 feet: CLAYEY SILT (ML)**, very dark grayish brown, some black; medium plasticity fines; 10 percent fine to coarse sand; 10 percent medium gravel; firm, moist, few roots. (FILL) @ 1.0 foot: soft. @ 2.0 feet: wet.
CCB	100		5				**3.0 to 10.5 feet: SANDY CLAYEY SILT (ML)**, very dark grayish brown; medium plasticity fines; 15 percent fine to coarse sand, mostly medium; few roots; firm, wet (root holes wet). (ALLUVIUM) @ 4.8 feet: grayish brown and orange mottling.
CCB	90						@ 7.0 to 8.0 feet: crumbly, low plasticity.
CCB	100		10				**10.5 to 16.2 feet: CLAYEY SILT (ML)**, dark gray to dark greenish gray; breaks with massive, fine grained texture; trace fine rootlets; micaceous; stiff to firm; wet. (ALLUVIUM) @ 12.0 feet: core barrel wet on outside.
CCB	100		15				@ 15.5 to 16.5 feet: few fine rootlets.
CCB	100		20				**16.2 to 20.4 feet: SANDY SILTY CLAY (CL)**, very dark greenish gray; medium plasticity fines; 20 percent fine to coarse sand; trace fine gravel; breaks with massive, textured surface; trace fine rootlets; stiff; wet. (ALLUVIUM) @ 17.0 feet: low plasticity.

REMARKS

Drilled to 24.3 feet with 3 3/4-inch I.D. augers and sampled with continuous core barrel. Backfilled with bentonite chips from 21.0 to 24.3 feet. Reamed with 6 1/4-inch I.D. auger with PVC plug to 22.8 feet and installed well. Added 30 gallons of potable water during well installation.

EMCON

LOG OF EXPLORATORY BORING

PROJECT NAME	**Coffin Butte Landfill**	BORING NO.	**MW-23**
LOCATION	**Coffin Butte, Benton County, Oregon**	PAGE	**2 OF 2**
DRILLED BY	**Geo-Tech Explorations, Inc.**	GROUND ELEV.	**242.81'**
DRILL METHOD	**Hollow Stem Auger**	TOTAL DEPTH	**24.30'**
LOGGED BY	**Mike Free**	DATE COMPLETED	**08/02/94**

SAMPLE TYPE	RECOVERY PERCENT		GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	WELL DETAILS	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION

16.2 to 20.4 feet: SANDY SILTY CLAY (CL), continued.

20.4 to 23.2 feet: CLAYEY SANDY GRAVEL (GC), dark greenish gray; 30 percent fines; 10 percent fine to coarse sand; 60 percent well graded fine to coarse gravel; sand and gravel subangular to well rounded; loose; wet. (ALLUVIUM)

23.2 to 24.3 feet: BASALT, light to very dark brown, some yellow; crushed; 50 percent friable, 50 percent low to moderate hardness; weakly to deeply weathered; wet. (BEDROCK)

Boring terminated at 24.3 feet; sufficient data.

25

30

35

40

WELL COMPLETION DETAILS:

0 to 12.4 feet: 2-inch-diameter, flush-threaded, Schedule 40 PVC blank riser pipe.

12.4 to 22.1 feet: 2-inch-diameter, flush-threaded, Schedule 40 PVC well screen with 0.010-inch machined slots.

22.1 to 22.7 feet: 2-inch-diameter flush-threaded end cap.

0 to 2.0 feet: Concrete.

2.0 to 9.6 feet: Bentonite chips hydrated with potable water.

9.6 to 22.7 feet: 20 - 40 Colorado Silica Sand.

22.7 to 22.8 feet: Slough

22.8 to 24.2 feet: Bentonite chips.

24.2 to 24.3 feet: Slough.

REMARKS

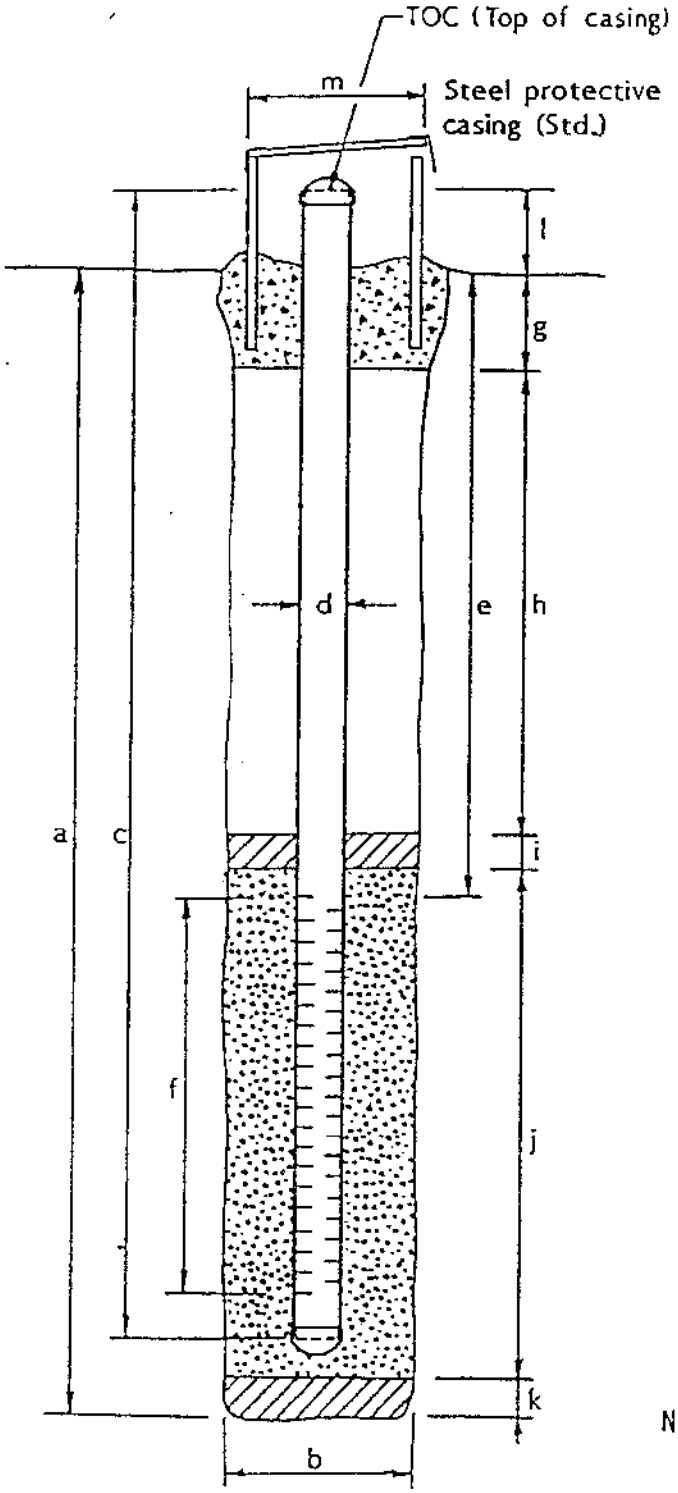
Drilled to 24.3 feet with 3 3/4-inch I.D. augers and sampled with continuous core barrel. Backfilled with bentonite chips from 21.0 to 24.3 feet. Reamed with 6 1/4-inch I.D. auger with PVC plug to 22.8 feet and installed well. Added 30 gallons of potable water during well installation.

EMCON

WELL DETAILS

PROJECT NUMBER 0139-001.47
PROJECT NAME Coffin Butte Landfill
LOCATION Benton County, Or
WELL PERMIT NO. 67396

BORING / WELL NO. MW 23
TOP OF CASING ELEV. 244.71
GROUND SURFACE ELEV. 242.81
DATUM Mean Sea Level
INSTALLATION DATE 8-2-94



EXPLORATORY BORING

a. Total depth 24.3 ft.
b. Diameter 10 1/4 in.
Drilling method Hollow Stem Auger

WELL CONSTRUCTION

c. Total casing length 24.7 ft.
Material Sch 40 PVC
d. Diameter 2 in.
e. Depth to top perforations 12.4 ft.
f. Perforated length 9.7 ft.
Perforated interval from 12.4 to 22.1 ft.
Perforation type Machine Slotted
Perforation size 0.010 inch
g. Surface seal (0-2.0) 2.0 ft.
Seal material Concrete
h. Backfill ft.
Backfill material NA
i. Seal (2.0- 9.6) 7.6 ft.
Seal material Bentonite Chips
j. Gravel pack (9.6-22.7) 13.1 ft.
Pack material 20-40 Silica Sand
k. Bottom seal 1.5 ft.
Seal material Bentonite Chips
l. Casing stickup 2.0 ft.
m. Protective casing diameter 6.5 in.
Note: SS Centralizers at 7.2' and 21.2'.

Prepared by: Mike Free

Reviewed by: EQ Date: 8/12/94

Form F-11 Rev. 12/90

LOG OF EXPLORATORY BORING

PROJECT NAME	Coffin Butte/Valley Landfills		
LOCATION	Benton County, Oregon	PAGE	1 OF 2
DRILLED BY	GeoTech Explorations, Inc.	BORING NO.	MW-24
DRILL METHOD	Hollow Stem Auger	TOTAL DEPTH	35'
LOGGED BY	John Renda	DATE COMPLETED	8/31/98

SAMPLE NUMBER AND TYPE	RECOVERY (%)	BLOWS/6"	GROUND WATER LEVEL	DEPTH IN FT.	SAMPLES	WELL DETAILS	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
1 SS	67	6-11-16						**0.0 to 13.5 feet: SILTY CLAY (CL);** yellowish-brown (10 YR, 6/6); 95% medium to high plasticity fines, trace coarse sand; 5% organics (roots); very stiff; dry. (ALLUVIUM)
2 SS	33	10-7-5						
3 SS	100	3-6-8		5				
4 SS	20	3-3-6						
5 SS	100	3-5-8						
6 SS	100	3-3-7		10				
7 SS	100	3-8-11						@ 12.0 feet: sand content increases to 5%.
8 SS	100	3-9-24						
9 SS	100	24-23-17		15				**13.5 to 35.0 feet: BASALT WEATHERED TO SILTY CLAY (CL) WITH SAND (SW) AND GRAVEL (GC);** brown (7.5 YR, 4/6); 50% medium to high plasticity fines, 40% deeply weathered basaltic gravel; friable; 10% fine to medium sand; dense. (WEATHERED BASALT)
10 SS	33	16-24-50/0.4'						
11 SS	100	8-25-36						@ 18.0 feet: moist.
12 SS	100	19-22-44	8/31/98 ▼	20				

REMARKS

EMCON®

LOG OF EXPLORATORY BORING

PROJECT NAME	Coffin Butte/Valley Landfills		
LOCATION	Benton County, Oregon	PAGE	2 OF 2
DRILLED BY	GeoTech Explorations, Inc.	BORING NO.	MW-24
DRILL METHOD	Hollow Stem Auger	TOTAL DEPTH	35'
LOGGED BY	John Renda	DATE COMPLETED	8/31/98

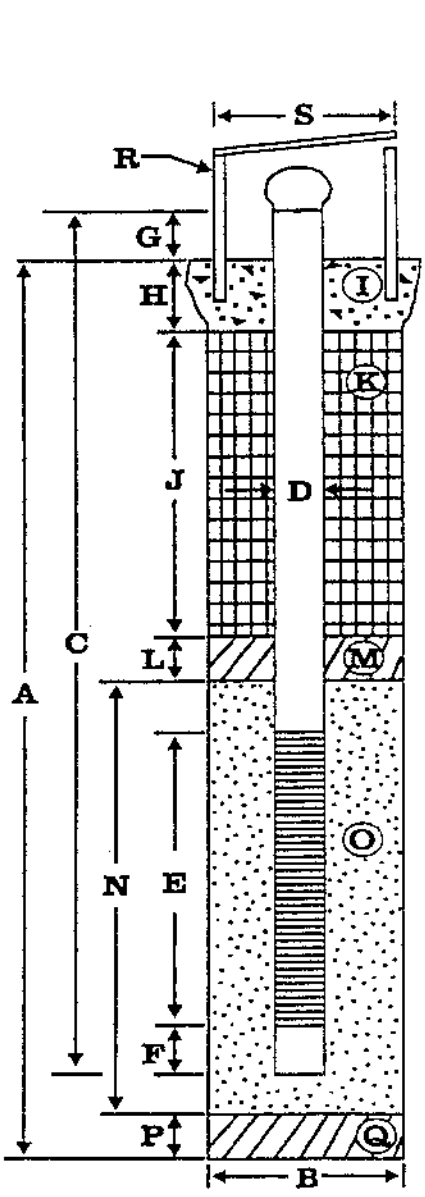
SAMPLE NUMBER AND TYPE	RECOVERY (%)	BLOWS/6"	GROUND WATER LEVEL	DEPTH IN FT.	SAMPLES	WELL DETAILS	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
13 SS	100	12-50/0.4'						
14 SS	67	21-24-50/0.4'						
15 SS	100	19-50/0.4'	▽					
16 SS	40	50/0.4'						@ 24.0 feet: wet.
17 SS	40	50/0.4'		25				@ 25.0 feet: split spoon refusal.
				30				
18 SS	100	50/0.4'		35				@ 35.0 feet: fractured basalt; auger refusal. @ 35.0 feet: boring terminated.
				40				

REMARKS

EMCON

WELL DETAILS

Project Number:	40139-001.065	Boring/Well No.:	MW-24
Client Name:	Valley Landfills, Inc	Top of Casing Elev.:	276.76
Project Name:	Coffin Butte Landfill	Ground Surface Elev.:	273.94
Location:	Benton County, Oregon	Installation Date:	8/31/98
Driller:	Geo-Tech Explorations, Inc.	Permit/Start Card No.:	112462



	Depth (feet)	Elev. (ft, msl)
	3.0	276.94
	2.8	276.76
	0.0	273.94
	1.0	272.94
	1.0	272.94
	18.0	255.94
	19.5	254.44
	34.5	239.44
	35.0	238.94
	35.0	238.94

EXPLORATORY BORING

A. Total depth:	35.0 ft.
B. Diameter	10 in.
Drilling method:	Hollow Stem Auger

WELL CONSTRUCTION

C. Well casing length:	37.7 ft.
Well casing material:	Sched 40 PVC
D. Well casing diameter:	2.0 in.
E. Well screen length:	15.0 ft.
Well screen type:	Machine Slotted
Well screen slot size:	0.020 in.
F. Well sump/end cap length:	0.5 ft.
G. Well casing height (stickup):	2.7 ft.
H. Surface seal thickness:	1.0 ft.
I. Surface seal material:	Concrete
J. Annular seal thickness:	NA ft.
K. Annular seal material:	NA
L. Filter pack seal thickness:	18.0 ft.
M. Filter pack seal material:	Bentonite Chips
N. Sand pack thickness:	17.0 ft.
O. Sand pack material:	8X12 Silica Sand
P. Bottom material thickness:	NA ft.
Q. Bottom material:	NA
R. Protective casing material:	Steel
Well centralizer depths:	20 and 34 ft.
S. Protective casing diameter:	6.5 in.

NOTES:

Installed by: John J. Renda

Reviewed by: [signature]

Date: 2/8/99

LOG OF EXPLORATORY BORING

PROJECT NAME	**Coffin Butte Landfill**	BORING NO.	MW-25
LOCATION	**Benton County, Oregon**	PAGE	1 OF 2
DRILLED BY	**Geo-Tech Explorations, Inc.**	REFERENCE ELEV.	242.79
DRILL METHOD	**Hollow Stem Auger**	TOTAL DEPTH	32.5 feet
LOGGED BY	**John Renda**	DATE COMPLETED	6/4/99

SAMPLE NUMBER	BLOWS PER FOOT	GROUND WATER LEVEL	DEPTH IN FEET	SOIL SAMPLES	WELL DETAILS	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
			5				**0.0 to 7.0 feet:** GRAVEL FILL.
SS-1	3-4-6 (10)						**7.0 to 11.0 feet:** SILTY CLAY (CL); very dark grayish brown (2.5YR 3/2); medium plasticity fines; silty; trace fine to medium sand; root hairs; firm to stiff; damp. (ALLUVIUM)
SS-2	2-3-4 (7)	▼					
SS-3	1-2-3 (5)		10				
SS-4	4-6-10 (16)						**11.0 to 14.5 feet:** CLAYEY SILT (ML); dark gray (2.5YR 4/1); medium plasticity fines; trace fine to medium sand; root hairs; stiff, crumbly texture. (ALLUVIUM)
SS-5	4-6-8 (14)	▼					@ 13.0 feet: wet.
SS-6	4-7-10 (17)		15				**14.5 to 24.0 feet:** SILT (MH); dark greenish gray (10GY 4/1); medium to high plasticity fines; root hairs; moist. (ALLUVIUM)
SS-7	3-5-5 (10)						
SS-8	5-11-11 (22)						
SS-9	3-4-6		20				

REMARKS

SS = samples collected with a split-spoon stainless steel sampler.

EMCON®

LOG OF EXPLORATORY BORING

PROJECT NAME	Coffin Butte Landfill	BORING NO.	MW-25
LOCATION	Benton County, Oregon	PAGE	2 OF 2
DRILLED BY	Geo-Tech Explorations, Inc.	REFERENCE ELEV.	242.79
DRILL METHOD	Hollow Stem Auger	TOTAL DEPTH	32.5 feet
LOGGED BY	John Renda	DATE COMPLETED	6/4/99

SAMPLE NUMBER	BLOWS PER FOOT	GROUND WATER LEVEL	DEPTH IN FEET	SOIL SAMPLES	WELL DETAILS	LITHO-LOGIC COLUMN	LITHOLOGIC DESCRIPTION
	(10)						**14.5 to 24.0 feet: SILT (MH);** continued.
SS-10	3-6-8 (14)						
SS-11	4-8-7 (15)						
SS-12	2-3-5 (8)						**24.0 to 32.5 feet: CLAY (CL);** dark greenish gray (10Y 3/1); medium to high plasticity clay; trace fine to coarse, subrounded to well-rounded sand; relict basalt texture visible; root hairs; stiff; moist. (WEATHERED BASALT)
SS-13	3-4-6 (10)		25				
SS-14	4-8-12 (20)						
SS-15	5-10-13 (23)						
SS-16	8-13-15 (28)		30				
SS-17	4-6-7 (13)						Boring terminated at 29.5 feet. Split-spoon sampler advanced to 32.5 feet.
			35				
			40				

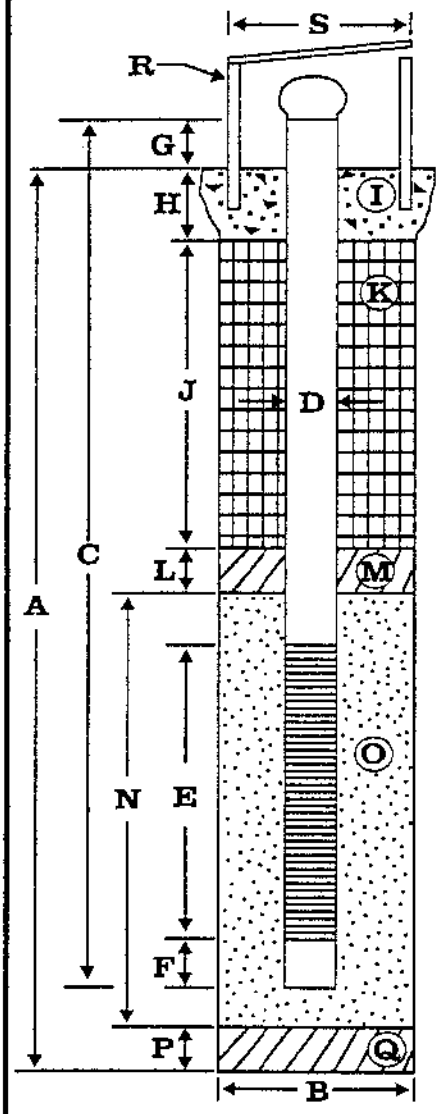
REMARKS

SS = samples collected with a split-spoon stainless steel sampler.

EMCON

WELL DETAILS

Project Number:	40139-001.071	Boring/Well No.:	MW-25
Client Name:	Valley Landfills, Inc.	Top of Casing Elev.:	242.79
Project Name:	Coffin Butte Landfill	Ground Surface Elev.:	240.39
Location:	Benton County, Oregon	Installation Date:	6/4/99
Driller:	Geo-Tech Explorations	Permit/Start Card No.:	122965



	Depth (feet)	Elev. (ft, msl)
	2.6	243.0
	2.4	242.8
	0.0	240.4
	2.0	238.4
	11.0	229.4
	13.5	226.9
	23.5	216.9
	24.0	216.4
	24.0	216.4
	32.5	207.9

EXPLORATORY BORING

A.	Total depth:	32.5 ft.
B.	Diameter	10 in.
	Drilling method:	Hollow Stem Auger

WELL CONSTRUCTION

C.	Well casing length:	26.7 ft.
	Well casing material:	Schedule 40 PVC
D.	Well casing diameter:	2 in.
E.	Well screen length:	10 ft.
	Well screen type:	Machine Slotted
	Well screen slot size:	0.020 in.
F.	Well sump/end cap length:	0.5 ft.
G.	Well casing height (stickup):	1.5 ft.
H.	Surface seal thickness:	2.0 ft.
I.	Surface seal material:	Cement
J.	Annular seal thickness:	9 ft.
K.	Annular seal material:	Bentonite Chips
L.	Filter pack seal thickness:	NA ft.
M.	Filter pack seal material:	NA
N.	Sand pack thickness:	13 ft.
O.	Sand pack material:	10 x 20 Silica Sand
P.	Bottom material thickness:	8.5 ft.
Q.	Bottom material:	Bentonite Chips
R.	Protective casing material:	Steel
	Well centralizer depths:	13.0 ft.
		23.5 ft.
S.	Protective casing diameter:	6.5 in.

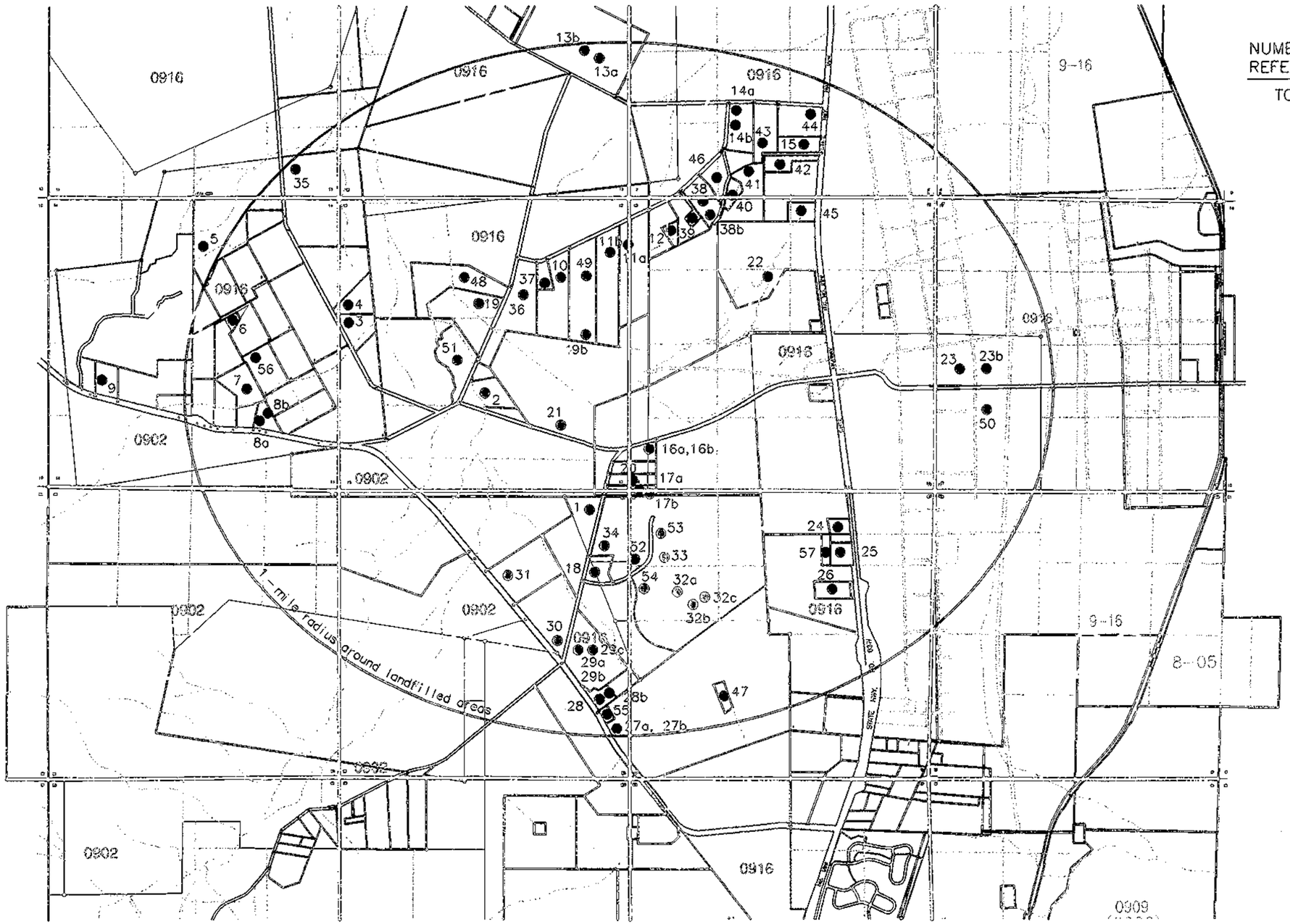
NOTES:

Well coordinates: Northing: 1181.5 Easting: 2626.8

Installed by: J. Renda

Reviewed by: ET

Date: 7/20/99



NUMBER OF WELLS NOT REFERENCED TO FIELD LOCATIONS

TOWNSHIP 10S

RANGE 4W

SECTION 7 = 6 WELLS
SECTION 8 = 0 WELLS
SECTION 17 = 3 WELLS
SECTION 18 = 13 WELLS
SECTION 19 = 16 WELLS
SECTION 20 = 2 WELLS

RANGE 5W

SECTION 11 = 0 WELLS
SECTION 12 = 3 WELLS
SECTION 13 = 16 WELLS
SECTION 14 = 19 WELLS
SECTION 23 = 0 WELLS
SECTION 24 = 11 WELLS

0 2000 4000
SCALE IN FEET

DATE 5/15/00
DWN JAC
APP ET 5/15/00
REV
PROJECT NO.
793036

Figure 2-3b
VALLEY LANDFILLS, INC.
COFFIN BUTTE LANDFILL
BENTON COUNTY, OREGON

BENEFICIAL USE MAP

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the
STATE ENGINEER, SALEM, OREGON 97310
within 30 days from the date of well completion.

RECEIVED
OCT 4 1972
STATE ENGINEER
SALEM, OREGON

WATER WELL REPORT
STATE OF OREGON
(Please type or print)
(Do not write above this line)

Bent 1760 EMCON 16a

State Well No. 10S/4W-1

State Permit No.

(1) OWNER:
Name Robert Westfall
Address Rt 1 Box 303E
Corvallis, Oregon

(2) TYPE OF WORK (check):
New Well ☑ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:
Rotary ☑ Driven ☐
Cable ☐ Jetted ☐
Dug ☐ Bored ☐

(4) PROPOSED USE (check):
Domestic ☑ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(5) CASING INSTALLED: Threaded ☐ Welded ☑
6" Diam. from 0 ft. to 26 ft. Gage 250
" Diam. from ft. to ft. Gage
" Diam. from ft. to ft. Gage

(6) PERFORATIONS: Perforated? ☐ Yes ☑ No.
Type of perforator used
Size of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

(7) SCREENS: Well screen installed? ☐ Yes ☑ No
Manufacturer's Name
Type Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.

(8) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes ☑ No If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
" " "
" " "
AIR
Bailer test 20 gal./min. with 47 ft. drawdown after 2 hrs.
Artesian flow g.p.m.
Temperature of water Depth artesian flow encountered ft.

(9) CONSTRUCTION:
Well seal—Material used Cement
Well sealed from land surface to 20 ft.
Diameter of well bore to bottom of seal 9 in.
Diameter of well bore below seal 6 in.
Number of sacks of cement used in well seal 1 sacks
Number of sacks of bentonite used in well seal — sacks
Brand name of bentonite
Number of pounds of bentonite per 100 gallons of water lbs./100 gals.
Was a drive shoe used? ☐ Yes ☑ No Plugs Size: location ft.
Did any strata contain unusable water? ☐ Yes ☑ No
Type of water? depth of strata
Method of sealing strata off
Was well gravel packed? ☐ Yes ☑ No Size of gravel:
Gravel placed from ft. to ft.

(10) LOCATION OF WELL:
County Benton Driller's well number
SW ¼ SW ¼ Section 18 T. 10S R. 4W W
Bearing and distance from section or subdivision corner

(11) WATER LEVEL: Completed well.
Depth at which water was first found 48
Static level 17 ft. below land surface. Date 9/15
Artesian pressure lbs. per square inch. Date

(12) WELL LOG: Diameter of well below casing 6
Depth drilled 74 ft. Depth of completed well 74

Formation: Describe color, texture, grain size and structure of materi and show thickness and nature of each stratum and aquifer penetra with at least one entry for each change of formation. *Report each chang position of Static Water Level and indicate principal water-bearing str*

MATERIAL	From	To	SW
Soil	0	2	
Clay, yellow	2	16	
Broken Sandrock in clay yellow	16	20	
Sandrock, hard, blue	20	48	
Sandrock, blue, broken water stratum	48	56	
Sandrock, blue	56	74	

Work started Sept 14 1972 Completed Sept 14 19
Date well drilling machine moved off of well Sept 15 19

Drilling Machine Operator's Certification:
This well was constructed under my direct supervisi Materials used and information reported above are true to best knowledge and belief.
[Signed] Leroy W. Mutschler (Drilling Machine Operator) Date 9/15, 19
Drilling Machine Operator's License No. 80

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report true to the best of my knowledge and belief.
Name L.W. Mutschler Well Drilling (Person, firm or corporation) (Type or print)
Address 7555 N.W. Oak Creek Dr. Corvall Oregon
[Signed] Leroy W. Mutschler (Water Well Contractor)
Contractor's License No. 237 Date Sept 15, 19

NOTICE TO WATER WELL CONTRACTOR: The original and first copy of this report are to be filed with the STATE ENGINEER, SALEM, OREGON 97310 within 30 days from the date of well completion.

RECEIVED AUG 28 1972 STATE ENGINEER SALEM, OR.

WATER WELL REPORT
STATE OF OREGON
(Please type or print) (Do not write above this line)

Bent EMCON 165 1773

State Well No. 10S/4W-18

State Permit No. _____

(1) OWNER:
Name Robert Westfall
Address Rt 1 Box 302E Corvallis, Oregon

(2) TYPE OF WORK (check):
New Well ☑ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:
Rotary ☑ Driven ☐
Cable ☐ Jetted ☐
Dug ☐ Bored ☐

(4) PROPOSED USE (check):
Domestic ☑ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

CASING INSTALLED:
Threaded ☐ Welded ☑
6" Diam. from 0 ft. to 36 ft. Gage .250
_____" Diam. from _____ ft. to _____ ft. Gage _____
_____" Diam. from _____ ft. to _____ ft. Gage _____

PERFORATIONS:
Perforated? ☐ Yes ☑ No.
Type of perforator used
Size of perforations _____ in. by _____ in.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.

(7) SCREENS:
Well screen installed? ☐ Yes ☑ No
Manufacturer's Name _____
Type _____ Model No. _____
Diam. _____ Slot size _____ Set from _____ ft. to _____ ft.
Diam. _____ Slot size _____ Set from _____ ft. to _____ ft.

(8) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes ☐ No If yes, by whom?
Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.
" " " "
" " " "
Bailer test 22 gal./min. with Full ft. drawdown after 1 hrs.
Artesian flow _____ g.p.m.
Temperature of water _____ Depth artesian flow encountered _____ ft.

(9) CONSTRUCTION:
Well seal—Material used Cement
Well sealed from land surface to 20 ft.
Diameter of well bore to bottom of seal 9 in.
Diameter of well bore below seal 6 in.
Number of sacks of cement used in well seal 1 sacks
Number of sacks of bentonite used in well seal _____ sacks
Brand name of bentonite _____
Number of pounds of bentonite per 100 gallons of water _____ lbs./100 gals.
Was a drive shoe used? ☐ Yes ☐ No Plugs _____ Size: location _____ ft.
Did any strata contain unusable water? ☐ Yes ☑ No
Type of water? _____ depth of strata _____
Method of sealing strata off _____
Was well gravel packed? ☐ Yes ☑ No Size of gravel: _____
Gravel placed from _____ ft. to _____ ft.

(10) LOCATION OF WELL:
County Benton Driller's well number _____
¼ ¼ Section 18 T. 10S R. 4W W.
Bearing and distance from section or subdivision corner _____

(11) WATER LEVEL: Completed well.
Depth at which water was first found 43
Static level 15 ft. below land surface. Date 8/17/
Artesian pressure _____ lbs. per square inch. Date _____

(12) WELL LOG:
Diameter of well below casing 6
Depth drilled 74 ft. Depth of completed well 74

Formation: Describe color, texture, grain size and structure of materials and show thickness and nature of each stratum and aquifer penetrated with at least one entry for each change of formation. *Report each change in position of Static Water Level and indicate principal water-bearing strata.*

MATERIAL	From	To	SWL
Soil	0	2	
Clay, yellow	2	30	
Sandrock, blue	30	43	
Sandrock, blue, broken WATER STRATUM	43	74	

Work started Aug 17 1972 Completed Aug 17 19
Date well drilling machine moved off of well Aug 17 19

Drilling Machine Operator's Certification:
This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
[Signed] Leroy A. Mutschler (Drilling Machine Operator) Date 8/18, 19
Drilling Machine Operator's License No. 80

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Name LA Mutschler well Drilling (Person, firm or corporation) (Type or print)
Address 7556 N.W. Oak Creek Dr. Corvallis Oregon
[Signed] Leroy A. Mutschler (Water Well Contractor)
Contractor's License No. 237 Date Aug 18, 19

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the STATE ENGINEER, SALEM, OREGON within 30 days from the date of well completion.

RECEIVED
OCT - 7 1971
STATE ENGINEER
SALEM OREGON

WATER WELL REPORT
STATE OF OREGON
(Please type or print)
(Do not write above this line)

Ben + Encon 17a 2146

State Well No. 10/5W-24

State Permit No. _____

(1) OWNER:
Name Don Helm
Address 966 N. W. Sequoia St Corvallis, Oregon

(2) TYPE OF WORK (check):
New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:
Rotary ☒ Driven ☐
Cable ☐ Jetted ☐
Dug ☐ Bored ☐

(4) PROPOSED USE (check):
Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

CASING INSTALLED:
Threaded ☐ Welded ☒
6 " Diam. from 0 ft. to 41 ft. Gage .250
_____ " Diam. from _____ ft. to _____ ft. Gage _____
_____ " Diam. from _____ ft. to _____ ft. Gage _____

PERFORATIONS:
Perforated? ☐ Yes ☒ No
Type of perforator used
Size of perforations in. by in.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.

(7) SCREENS:
Well screen installed? ☐ Yes ☒ No
Manufacturer's Name _____
Type _____ Model No. _____
Diam. _____ Slot size _____ Set from _____ ft. to _____ ft.
Diam. _____ Slot size _____ Set from _____ ft. to _____ ft.

(8) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes ☒ No If yes, by whom?
Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.
" " " " "
Tested with air estimated 300 GPH could fluctuate
Bailer test _____ gal./min. with 347 ft. drawdown after 1 hrs.
Artesian flow _____ g.p.m.
Temperature of water _____ Depth artesian flow encountered _____ ft.

(9) CONSTRUCTION:
Well seal—Material used Cement Grout
Well sealed from land surface to 39 ft.
Diameter of well bore to bottom of seal 10 in.
Diameter of well bore below seal 6 in.
Number of sacks of cement used in well seal 6 sacks
Number of sacks of bentonite used in well seal _____ sacks
Brand name of bentonite _____
Number of pounds of bentonite per 100 gallons of water _____ lbs./100 gals.
Was a drive shoe used? ☐ Yes ☒ No Plugs _____ Size: location _____ ft.
Did any strata contain unusable water? ☐ Yes ☒ No
Type of water? _____ depth of strata _____
Method of sealing strata off _____
Was well gravel packed? ☐ Yes ☒ No Size of gravel: _____
Gravel placed from _____ ft. to _____ ft.

(10) LOCATION OF WELL:
County Benton Driller's well number _____
¼ ¼ Section 24 T. 10S R. 5W W.
Bearing and distance from section or subdivision corner _____

(11) WATER LEVEL: Completed well.
Depth at which water was first found 76
Static level 43 ft. below land surface. Date 9-18-71
Artesian pressure _____ lbs. per square inch. Date _____

(12) WELL LOG:
Diameter of well below casing 6
Depth drilled 400 ft. Depth of completed well 400

Formation: Describe color, texture, grain size and structure of materi and show thickness and nature of each stratum and aquifer penetrat with at least one entry for each change of formation. *Report each change position of Static Water Level and indicate principal water-bearing stra*

MATERIAL	From	To	SWI
Top Soil	0	3	
Yellow Clay	3	11	
Clay & Boulders	11	24	
Brown Sandstone soft	24	33	
Blue Sandstone	33	37	
Black Basalt	37	109	
Blue Black Cong.	109	163	
Black Basalt (Broken)	163	171	
Black Basalt	171	296	
Bleu Black Sandstone Cong	296	400	

Work started 9-16-71 19 Completed 9-18-71 19
Date well drilling machine moved off of well 9-18-71 19

Drilling Machine Operator's Certification:
This well was constructed under my direct supervisi Materials used and information reported above are true to best knowledge and belief.
[Signed] Clarence A. Kinney (Drilling Machine Operator) Date 9-30-71 19
Drilling Machine Operator's License No. 160

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report true to the best of my knowledge and belief.
Name Casey Jones Well Drilling Co Inc (Person, firm or corporation) (Type or print)
Address R 8 Box 695 Pleasant Hill, Oregon
[Signed] Delbert L Jones (Water Well Contractor)
Contractor's License No. 103 Date 9-30-71, 19

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the
WATER RESOURCES DEPARTMENT, SALEM, OREGON 97310 within 30 days from the date of well completion.

Bert 244

WATER WELL REPORT
STATE OF OREGON
(Please type or print)
(Do not write above this line)

EMONE 176

State Well No. 10S/5W-2

State Permit No.

RECEIVED
MAY 24 1978
WATER RESOURCES DEPT.
SALEM, OREGON

(1) OWNER:
Name John Wilkenson
Address 27469 Fern Ridge Rd.
Sweet Home Ore.

(2) TYPE OF WORK (check):
New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:
Rotary ☒ Driven ☐
Cable ☐ Jetted ☐
Dug ☐ Bored ☐

(4) PROPOSED USE (check):
Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

CASING INSTALLED:
Threaded ☐ Welded ☒
6" Diam. from 0 ft. to 20 ft. Gage .250
" Diam. from ft. to ft. Gage
" Diam. from ft. to ft. Gage

PERFORATIONS:
Perforated? ☐ Yes ☒ No
Type of perforator used
Size of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

(7) SCREENS:
Well screen installed? ☐ Yes ☒ No
Manufacturer's Name
Type Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.

(8) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes ☒ No If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
" " "
Tested w/Air 15 gpm " "
Bailer test gal./min. with 189 ft. drawdown after 1 hrs.
Artesian flow g.p.m.
Temperature of water Depth artesian flow encountered ft.

(9) CONSTRUCTION:
Well seal—Material used Cement
Well sealed from land surface to 18 ft.
Diameter of well bore to bottom of seal 10 in.
Diameter of well bore below seal 6 in.
Number of sacks of cement used in well seal 12 sacks
How was cement grout placed? poured
Was a drive shoe used? ☒ Yes ☐ No Plugs Size: location ft.
Did any strata contain unusable water? ☐ Yes ☒ No
Type of water? depth of strata
Method of sealing strata off
Was well gravel packed? ☐ Yes ☒ No Size of gravel:
Gravel placed from ft. to ft.

(10) LOCATION OF WELL:
County Benton Driller's well number
¼ ¼ Section 24 T. 10S R. 5W W
Bearing and distance from section or subdivision corner

(11) WATER LEVEL: Completed well.
Depth at which water was first found 196
Static level 31 ft. below land surface. Date 5/1
Artesian pressure lbs. per square inch. Date

(12) WELL LOG:
Diameter of well below casing 6"
Depth drilled ft. Depth of completed well

Formation: Describe color, texture, grain size and structure of materi and show thickness and nature of each stratum and aquifer penetra with at least one entry for each change of formation. Report each chang position of Static Water Level and indicate principal water-bearing str

MATERIAL	From	To	SWL
Topsoil	0	5	
Brown Broken Basalt	5	18	
Blue basalt	18	114	
Blue sandstone	114	138	
Blue basalt	138	158	
Blue sandstone	158	220	

Work started 4/27/78 19 Completed 5/1/78 19
Date well drilling machine moved off of well 5/1/78 19

Drilling Machine Operator's Certification:
This well was constructed under my direct supervisi Materials used and information reported above are true to best knowledge and belief.
[Signed] Claude Ortyn (Drilling Machine Operator) Date 5/8, 19
Drilling Machine Operator's License No. 1133

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report true to the best of my knowledge and belief.
Name Bert Jones (Person, firm or corporation) (Type or print)
Address 29400 Santiam Hwy Lebanon
[Signed] Bert Jones (Water Well Contractor)
Contractor's License No. 544 Date 5/18/78, 19

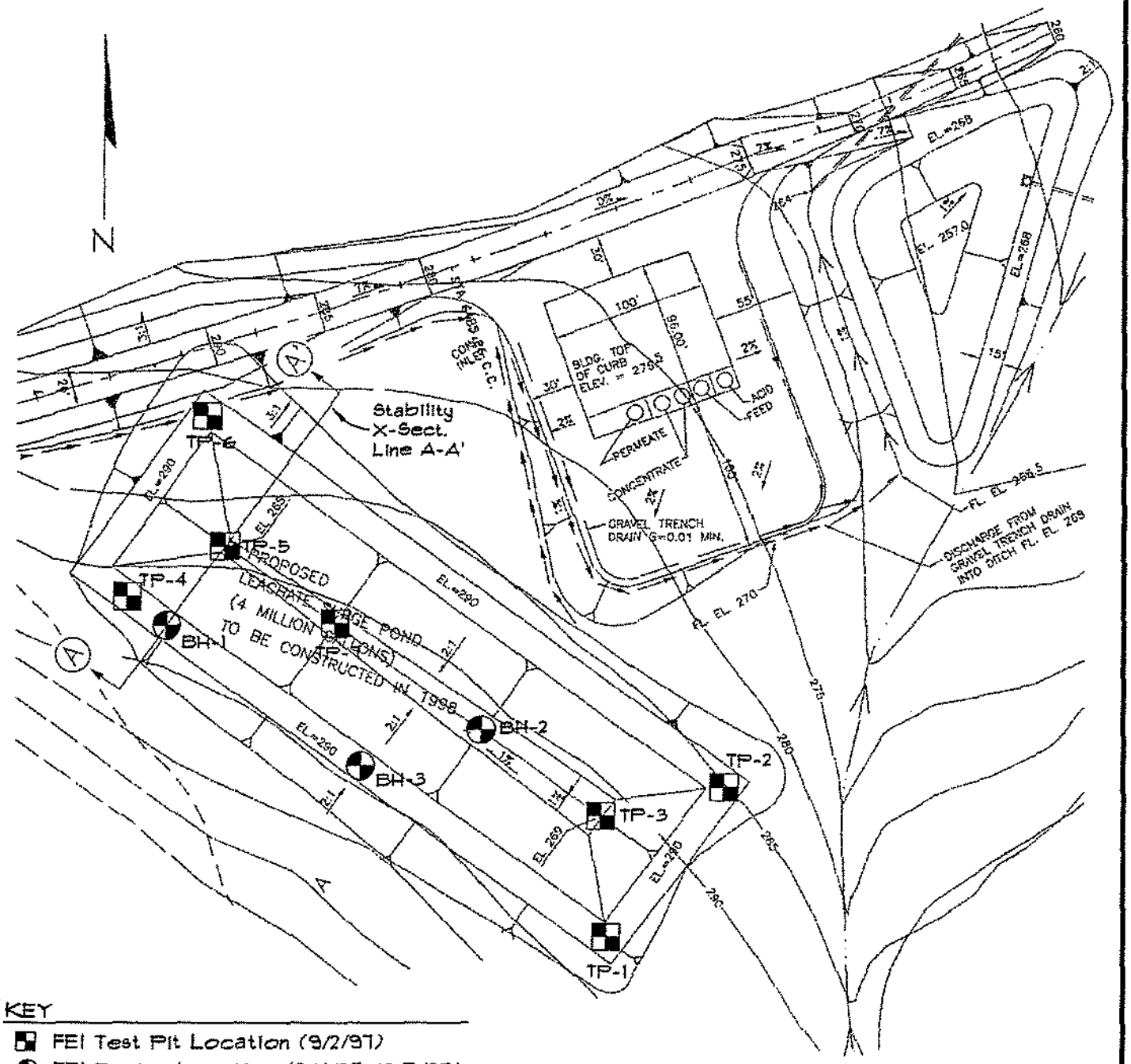
(USE ADDITIONAL SHEETS IF NECESSARY)

Appendix A

Figures

Professional Geotechnical Services

Foundation Engineering, Inc.



KEY

- FEI Test Pit Location (9/2/97)
- FEI Boring Location (9/4/97 &9/5/97)

Notes:
1. Site Plan Provided by Thiel Engineering
2. Test Pit and Boring Locations are Approximate

Scale: 1" = 100'

DATE 10/2/97
DWN. WLN
APPR. _____
REVIS. _____
PROJECT NO.
97100184

FOUNDATION ENGINEERING INC.
PROFESSIONAL GEOTECHNICAL SERVICES
5030 SW PHILOMATH BLVD.
CORVALLIS, OR 97333-1044
BUS. (541) 757-7646 FAX (541) 757-7650

SITE PLAN
COFFIN BUTTE LEACHATE POND

BENTON COUNTY, OREGON

FIGURE NO.
1

NAME: COFFIN

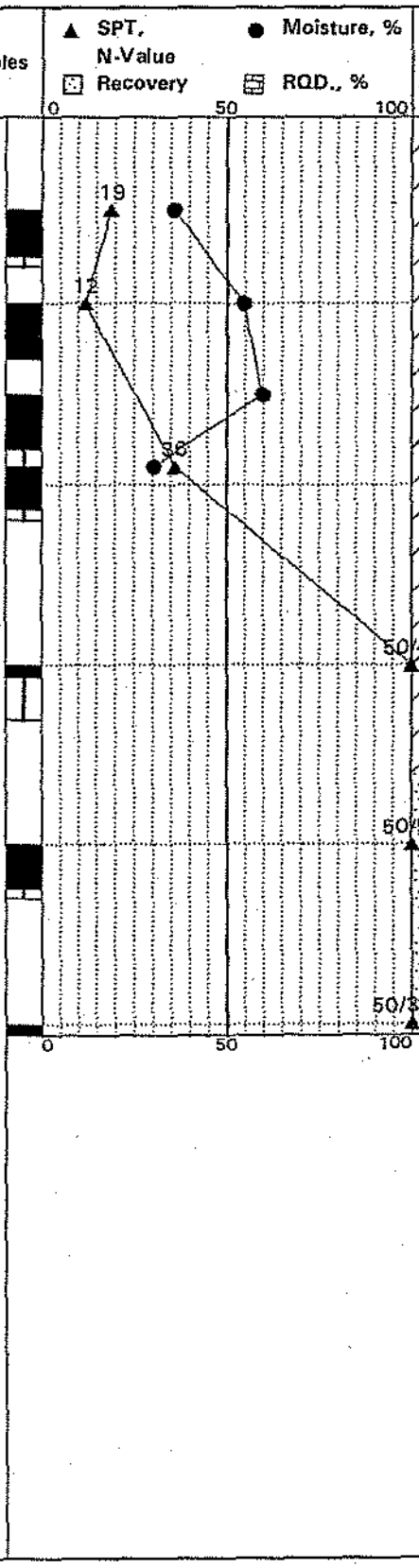
Appendix B

Boring & Test Pit Logs

Professional Geotechnical Services

Foundation Engineering, Inc.

Depth Feet	Soil and Rock Description and Comments	Log	Elev. Depth 293.0	Samples
1	Soft to medium stiff, fat CLAY; brown, dry to damp (Topsoil).		0.0	
2			291.0	
3	Very stiff, silty CLAY; brown mottled orange, moist (Residual soil).		2.0	SS-1-1
4			289.0	
5	Stiff, clayey SILT; brown mottled orange, moist, relict jointing (Residual soil).		4.0	SS-1-2
6				
7				
8			284.5	SH-1-3
9	Dense, silty SAND; grey mottled brown, iron-stained relict jointing, moist, zones of highly		8.5	
10	weathered rock (Decomposed to highly weathered submarine basalt).			SS-1-4
11				
12				
13				
14			278.2	
15	Extremely weak to strong SUBMARINE BASALT;		14.8	SS-1-5
16	grey-brown mottled orange, moderately to highly weathered, very close to close jointed, sand and			
17	silt-filled joints (Siletz River Volcanics).			
18				
19				
20				SS-1-6
21				
22				
23				
24	Rock becomes slightly weathered and blue-black			
25	below 24 feet.		267.7	SS-1-7
	BOTTOM OF BORING		25.3	



Installations/ Water Table

18-inch stick-up with no monument.

1-inch PVC pipe.

Bentonite chips.

(9-22-97)

Sand.

5-foot field slot.

Sand.

Project No.: 97100184

Surface Elevation: 293 feet (Approx.)

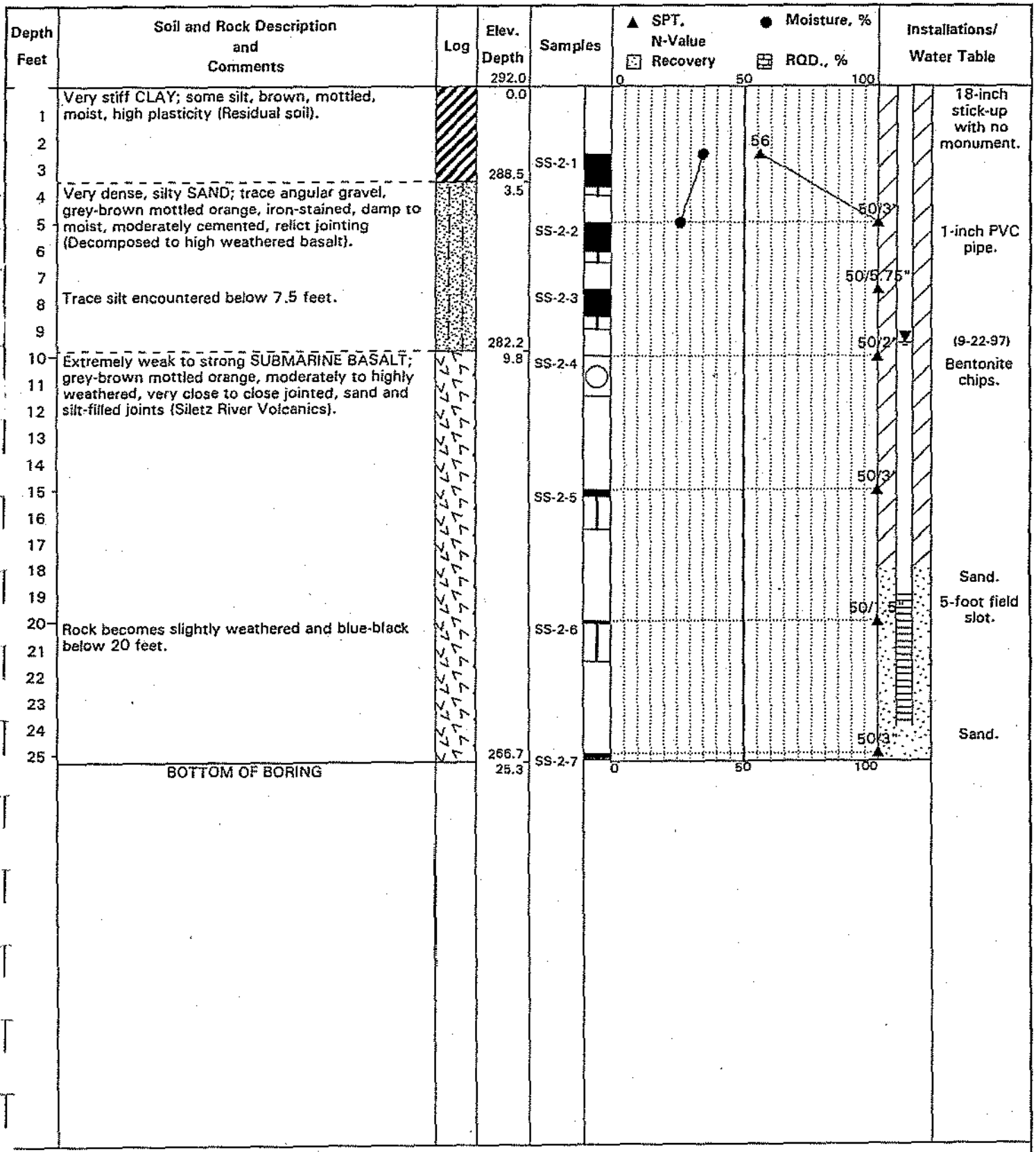
Date of Boring: September 4, 1997

Boring Log: BH-1

Coffin Butte Leachate Pond

Corvallis, Oregon

Foundation Engineering, Inc.



Project No.: 97100184

Surface Elevation: 292 feet (Approx.)

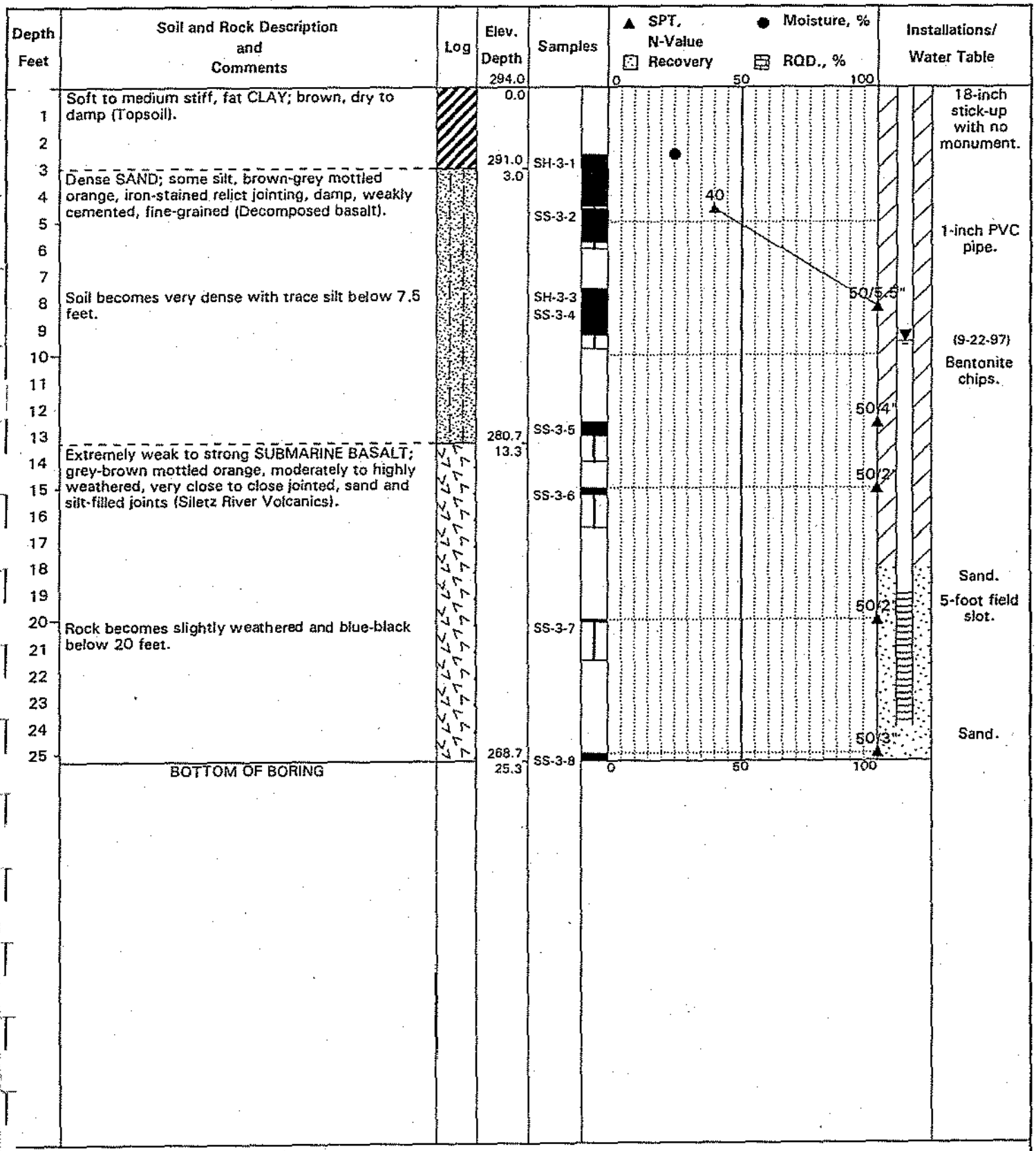
Date of Boring: September 4, 1997

Boring Log: BH-2

Coffin Butte Leachate Pond

Corvallis, Oregon

Foundation Engineering, Inc.



Project No.: 97100184

Surface Elevation: 294 feet (Approx.)

Date of Boring: September 5, 1997

Boring Log: BH-3

Coffin Butte Leachate Pond

Corvallis, Oregon

Foundation Engineering, Inc.

Comments	Depth, Inches	Sample #	Location	Class Symbol	Water Table	C, TSF	Symbol	Soil and Rock Description
6 inches of ground water infiltration after 4 hours. Small to medium-sized roots extend to 3 feet. Hard digging encountered below 6 feet. 2-foot diameter boulder encountered at 6.5 feet. Test pit sidewalls remained vertical. Encountered digging refusal at 15 feet.	1- 2- 3- 4- 5- 6- 7- 8- 9- 10- 11- 12- 13- 14- 15- 16- 17- 18- 19-	S-1-1 WC = 19.4 S-1-2						Very stiff CLAY; some silt, dark brown, dry to damp, high plasticity, numerous roots, fissured (Residual soil). Dense SAND; some cobbles, trace silt and boulders, light orange-brown, iron-stained, dry to damp, weakly cemented, seams of high plasticity clay. Soil is composed of spheroidally weathered corestones in matrix of decomposed basalt. Very dense COBBLES and BOULDERS; some sand and gravel, orange-brown, dry to damp, relict volcanic texture, rock is rounded to angular (Slight to highly weathered basalt in a decomposed matrix). Weak to strong SUBMARINE BASALT; dark grey mottled orange, slightly to highly weathered, very close to close jointed, stained and sand filled joints (Siletz River Volcanics). BOTTOM OF TEST PIT

Project No.: 97100184

Surface Elevation: 293 feet (Approx.)

Date of Test Pit: September 2, 1997

Test Pit Log: TP-1

Coffin Butte Leachate Pond

Corvallis, Oregon

Comments	Depth, Inches	Sample #	Location	Class Symbol	Water Table	C, TSF	Symbol	Soil and Rock Description
12 inches of ground water infiltration after 4 hours. Fine roots encountered to 2 feet. Hard digging encountered at 10.5 feet. Test pit sidewalls remained vertical. Encountered digging refusal at 14 feet.	1- 2- 3- 4- 5- 6- 7- 8- 9- 10- 11- 12- 13- 14- 15- 16- 17- 18- 19-	S-2-1 WC = 26.9 S-2-2						Very stiff CLAY; some silt, dark brown, damp, fissured, slickensides, high plasticity (Residual soil). Dense SAND; some cobbles, trace silt, orange brown, iron-stained, damp, weakly cemented, seams of high plasticity clay to 4.5 feet. Soil is composed of spheroidally weathered corestones in a matrix of decomposed basalt. Weak to strong SUBMARINE BASALT; dark grey mottled orange, slightly to highly weathered, very close to close jointed, stained and sand-filled joints (Siletz River Volcanics). BOTTOM OF TEST PIT

Project No.: 97100184

Surface Elevation: 285 feet (Approx.)

Date of Test Pit: September 2, 1997

Test Pit Log: TP-2

Coffin Butte Leachate Pond

Corvallis, Oregon

Comments	Depth, Inches	Sample #	Location	Class Symbol	Water Table	C, TSF	Symbol	Soil and Rock Description
No ground water infiltration encountered.	1- 2- 3- 4- 5- 6- 7- 8- 9- 10- 11- 12- 13- 14- 15- 16- 17- 18- 19-	S-3-1 WC = 25.1 S-3-2				+/-1.6		Very stiff CLAY; some silt, dark brown, damp, fissured, slickensides, high plasticity (Residual soil). Dense SAND; some cobbles, trace silt, orange-brown, iron-stained, damp, weakly cemented, seams of high plasticity clay. Soil is composed of spheroidally weathered corestones in a matrix of decomposed basalt. Weak to strong SUBMARINE BASALT; dark grey mottled orange, slightly to highly weathered, close to very close jointed, stained and sand-filled joints (Siletz River Volcanics). BOTTOM OF TEST PIT
Test pit sidewalls remained vertical. Encountered digging refusal at 15 feet.								

Project No.: 97100184

Surface Elevation: 291 feet (Approx.)

Date of Test Pit: September 2, 1997

Test Pit Log: TP-3

Coffin Butte Leachate Pond

Corvallis, Oregon

Comments	Depth, Inches	Sample #	Location	Class Symbol	Water Table	C, TSF	Symbol	Soil and Rock Description
No ground water infiltration encountered.	1- 2- 3- 4- 5- 6- 7- 8- 9- 10- 11- 12- 13- 14- 15- 16- 17- 18- 19-	S-4-1 WC = 18.3 S-4-2 WC = 33.5 S-4-3 S-4-4				+/-1.3		Soft to medium stiff SILT; brown, dry to damp (Topsoil). Very stiff CLAY; some silt, brown, damp, high plasticity, fissured, slickensides (Residual soil). Medium stiff SILT; orange-brown, moist, relict jointing, blocky (Residual soil). Extremely weak to very weak SUBMARINE BASALT; brown, highly weathered, close to very close jointed, joints are wet and stained (Siletz River Volcanics). BOTTOM OF TEST PIT
Fine roots encountered to 2 feet. Test pit sidewalls remained vertical. Digging terminated at 17 feet due to excavator limitations.								

Project No.: 97100184

Surface Elevation: 292 feet (Approx.)

Date of Test Pit: September 2, 1997

Test Pit Log: TP-4

Coffin Butte Leachate Pond

Corvallis, Oregon

Comments	Depth, Inches	Sample #	Location	Class Symbol	Water Table	C, TSF	Symbol	Soil and Rock Description
No ground water infiltration encountered.	1-	S-5-1 WC = 19.7						Medium stiff to stiff SILT; brown, dry to damp (Topsoil).
Fine roots encountered to 3 feet.	2- 3- 4-					0.48		Dense, silty SAND; orange-brown, damp, fine-grained (Decomposed basalt).
	5-	S-5-2						
	6- 7- 8- 9-							
Test pit sidewalls remained vertical.	10–							Very dense, sandy COBBLES and GRAVEL; brown, moist, angular to rounded clasts. Soil is composed of spheroidally weathered corestones in a matrix of decomposed basalt.
Encountered digging refusal at 11 feet on rock shelf.	11- 12- 13- 14- 15- 16- 17- 18- 19-							BOTTOM OF TEST PIT

Project No.: 97100184

Surface Elevation: 289 feet (Approx.)

Date of Test Pit: September 2, 1997

Test Pit Log: TP-5

Coffin Butte Leachate Pond

Corvallis, Oregon

Comments	Depth, Inches	Sample #	Location	Class Symbol	Water Table	C, TSF	Symbol	Soil and Rock Description
No ground water infiltration encountered.	1-					0.2 0.4		Soft to medium stiff SILT; brown, dry to damp (Topsoil).
Fine roots encountered to 3 feet.	2- 3- 4-					1.3		Very stiff CLAY; some silt, moist, brown, high plasticity, fissured, slickensides (Residual soil).
	5- 6-	S-6-1 WC = 36.1						
	7- 8- 9- 10–							Medium stiff SILT; trace to some clay, orange-brown, residual volcanic texture (Decomposed basalt).
Test pit sidewalls remained vertical.	11- 12- 13- 14-							Hard SILT; grey-brown, damp, relict jointing (Decomposed basalt). Soil breaks into angular, gravel-sized chunks.
	15- 16-	WC = 27.7 S-6-2						
Digging terminated at 17 feet due to excavator limitations.	17- 18- 19-							BOTTOM OF TEST PIT

Project No.: 97100184

Surface Elevation: 282 feet (Approx.)

Date of Test Pit: September 2, 1997

Test Pit Log: TP-6

Coffin Butte Leachate Pond

Corvallis, Oregon

Comments	Depth, Inches	Sample #	Location	Class Symbol	Water Table	C, TSF	Symbol	Soil and Rock Description
No ground water infiltration encountered.	1- 2- 3- 4- 5- 6- 7- 8- 9- 10- 11- 12- 13- 14- 15- 16- 17- 18- 19-							Soft to medium stiff SILT; brown, dry to damp (Topsoil and residual soil). Medium dense to dense SAND; some cobbles, orange-brown, damp. Soil is composed of spheroidally weathered corestones in a matrix of decomposed basalt. Dense to very dense, sandy COBBLES and GRAVEL; orange-brown, moist (Moderately to highly weathered basalt in a decomposed matrix). Medium strong to strong SUBMARINE BASALT; dark brown mottled orange, moderately to highly weathered, close to very close jointed (Siletz River Volcanics). BOTTOM OF TEST PIT
Hard digging encountered below 8 feet. Test pit sidewalls remained vertical.								

Project No.: 97100184

Surface Elevation: 291 feet (Approx.)

Date of Test Pit: September 2, 1997

Test Pit Log: TP-7

Coffin Butte Leachate Pond

Corvallis, Oregon

APPENDIX C

FIELD FORMS

The Wallace Group
62915 NE 18th Street, Suite 1
Bend, OR 97701
(541) 382-4707

BORING NUMBER B-01

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED _____ **COMPLETED** _____
GROUND ELEVATION _____
DRILLING CONTRACTOR _____
GROUND WATER LEVELS:
DRILLING METHOD _____
AT TIME OF DRILLING ---
LOGGED BY _____ **CHECKED BY** _____
24HRS AFTER DRILLING ---
NOTES _____

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION
0			
5			
10			
15			
20			

TWG-BORING LOGS - WALLACE GROUP DATA TEMPLATE.GDT - 6/24/21 11:22 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 1

TEST PIT NUMBER TP-01

The Wallace Group
62915 NE 18th Street, Suite 1
Bend, OR 97701
(541) 382-4707

CLIENT CEC, Inc.
PROJECT NAME Coffin Butte Landfill
PROJECT NUMBER 21129-1
PROJECT LOCATION Corvallis, OR
DATE STARTED _____ **COMPLETED** _____
GROUND ELEVATION _____
EXCAVATION CONTRACTOR _____
GROUND WATER LEVELS:
EXCAVATION METHOD _____
AT TIME OF EXCAVATION ---
LOGGED BY _____ **CHECKED BY** _____
24HRS AFTER EXCAVATION ---
NOTES _____

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION
0			
5			
10			
15			
20			

TWG-TEST PITS - WALLACE GROUP DATA TEMPLATE.GDT - 6/24/21 11:24 - W:\GINT PRO - FILES\BENTLEY\GINT\PROJECTS\21129-1 COFFIN BUTTE LANDFILL.GPJ

Figure: A - 1

EXHIBIT 25
OREGON DEQ APPROVAL OF WORK PLAN

From: SADOFSKY Seth * DEQ <seth.sadofsky@deq.state.or.us>
Sent: Monday, August 9, 2021 3:56 PM
To: Eric Tuppan <eric@tuppanconsultants.com>; GAO Hugh * DEQ <hugh.gao@deq.state.or.us>
Subject: RE: Coffin Butte Expansion Area workplan

Hi Eric,
DEQ agrees with and approves this work plan for site characterization.
I'm out the rest of this week, but let me know when you get the field work scheduled and I will try and get out there.
Seth

Seth Sadofsky, PhD, RG
Hydrogeologist, Materials Management
Oregon Department of Environmental Quality
165 E. 7th Avenue, Suite 100
Eugene, Oregon 97405
Seth.Sadofsky@deq.state.or.us
541-687-7329 office - Forwards to cell during work hours
He/Him

From: Eric Tuppan <eric@tuppanconsultants.com>
Sent: Wednesday, August 4, 2021 3:27 PM
To: SADOFSKY Seth * DEQ <seth.sadofsky@deq.state.or.us>
Subject: Coffin Butte Expansion Area workplan

Seth,

Just checking in to see where you/DEQ is with review of the workplan. At the moment, we are tentatively scheduled for starting the test pits on August 16 for several days and then the borings will begin after Labor Day.

Hope you're doing well.

Eric

Eric J. Tuppan, R.G.
TUPPAN CONSULTANTS LLC
460 Second Street, Suite 103, Lake Oswego, OR 97034
t 503 675 1335 | c 503 866 2551
eric@tuppanconsultants.com | www.tuppanconsultants.com

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EXHIBIT 26
ARCHAEOLOGICAL REPORT

Archaeological Investigations Northwest, Inc.

3510 N.E. 122nd Ave. • Portland, Oregon 97230
Phone (503) 761-6605 • Fax (503) 761-6620

Vancouver Phone (360) 696-7473
E-mail: ainw@ainw.com
Web: www.ainw.com

MEMO

Date: December 19, 2023

To: Jeff Shepherd, P.E., Civil & Environmental Consultants, Inc.

From: Eva Hulse, Ph.D., R.P.A., Senior PM/Senior Geoarchaeologist
Kristen Heasley, Ph.D., R.P.A., Assistant PM/Supervising Archaeologist

Re: Coffin Butte Landfill Expansion Project
Benton County, Oregon
Cultural Resource Survey and Archaeological Testing and Evaluation
AINW Report No. 5127

Archaeological Investigations Northwest, Inc. (AINW), has conducted a cultural resource survey and archaeological testing and evaluation of 85 acres on behalf of Valley Landfills, Inc., for proposed landfill expansion. The Coffin Butte Landfill Expansion project study involved background review, pedestrian survey, excavation of 76 shovel tests, and excavation of five quarter test units. The survey was conducted to comply with the Oregon State Historic Preservation Office (SHPO) standards, with Benton County land use conditions, and with Section 106, as amended, for the portion of the project that will be subject to review by the U.S. Army Corps of Engineers. A portion of the archaeological shovel testing and all of the quarter test unit excavations were conducted under SHPO permit AP-3341.

As a result of the survey, AINW identified and recorded twelve archaeological resources.

- The project area does not overlap any recorded elements of the former 1941 Camp Adair/Adair Air Force Station, and no archaeological deposits pertaining to the Camp Adair site were encountered. No historic-period buildings or structures are within the project area.
- There are eight pre-contact (Native American) isolates consisting of between one and nine artifacts.
- There are two multi-component isolates with both historic-period and pre-contact artifacts. The sparse historic-age artifacts are from casual debris disposal, as well as from municipal compost spread in portions of the project area.
- There are two pre-contact archaeological sites composed primarily of stone fragments that were left behind when Native people made stone tools.

AINW excavated quarter test units at the two archaeological sites to evaluate their significance and integrity. The archaeological findings suggest that the area was used as long as 3,000 years ago by Native people, for making stone tools and possibly for plant gathering.

Project Recommendations

AINW recommends a finding of No Adverse Effect on Historic Properties as long as conditions are met.

- AINW recommends that the 10 isolates identified during survey are not eligible for listing in the National Register of Historic Places (NRHP), and no further work is needed at those locations.
- AINW's excavations found that one of the archaeological sites is disturbed and lacks integrity, and AINW recommends that it is not eligible for listing in the NRHP. Inadvertent discoveries are likely at this location, and AINW recommends construction monitoring to the depth of the archaeological deposit, which is up to 20 inches (in) below the surface.
- AINW's excavations found that the other archaeological site is disturbed to a depth of 12 in, below which are artifacts in intact soil. The portion of the archaeological site below 12 in is eligible for listing in the NRHP due to its potential to retain important information about the past. AINW recommends that the project avoid grading below a depth of 12 in below the surface at this location. AINW recommends monitoring of organic topsoil grading at this location to the depth of project impacts, which is anticipated to a depth of 12 in below the current surface.
- AINW recommends that a monitoring plan and Inadvertent Discovery Plan be developed for the project.
- AINW recommends that graded archaeological soils not be taken offsite for disposal, to avoid creation of a new archaeological deposit at another location.

EXHIBIT 27
LEACHATE SUMMARY

LEACHATE MANAGEMENT SUMMARY
March 2024

Leachate is a liquid generated when water comes into contact with waste placed in a landfill. Leachate flows down though the waste and is collected in a series of drainage layers and piping installed within the landfill as part of the lining system.

At Coffin Butte Landfill (CBL), leachate is collected in the leachate collection sumps and is pumped via pipelines to the existing leachate storage ponds. CBL has an agreement with the Corvallis wastewater treatment plant (CWWTP) to dispose of its leachate at their plant. CBL also has an agreement with the City of Salem wastewater treatment plant (SWWTP) to dispose of its leachate at their plant.

Republic Services (Republic), owner of the CBL, is focused on minimizing water entering the landfill and thus reducing leachate generation. Republic uses multiple methodologies to minimize inflow:

- Grading of landfill surfaces to promote runoff and minimize water entering the landfill;
- Grading areas surrounding the landfill to divert water before it enters the landfill;
- Installation of a synthetic covers over areas of the landfill to significantly reduce infiltration of stormwater into the landfill. The synthetic covers are held in place using both anchor trenches and a sand bag/rope ballast system.

Stormwater runoff at the facility is captured in multiple on-site stormwater management ponds.

The current methodology of filling areas in the landfill to grade, covering with soil (for short term inactive areas) or synthetic covers (for longer term inactive areas) will continue with the new cell. In addition, Republic will formally close portions of the existing Coffin Butte Landfill that have reached final approved grades. By installing the Oregon Department of Environmental Quality (ODEQ) approved final cover system, stormwater infiltration will be negligible in those areas. In the short term, the leachate quantity will increase slightly with the additional liner system installed. However, beginning in 2028, the Coffin Butte Landfill will commence closure activities on portions of the landfill and that will reduce the leachate quantity. Furthermore, as the Coffin Butte Landfill continues to add final cover materials over the older parts of the landfill the leachate generation will continue to decrease.

Leachate from the new cell will be managed using similar collection systems (drainage layers and piping) as now implemented in the existing landfill. Leachate will be pumped to and stored in the new leachate storage ponds. The leachate will be transported by tanker truck to the CWWTP or SWWTP. It should be noted that Coffin Butte Landfill is limited to the amount of leachate that can be transported to the CWWTP and once the that amount is reached the remaining amount of leachate is transported to the SWWTP. Furthermore, if the CWWTP is phased out, the leachate will be transported to the SWWTP.

The US Environmental Protection Agency (EPA) defines a hazardous waste as a waste with properties that make it dangerous or capable of having a harmful effect on human health or the environment. The leachate produced by the Coffin Butte Landfill is not a hazardous waste since the landfill does not accept hazardous wastes and the leachate does not meet either of the two criteria used to classify a hazardous waste. A waste is determined to be a listed hazardous waste if it is specifically listed on one of four lists,

the F, K, P and U lists found in Title 40 of the Code of Federal Regulations (CFR) part 261. Municipal Solid Waste (MSW) leachate is not found on any of the four lists. Since MSW leachate is not found on any of the four lists, it would have to be characterized as a listed hazardous waste.

Currently, the Coffin Butte Landfill does not test their leachate for the PFAS contaminates as they are currently not regulated by State of Oregon or the US EPA. However, once the State of Oregon and the US EPA establish the requirements for testing and reporting of the PFAS contaminates then the Coffin Butte Landfill will comply with those requirements.

The federal regulation 40 CFR 261.24 defines the toxicity levels of characteristic hazardous waste. It specifies the test method and the contaminate levels that determine if a waste is toxic. Table 1 is the Maximum Concentration of Contaminates for the Toxicity Characteristic, from 40 CFR 261.24. If the leachate from Coffin Butte Landfill contains any of the contaminates listed in Table 1 at the concentration equal to or greater than the respective value given in Table 1, then it becomes a characteristic hazardous waste. The column titled VLF.L1 are the actual results from leachate sampled from the existing leachate storage pond dated August 30, 2023. As you can see, the results show that the leachate is not hazardous as none of the contaminates tested equaled or exceeded the regulatory level as shown in Table 1.

EXPIRES: **06/30/2024**

TABLE 1

MAXIMUM CONCENTRATION OF CONTAMINANTS FOR THE TOXICITY CHARACTERISTIC

From CFR 261.24

EPA HW No.*	Contaminant	Regulatory Level (mg/L)	VLF.L1 (mg/L)
D004	Arsenic	5	0.17
D018	Benzene	0.5	0.0048
D006	Cadmium	1	0.00047
D019	Carbon tetrachloride	0.5	ND
D020	Chlordane	0.03	ND
D021	Chlorobenzene	100	0.00045
D022	Chloroform	6	ND
D007	Chromium	5	0.2
D027	1,4-Dichlorobenzene	7.5	0.0012
D028	1,2-Dichloroethane	0.5	ND
D030	2,4-Dinitrotoluene	0.13**	ND
D012	Endrin	0.02	ND
D031	Heptachlor (and its epoxide)	0.008	ND
D032	Hexachlorobenzene	0.13**	ND
D033	Hexachlorobutadiene	0.5	ND
D034	Hexachloroethane	3	ND
D008	Lead	5	ND
D013	Lindane	0.4	ND
D009	Mercury	0.2	ND
D036	Nitrobenzene	2	ND
D037	Pentachlorophenol	100	ND
D010	Selenium	1	ND
D011	Silver	5	ND
D015	Toxaphene	0.5	ND
D042	2,4,6-Trichlorophenol	2	ND
D043	Vinyl chloride	0.2	ND

VLF.L1 = Analytical test results from sampling leachate on August 29, 2023

ND = Non Detect

* Hazardous Waste Number

** Quantitation limit is greater than the calculated regulatory level. The quantitation limit therefore becomes the regulatory level.

EXHIBIT 28
REPUBLIC SERVICES LETTER TO THE BENTON COUNTY BOARD OF COMMISSIONERS REGARDING METHANE EMISSIONS

REPUBLIC SERVICES

Sustainability in Action

To: Benton County Board of Commissioners

Date: 2/23/2024

Re: Follow-up to Methane Emissions Discussion

Dear Commissioners & Staff,

Thank you for the opportunity to provide additional insights about methane emissions and differing perspectives at Coffin Butte Landfill, which was part of a broader discussion during the February 6 Board meeting. Also, please know that we heard your stated preference for timely communication and more transparency on substantive matters at Coffin Butte going forward. We are more than pleased to keep you updated and look forward to working with County Staff on both the details and process for future communications.

First, I respectfully offer these important facts about methane management at the Landfill:

- Coffin Butte has 3X more gas collection wells in operation today than industry best practices (typically 1 gas well per acre);
- We have invested more than $7m to upgrade and expand the gas collection system (57 new wells and 22k feet of piping) since 2019, which also exceeds industry standards;
- We are continually optimizing the gas collection system and plan to invest an additional $1.5m to add 14 new gas collection wells and 4,500 feet of piping this year;
- Our site team and consultants utilize a comprehensive maintenance regime, ensuring consistent and highly reliable system performance; and
- The PRC (Pacific Region Compost) is a nationally recognized diversion facility, processing 140k tons of organics annually, which has a direct correlation to methane emissions reductions locally.

In addition, you have a long-standing partner in Republic Services, and we are leading the industry in sustainability action. I am proud to share that we are the first U.S. environmental services provider with an emissions reduction goal approved by the Science Based Targets initiative. In addition, we have set an ambitious goal to reduce our absolute Scope 1 and Scope 2 greenhouse emissions by 35 percent by 2030. Finally, we are an active participant in methane policy conversations at federal and state levels as well as with industry peers and environmental NGOs, with the goal of helping stakeholders find common understandings, share best practices, address differing perspectives, and identify solutions. We are proud to be putting sustainability into action and believe our leadership in this area directly benefits the customers and communities we serve nationwide, to include here in Benton County.

During our February 6 discussion, you asked for more explanation on the EPA's June 2022 inspection and subsequent report on methane exceedances at Coffin Butte, as well as the differing perspectives on that inspection and methane modeling in general. These topics are further addressed below.

Sustainability in Action

June 2022 EPA Inspection

This one-day inspection was not unique to Coffin Butte, but rather similar in nature to other EPA methane inspections in recent years at landfills across the country. What was unique about our experience, however, is that the inspection occurred during a planned landfill gas collection enhancement project, which is reflective of the major investments outlined above.

At the time of the inspection, Coffin Butte was in the early stages of a weeks-long construction project to install six new vertical collection wells and nine new horizontal collection wells. While one primary purpose of those enhancements was to increase the amount of methane and other biogas captured on site, the work itself involved activities that temporarily increased surface exceedances, such as trench digging.

The EPA inspector did ask if the landfill's gas collection system was operational and running normally, and our engineers responded it was. However, it is also true that at various times during the construction, the overall efficiency and capacity of the gas collection was impacted by the site team needing to turn down the vacuum in certain collection wells, not to mention adjusting landfill cover layers and digging through locations where waste had been disposed.

In many respects, surface exceedances of the type documented by EPA during their inspection would be expected, given the work necessary to make these gas collection system enhancements.

That aside, it is important to note that EPA uses a different investigative practice for identifying landfill emissions. And this correlates directly to the differences you commented on during our February 6 discussion.

Typically, a landfill operator will employ specially trained consultants to conduct regular "surface monitoring" along a consistent pathway to determine, locate, and remediate any points where methane exceeds 500 parts per million. Under EPA protocols, the monitoring device is to be held five to 10 centimeters above ground. The data from these routine practices are submitted to regulators as part of regular reporting.

In general, and at Coffin Butte during their June 2022 inspection, the EPA's environmental technicians take a different approach. They do not walk a consistent pathway, but rather seek out individual points with potential exceedances, probing into cracks, moving rocks, or lifting tarps and cover. In addition, inspectors do not consistently hold their measuring probe at the prescribed height of five to 10 centimeters above ground.

Another salient point about the June 2022 inspection is that the Coffin Butte team was not provided details from EPA technicians with respect to the calibration of equipment used. Typical regulator best practices involve calibrating equipment onsite, following specific protocols. Unfortunately, that did not happen in this case; instead, the inspector calibrated the equipment before arriving at the Landfill.

Ultimately, the EPA reported that their technicians documented 61 exceedances of 500 parts per million, and 21 of those were considered in their estimation to be more significant in scope.

REPUBLIC SERVICES

Sustainability in Action

Finally, it is appropriate to state that we believe that regulations, in general, and inspections of this nature, are important and necessary for all. We respect the EPA and its oversight role, and we collaborate with regulators at all levels whenever appropriate and possible. With respect to the June 2022 inspection, Coffin Butte responded to EPA's findings with corrective actions that included completing the ongoing gas collection enhancement project and adjusting soil cover. To the best of our knowledge, the EPA remains satisfied with those corrective actions and to date no notices of violation have been issued.

Differing Perspectives

Without question, the topic of landfill emissions is one of the more poignant issues in climate conversations today, involving not just landfill operators and regulators, but environmental NGOs and communities large and small nationwide. Beyond the differences in measurement practices noted above, one issue that continues to be debated is how best to model and quantify emissions.

For example, there is considerable discussion among stakeholders about the role of satellite and drone technology in comparison with the more traditional practices involving handheld probing devices. For our part, we have worked (and expect to continue to work) with NGOs and regulators on the application of various advanced technologies, to include fly-over technologies.

While there is a lot of promise with such technologies, there is also ongoing debate about the true accuracy of point in time data captured at dynamic operating environments like municipal solid waste landfills. That's because emissions can fluctuate considerably, often over the course of a day. This can occur for a variety of reasons, including the age and type of waste deposited at the landfill, cover and soil make-up, weather conditions, and the efficiency of a site's gas collection system.

Further, these variables have spurred another policy discussion among stakeholders – what is the appropriate way to model and determine a site's actual, consistent emissions levels if using point in time data collection.

We are optimistic that one day there will be more alignment among the many stakeholders on these issues, as well as continued technological advancements. But for now, please know that the issues you raise are not unique to Benton County. And, if anything, we hope that you will appreciate the fact that Coffin Butte has been proactive in emissions management and reductions and in many respects is a model for industry best practices.

I trust this provides you with the information you were seeking. But, as always, please do not hesitate to contact us with additional questions.

Sincerely,

Ginger Rough
Sr. Manager for Public Affairs

EXHIBIT 29
REPUBLIC SERVICES LETTER TO THE BENTON COUNTY BOARD OF COMMISSIONERS RELATING TO ARSENIC

REPUBLIC SERVICES

Sustainability in Action

To: Benton County Commissioners

Date: 2/15/2024

Dear Commissioner Augerot,

During Republic Services' annual report presentation on Feb. 6, you asked that we follow up with you on three topics. In this email, I'd like to address your questions regarding arsenic levels in the monitoring wells at Coffin Butte Landfill. Thank you for giving me the time and opportunity to come back to you with additional information.

We noted in our landfill annual report (page 9) that "the primary drinking water standard for arsenic was exceeded" at the compliance boundary for Cells 4 and 5 on the landfill's east side, but that these "concentrations represent natural background conditions."

This week, we asked our Coffin Butte Landfill consultant, Eric Tuppan, for additional detail. Tuppan, a registered geologist, and owner/operator of Tuppan Consultants, LLC., has 40 years of industry experience. He founded his Oregon-based geology, hydrogeology, and environmental consulting firm consulting firm in 2003.

In summary:

- The presence of arsenic in soil and rock in Oregon has been documented by the Oregon Department of Environmental Quality with background concentrations specific to geographic regions.
- In the Portland Basin, the background concentration is 8.8 milligrams per kilogram; in the Cascade Range it is 19 milligrams per kilogram; and in the South Willamette Valley (where Coffin Butte is located) it is 18 milligrams per kilogram.
- Arsenic has been detected in three areas of the landfill since sampling first began in 1991. These are described in the text that follows.
- There is no data to suggest that the existing arsenic levels are anything other than what is naturally occurring in the soil, or that leachate is impacting the environment or public health.

As you noted during the Feb. 6 meeting, there was a seepage event that occurred at the Landfill in the 1990s. Valley Landfills Inc. (VLI) discovered this issue in 1994, after groundwater monitoring samples in well MW-23, located on the south side of Cell 2, showed elevated levels of arsenic.

At the time of the investigation, VLI determined that increased concentrations of arsenic, chloride, sodium, and bicarbonate were due to leachate seeping from the south slope of Cell 2. Corrective measures, including excavating the south slope of the landfill and installing a gravel drain, fixed the issue and allowed groundwater quality to recover over time.

REPUBLIC SERVICES

Sustainability in Action

The groundwater sampling referenced in our 2022 annual report was taken from two wells on the eastern side of the landfill, more than 1,000 feet away from the well that's located south of Cell 2.

These two compliance wells, which were installed in 2011, have had stable arsenic readings for the past 20 years, averaging 14.2 micrograms per liter at one site, and 13.3 micrograms per liter for the other.

Both these averages are consistent with the background concentrations of arsenic in the Willamette Valley, as documented by the Department of Environmental Quality. The steady readings over time indicate there have been no leachate releases or impacts on groundwater at these locations.

Arsenic testing at Coffin Butte initially began in April 1991, in well MW-S9 on the landfill's northeast side. This third location has historically had higher concentrations of arsenic, ranging from 27 to 41.8 micrograms per liter over the past 30 years.

However, it is important to note that the initial sampling at this well – which established baseline arsenic levels in background concentrations - occurred prior to the completion of Cell 2 construction or any landfilling on the east side of Coffin Butte.

Because this well is more than 1,800 feet away from MW-23, and because sampling occurred prior to the construction of Cell 2, it is implausible for the readings at this location to have been impacted by leachate.

Coffin Butte conducts groundwater sampling twice a year, in April and October, in a set number of locations as outlined in our DEQ-approved Environmental Monitoring Plan. That plan also specifies the frequency of testing at each well. The most recent sampling at well MW-S9 occurred in 2019 in collaboration with DEQ; it is set to be tested again later this year.

As noted in our 2022 annual report, the Landfill was inspected seven times by a variety of agencies, including the EPA, DEQ's Division of Material Management, DEQ's Division of Air Quality and the cities of Corvallis and Salem. In addition, we submitted annual, semi-annual, quarterly, and monthly reports to federal, state, and local regulators. Coffin Butte remains in compliance with all our permits and regulatory requirements.

I hope this email provides you with the information you requested. Should you have any follow-up questions, please don't hesitate to contact me directly at grough@republicservices.com.

Thank you,
Ginger Rough, Sr. Manager for Public Affairs

EXHIBIT 30
PROPOSED COFFIN BUTTE LANDFILL SEISMIC DESIGN

MEMORANDUM

To: Ian Macnab – Republic Services, Inc. (Republic)

From: Timothy D. Mitchell, P.E. – Civil & Environmental Consultants, Inc. (CEC)
Jeff Shepherd, P.E. – CEC

Date: July 9, 2024

Subject: Seismic Design
Coffin Butte Landfill
Corvallis, Benton County, Oregon
Republic Services
CEC Project 322-142

The purpose of this memorandum (memo) is to address the engineering scope regarding slope stability and earthquake response for the newly proposed cell at the Coffin Butte Landfill operated by Republic. CEC understands that the Benton County Neighborhood Tour posed questions relative to the impact of an earthquake and the performance of the various landfill systems (liner, methane capture, etc.) during potential seismic events. This memo intends to explain the process for considering earthquakes and seismicity during the design of a municipal solid waste landfill.

The criteria for the design of a solid waste landfill is described in a document by the United States Environmental Protection Agency (USEPA) in Title 40 CFR Part 258 (Seismic Design Guidance for Municipal Solid Waste Landfill Activities). Oregon has codified its implementation of these rules under the Oregon Administrative Rules (OAR), specifically OAR 340-094. CEC will design the proposed landfill cell to meet the regulatory requirements for seismic impact zones and for potential seismic events as described in the rules.

The code requires that landfill containment structures, including liners, leachate collection systems, and surface water control systems are designed to resist the maximum horizontal acceleration in rock at the site. In addition to the waste itself, the landfill design for this project will take into account the performance of the liner system and leachate collection system in response to seismic loads. This was one point of concern from the neighborhood tour summary letter.

CEC will work closely with Republic and regulators to develop appropriate earthquake and seismic models for use in the design of the landfill cell. According to the USGS, the seismic probability map can be used as a basis to obtain site specific seismic parameters for design. This method provides a high degree of protection to the environment against earthquakes reasonably expected over the life and post-closure maintenance period of the landfill.

The code also requires that the landfill or expansions to the landfill not be located within 200 feet of a fault that has had displacement in Holocene time (11,700 years ago). There are no known faults that have had displacement within 200 feet of the landfill.

In regards to general slope stability considerations, the static and seismic stability will be checked in detail for acceptable factors of safety for the proposed expansion. The stability calculations will consider the geometry of the landfill, the proposed liner system, the anticipated leachate, and leachate drainage. The steepest outer slope allowed by state regulation is 3 Horizontal:1 Vertical (3H:1V).

In summary, CEC will work with Republic to develop a thorough landfill design that addresses possible seismic implications in accordance with applicable codes and requirements and in conjunction with the appropriate regulators.

TDM:JS/ad

M-322142.Jul9/P

6 August 2024

A huge landfill in Oregon is spewing methane. Its owners want to expand.

Numerous safety violations have been detected at the fast-growing landfill. It's part of a larger pattern of problems with how the U.S. handles waste.

ISOBEL WHITCOMB
Isobel Whitcomb is a science and environmental journalist based in Portland, Oregon.

In rural Benton County, brigades of waste-collection vehicles lumber through forested hills and wheat fields, each truck trailed by an acrid stench. They're hauling trash from across the western half of the state to Coffin Butte Landfill. The site accepts waste from nearly two dozen of Oregon's 36 counties, and the pile towers high enough that some locals call it "the Great Pyramid of Benton County." Joel Geier, who lives half a mile away from Coffin Butte, prefers the moniker "Coughing Butte," due to the noxious, chemical smell that sometimes emanates from it.

"It can be nauseating," Geier said. The smell, sweet like nail polish remover, reminds him of the Monsanto plant near his childhood home in St. Louis, Missouri. "There's the offensiveness of it, and the knowledge that you're breathing in something that probably isn't healthy."

methane, which over 20 years traps 80 times as much heat in the atmosphere as carbon dioxide. But the gases emitted as waste decomposes aren't just harmful to the climate – they also pose a more immediate hazard to nearby communities. Alongside methane, landfills emit a cocktail of chemicals known to irritate the lungs, increase the risk of cancer, and cause reproductive issues.

Over the past decade, the amount of garbage imported by Coffin Butte Landfill has more than doubled. To continue to accommodate Oregon's garbage, Republic Services, the company that owns Coffin Butte, says that the landfill needs to expand. Neighbors of the landfill, concerned about its climate impact and the community's safety, believe that there are better ways to deal with all the incoming refuse.

Coffin Butte Landfill rises between steep hillsides at the opening of Soap Creek Valley, a lush basin scattered with homes. Just a mile down highway 99 is Adair Village – a former World War II training camp where about 1,000 people now live. The roughly 3,000 residents of these two communities drive past Coffin Butte on their way to work, school, or nearby Corvallis to run errands. And in recent decades, they have seen the landfill grow in size. "It has quite literally risen into view," said Ken Eklund, a resident who moved to Soap Creek Valley in 2015. Since then, Eklund says that the landfill has doubled in height. Now, its tarped face is visible from his driveway.

For many residents of Soap Creek Valley and Adair Village, Coffin Butte Landfill wasn't a major concern until about a decade ago. Under the ownership of Republic Services, which had acquired Coffin Butte in 2008, the landfill was taking trash from a larger swath of Oregon – and even occasionally Washington state. Then in 2016, the closure of another regional landfill led to an unprecedented amount of waste being diverted to Coffin Butte: an addition of more than 400,000 tons over the next year. Geier and other residents started noticing more and more trucks moving through their neighborhoods. On some days the stench was unbearable. "I wouldn't let my kids play outside on those days, I wouldn't go on a walk," said Kate Harris, a resident of Soap Creek Valley.

In early 2021, Republic Services submitted an application for a permit to expand the landfill. At that point, the company was importing more than 1 million tons of trash to Coffin Butte each year – close to Benton County's 1.1-million-ton cap on waste deposited there annually. At this rate, the landfill would reach capacity within five years. The application proposed adding a second, 270-foot-tall pile of waste across Coffin Butte Road, which would buy the landfill another 12 years but close off what is the area's primary evacuation route in the event of wildfire. The proposal also sought to remove the tonnage cap on waste deposited at Coffin Butte.

In response, more than 100 community members rallied to oppose the expansion, giving testimony at hearings and writing letters to local newspapers. "The county thought that this was just going to slide in under the radar. They were completely caught off guard," Eklund said. "They were not ready for the scrutiny."

In December 2021, the Benton County Planning Commission denied the expansion request, but residents considered it only a temporary victory. Earlier this year, they began hearing talk that a second application was in the works. Sure enough, on July 19, Republic Services filed anew.

The 2021 expansion proposal was a catalyst for activism in Benton County. Outside an old one-room schoolhouse, the tight-knit community of Soap Creek Valley began meeting to organize and share information about Coffin Butte's hazards.

When plastic, food scraps, and other waste get thrown into landfills, they're compacted, covered in dirt or ash, and then blanketed under tarps. As the waste piles up, aerobic bacteria, which live only in the presence of oxygen, consume food scraps and oxygen, producing carbon dioxide. Over time, these bacteria deplete the oxygen in the landfill, creating the perfect environment for methanogens. These microbes feed on the carbon dioxide produced by aerobic bacteria, churning out methane.

The methane and carbon dioxide created through this process make up 90 percent of the gases released by landfills, said Steve Gerritson, a board member at the Institute for Energy and Resource Management and former member of President Bill Clinton's Clean Air Advisory Committee. Neither methane nor CO_2 poses an immediate risk to human health, but the other 10 percent of landfill gases, emitted by waste more resistant to decomposition, do. Plastic water bottles emit vinyl chloride, a sweet-smelling gas associated with liver, brain, lung, and blood cancers. Cosmetics break down to form benzene, which is associated with leukemia. Finally, as the wind blows the landfill's dirt covering, tiny waste particles also get pulled along on the breeze, including heavy metals and dioxins. "These are very dangerous to human health," said Gerritson. "They're not easily controlled." Multiple studies have found elevated rates of cancer and reproductive complications among people living near landfills.

As the residents fighting the Coffin Butte Landfill expansion researched these effects, they turned to environmental nonprofit Beyond Toxics, based in the nearby city of Eugene. Beyond Toxics began setting up air-quality monitors around houses near the landfill to track emissions of nitrogen dioxide, or NO_2. In the short term, this gas, a byproduct of methane combustion, can cause respiratory irritation, increasing the risk of infections and asthma. In the long term, chronic exposure to NO_2 emissions can increase the risk of developing chronic lung disease. The monitors recorded NO_2 concentrations as high as 60-80 parts per billion – close to readings collected near freeways and well above the 30 parts per billion that the U.S. Environmental Protection Agency considers safe for chronic exposure.

Coffin Butte might be worsening conditions for the surrounding community and those working near the landfill. One concerning discovery: Operators of Coffin Butte were using ash from a nearby waste incinerator as daily cover for the landfill. This practice isn't inherently unsafe, according to Philipp Schmidt-Pathmann, founder and CEO of the Institute for Energy and Resource Management, a nonprofit that advocates for sustainable waste management. However, the Oregon Department of Environmental Quality safety protocol states that landfill cover should be wetted down before application to prevent particulates from becoming airborne. Beyond Toxics found that landfill operators were skipping this step – photo and video evidence showed plumes of ash blowing from the landfill.

"The problem with incinerator ash is it's full of heavy metals," said Mason Leavitt, a cartographer and GIS technician at Beyond Toxics. "These can accumulate in the environment over time." Another airborne waste product detected at the landfill was dry fiberglass dust. "It can cause microtears in your lung tissue," Leavitt said. "It's technically not a hazardous substance, but it's a huge concern for workers and … anyone working nearby."

In a statement to Canary Media, Republic Services noted that incinerator ash is approved as landfill cover by the Oregon DEQ and that it arrives at Coffin Butte in a wetted-down, cement-like form. "It is not an airborne, flyaway material," the statement read.

Robert Orton, a former mechanic at Coffin Butte Landfill, has experienced acute health effects from exposure to waste and its byproducts: breathing issues, skin and eye irritation, rashes, and chemical burns. He says that poor handling of waste contributed to these unsafe conditions. Typical safety protocol involves pressure-washing equipment, which becomes caked in waste, on top of the landfill each day. That location is critical to containing harmful contaminants. However, Orton says that mechanics at Coffin Butte were instructed to wash the equipment at their shop to avoid wetting down the landfill and producing runoff that Republic Services would then have to remediate. Trash and human feces accumulated on the unlined and uncovered soil next to the shop. "There was no way to contain these things within the shop floor. There was no procedure for it," Orton said. (Republic Services denies that trucks are cleaned on unlined soil, stating that all equipment is pressure-washed atop the landfill.)

In 2022, an EPA inspection found explosive levels of methane at Coffin Butte Landfill. While the federal limit for methane concentrations is 500 parts per million, the EPA reported 21 readings exceeding 10,000 parts per million.

Orton said the unusually high readings were likely due to the large volume of waste being collected and the lack of maintenance to the landfill's methane-extraction system – a network of pipes running through the landfill that pumps methane and other gases to flares. Waste clogs the extraction system, and over time, as the contents of the landfill decompose and shift, that can lead to cracks. Once, when repairing the extraction system, Orton encountered a leak so strong, his knees buckled. "You can't take in the amount of material they're taking in and handle it appropriately," he said.

The EPA's findings alarmed neighbors of Coffin Butte who were already worried about the landfill's climate impacts. From a more immediate safety standpoint, the high levels of methane indicated a major fire hazard. Fire isn't unusual at Coffin Butte – the last one took

these blazes to spread to the surrounding hills. “We’re in a valley with limited ways out,” Eklund said. He worries that if the landfill caught fire, Coffin Butte Road would be impassable due to flames and toxic smoke from burning waste. “It’s a nightmare scenario.”

Republic Services denies many of the criticisms raised by residents, including claims that its gas-collection system is poorly maintained. In a February 2024 memo, Director of Public Affairs Ginger Rough wrote that Coffin Butte has three times more gas-collection wells than industry best practices and that Republic Services has invested $7 million since 2019 to upgrade and expand the gas-collection system, including 57 new wells and 22,000 new feet of piping. She added that the company planned to add 4,500 more feet of piping in 2024.

However, the memo didn’t alleviate residents’ concerns. “None of these address the landfill’s known problem with methane, which is … *it’s leaking out of everywhere*,” Eklund told Canary Media by email. “The large number of gas collection wells is just evidence that the landfill has a methane problem that they’ve been working to fix.”

Carbon Mapper, a tool that tracks CO_2 and methane emissions, has detected plumes of methane over Coffin Butte exceeding 1,000 kilograms per hour. A plume exceeding even 100 kilograms per hour is designated by the EPA as a “super-emitter event,” said Katherine Blauvelt, the circular-economy campaign director for Industrious Labs, a nonprofit working to clean up heavy industry.

While the problems at Coffin Butte are particularly egregious, they are ones that pervade our waste disposal system, Blauvelt said. Under the Clean Air Act, the EPA limits emissions from landfills, including methane and other toxic gases. Landfills are required to install and maintain their extraction systems to keep those pollutants at safe levels. However, enforcement of those limits is “largely an honor system,” Blauvelt said. “Too often, when an EPA inspector is able to come to a landfill and check it, they find really disturbing results.”

In the case of Coffin Butte, inspectors didn’t just find explosive methane levels, they found malfunctioning extraction systems and eroding covers. Similar violations have repeatedly been discovered elsewhere. At Brent Run Landfill outside Flint, Michigan, an EPA inspector

After an expansion of Los Angeles County's Chiquita Canyon Landfill, an EPA inspection uncovered 14 violations of national emissions standards, including failure to maintain the gas extraction system leading to the release of hazardous air pollutants. An Industrious Labs analysis published in May examining landfills across eight states found that nearly 96 percent of EPA inspections reported methane emissions exceeding the safe limit of 500 parts per million.

The EPA has committed to addressing these widespread regulatory failures – on July 23, the agency announced that it would update emissions standards for landfills in 2025. But tighter emissions standards don't address a major root cause of the problem.

There are financial incentives for landfill operators to minimize maintenance costs while bringing in more waste, says Schmidt-Pathmann of the Institute for Energy and Resource Management. "Waste is a profit-oriented business in the U.S.," he added. For landfills like Coffin Butte, more waste means more revenue. According to Beyond Toxics' Leavitt, Coffin Butte Landfill trucks in 30 percent of Oregon's market share of waste. Less than 6 percent of that waste originates in Benton County. Some municipalities like Benton County, which receives compensation from Republic Services for hosting the landfill, also have a financial incentive to maintain landfills. "It pays the bills," Schmidt-Pathmann said.

Activists believe there are alternatives to expanding Coffin Butte – and to landfills in general. Schmidt-Pathmann points out that most U.S. municipalities have little infrastructure in place to properly sort waste. As a result, recyclable materials easily become contaminated and wind up in landfills. But other countries, such as Germany and the Netherlands, have successfully implemented waste-sorting systems that have decreased the amount of waste disposed of at landfills to just 1 percent, while some German cities have achieved a zero-waste designation. A few municipalities in the United States are following that example.

In December 2023, Lane County, Oregon, which neighbors Benton County, voted to build a new resource recovery facility that will sort garbage, comingled recycling, and organic waste to produce biogas and marketable recycled materials. Advanced equipment will be able to recover recyclables that would otherwise head to the landfill. According to Lane County, it will be "the most technologically advanced waste processing facility in the country," diverting an estimated 80,000 tons from the county's landfill annually. If Benton County adopted this approach, the Coffin Butte expansion wouldn't be necessary, Beyond Toxics' Leavitt pointed out.

The 2024 application for expansion of Coffin Butte Landfill appears to take into consideration some of the residents' concerns: The new plan would keep Coffin Butte Road open, even adding bike lanes and trees to shield the landfill from view. The planned expansion is also smaller, buying the landfill just six more years instead of 12. However, residents believe that more expansion proposals will follow. "I expect that this is just a way for them to get their foot in the door so they can come back in five or six years with a plan to fill in the 'valley' between the two landfills," Geier wrote in an email.

Schmidt-Pathmann believes it's in Benton County's best interest to consider the long-term costs – both monetary and nonmonetary – of hosting Coffin Butte. Long after that landfill runs out of space, it will need to be managed. "You will have to maintain a landfill forever. It's like taking a loan from the bank without ever planning to pay it back," Schmidt-Pathmann said. "At some point, the bank – or the environment – will come collecting."

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Benton County

TALKS TRASH SOLID WASTE PROCESS WORKGROUP REPORT

April 2023

WORKING TOGETHER FOR A BETTER FUTURE

BENTON COUNTY TALKS TRASH

Sponsored by:

Benton County OREGON

While the Benton County Talks Trash workgroup was sponsored by the Benton County Board of Commissioners, this document represents the independent deliberations and decisions of the Workgroup. It was not reviewed or endorsed by the Board of Commissioners before publishing.

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WORKING TOGETHER FOR
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TRASH
Benton
County
OREGON

Letter of Transmittal

April 11, 2023

To: Benton County Board of Commissioners
From: BCTT through Sam Imperati, Facilitator
RE: Benton County Talks Trash Workgroup Report

Please accept this final report, which summarizes the results of a community-driven Benton County solid waste workgroup process, also known as "Benton County Talks Trash" (BCTT).

The Benton County Board of Commissioners (BOC) hired ICMresolutions to assess, design, and facilitate a Workgroup process to establish common understandings, to develop findings and recommendations for processing future Conditional Use Permits (CUP), and to develop a detailed outline for a Sustainable Materials Management Plan (SMMP).

To accomplish this, the Board appointed Workgroup members that were representative of community voices. The Charter elements were allocated between five subcommittees consisting of both Workgroup and interested community members. The process began on September 8, 2022, and ended on April 10, 2023. During that time, participants attended 11 public Workgroup meetings and 86 subcommittee meetings.

The Workgroup formally vetted 124 Findings and 94 Recommendations for the Board's consideration. Overall, the Workgroup achieved 94% agreement on the 218 Findings and Recommendations. There were six findings and six recommendations where at least one member voted against it, but each received a majority recommendation.

Here is a summary table of the final polling.

SMMP = Sustainable Materials Management Plan

LSCL = Landfill Size/Capacity/Longevity

LLU = Legal Issues and Land Use

CUP = Past Land Use Application Conditions

CEO = Community Education and Public Outreach

Consensus Polling Process

"Consensus" is achieved when all Polling Members poll "1" or "2." If "consensus" is not achieved, the Majority-Minority result is noted. The following definitions are used to reflect the range of options available to members.

- "1" indicates full support for the proposal as stated.
- "2" indicates the participant can agree with the proposal as stated but would prefer to have it modified in some manner to give it full support. Nevertheless, the member will support the consensus even if his/her suggested modifications are not supported by the rest of the group because the proposal is worthy of general support as written.

- "3" indicates refusal to support the proposal as stated.

We did not have time to poll on items where there were only 2s. Based on experience, that exercise would likely have created an even more robust consensus. It was noted several times during the process that anyone could poll a 3 to block a "consensus." The full record of what was polled upon, the alternative language that was considered, and the provided reasoning in the informal polling for 2s and 3s can be found in Appendix B. The Workgroup only polled on the findings and recommendations in each subcommittee's section of IV. Key Workgroup Findings & Recommendations. While vetted by each responsible subcommittee in advance, the remaining contents of those sections were not polled upon by the entire Workgroup.

			Unanimous Agreement		"Consensus" Agreement		Majority-Minority Approval	
WG/Sub Committee	Findings and Recs	Total	# with all 1s	% with only 1s	# with no 3 votes	% with no 3 votes	# with at least one 3	% with at least one 3
Total	Findings	124	73	58.9%	117	94.4%	6	4.8%
Total	Recs	94	42	44.7%	88	93.6%	6	6.4%
SMMP	Findings	8	1	12.5%	8	100.0%	0	0.0%
SMMP	Recs	28	10	35.7%	28	100.0%	0	0.0%
LSCL	Findings	42	26	61.9%	41	97.6%	1	2.4%
LSCL	Recs	12	1	8.3%	12	100.0%	0	0.0%
LLU	Findings	35	23	65.7%	30	85.7%	5	14.3%
LLU	Recs	13	5	38.5%	9	69.2%	4	30.8%
CUP	Findings	33	22	66.7%	33	100.0%	0	0.0%
CUP	Recs	25	13	52.0%	23	92.0%	2	8.0%
CEO	Findings	6	1	16.7%	5	83.3%	0	0.0%
CEO	Recs	16	13	81.3%	16	100.0%	0	0.0%

Not every member polled on every topic. Some were absent and one member polled "present" on some topics. In some cases, there are multiple polls on the same topic. Three potential findings on the petition circulating were removed at the last meeting. Details surrounding who polled in what way can be found in the M-11 Meeting Minutes HERE.

The following information is provided for further context.

1) The Workgroup process was designed to serve as a "bridge" between past events and any next steps. The goal was to help reset the current dynamics through the development of "common understandings" and recommended protocols for future consideration of solid waste issues.
2) The Workgroup accomplished a substantial amount of work in a relatively short period of time, but much remains to be done.

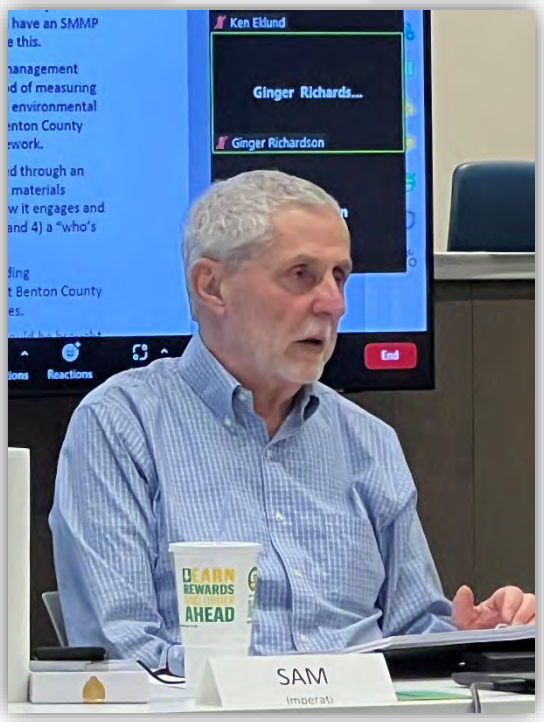
3) For example, the Workgroup recommends conducting a benefit-cost analysis during the SMMP process that will follow.
4) To the disappointment of some, BCTT was never designed to complete an SMMP, nor to opine on the merits of any past or future CUP expansion. It was designed to develop common understandings and identify paths forward. Those goals were met.
5) The History section was not part of the original Charge, but the Workgroup felt it would provide important context. It was not designed to be an advocacy piece. It contains consensus-based facts and events.
6) The process and its scope were challenged throughout by those who insisted on a different approach and scope despite clear and repeated Board direction. At times, those challenges became personal in nature.
7) When creating findings, the goal was to produce relevant, verifiable facts – not speculation or opinions framed as facts.
8) The Planning Commission and the Solid Waste Advisory Council (SWAC) provided feedback on an earlier draft of this report, which the Workgroup considered and responded to in the form of edits to this report.
9) A summary of the public outreach and public involvement efforts can be found HERE. They include extended comment periods, open houses, and an informal poll of emerging recommendations. The informal public poll was designed to offer the public an additional opportunity to express their views to the Workgroup. The results can be found HERE.
10) For the first time, the County has virtually all of the key documents organized and accessible in one place. They include both County and DEQ records over the past five decades.
11) During the process, the Board agreed with the facilitator's Assessment recommendations to retain outside legal and planning advice for the anticipated expansion CUP application.
12) The main body of the official report contains appriximately 188 pages. The polling results in Appendix B are also part of the official report. The numerous hyperlinks in the body to the other appendices are provided for convenience. The contents of the Appendices were not polled by the full Workgroup. They were vetted by each relevant subcommittee and are provided for background. Where inconsistent, the official report controls, and the meeting video controls over the report.
13) Past and present Workgroup and subcommittee members were given an opportunity to submit an individual member statement. Those can be found HERE and are an important part of this report because the candid comments provide both substantive and process insights ranging from criticism to support.
14) A BCTT process evaluation was conducted and the results can be found in Appendix F, HERE. With regard to the overall process, one member was "dissatisfied," one was "somewhat dissatisfied," and seven were "satisfied." Readers are encouraged to review the full results and form their own conclusions.
15) In light of the sheer volume of material and limited time between the last meeting and today, there was insufficient time to have this document professionally edited or formatted. We apologize.
16) The Board's authorized public comment process begins today and ends on May 26, 2023. Information can be found HERE.

Finally, we want to thank the Board and staff for their leadership and support on this important effort. Most of all, we want to thank the members of the public who served on this project for their tireless efforts and meaningful contributions. This is their work product.

Respectfully Submitted,

Samuel J. Imperati

Sam Imperati



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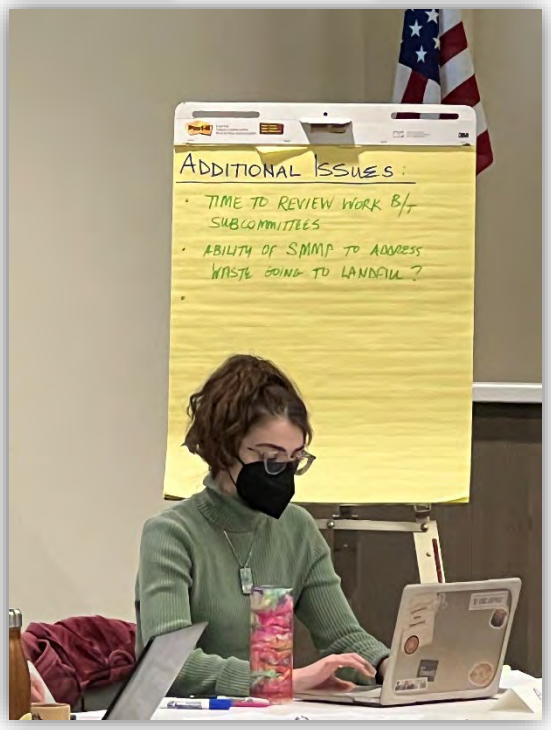

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How to read this document

For a general overview of the process and key recommendations, please see the Executive Summary. For more detail, please read the body of the full report. The Findings and Recommendations are often linked to the relevant appendix for background purposes only.

Project Website

https://www.co.benton.or.us/cd/page/solid-waste-process-work-group

On behalf of the Workgroup and the Benton County Board of Commissioners, thank you for reading this report – and *a special thank you for your interest in a sustainable materials management future!*

Executive Summary

Since World War II, the southern end of Coffin Butte in north Benton County, Oregon, has served as a solid waste dump site in one form or another. Over time, the site has changed and grown – beginning as a rock quarry, then a U.S Army garbage dump/burn pile, Coffin Butte now serves as a full-scale regional landfill serving dozens of communities in western Oregon and Washington. While the site has changed and grown over time, Benton County has not adopted a plan for managing the site or the waste left there over the decades.

From Conflict to Collaboration

Following a pair of conflicting 2021 decisions from its appointed solid waste and land use bodies, and in response to substantial community concern over a proposed landfill expansion, the Board of County Commissioners asked Oregon Consensus to help understand the situation and identify, if possible, a constructive path forward on solid waste and disposal, including at the Coffin Butte Landfill. Following the Board's direction, a third-party facilitation team helped convene a community member-based Workgroup representing a diverse balance of perspectives and established a Charter and Bylaws to guide the work.

Dubbed "*Benton County Talks Trash*," the Workgroup was tasked with building "common understandings" around key topics and outlining the table of contents for a modern, long-term Sustainable Materials Management Plan. To complete these tasks, the Workgroup established five subcommittees to dive into specific topic areas and then report back to the full Workgroup. Subcommittees focused on:

- Developing a Sustainable Materials Management Plan (SMMP)
- Estimating the Landfill Size, Capacity and Longevity
- Clarifying legal issues and reviewing land use law
- Determining the status of past land use Conditions of Approval
- Improving Community Education and Outreach

Sustainable Materials Management Plan (8 Findings and 28 Recommendations)

One key purpose of the BCTT Workgroup is to develop a list of issues that should be addressed in a long-term Sustainable Materials Management Plan. That subcommittee spent some time fleshing out the scope of a recommended plan and then organized that scope into a draft "Table of Contents" for a plan that will be completed by an experienced third-party consulting team working with the Board, the community, and the landfill operators. The scope emphasizes cradle-to-cradle lifecycle analyses and a shift to circular economic thinking and incorporating 2040 Healthy Communities values to replace traditional linear materials models that end in a landfill.

Subcommittees focused on understanding the history and decisions surrounding solid waste over the past fifty plus years that led to where we are today. The SMMP report focuses on the needs and issues that will help lead Benton County, the mid-Willamette Valley and Oregon to where it needs to be in a more sustainable future. This section includes a list of Questions that consultants and the County can use to frame the thinking about this new paradigm, its benefits, and the practical paths to get there. Learn more about the cutting edge thinking and a new approach to materials management, including the SMMP Subcommittee's recommendations HERE.

Landfill Size, Capacity and Longevity (42 Findings and 12 Recommendations)

Estimating the size, capacity and life span of the Coffin Butte Landfill required that Subcommittee to weigh a balance a range of disparate factors, all of which could impact the amount of waste placed at the landfill. Members used tables, charts and graphs to understand and communicate solid waste volumes, including potential wildfires, regulatory changes and the future size of the landfill. The Subcommittee offers a range of possible life spans based on those variables and provides recommendations in its Report HERE.

Land Use and Legal Issues (35 Findings and 13 Recommendations)

The Legal Issues and Land Use Subcommittee provides analysis of Oregon land use law and the Benton County Development Code, as well insights into past negotiations of fee and hauling agreements between Benton County and the landfill operators. Attorneys representing the community, Republic Services and Benton County, along with staff and community members explore insights into the legal constraints and authorities surrounding solid waste and the landfill, and offer Recommendations HERE.

Past Conditions of Land Use Approval (33 Findings and 25 Recommendations)

To understand how we got to where we are, the Past Land Use Applications Committee collected and reviewed more than five decades of documents – many pulled from boxes at the various archive storage rooms at Benton County and the Oregon Department of Environmental Quality – to develop recommendations that highlight the importance of making clear public decisions, and also highlight the need for more transparency in decisions and documents that effect solid waste and the landfill. The Subcommittee asked searching questions about the volume and treatment of liquid leachate that is collected from the landfill's rainwater runoff. They asked about the logic for prior conditions of approval and whether and how those conditions are enforced over time.

As a result of the Subcommittee's diligent exploration, Benton County now has a nearly complete set of records relating to the Coffin Butte Landfill – one of several important "firsts" that emerged from the BCTT effort. This section of the Report holds insights that will benefit the community, the County, landfill operators and the State of Oregon. Read the Subcommittee's detailed critique and specific recommendations for improvement HERE.

Community Outreach and Education (6 Findings and 16 Recommendations)

Picking up on the themes of transparency, public outreach and community-wide inclusion, the Community Education and Outreach Subcommittee identified areas of opportunity to improve how Benton County and Republic Services communicate with the public about landfill and solid waste issues, including providing earlier notice of potential decisions at the landfill and in negotiated solid waste agreements. Many of the Subcommittee's recommendations are simply good practice for government.

Overall Process and Public Participation

Benton County's "Benton County Talks Trash" Workgroup met eleven times between September 8, 2022, and April 4, 2023. All Workgroup meetings were open to the public and

included opportunity for written and oral public participation. The project hosted an initial Open House at the County's Kalapuya Building on November 17, 2022, after the fifth Workgroup meeting. The project hosted a second Open House at the County's Kalapuya Building on April 4, 2023.

The county engaged in various outreach efforts throughout the process. The highlights can be found HERE.

Recordings of the Workgroup meetings are available HERE, as well as meeting minutes and summaries.

The Benton County Talks Trash Workgroup members spent countless hours researching, discussing, and organizing the common understandings and recommendations outlined in this Report. The efforts reflected in this Report provide a resource that will serve Benton County and interested community members for the *next* fifty years . . . and beyond. Their leadership, and their combined commitment to accuracy and collaboration are a model for other efforts and will serve Benton County and Oregon for generations.

During the process, the Workgroup created five Subcommittees to take on various parts of the Charter Elements. Information on the Subcommittees' work products can be found in Appendix C of this report. This report contains the Workgroup's complete work product from the community-driven process. The Workgroup's formally vetted Findings and Recommendations are provided to the Board of Commissioners and posted publicly on April 4, 2023, for their consideration.

In addition to the Findings and Recommendations, the Workgroup polled on the Executive Summary and History. It did NOT poll on the rest of the document, including the Appendix. While linked to the findings and recommendations for ease of reference, the Appendix is for background purposes only.

One item came up too late in the process for the Workgroup to vet or was left unresolved for future work. Metro Council adopted Ordinance No. 17-1401, a Landfill capacity policy that prohibits the disposal of waste generated within the Metro region at a new or "limited capacity landfill." A "limited capacity landfill" is one that seeks a site development plan amendment for expansion.

Finally, this process did NOT opine on Republic Services' expected Coffin Butte expansion application. It was designed to serve as a "bridge" between past events and next steps through the development of "common understandings."

Project Acknowledgments

Board of Commissioners

Nancy Wyse
Pat Malone
Xan Augerot

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Voting Members

Andrew Struthers

Catherine Biscoe
Christopher McMorran
Chuck Gilbert
Ed Pitera
Elizabeth (Liz) Irish
John Deuel
Kathryn Duvall
Louisa Shelby
Marge Popp
Mary Parmigiani
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Land Acknowledgment: The Land We're On

Indigenous tribes and bands have been with the lands that we inhabit today throughout Oregon and across the Pacific Northwest since time immemorial and continue to be a vibrant part of Oregon today. We would like to express our respect to the First Peoples of this land, including the federally recognized and the traditionally recognized Tribal communities that have historically and currently reside on these lands. We also recognize that a land acknowledgement is only the first step as we continue to learn and build relationships with Tribal Nations and members of their communities.

Map credit: Atlas of Oregon (2nd ed.) University of Oregon Press, 2001.

What we now know as Benton County was previously inhabited by tribes of the Kalapuya people indigenous to this location. Today, most of the Kalapuya people are enrolled as members of the federally recognized Confederated Tribes of the Grand Ronde Community of Oregon and/or the Confederated Tribes of the Siletz. Prior to colonization and white settlement, the Kalapuya people were believed to have a population of around 15,000 souls. Diseases, illnesses, and violence from settlers led the Kalapuya population to drastically shrink, and by 1849, there are estimates that the population varied between 60 to 600 people. Today, the Kalapuya Tribe is believed to include around 4,000 people.

It is important that we recognize and honor the ongoing stewardship and spiritual relationship between the land and people indigenous to this place we now call Benton County. Despite the settlement of these lands, this was and will continue to remain the home of the Kalapuya. We recognize the pre-existing and continued sovereignty of the tribes who have ties to this place and thank them for continuing to share their knowledge and perspectives on how we care for, impact, and protect the land we live on. We commit to honoring the history of this County as we continue engaging in collaborative partnerships with the tribes and communities indigenous to these lands.

Benton County
HISTORY O
COFFIN BUT
LANDFILL
Benton County Talks Trash

Acronyms

BCTT	Benton County Talks Trash
BOC	Board of County Commissioners
CAC	Citizen Advisory Committee
CUP	Conditional Use Permit
CY	Cubic Yard (yd^3)
CY	Calendar Year
DEQ	Department of Environmental Quality, State of Oregon
DSAC	Disposal Site Advisory Committee (DSAC)
EOL	End of life
EPA	Environmental Protection Agency, United States
FA	Franchise Agreement
FAQs	Frequently Asked Questions
LS	Landfill Site and/or Landfill Site zone
LUBA	Land Use Board of Appeals
MOU	Memorandum of Understanding
MT	Million tons
RFP	Request for Proposals
RSI	Republic Services, Inc. (also “Republic”)
SMMP	Sustainable Materials Management Plan
SWAC	Solid Waste Advisory Council (SWAC)
SWMP	Solid Waste Management Plan
TAC	Technical Advisory Committee
VLI	Valley Landfills, Inc.

I. Process Background

Context

Before the formation of the "Benton County Talks Trash" (BCTT) workgroup, the County contracted with Oregon Consensus to conduct a situation assessment with the following Scope:

> Benton County and key stakeholders seek assistance identifying and implementing a constructive path forward relating to sustainable materials management and the future of solid waste disposal in the Mid-Willamette Valley, including at the Coffin Butte regional landfill. Following a [December 7, 2021] Benton County Planning Commission denial of a proposed conditional use permit to expand the landfill, key participants recognize that a constructive path forward could benefit from the assistance of a third-party facilitator. Key stakeholders believe that an objective assessment of the situation, conducted by an impartial third party, would be a good first step. (Emphasis added).

Based on this original Scope, the County asked Oregon Consensus to complete a third-party situational assessment. The Benton County Solid Waste Situational Assessment Report (Assessment Report) can be found HERE. The BOC accepted the Report during its July 19, 2022 meeting and approved funding for the third-party facilitated process at its July 26, 2022 meeting.

Subsequently, on August 23, 2022 the Board approved a Charter and Bylaws for the BCTT workgroup, which can be found HERE.

Membership

Workgroup members fall into one of two categories: a) Polling Members; and b) Ex Officio Members. Polling Members have full rights of participation and are authorized to "poll" on issues to determine levels of consensus. Ex Officio Members have full rights of participation but are "non-polling" information sources. All members could bring technical resources to the meetings; technical resources could be used to participate in the discussions with permission of the Facilitator after a WORKGROUP discussion on the advantages and disadvantages surrounding their participation.

Each WORKGROUP member was allowed to assign one alternate for the process. That person was required to have full authority to represent their Organization/Interest Group. If the alternate was attending, the primary member was required to provide written notice to the Facilitator at least 72 hours in advance of that meeting's start time.

Original Membership - Provided in the Charter

Organization/Interest Group	WORKGROUP Member	Polling	Ex Officio	Charge
SWAC/DSAC	Joel Geier	X		All
SWAC/DSAC	Marge Popp	X		All
Planning Commission	Nancy Whitcombe	X		All
Planning Commission	Elizabeth Irish	X		All
Republic Services: National	Russ Knocke	X		All but C

Republic Services: Local	Shawn Edmonds	X		All but C
Public	Brandon Bates	X		All
Public	John Deuel	X		All
Public	Kathryn Duvall	X		All
Public	Christopher McMorran	X		All
Public	Ryan McAlister	X		All
Public	Mary Parmigiani	X		All
Public	Ed Pitera	X		All
Public	Louisa Shelby	X		All
DEQ	Brian Fuller		X	All but D
Neighboring Jurisdiction	Marion County: Administrator Designee		X	Only C
Neighboring Jurisdiction	Linn County: Administrator Designee		X	Only C
Benton County Staff	Daniel Redick		X	All
Benton County Staff	Scott Kruger		X	All

Membership at the End of the Process

Organization/Interest Group	WORKGROUP Member	Polling	Ex Officio	Charge
SWAC/DSAC	Chuck Gilbert	X		All
SWAC/DSAC	Marge Popp	X		All
Planning Commission	Elizabeth Irish	X		All
Planning Commission	Andrew Struthers	X		All
Republic: National	Russ Knocke ALT: Ginger Rough	X		All but C
Republic: Local	Shawn Edmonds ALT: Julie Jackson	X		All but C
Public	John Deuel	X		All
Public	Kathryn Duvall	X		All
Public	Christopher McMorran	X		All
Public	Ryan McAlister	X		All
Public	Mary Parmigiani	X		All
Public	Ed Pitera	X		All
Public	Louisa Shelby	X		All
Public	Catherine Biscoe	X		All
DEQ	Audrey O'Brien		X	All but D
Marion County	Brian May ALT: Andrew Johnson		X	Only C
Linn County	Shane Sanderson		X	Only C
Benton County Staff	Daniel Redick		X	All
Benton County Staff	Sean McGuire ALT: Jen Brown		X	All

Charter

1. Scope & Charge

The Workgroup process was designed to serve as a "bridge" between past events and next steps. The goal was to help reset the current dynamics through the development of "common understandings" and recommended protocols for future consideration of the solid waste issues.

This Workgroup is not a decision-making body. It is a recommendation-making body with the following Scope. (See ASSESSMENT REPORT for details.) The recommendations are not binding on decision makers in any subsequent land use review but will help inform all parties going into a review process.

Here are the core elements of the Charge.

A) Develop Common Understandings to form the basis of the work
B) Clarify existing criteria and information requirements for the land use review process for any proposed landfill expansion
C) Scope the necessary tasks to start a Long-Term Sustainable Materials Management Plan process
D) Provide input on additional topics raised in the ASSESSMENT REPORT
E) Consider creating a public-facing document and community education campaign on these topics

2. Process for Workgroup Recommendations

The Facilitator assisted the Workgroup and its members in identifying objectives, addressing the diversity of perspectives, and developing substantive, practical recommendations. The Workgroup strove for and used a "consensus" recommendation-making approach to determine their level of agreement on proposals. This allowed members to distinguish underlying values, interests, and concerns with the overall goal of developing widely accepted solutions.

Consensus does not mean 100% agreement on each part of every issue, but rather support for a decision, "taken as a whole." This means that a member may poll to support a consensus proposal even though they would prefer to have it modified in some manner to give it their full support. Consensus is a process of "give and take," of finding common ground and developing creative solutions in a way that everyone can support. Consensus is reached if all members support an idea or can say, "I can live with that."

When developing recommendations, the Workgroup addressed each issue individually, and in various combinations. The Workgroup determined whether it wanted to make packaged or individual recommendations at the end of the process, following the full benefit of hearing all Subcommittee and Workgroup discussions.

"1-2-3" Consensus Polling: The Facilitator assisted the WORKGROUP in articulating points of agreement, as well as articulating concerns that required further exploration. The Workgroup used a "Consensus Polling" procedure for assessing the group's opinion and adjusting proposals. In "Consensus Polling," the Facilitator articulates the proposal. Each voting member then offers "one," "two," or "three," reflecting the following:

- A “1” indicates full support for the proposal as stated.
- A “2” indicates the participant can agree with the proposal as stated but would prefer to have it modified in some manner to give it full support. Nevertheless, the member will support the consensus even if his/her suggested modifications are not supported by the rest of the group because the proposal is worthy of general support as written.
- A “3” indicates refusal to support the proposal as stated.

The Facilitator repeats the consensus voting process as reasonably practical and as time allows to assist the group in achieving consensus regarding a particular recommendation, so that all Polling Members poll “1” or “2.” The results are noted in the Workgroup Report.

No Consensus – Majority and Minority Recommendations: If consensus on an issue is not likely, as determined by the Facilitator, the poll results for the options considered will be presented to the BOC.

Summary of Workgroup Recommendations: The meeting summaries serve as the record of the Workgroup recommendations. Past and present members of the workgroup and public members of the subcommittees were invited to submit additional information. The Facilitator packaged all these submittals for Board review in Section VII, below.

Subcommittee Introduction

At the third Workgroup meeting (October 6, 2022), the Workgroup identified five Subcommittees that would take on various parts of the Charter elements, consistently reporting back to the Workgroup as they progressed. This was done so specific Charter elements could be addressed at the level of depth deemed necessary by the Workgroup and by those with the most expertise and interest. Once formed, each Subcommittee met roughly twice between each Workgroup meeting.

The information surrounding these Subcommittees (such as charge, members, and key work products) can be found in their respective sections of Part IV. of this report, “Key Workgroup Findings & Recommendations.”

History of Coffin Butte

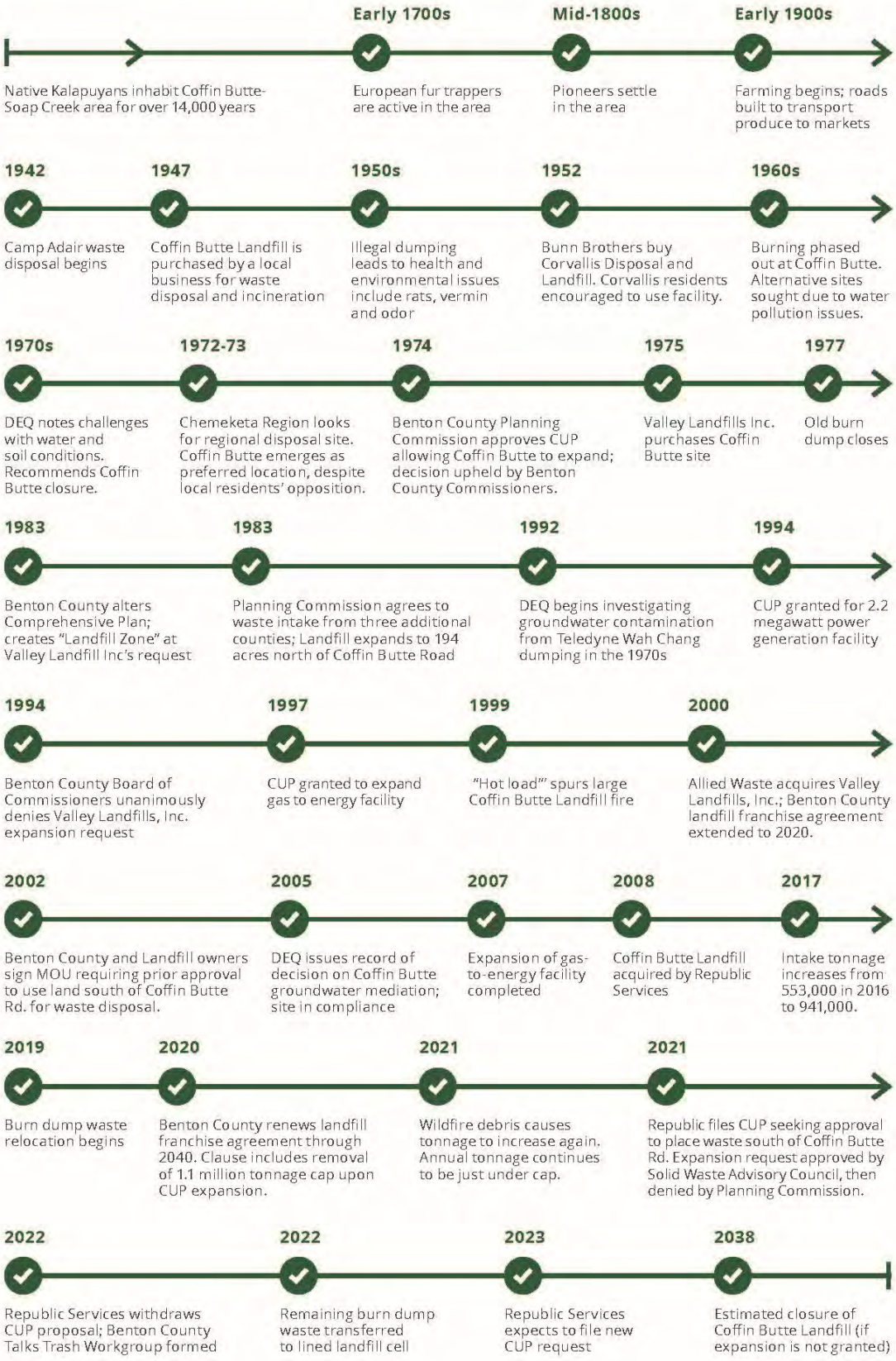
Main Themes

- The siting of the Coffin Butte landfill reflected Benton County’s early desire to control random dumping in rural areas and the initial choice of location stemmed from the historical uses of Camp Adair in the 1940s. Benton County explored alternative sites in the 1970s.
- Coffin Butte Landfill transitioned incrementally from local ownership to becoming part of a national corporate strategy under Allied Waste. Republic Services acquired Allied Waste and the Landfill in 2008, following a Department of Justice review of the merger.
- Historically, the interests of landfill owners and operators and those of the neighbors and other Benton County residents have not always coincided.

- Both remaining landfill capacity and lifespan are based on industrial modeling and have been historically overestimated.
- Issues surrounding the Coffin Butte Landfill have been the subject of strong public involvement. Periodic conflicts were equitably resolved with parties reporting adequate acceptance. Sometimes expansion was approved and sometimes it was not.
- Before the late 2020s, SWAC meeting notices and major upcoming Franchise Agreement renewals were regularly posted in the local papers. No public notice was found for either the 2020 Franchise Agreement or the 2021 CUP application.
- Increased pressure for landfill expansion is driven largely by demand from outside Benton County. This includes other counties that represent 88% of CBL annual intake.
- Benton County discretionary revenue from the surcharge on tonnage delivered to the Coffin Butte Landfill in 2022 is estimated to be $2,040,000.[1]

[1] See *Benton County, Oregon: Adopted Biennium Budget 2021-2023*, page 11.

Coffin Butte: Key dates and ownership changes



The Coffin Butte landfill can be thought of as the product of diverse historical factors. The current Benton County operation evolved in response to:

- a longstanding local need for a place to dispose of solid waste refuse,
- the development of the specific Coffin Butte site through a series of incremental decisions, and
- searches for lower-cost refuse disposal sites in western Oregon and Washington.

To help understand the diversity of these factors, this History is organized under three sections:

1) a review of the geographical and historical context of the Coffin Butte location,

2) Benton County's history of landfill decision-making leading up to Coffin Butte becoming the preeminent site for the county and region, and

3) the social context surrounding specific events regarding ownership, operation, and permitting leading to the current facilities and practices found at Coffin Butte in 2023.

Section 1: The History and Geography of the Coffin Butte Area

Geography, Geology, and Climate of the Coffin Butte Area

The Coffin Butte landfill site is located about seven miles north of Corvallis on Highway 99W. The site is at the northwest corner of the intersection of Highway 99 and Coffin Butte Road, immediately west of the E.E. Wilson State Wildlife Refuge. Coffin Butte is at the northern end of Soap Creek Valley, but Soap Creek and its valley continue north along the west side of Coffin Butte before entering the Willamette Valley.

While the needs and concerns regarding waste disposal and associated issues affect Benton County and neighboring counties of Polk, Linn, Marion, and Yamhill, the areas most impacted by Coffin Butte operations are the neighboring areas to the north and south along Highway 99W, Soap Creek Valley, the E.E. Wilson Wildlife Area, Adair Village, areas to the east which can see the operation and are most likely to be impacted by the potential for off-site odor, and Independence Road which bears much of the truck traffic and debris.

The landfill is in a topographic divide between the two valleys. Groundwater flows both east and west from the area of Coffin Butte Landfill and Tampico Ridge, depending on the underlying geology.[2] Steve Taylor et al. note that there is an unnamed tributary between Coffin Butte and Tampico Ridge and that "associated wetlands drain east-ward toward the E.E. Wilson National Wildlife Refuge."[3] Rainfall in the area is approximately 42 inches a year, with the majority falling between November and May.[4]

[2] Oregon Department of Environmental Quality, "Coffin Butte: Record of Decision," October 2005, p. 4. https://www.deq.state.or.us/Webdocs/Controls/Output/PdfHandler.ashx?p=a9aeec5b-8ac7-4658-b0e5-d475ca0c6ebd.pdf&s=CoffinButteROD(10-05).pdf

[3] Steve Taylor, Bryan Dutton, and Pete Poston. "Luckiamute River Watershed, Upper Willamette Basin: An Integrated Environmental Study for K12 Educators". This is an instructional field note for a course taught by full professors of Earth Sciences and Biology.

[4] Oregon Department of Environmental Quality, "Coffin Butte: Record of Decision", October 2005, p. 3. https://www.deq.state.or.us/Webdocs/Controls/Output/PdfHandler.ashx?p=a9aeec5b-8ac7-4658-b0e5-d475ca0c6ebd.pdf&s=CoffinButteROD(10-05).pdf

Figure 1 - the Coffin Butte Landfill & Pacific Region Compost Annual Report 2021, Page 1

Coffin Butte itself is approximately 738 feet above sea level. The operating landfill is on the southeastern slope of Coffin Butte, north of Coffin Butte Road. Ancillary facilities such as administrative offices, leachate ponds, and a power station fueled by methane from the landfill are located south of Coffin Butte Road. The southwest side of Coffin Butte has a rock quarry operated by Knife River. The rock quarry area, also referred to as Cell Six, is currently planned to be the next area of expansion for the landfill unless the permits are changed.

The earthquake hazard in this area is significant, particularly because of the Cascade subduction zone. Kent Yu et al. note that there have been over 40 earthquakes of magnitude eight or greater and in 1700, one of magnitude 9.[5] A published study by Ram Kulkarni and others states: "… the probabilities of an M9 earthquake during the next 50 and 100 years were estimated to

[5] Kent Yu, S, J Wilson, and Y, Yang. "Overview of the Oregon Resilience Plan for Next Cascadia Earthquake and Tsunami". *Proceedings of the 10TH National Conference in Earthquake Engineering*, Earthquake Engineering Research Institute, Anchorage, AK, 2014. https://www.researchgate.net/publication/281411611_Overview_of_the_Oregon_Resilience_Plan_for_next_Cascadia_Earthquake_and_Tsunami\

be 0.17 and 0.25, respectively."[6] When approving the expansion of the Riverbend Landfill in Yamhill County, the DEQ noted that the only westside landfill rated for a 9.0 earthquake was Short Mountain, while Coffin Butte and Hillsboro were rated to withstand quakes lower than the 8.5 that Riverbend was designed for.[7] Nevertheless, Coffin Butte landfill is in compliance with all EPA regulations regarding the construction of landfills to withstand seismic activity and, according to Republic Services, is rated for an 8.48 event.

History of the Coffin Butte Area

The archeology and history of the region are of great importance to many people involved in Coffin Butte decision-making. In his oral history of the Soap Creek Valley, Zybach notes how before Western contact, the Pacific Northwest was one of the world's more densely populated nonagricultural regions. However, with the introduction of smallpox, malaria, measles, influenza, and other diseases from explorers and traders, over 96% of the local Kalapuyan people died within two generations, particularly from malaria, in 1831-1832.[8]

Tools from the Kalapuyan people have been found throughout the Soap Creek and Coffin Butte area.[9] In 2022, the Oregon State Archeologist, John Pouley, recommended a professional archaeological survey of the proposed expansion area and consultation with all appropriate Native American tribes.[10] Republic Services has hired the firm Archaeological Investigations to research the area. Their report is expected in Spring 2023. One significant cultural practice of the Kalapuyans was the use of annual prescribed fires. Zybach notes this "broadcast burning" served a variety of purposes, including control of unwanted plants (such as Douglas Fir), the enhancement of favored plants (such as camas), easier hunting, and other benefits such as gathering grasshoppers.[11] The Soap Creek Valley was settled early by white pioneers, probably aided by the native American clearing of land by burning.

Figure 2 - View of Coffin Butte Before the Landfill: Rohner family on their farm in the 1930s (photo by Bob Zyback).

[6] Ram Kulkarni, Ram Kulkarni; Ivan Wong; Judith Zachariasen; Chris Goldfinger; and Martin Lawrence, "Statistical Analyses of Great Earthquake Recurrence along the Cascadia Subduction Zone." *Bulletin of the Seismological Society of America*. October 8, 2013. P. 3205.

[7] Scott Learn, "Bigger Yamhill Landfill OK'ed". The Oregonian (May 31, 2013).

[8] Zybach, 2000, p. 72-73.

[9] Ibid., P. 120.

[10] 2022 Conditional Use Permit Staff Report. Benton County Development Department. File No. LU-21-047

[11] Zybach, 2000, pp. 118-119.

The area had a colorful history in the 1800s and 1900s. For example, the town of Tampico, located south of Coffin Butte in Soap Creek Valley on the Applegate Trail, was briefly a thriving and boisterous place until purchased by the wealthy pioneer Greenberry Smith. A local driving guide notes that, "On January 23, 1860, the pious Smith purchased Tampico and burned the entire town to the ground, including stores and homes as well as the saloons, brothels, and gambling dens."[12]

Letitia Carson, one of the first black pioneers in the Willamette Valley, was a very early resident of Soap Creek Valley. A formerly enslaved African American, Carson came to Oregon with David Carson in 1845. When David died in 1852, her neighbor Greenberry Smith (the same man who burned down Tampico) took advantage of her unclear legal status to sell off her property. Letitia soon moved to Douglas County but successfully sued Greenberry for $300 in lost wages and $1400 for the loss of her cattle and legal costs. The Black Oregon Land Trust has expressed interest in establishing a model farm on the Letitia Carson homesite.[13]

Figure 3 - Construction of Camp Adair & Coffin Butte Road: Overlook of Camp Adair in early 1940s, from slope on Coffin Butte looking east/southeast (photo from the Salem, OR Library's "Ben Maxwell Collection").

The biggest local change, following white settlement, occurred in 1941 when the U.S. Army chose to build a military training base on the site of the town of Wells which was at the center of the present-day E.E. Wilson Wildlife Area. Within one month, the town was vacated, and houses and barns were bulldozed to be replaced by barracks. The camp itself covered an area two miles wide and six miles long with 1800 buildings. The camp was the second-largest city in Oregon at the time and housed roughly 40,000 troops. The area that eventually became E. E.

[12] "Northwest Benton County Route". Benton County, Oregon. < https://www.co.benton.or.us/sites/default/files/fileattachments/historic_resources_commission/page/6876/driving_tour_part_ii.pdf

[13] "Resilience, opportunity, and struggle: Preserving and sharing the history of Letitia Carson" *Salem Statesman-Journal* (June 20, 2022)

Wilson was referred to as “Swamp Adair” due to the constant rain, mud, and standing water. The Army built sewer and drainage systems that emptied wetlands and channelized streams.[14]

Following the World War II, the residential population slowly increased until the 1970s, at which time growth accelerated rapidly. While there are no estimates of the population of other north Benton County areas close to Coffin Butte, *Nextdoor* estimates that Soap Creek Valley has 1992 residents.[15] Although there is extensive farming along the transit routes leading to Coffin Butte, most area adults commute to work; most homes are on lots less than 10 acres in size, and most families are not directly associated with large-scale farming or forestry practices. But the values generated by ‘living on the land’ are still strongly felt. Coffin Butte Road serves as a primary emergency exit route for Soap Creek residents and a commuter route for those working in Monmouth-Independence and Salem.

Today, the unusually cohesive Soap Creek community works together to restore and maintain the Soap Creek Schoolhouse, a symbol of the valley. Built in 1935 and actively used until 1946, the structure was restored by the community and remains a meeting place for local activities and an annual fund-raising event.[16]

Figure 4 - Soap Creek Schoolhouse (photo by Charles Risen at Adobe Stock Images).

The Coffin Butte Area Today: Wildlife Habitat and Protection

Besides the vibrant community in Soap Creek Valley and the historical significance of Camp Adair, this area is noteworthy today as the home to the E.E. Wilson Wildlife Area, located just across Highway 99W from Coffin Butte Landfill.

E. E. Wilson Wildlife Area

The E.E. Wilson Wildlife Area came into existence in 1950 when the U.S. Government gave quitclaim title to the property to the Oregon Department of Fish and Wildlife. The site was originally built to serve as a US Army cantonment in 1940 and functioned as Camp Adair during the WWII era. The wildlife area covers approximately 1,788 acres of oak woodland, upland shrub, and grassland habitats. The refuge management plan’s primary goal is to manage the

[14] Oregon Department of Fish and Wildlife. “Visitor Guide: E.E. Wilson Wildlife Area History”. https://www.dfw.state.or.us/resources/visitors/ee_wilson_wildlife_area/history.asp

[15] “Soap Creek, Corvallis”. Nextdoor. https://nextdoor.com/neighborhood/soapcreek--corvallis--or/

[16] Historic Soap Creek Schoolhouse Foundation, “Soap Creek Schoolhouse”, 2021. <https://soapcreekschoolhouse.org/index.html>

area consistent with conservation and enhancement priorities for native wildlife and the production of game species.[17]

The Coffin Butte Landfill and the E.E. Wilson Wildlife Area are located at the midpoint of a triangle of National Wildlife Refuges. This National Wildlife Refuges (refuges or NWRs) system, managed by the U.S. Fish and Wildlife Service, was established in the mid-Willamette Valley during the 1960s when the Migratory Bird Commission approved the establishment of three refuges: Ankeny, Baskett Slough, and William L. Finley.

Figure 5 - View of E.E. Wilson Wetlands opposite Angler's Pond, 2023 (photo by Marge Popp).

The area containing Coffin Butte Landfill is part of a wildlife corridor and refuge system connecting the Basket Slough, Ankeny, Luckiamute, and E. E. Wilson refuges to the William L. Finley refuge south of Corvallis on through to the Fern Ridge Wildlife area near Eugene. Soap Creek Valley, E.E. Wilson Refuge, and entire area surrounding the landfill has been identified by Benton County as a high-priority area for conservation actions to benefit key local species.[18] Tampico Ridge, the next ridge immediately south of Coffin Butte, hosts a complex mix of habitats, particularly Oak Savannah, and is the site of an ongoing research project looking at plant succession being conducted by Western Oregon University faculty and students.[19]

[17] Oregon Department of Fish and Wildlife, E.E. Wilson Wildlife Management Plan (Updated January 2019) https://www.dfw.state.or.us//wildlife/management_plans/wildlife_areas/docs/ee_wilson.pdf

[18] For one example, see: "Benton County Prairie Species Habitat Conservation Program," Benton County Natural Areas and Parks Department, 2010. https://scholarsbank.uoregon.edu/xmlui/bitstream/handle/1794/20770/BentonCo_001-13_ADOPTION.PDF?sequence=1&isAllowed=y

[19] Dickey, Eric. "Tampico Ridge LTER Provides Research Opportunities for WOU Students." Western Oregon University. May 14, 2021. https://wou.edu/research/2021/05/14/tampico-ridge-lter-provides-research-opportunities-for-wou-students/ A video of this project can be found at https://www2.wou.edu/nora/woutv.video.viewer?pvideoid=1754

Section 2: Historical and Social Context of Coffin Butte Landfill

Benton County Confronts Its Waste Issues: Up to 1983[20]

Waste disposal was simple in the early days of Benton County. What little waste there was before the age of plastics would simply be deposited into rivers, ravines, or anywhere convenient. Dumping along roadsides was particularly common. Over time, however, unsystematic dumping created health and sanitation problems, and eyesores. For example, on July 27, 1906, The *Corvallis Gazette* advised: "Another thing in connection to cleaning up, don't dump your trash, dead cats, dogs, and other rubbish onto the vacant lot just over the fence." By May 15, 1911, Corvallis residents could use a "garbage ground" available just a ferry ride across the river, and in June 1921, the *Daily Gazette-Times* advised residents to burn their refuse rather than dispose of it in nearby streams. By May 7, 1937, the *Gazette-Times* was reporting on the city dump's location by Kiger Island and reminding citizens they would be fined if they continue to simply dump their trash along roads.

On February 28, 1950, the county sanitarian warned the public to stay clear of the dumpsite south of town since they would be poisoning the approximately 200,000 rats there.[21] By April 5, 1950, Benton County had established a free refuse facility at the Coffin Butte Site. By April 8, 1954, Robert and Daniel Bunn owned and operated Corvallis Disposal and the Coffin Butte facility, and the *Gazette Times* boasted of the clean efficient service. But roadside dumping remained a problem for decades even after commercial trash pickup was extended to nearly all parts of the county by 1964.[22]

The late 1960s brought changing attitudes toward traditional practices of dumping and burning. By 1967 burning was being phased out as Coffin Butte evolved to be a landfill operation involving covering and sealing refuse. Accordingly, the volume of waste became an increasing problem. The early 1970s brought pressure to re-locate Benton County's landfill and the exploration of several alternate approaches to disposal. As early as October 9, 1969, Corvallis Disposal began looking for an alternate landfill site and had begun negotiating with Oregon State University to use lands east of Corvallis for that purpose. In the March 19, 1971, *Gazette-Times*, County Sanitarian Roger Hayden speculated that one day soon Benton County may be barging its wastes downriver to a regional site where proper sorting and recycling could take place. Hayden suggested at the time that eventually local solid waste would have to be taken to the eastern side of the state since western Oregon had location, water, and soil condition difficulties.[23] Without a ready alternative, however, in November of 1971, the County Commissioners approved an extension of Corvallis Disposal to use the Coffin Butte area as a landfill until December 31, 1974. Corvallis Disposal negotiated a 99-year lease option on the "Granger" site on the Independence Road near Highway 20 where they hoped to develop a landfill despite some concerns by officials about the proximity of the Willamette River.[24]

[20] Unless otherwise noted, all information here is from the *Corvallis Gazette-Times*.
[21] *Corvallis Gazette-Times*, February 28, 1950.
[22] *Corvallis Gazette-Times*, June 24, 1966.
[23] *Corvallis Gazette-Times*. May 12, 1972.
[24] *Corvallis Gazette-Times*, August 26, 1972.

In 1970, there were 17 disposal sites in a five-county area that included Benton County.[25] Only two met the new standards for landfills, as set by the Oregon DEQ. Coffin Butte was one of many sites recommended for "phasing-out" and "closure" at a later date. In April 1970, individuals representing Benton, Linn, Marion, Polk, and Yamhill counties met to discuss solid waste solutions for the five-county area. Two years later, they formed the Chemeketa Regional Solid Waste Program, a cooperative program funded via a grant from the Environmental Protection Agency (EPA).[26] The Chemeketa program is no longer in existence and no record can be found of an updated plan after the projected timelines expired.

At the time, "the Granger site" was the leading location for a regional landfill in Benton County. However, Benton County officials and residents soon expressed concerns about the plan, noting that the parcel was on prime farmland and the Willamette River Flood Plain. The opposition prompted the Chemeketa Board to go back to the drawing table, and by September 1973, four sites were under consideration for a regional landfill.

Two months later, Coffin Butte was designated as a preferred site due to cost and convenience considerations. The selection came following a public hearing in which residents opposed all four sites and a written public comment period during which Benton County received five letters opposed to Coffin Butte and four in favor. Two additional public hearings were held in February and March 1974. At the first, testimony was overwhelmingly in favor of the project. At the second, there was significant public opposition to the proposal, especially from the North Benton County Citizens Advisory group. Testimony lasted more than 3.5 hours.[27]

Ultimately, the Benton County Planning Commission approved a conditional use permit (CUP) request allowing Coffin Butte to be expanded into a regional landfill, one of several designated by the Chemeketa agreement.[28] Residents appealed but two months later the Benton County Commission upheld the Planning Commission's decision. The Chemeketa agreement was not a sweeping commitment by Benton County to take all refuse from the other counties. While the charge of the Resource Recovery center being planned for the former Camp Adair site, and now in operation, was broad, access to use Coffin Butte for refuse disposal was limited to specific areas within the partnering counties, including the general areas of Monmouth/Independence (MI), West Salem (WS), Dallas (DA), Kings Valley (KV), Corvallis (CO), Albany (AL), Lobster Valley (LV), and Monroe/Harrisburg/Halsey.[29]

[25] *Chemeketa Region Solid Waste Management Program Summary, Volume 1*. Stevens, Thompson, and Runyan, Inc. 1974. P.9
https://www.co.benton.or.us/sites/default/files/fileattachments/community_development/page/8136/1974_chemeketa_region_solid_waste_management_program_summary_volume_i.pdf

[26] *Chemeketa Region Solid Waste Management Program Summary, Volume 1*. Stevens, Thompson, and Runyan, Inc. 1974. PP. 3-4.
https://www.co.benton.or.us/sites/default/files/fileattachments/community_development/page/8136/1974_chemeketa_region_solid_waste_management_program_summary_volume_i.pdf

[27] *Corvallis Gazette-Times*, March 6, 1974.

[28] *Chemeketa Regional Solid Waste Program Technical Report*. 1974. pp. 105-112.
https://www.co.benton.or.us/sites/default/files/fileattachments/community_development/page/8136/1974_chemeketa_region_solid_waste_management_program_technical_report_volume_ii.pdf

[29] *Chemeketa Regional Solid Waste Program Technical Report*. 1974.
https://www.co.benton.or.us/sites/default/files/fileattachments/community_development/page/8136/1974_chemeketa_region_solid_waste_management_program_technical_report_volume_ii.pdf
Also see BCTT, Subcommittee A, Compliance with Past Land Use Actions and Their Status

Pressures for expansion renewed by 1981, notably with the closure of the Roche Road landfill in Linn County. The next level of expansion for Coffin Butte came in 1983 when the Benton County Planning Commission approved another expansion that the Landfill's operators said would add half a century to the site's life.[30] Although this expansion provoked less protest than in the early 1970s, the North Benton Citizen's Advisory Committee (CAC) specified that there would be no disposal of municipal solid waste on the 59.23 acre property south of Coffin Butte Road;[31] this parcel, however, was part of Republic Services' 2021 CUP application.

During the 1980s, the landfill operator purchased several properties surrounding the landfill, some belonging to residents whose water supplies were compromised as a result of landfill operations. A household well west of the landfill, on the former Helms home site, received sufficient contamination from the landfill site and was decommissioned under DEQ supervision. A DEQ report on the situation notes that practices at the landfill were being adjusted to minimize future problems, and the responses included the decommissioning of some wells. "Decommissioning water wells within the LOF ("Location of Facility") or in areas potentially downgradient of impacts removes potential exposure to contaminants in groundwater. Two wells currently proposed for decommissioning include PW-1, which is within the LOF, but currently unused, and the Helms well, which is outside and downgradient of the LOF. The Helms well will be used (with carbon filter unit) until September 2006 at which time it will be disconnected from use and scheduled for decommissioning."[32]

Coffin Butte Landfill History: Operating as a Landfill, 1983-2010[33]

In the early 1980s, plans for Coffin Butte began to evolve, driven by increasing demand to expand the volume embedded at the site and changes in ownership. The 1983 Benton County decision to allow Linn County waste operators to use Coffin Butte generated significant attention but not powerful opposition and a new 'landfill site' zone was created for the 266-acre CBL site and the site development plan allowed Valley Landfills to expand the landfill site by 10 acres.

In the 1980s, there appeared to be little concern about Coffin Butte's site life. An article in the *Gazette-Times* in August 1990 noted that Coffin Butte had an estimated lifespan of 60 to 70 more years and detailed the purchase of a new machine, the "Horizontal Fixed Hammer Hog", that could process wood into compost and wood chips. At the time, company officials said the machine would extend the Landfill's life by 20 years.[34]

In April 1994, Benton County Commissioners proposed eliminating a 10 percent surcharge on all waste coming to Coffin Butte from surrounding counties and replacing it with a 1 percent franchise fee levied on all customers. The move was an attempt to keep waste from coming into Coffin Butte from Lincoln and Tillamook counties; the latter was being sued by a company

[30] *Corvallis Gazette-Times,* April 27, 1983.

[31] North Benton County Citizen's Advisory Council submission, Benton County File PC-83-07-c(5)

[32] *Record of Decision for Coffin Butte, October 2005.* Oregon Department of Environmental Quality, October, 2005, p. 16. Also see: Wilson, Bob and Gordon Brown, "1993 Coffin Butte Annual Report", July 19, 1994. P. 4 https://www.co.benton.or.us/sites/default/files/fileattachments/community_development/page/8139/1993_coffin_butte_landfill_annual_report.pdf

[33] References in this section are from the *Corvallis Gazette Times* or *Albany Democrat Herald*, which generally share their reporting on these issues.

[34] *Corvallis Gazette-Times*. August 26, 1990.

that said it could offer a better rate for disposal elsewhere. County Commissioners approved the franchise fee in July to provide a "more stable funding source" for the County's solid waste program.[35] In 1994, Coffin Butte lost a significant amount of business, including 43,000 tons of paper from the James River Paper Plant and 12,000 tons from Tillamook County. Overall tonnage placed at Coffin Butte in 1993 was 313,572; that dropped to 270,645 in 1994.[36]

In addition to the surcharge debate, newspapers also covered Valley Landfills Inc.'s gas-to-energy project, a $2.4 million effort to turn methane into electricity. At its inception, the facility was capable of powering 1,500 homes with clean energy. Today, PNGC Power Plant is capable of powering 4,000 homes with clean energy. Generating energy this way is a partial solution to controlling methane produced by decomposing waste at the Landfill.

Also in 1994, Valley Landfills filed another CUP, seeking to rezone 26 acres it owned from rural residential for use as a landfill, as part of its long-term planning efforts. This was estimated to increase the capacity of the landfill by 64 to 80%.[37] As reported in the *Gazette Times* on November 3, 1994, this request encountered stiff opposition when local landowners cited concerned over smell, noise, groundwater contamination while other county residents wondered how large the county would let the landfill grow and whether increased capacity would affect the incentives to reduce consumption or recycle. About 50 people attended a Board of Commissioners' meeting in early November.[38]

The residents' perspectives in 1994 are similar to those in the 2020s. Community members argued that approval of the expansion by the County Commission after the extensive negative public testimony would show a lack of concern about what the community thinks. Specific concerns focused on the potential impact on springs and water supplies, that the change would be an exception to our state land-use goals, and how it could set precedent for even more massive change in waste disposal in the future.

Newspaper archives indicate that numerous residents wrote letters to the editor, authored op-eds or said they were concerned that: 1) eventually the county would have to close Coffin Butte Road, a critical emergency route; 2) they had existing concerns about traffic, noise, smells, and roadside litter; and 3) that potential earthquake damage to landfill liners could cause contaminants to seep into the underground water supply.[39] After delaying the vote at an earlier date, in a December 14, 1994 hearing, the Board of Commissioners unanimously denied the expansion. An article in the *Albany Democrat-Herald* reported that Commissioner Pam Folts said the Willamette Valley is not a good place for landfills because the high amount of rainfall can cause leachate to reach groundwater.[40]

In the mid-1990s, Coffin Butte, its neighbors, and elected officials worked cooperatively to solve leachate-related problems. Heavy rains in 1996 led DEQ to authorize the Landfill to pump

[35] "Proposed Franchise Fee May Eventually Boost Garbage Rates," Wed. April 6, 1994, Corvallis Gazette-Times. See also: "County Increases Fee on Landfill," Thursday, July 21, 1994, *Corvallis Gazette-Times* and original sourcing in draft: "Wilson, Bob and Gordon Brown, Benton County Environmental Health Division. Coffin Butte Landfill Annual Review 1994 Operations." August 22, 1995. P. 4

[36] *Coffin Butte Landfill and Pacific Region Compost Annual Report, 1993*, and *Coffin Butte Landfill and Pacific Region Compost Annual Report, 1994.*

[37] *Corvallis Gazette-Times*, November 3, 1994.

[38] Corvallis Gazette-Times, November 3, 1994.

[39] Example: *Corvallis Gazette-Times*. November 3, 1994 and November 14, 1994.

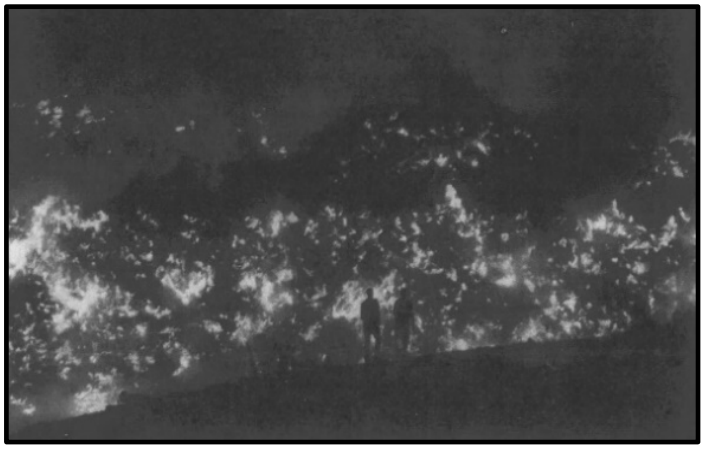
[40] *Albany Globe Democrat*. December 15, 1994.

leachate into the Willamette River on an emergency basis. (The agency later said the rain had diluted the liquid, and there was no environmental harm to the area.) To avoid a similar situation, the Landfill announced plans to raise the walls on its storage ponds, sent some leachate to the City of Corvallis for treatment, and tried new liquid processing techniques.[41]

By 1997, the landfill property had grown to 790 acres of which 194 acres were zoned for disposal. Public meeting notices regularly placed in the local paper by the County's Solid Waste Advisory Committee (SWAC) show that the public was invited to hearings that were held to approve the extension of services to each of the seven counties then served.

The second half of 1999 was eventful for Coffin Butte. On August 24, 1999, at around 6:30 pm, the landfill caught fire.[42] This fire, large enough to be covered by the Associated Press as national news, burned for more than 24 hours, prompting fire crews from Adair Village, Corvallis, Albany, and Polk County to respond. The Landfill's owner said the blaze was caused by a 'hot load' delivered to the site.

Figure 6 - Karl Maasdam/Gazette-Times August 25, 1999. Permission to use granted by OWH News Archives and Licensing Manager.



Probably more notable in the long run, on December 14, 1999, after 40 years of operating Corvallis Disposal and Coffin Butte Landfill, the Bunn Family announced they had sold their operation to Allied Waste Industries, the second largest solid waste services company in the world. Company President Duane Sorensen said of Allied, "We're really excited about these guys, they run pretty decentralized just like we do…you won't see any change."[43]

Operations at Coffin Butte changed little in the early 2000s. Throughout this period, the Solid Waste Advisory Council frequently posted public meeting notices in the local paper. In November of 2002, the Benton County Board of Commissioners signed a Memorandum of Understanding with Valley Landfills stating that Valley Landfills, Inc (VLI), "will not conduct, without the prior approval of Benton County and the State of Oregon, the placement of solid waste on the approximate 56 acres, within the landfill zone which it owns south of Coffin Butte

[41] *Corvallis Gazette-Times*, July 16, 1996.
[42] *Corvallis Gazette-Times*. August 25, 1998.
[43] *Corvallis Gazette Times*. December 15, 1999.

Road."[44] The required Benton County approval process specifies the need for a Conditional Use Permit (CUP) approved by the County Planning Commission.

In 2008, Republic Services merged with Allied Waste Industries and acquired control of the Coffin Butte facility. Republic Services, headquartered in Phoenix, has managed the landfill since.

Section 3: Current Political and Social Context of Coffin Butte Landfill

Throughout the 2000s and 2010s, the landfill operators raised trash hauling rates with relatively little public concern. In 2018, that changed when Republic Services announced that the per-load tipping rate would rise nearly fourfold, from $28.75 to $85.75. Republic Services said the rate increase sought to discourage the general public from bringing their trash to the landfill.[45] "We have a lot of traffic in and out of Coffin Butte Landfill," Julie Jackson, Republic Services' municipal manager told the Board of Commissioners. "It's becoming increasingly dangerous to have the public there."[46]

Figure 7 - View of Coffin Butte Landfill, Feb. 2023 from E.E. Wilson Archery Park (photo by Marge Popp).

Even after Republic Services dropped the rate to $40, county residents voiced their displeasure at a Commissioners Meeting.[47] Because Coffin Butte is a privately-owned landfill, Benton County could not then, and cannot now, directly regulate the rates Republic charges. However, the County was able to encourage a lower fee increase because it was in the process of renegotiating its franchise fee agreement.

The current pressure for expansion is tied to the annual volume of waste placed in Coffin Butte landfill. Although Benton County contributed less than 12% of the total intake at Coffin Butte in 2021, pressures to expand the landfill's footprint include population growth, diversion rate, wildfire debris, and according to EPA data, more waste is being generated per capita today than

[44] "Memorandum of Understanding Relating to Land Use Issues". Benton County and Valley Landfills, Inc (2002) https://www.co.benton.or.us/sites/default/files/fileattachments/community_development/page/8136/landfill_mou_2002.pdf

[45] *Corvallis Gazette Times*. December 8, 2018.

[46] *Corvallis Gazette Times*, December 8, 2018.

[47] *Corvallis Gazette Times*. December19, 2018. This article was entitled: "Public rips dump rate hike".

ever before in history.[48] It is important to recognize that the current issue of Coffin Butte is not about closure, but about the manner of expansion.

As the science behind landfill siting and maintenance progressed, sites with high rainfall and soils that have low compaction have lost favor. Also, as landfills increase in size, location in remote areas is preferable. Therefore, the newer large landfills, such as Roosevelt and Columbia Ridge disposal sites, are located east of the Cascades where meteorological, geologic, and population density conditions are more favorable.[49] Locating landfills must take into consideration factors other than environmental conditions and immediate impacts on close neighbors, including the costs to local residents of refuse disposal, the suitability of alternative disposal sites, and the financial impacts on the local government of hosting a facility. Still, many landfills on the west side of the Cascades have been closed or are in the process of closing, and the impending closure of Riverbend Landfill in Yamhill County is one justification for Coffin Butte expansion.[50]

The capacity issue is discussed in detail in another section of this report, but there is a historical component to it. The amount of waste (tonnage) being delivered to Coffin Butte has increased steadily in recent years. Annual reports submitted to the county show that tonnage in 2016 was 552,978.53. The following year, tonnage increased by 66.63 percent. Republic Services has noted that much of that increase is due to the diversion of waste from the Riverbend Landfill in Yamhill County, which was having difficulties with its expansion plans.[51] Tonnage has continued to increase on an annual basis, except for 2020, a year that was marked by significant lifestyle changes due to the global COVID-19 pandemic. There was 1,046,066.96 tons of waste deposited at Coffin Butte in 2021, an 89.17 percent increase compared to 2016 numbers. Coffin Butte currently operates under a tonnage cap of 1.1 million.[52]

The current Benton County Talks Trash (BCTT) process is a reaction to three specific decisions made by Benton County officials and Republic Services:

1. First, the public process and outcome of the December 2020 franchise agreement between Benton County and Republic Services.
2. Second, the issues raised when Republic Services applied for a CUP to expand landfill operations south of Coffin Butte Road in 2021, an application approved by the SWAC, but unanimously rejected by the county Planning Committee.
3. The third action leading to the creation of the BCTT process was the decision of Republic Services to withdraw their Board of Commission appeal of the Planning Commission decision. Instead, it reserved the option to request another CUP in the future. As a result, BCTT was created by the County Commission to develop common understandings that could inform the Board, other decision-makers, and the public on solid waste issues, including any possible future request.

[48] Environmental Protection Agency, National Overview: Facts and Figures on Materials, Wastes and Recycling. December 2020. https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/national-overview-facts-and-figures-materials#GenerationTrends

[49] Republic Services, "Roosevelt Landfill Site: FAQs". https://www.republicservices.com/roosevelt-landfill

[50] BCTT Subcommittee A.1 Revision 5 1/10/2023

[51] The ongoing difficulties with Riverbend Landfill can be seen at: Nicole Montesano, *Yamhill County New-Register.* "Riverbend landfill stops accepting garbage". June 18, 2021.

[52] Benton County Trash Talks, "Data from Coffin Butte Landfill Annual Reports – 2014-2021", https://www.co.benton.or.us/sites/default/files/fileattachments/community_development/page/8317/data_from_coffin_butte_landfill_annual_reports.pdf

In each of the above situations, some residents raised concerns about the public notice process and the lack of information given to residents before decisions were made or contracts were signed. Recommendations for addressing these communication gaps are part of Subcommittee E charge to: "Develop protocols for the timely and broad distribution of CUP-related information to the public, other governmental entities, and internal committees, groups, and divisions."[53]

Benton County and Republic Services approved a hauling franchise fee agreement on June 7, 2022, a ten-year agreement, with the possibility of re-negotiation July 1, 2024. As County Commissioner Xan Augerot observed, "… while county officials have a long-standing working relationship of trust with Republic's local staff, many members of the community haven't been party to that."[54]

The Benton County Commissioners chose to transfer responsibility for solid waste management from the Health Department to the Community Development Department (effective on July 1, 2019) as negotiations over the 2020 franchise agreement were underway.

In response to a community member's public records request, an e-mail exchange was found between Republic Services Representative Julie Jackson and County Counsel Vance Croney on October 14, 2020 where County Counsel sought to clarify how the expansion across Coffin Butte Road would affect the lifespan of the landfill, and also noted that Republic Services "has many acres of EFU-zoned land that certainly can be used for additional cells, but would require rezoning."[55]

A communication breakdown between some residents and county officials regarding landfill issues became very apparent following the signing of the new Coffin Butte franchise agreement signed in mid-December 2020, which assumed an expansion of the landfill. Unlike the more highly publicized prior franchise negotiations, a review of local newspapers through 2020, while the landfill franchise agreement was being negotiated, did not reveal any announcements about the process, nor did the public seem to be made aware of the negotiation of a new franchise agreement. At the Board of Commissioners meeting to vote on the franchise agreement, the county attorney attested that there were no public comments.[56] Members of the SWAC acknowledged that they were told that this was not a matter for their consideration. This is surprising considering that a September 2020 solicitation notice for Advisory Board membership explicitly states 'review franchise agreements' as a primary responsibility.[57]

The 2020 franchise agreement over landfill operations enhanced the financial incentive for the county to support increased solid waste intake. Under the 2020 agreement, Benton County receives compensation in two forms. The "franchise fee" given for allowing the landfill to operate starts at $2 million in 2021 and rises to $3.5 million by 2024. The agreement was designed to incentivize the county to favor increased disposal volume and the landfill's expansion by adding a "host fee" compensation model. The "host fee" starts at $2.87 per ton of

[53] Benton County Talks Trash. BCTT Subcommittee E, January 23, 2023. https://www.co.benton.or.us/cd/page/bctt-subcommittee-e1-community-education

[54] *Corvallis Gazette Times*. June 9, 2022.

[55] The full email exchange and related documents can be found in Appendix G.

[56] Benton County Commissioner Meeting, December 15, 2020. From recording archive.

[57] *Corvallis Gazette-Times*. September 8, 2020.

waste in 2021, increasing to $3.99 per ton in 2024. Before the county receives the "host fee," however, the franchise fee is first subtracted from the per ton charge. If too little is disposed of, the county may receive no host fee, and the county is rewarded if more waste goes to Coffin Butte. As the franchise fee increases, the volume required to receive the host fee also increases. Furthermore, the fees will go up slightly if the landfill expansion is approved by 2023 and will go down slightly if the landfill expansion is not approved by 2025.[58] Before the vote to sign the franchise agreement, Benton County Counsel Vance Croney stated that Republic Services maintained that its ability to pay higher fees was dependent on reducing cost or increasing capacity.[59]

In May 2021, Republic Services applied to Benton County for a CUP to expand the landfill. At the July 28, 2021, meeting, the Benton County Solid Waste Advisory Committee 'strongly supported' the CUP, according to a memo submitted to the Planning Commission the next day. A search of the local papers did not reveal a public notice regarding the 2020 Franchise Agreement process nor the Republic Services CUP request that followed, but by August members of the local community formed a coordinated effort to educate themselves and fellow Benton County residents regarding what could be a doubling of the size of the Coffin Butte Landfill. Letters to the editor critical of the planned expansion began to appear in the local papers, and public meetings were well-attended by people objecting to the expansion.[60] Reporting at the time also noted Mr. Croney's financial arguments in favor of the expansion, particularly the revenue implications and possible future disposal costs for county residents of denying the expansion request.[61] These arguments engendered a *Gazette Time*s editorial endorsing the expansion.[62]

Public notice of the Planning Commission Hearing for the Republic Services CUP application (County File Number LU-21-047) regarding the Coffin Butte Landfill appeared in the local papers on October 14, 2021. Public outcry had been building over the past few months as residents began to understand the ramifications of the 2020 Franchise Agreement and the corresponding CUP, which proposed extending the landfill area south of Coffin Butte Road, which had long been viewed locally as a 'case closed' impossibility given the 1983 and 1994 agreements. During the period leading up to the first LU-21-047 Planning Commission meeting, neighbors of the landfill and residents throughout the county wrote numerous letters to the editor in the local papers, convened meetings, and gathered data regarding the proposed expansion.

While much public commentary in attributed editorials and letters to the editor opposed the expansion, several *Gazette Times* articles written by veteran reporter James Day throughout the period from October 2021 through January 2022 gave a positive account of the Coffin Butte expansion and could be said to advocate for its approval. In addition, on November 12, 2021, an unattributed full-length staff editorial in the *Gazette Times* recommended approval of Coffin

[58] Benton County/Valley Landfills, Inc. Franchise Agreement. PP. 5-6. https://www.co.benton.or.us/sites/default/files/fileattachments/community_development/page/8136/valley_landfills_landfill_franchise_agrmt_2020.pdf

[59] Benton County Board of Commissioners Meeting. December 15, 2000. Recording.

[60] There were at least three letters alone on October 20, 2021. The letters emphasized that the waste was overwhelmingly from outside of Benton County, transportation implications of an enlarged facility, and impacts on a great blue heron rookery. Another news article from that day discussed the hearing that Republic Services held to explain their plan.

[61] *Corvallis Gazette-Times*. October 31, 2021, and November 12, 2021.

[62] *Corvallis Gazette-Times*. December 2, 2021.

Butte expansion, and on December 19, 2021, the paper's editorial page feature "Roses and Raspberries" assigned a raspberry rating "to the Benton County Planning Commission for unanimously denying a proposal by Republic Services to expand the Coffin Butte landfill."

The first LU-21-047 Planning Commission meeting generated so much controversy that over a hundred residents signed up to testify at the 4.5-hour hearing, and a second meeting was scheduled to hear public comment. The more than 30 citizens speaking at the November 2, 2021, and the November 16, 2021, Planning Commission hearings all opposed the expansion.[63] Objections raised in public comments in this process are partially why the County Board of Commissioners created the Benton County Talks Trash process.

On December 7, 2021, the Planning Commission unanimously denied the LU-21-047 CUP. Republic Services filed a timely appeal of that decision to the Benton County Board of Commissioners, claiming the evidence in the record did not support the Planning Commission's conclusions. Republic also said the landfill has maintained compliance with DEQ's air quality permit regulations. But on March 15, 2022, the company informed the Board of Commissioners it would withdraw the appeal.

Meanwhile, from October 2021 to January 2022, the Solid Waste Advisory Council membership changed; three members finished their terms and two other members resigned. The Board of Commissioners then appointed four new members.

Based in part on the distinctly different decisions at the Solid Waste Advisory Council and at the Planning Commission and based on the level of opposition from neighboring community members, the Board of Commissioners asked Oregon Consensus to conduct a situation assessment to understand whether and how the County, the community, and the landfill operators might be able to move forward constructively. Oregon Consensus conducted the situation assessment and presented a Report to the Board on July 12, 2022. Based on the findings from that assessment, the Board voted to establish a Solid Waste Process Workgroup "Benton County Talks Trash." The Solid Waste Process Workgroup first met on September 8, 2022.

[63] *Corvallis Gazette-Times*. December 8, 2021.

II. Project Website and Workplans

PROJECT WEBSITE

WORKGROUP CHARTER AND BYLAWS

Initial Project Workplan

Meeting One: 9/8/22
• Introductions • Review of Charter with Process Overview • Member Comments • Charge A: Discuss Common Understandings document draft • Next Steps and Homework • Meeting Evaluation
Meeting Two: 9/15/22
• Charge A continued: Develop Common Understandings • Coffin Butte Tour • Next Steps and Homework
Meeting Three: 10/6/22
• Charge B: Clarifying existing criteria and information requirements for the land use review process for any proposed landfill expansion • Next Steps and Homework
Meeting Four: 10/27/22
• Charge B continued: Clarifying existing criteria and information requirements for the land use review process for any proposed landfill expansion • Next Steps and Homework • Mid-Process Evaluation

Meeting Five: 11/3/22
● Charge B continued, and Charge C: Scope the necessary tasks to start a Long-Term Sustainable Materials Management Plan process ● Next Steps and Homework
Meeting Six: 11/17/22
● Provide input on Charges D and E: Additional Topics o Hauling Reopening o Roles/Responsibilities o Timeline for code changes o Consider creating a public-facing document and community education campaign on these topics ● Authorize Draft to SWAC/DSAC and Planning Commission for comment ● Next Steps and Homework
Meeting Seven: 12/1/22
● Review SWAC/DSAC and Planning Commission Feedback ● Edit Draft Report ● Next Steps and Homework
Meeting Eight: 12/15/22
● Finalize Report to BOC ● Next Steps: The BOC is expected to consider the findings and recommendations in January 2023. ● Process Evaluation ● Celebration!

The workplan evolved over time to accommodate the needs of the Workgroup and there were 11 Workgroup Meetings held to complete the charge. The last meeting was held on April 3, 2023. The list of meetings and the links for the meeting websites are located on the Project Website linked above.

III. Workgroup Meeting Topics

Meeting Summaries for the Workgroup Meetings can be found on the Project's Website HERE

Meeting One: September 8, 2022

- Welcome & Introductions
- Participant Meeting Instructions
- Participant Commitments
- How We Got Here
- Review Major Charter Sections:
- Collaboration 101 Training
- Public Comment
- Triage Charge Elements
- Draft Report Structure Explore Common Understandings Section
- Mechanics: Add Representative Table
- Next Steps

Meeting Two: September 15, 2022

- Welcome & New Member Introductions
- Participant Meeting Instructions
- Participant Commitments
- Approve Draft Minutes from Meeting One
- Public Comment
- Meeting One Evaluation Highlights
- Homework Highlights
- Explore Common Understandings & Refine List of Missing Topics/Questions
- Discuss SWMP Table of Contents Concept
- Triage Charge Elements/Workplan
- Next Steps

Landfill Tour: September 24, 2022

- Republic (Ian) gave agenda, safety, & scale liner model speech.
- At the top of Coffin Bute hill observed the dumping area and machinery, observed the self-tipping/emptying trailers, and discussed the gas pump vacuum system.
- At an overlook of the quarry had Q&A time.
- At the power plant a CPI representative (Roman Gillen) spoke about PNCG Power owning this landfill power plant, and the Facility Manager (Steve King) gave an overview of the facility.
    - The tour was split into two groups to view the generators and interior of the power plant.

Neighborhood Tour: October 1, 2022

- Tour guide Joel Geier began with some geology, local history, and comments about the community. Then Joel and Nancy Whitcombe provided comments on topics including bird watching, disc golf, airport for model airplanes, North Palestine Baptist church, Santiam Christian school, local geology, and geologic fault lines.

- At a stop 3 miles southeast of the landfill, the group discussed tree cover and property siting.
- As the tour moved to the E.E. Wilson Archery Range, the discussion covered vehicle traffic, Yamhill landfill, Red Barn Farm, the PRC composting facility, a WWII maintenance shed, zoning, land use, terracing versus continuous slope, vegetated or productive slopes, settling and gasification processes, and the siting of landfills.
- The tour stopped at and discussed Bit-By-Bit Horse Farm.
- When viewing the quarry, the discussion focused on the leachate facility, Republic's office, invasive species, properties purchased by landfill, OSU beef ranch, monitoring wells and water contamination.
- At the historic Soap Creek Schoolhouse, Kevin Higgins, a firefighter and employee with the Benton County Sherriff's Office, gave a talk on growing up in the area, landfill fires, types of items in landfill, and DEQ. This was followed by a video testimony from Priya Tucker, of Rising Joy Flower Farm, and resident Elisabeth Pott.
- Discussion on the bus ride back focused on affordable housing and local buildings.

Meeting Three: October 6, 2022

- Welcome & New Member Introductions
- Review Participant Meeting Instructions & Agenda
- BOC Presentation
- Approve Draft Minutes: Last Meeting & Tours
- Landfill Tour Questions
- Public Comment
- Comments on Meeting Two Evaluation Suggestions
- Discuss County Counsel Deference Memo & Set Stage for Legal Subcommittee
- Check-in Activity
- Big Picture Discussion
- Stand-Up the Subcommittees
- Review Amended Workplan
- Next Steps

Meeting Four: October 27, 2022

- Welcome & New Member Introductions
- Review Participant Meeting Instructions & Agenda
- Approve M3 Draft Minutes
- BOC Action on Updated Workplan
- Public Comment
- Update on Tour Questions & Answers
- SMMO Values & Goals Discussion
- Q&A Session with Representatives from other Counties
- Subcommittee Reports
- Next Steps

Meeting Five and Open House: November 17, 2022

- Welcome
- Review Participant Meeting Instructions & Agenda

- Approve M4 Draft Minutes
- Approve Updated Tour Q&A
- Updated Workplan Facilitator 11/16/22
- Public Comment
- Subcommittee Reports
- Reintroduce Charges D & E
- Next Steps
- Open House

Meeting Six: December 15, 2022

- Welcome & New Member Introduction
- Review Agenda
- Member Shares Original Document
- Public Comment
- Subcommittees A.1. & E.1. Report
- Review & Approve M5 Minutes & Evaluation Summary
- Discuss Consultant/Attorney for Next CUP
- Subcommittee A.2 Report and A.3 B.1 Report
- Introduce & Approve Third Attorney with Poll
- Subcommittee C.1. Reports
- Updated Project Workplan
- Next steps

Meeting Seven: January 19, 2023

- Welcome and Review Agenda
- Meeting 6 Minutes and Evaluation Summary
- Review Workgroup Report Draft 2
- Land Use Acknowledgement Discussion
- Subcommittee E Presentation
- SMMP Subcommittee Presentation
- CUP Subcommittee Presentation
- Legal Subcommittee Presentation
- Capacity Subcommittee Presentation
- Key Dates Review
- Review Consultant Selection Process
- Next Steps

Meeting Eight: February 23, 2023

- Welcome and Review Agenda
- Meeting 7 Minutes
- Review Updated Workplan
- Introduce Key Findings and Key Recommendations Crosswalk Document
- Review the Feedback Plan
- Member FRs Feedback Session 1
- Member FRs Feedback Session 2

- Member FRs Feedback Session 3
- Next Steps

Meeting Nine: March 16, 2023

- Welcome and Review Agenda
- Meeting 8 Minutes
- Review Updated Workplan
- Public Polling on Recommendations
- Introduce Key Findings and Key Recommendations Crosswalk Document
- Review the night's Feedback Plan
- Member FRs Feedback Session 1
- Member FRs Feedback Session 2
- Member FRs Feedback Session 3
- Member FRs Feedback Session 4
- Discuss Final polling on Body of the WG Report, not on the Appendix.
- 1-2-3 Polling Refresher
- Next Steps

Meeting Ten: March 23, 2023

- Welcome and Review Agenda
- Meeting 9 Minutes
- Public Polling Results: Recommendations
- Review the Polling Plan
- 1-2-3 Polling Plan
- Explore F&Rs with "3s" and any New Items

Meeting Eleven: April 3, 2023

- Welcome and Review Agenda
- Meeting 10 Minutes
- Updated Public Polling Results: Recommendations
- Review the Polling Plan
- Explore F&Rs with "3s" and any New Items

Open House: April 4, 2023

- Seven stations that focused on:
    - Check-in and survey submittal
    - History section
    - Landfill Size/Capacity/Longevity
    - Sustainable Materials Management Plan
    - Past Land Use Application Conditions
    - Legal Issues and B.1. Land Use Review
    - Community Education

IV. Key Workgroup Findings & Recommendations

Each of the Subcommittee sections below is organized similarly. First, each section provides an Introduction and a link to the Subcommittee's webpage, including its Charge and Members, and a link to each Subcommittee's "Master Document" with the agendas, attendance, and notes for each subcommittee meeting. Each section then provides the Subcommittee's Key Findings and Recommendations. Next, a section called Additional Details includes items that fall outside of a Key Finding or Key Recommendation. Finally, each section ends with a summary Conclusion.

Note that Findings and Recommendations in the Subcommittee reports in Appendix C may differ in places from the Findings and Recommendations of the BCTT Workgroup as shown in this report section. The Subcommittee reports reflect the work of each Subcommittee as it was submitted to the BCTT Workgroup on March 16. The Workgroup discussed, and in many instances revised, findings and recommendations during Meetings 9, 10, and 11 with the goal of achieving a consensus.

Section A: Sustainable Materials Management Plan (SMMP)

INTRODUCTION

Benton County is seeking to develop a first ever Sustainable Materials Management Plan (SMMP) to help guide decisions and policies for the future of solid waste and disposal consistent with Benton County values. Historically, the County has not had the benefit of such a plan. The main theme of the subcommittee's findings and recommendations are that an SMMP should help transition and re-focus from linear, end-of-life waste management to more holistic, systemic, circular approaches for all materials. The many positive impacts of this transition include:

- Efficiencies of full life cycle/cradle-to-cradle sustainable material management.
- Cost savings and other benefits from waste reduction
- Creating opportunities for efficient circular economies both locally *and regionally*
- Better inclusion of equity and shared prosperity in waste considerations
- Recognizing and encouraging innovation in the materials stream

Traditionally, Benton County has managed waste materials with an end-of-life approach – largely by landfilling them locally in Coffin Butte Landfill, and by recovery, recycling, and composting. This has presented challenges, which include, but are not limited to, the landfill's limitations environmentally and economically. The SMMP Subcommittee sought to chart the expectations and aspirations for a longer-range vision to guide the County towards more sustainable materials management. Our report advises the County on the parameters for a Request For Proposals (RFP) that would bring in consultants to develop a Plan that enables the County to achieve that longer-range vision.

Based on the magnitude of ideas and possibilities we encountered, the SMMP could usher in a paradigm shift in how we view and interact with the materials we use in our everyday lives. In addition to Findings and Recommendations, this section includes a list of Questions that consultants and the County can use to frame the thinking about this new paradigm, its benefits, and the practical paths to get there.

The subcommittee was tasked to develop a "table of contents" outlining subjects that should be covered in an SMMP. The group started by looking at examples of Solid Waste Management Plan (SWMP) documents from other Oregon counties, and by listing, reviewing, and comparing the topics covered in each. The group was able to add to and edit that list, creating a "table of contents" of topics to cover in a future SMMP, as well as an associated list of questions for the SMMP to answer. This overarching sustainable materials management approach evaluates impacts across the full life cycle of materials and weighs the costs and benefits in the decision-making process.

The Subcommittee also reviewed Benton County's 2040 Thriving Communities Initiative, as well as the values and goals expressed in other planning documents, to develop an overarching framework for developing an appropriate SMMP for Benton County.

The more recent subcommittee work focused on future next steps and recommendations for the RFP process, including contracting out, workplan and timeline, and who should "at the table" in future discussions. The Subcommittee included lessons learned from outside of

Benton County, including information and lessons from neighboring counties' presentations to the full work group.

SUBCOMMITTEE WEBPAGE LINK

SUBCOMMITTEE CHARGE

Long Term Sustainable Materials Management Plan (SMMP) tasks:

1) Contracting out;
2) Subjects to be covered;
3) (Moved from Common Understandings) Benefit-Cost Topics are only Outlined;
4) (New) Add in Vision 2040 and related County documents with similar from other counties referenced;
5) Who needs to be at the table beyond those in the County;
6) A workplan outline with a timeline for completion;
7) Topics covered in recent similar planning efforts across the state; and
8) What "lessons learned" should be brought forward in this process. Includes necessary foundational "common understandings" and protocols needed before beginning the actual planning process.

NOTE: This charge does not include completing the plan. It only includes a discussion of the preliminary scoping to start that planning process.

If there is sufficient time to complete the original Charge and the following activities, subcommittee to provide recommendations on:
1. the most important topics/subjects from the draft of the SWMP Table of Contents;
2. brainstormed options for those topics/subjects; and
3. the reasoning, both pro and con, for their selection.

SUBCOMMITTEE MEMBERS AT END OF PROCESS

Brian May
Daniel Redick
John Deuel
Ken Eklund
Marge Popp
Ryan McAlister
Sean McGuire
County Staff: Daniel Redick

The **SUBCOMMITTEE'S REPORT can be found linked HERE** in Appendix C.

The **SUBCOMMITTEE'S "MEETING NOTES" can be found linked HERE**.

KEY FINDINGS AND KEY RECOMMENDATIONS

This section lists Key Findings and Key Recommendations from the full subcommittee report below. These key findings and key recommendations do not capture the comprehensive discussions of the subcommittee, nor are they intended to do so. Instead, these provide a summary overview of key observations. The link adjacent to each Key Finding and Key

Recommendation provides access to the full report. These summaries encourage readers to follow the links to find detailed content in the full subcommittee report.

			Unanimous Agreement		Consensus Agreement		Majority-Minority Approval	
Sub. Comm.	Findings and Recs	Total	# with all 1s	% with only 1s	# with no 3 votes	% with no 3 votes	# with at least one 3	% with at least one 3
SMMP	Findings	8	1	12.5%	8	100.0%	0	0.0%
SMMP	Recs	28	10	35.7%	28	100.0%	0	0.0%

Key Findings:

#	Finding	Formal Workgroup Polling		
		1's	2's	3's
SMMP F-1	Many Sustainable Materials Management Plans (SMMP) and related Request For Proposals (RFP)s have been formulated, executed, and are in use in Oregon and beyond.	11	1	0
SMMP F-2	The charges of the SMMP Subcommittee are intimately related to and should be embodied when scoping the necessary tasks to start a Long-Term Sustainable Materials Management Plan process.	11	1	0
SMMP F-3	Contracting-out processes often include a Technical Advisory Committee (TAC), which vet technical information in the RFP, and a Community Advisory Committee (CAC), which review the RFP from the community perspective. Institutions of higher learning, including Oregon State University has a large population of faculty, faculty emeriti, staff and students that are subject matter experts in many of the technical areas that the SMMP will address.	12	0	0
SMMP F-4	The overall length of the project can be heavily impacted and defined by the level of public interaction/engagement included in the project. The consultant may help define the scope of public engagement, including engagement in rural areas of the county and in communities outside the county.	10	2	0
SMMP F-5	There are aspects of the work to be performed that are technical in nature or lend themselves toward extensive research, that the consultant may conduct at the same time as public engagement. To expedite the process, certain procedural elements can be done	11	1	0

	concurrently. The timeline can generally be defined throughout the process.			
SMMP F-6	The SMMP aims to reduce the full lifecycle impacts of materials management practices in Benton County and where other jurisdictions' practices overlap with Benton County. Addressing only materials from Benton County would have limited impacts compared to that of all the materials from neighboring counties, as Benton County's waste contribution to the landfill is relatively small. SMMPs are not specifically about landfills, but about materials management across the full lifecycle of materials, including addressing impacts from production, transportation, use, reuse, recovery, and disposal.	10	2	0
SMMP F-7	Benton County has limited control over the waste management practices of the counties that emplace the vast majority of the annual landfill waste intake, and the volume of waste material they haul to Coffin Butte Landfill, however, the county and its infrastructure is impacted by other counties' waste stream contributions to facilities within Benton County (via Coffin Butte Landfill, Pacific Region Compost, and transportation methods through the county).	9	3	0
SMMP F-8	The 2040 Thriving Communities Initiative identified our communities' Core Values and has been adopted by Benton County government which is used as a benchmark or lens for initiatives such as the Benton County SMMP.	10	1	0

Key Recommendations:

#	Recommendation	Formal Workgroup Polling		
		1's	2's	3's
SMMP R-1	Benton County Sustainable Materials Management Plan should be developed within a Sustainable Materials Management framework, reflecting full lifecycle impacts. The development of a Sustainable Materials Management Plan should consider, 1) the 2040 Thriving Communities Initiative and our communities' Core Values, 2) national, State and local goals, vision documents (DEQ's Materials Management in Oregon 2020 Framework for Action), plans, policies,	10	3	0

	ordinances, etc. relating to materials management and climate change, 3) examples of values and goals expressed in state and local jurisdiction materials management plans, and 4) long-term strategies (to 2040) with short-term action items (5 years or less).			
SMMP R-2	Benton County should use the 2040 Thriving Communities Initiative as a high-level lens to frame our communities' Core Values in developing the SMMP.	12	0	0
SMMP R-3	The SMMP should not just be about how Benton County can better manage materials, but to also address how to approach inter-county collaboration from a regional perspective. The RFP should indicate the need for researching and exploring opportunities for a regional multi-county approach to achieve the goals of sustainable materials management. RFP firms with experience with Oregon's materials management legislation, policies and other county materials management plans may have the capability to address this need.	10	2	0
SMMP R-4	Counties impacting Benton County through their materials management practices (including by contributing materials to Coffin Butte Landfill) should have an SMMP in place. The SMMP should have a perspective on how to strategize this.	10	3	0
SMMP R-5	SMMP content should incorporate the sustainability of materials management strategies/tactics. The result of the process should give us a method of measuring costs and benefits to evaluate the impact on economic, social, and environmental indicators. Specific goals should be included of how materials in Benton County can fit within a circular economy, cradle-to-cradle, or similar framework.	12	0	0
SMMP R-6	The SMMP should clarify Benefit-Cost perspectives being addressed through an equity analysis, including, 1) financial cost impacts associated with materials management and outcomes, 2) the equity of circular economy, how it engages and impacts consumers, 3) a perspective that goes beyond landfilling, and 4) a "who's at the table" list of stakeholder perspectives.	12	0	0
SMMP R-7	Bring "lessons learned" into the process from other sources, including international examples as well as other counties, lessons from past Benton County experiences, and West Coast states. See full report for more sources.	11	1	0

SMMP R-8	Beyond those in the County, a wide assortment of stakeholders should be brought to the table. Stakeholders include community members, advocacy groups, businesses and industry, local and state government, and resources for innovation. See report for full stakeholder list. The consultant should provide recommendations based on analysis and extensive outreach and engagement with community stakeholders from the "who should be at the table" list. These stakeholders should represent a broader area than Benton County.	10	2	0
SMMP R-9	Benton County should use an RFP to find consultant(s) for developing a Sustainable Materials Management Plan.	11	0	0
SMMP R-10	The SMMP subcommittee researched other jurisdiction's plans, compared and aggregated a list of subjects, and the SMMP should evaluate and address the subjects listed in the full subcommittee report, answering the 117 questions listed as RFP priorities allow, and include recommended courses of action.	11	2	0
SMMP R-11	Recruitment for the RFP needs to be extensive, and selection of successful proposal should be careful and thorough. Qualities of a successful applicant should include those listed in the full subcommittee report.	11	1	0
SMMP R-12	The scope of work for this project is expected to be broad and comprehensive, with specific goals recommended for the County to consider as milestones.	12	0	0
SMMP R-13	The RFP development process should: 1) provide details about the Workgroup process and its findings to RFP applicants, 2) prioritize topics, adding additional topics that are important to consider, and 3) communicate accurate priorities to applicants.	12	0	0
SMMP R-14	Members of this BCTT SMMP subcommittee should be offered to participate in subsequent stakeholder group meetings for RFP development and review. Benton County's Advisory Committees related to SMMP work should have an advisory role during the development of the plan.	11	1	0
SMMP R-15	The RFP Release/Announcement should 1) communicate an expectation that this plan can be approached by teams (multiple firms), instead of just single firms, 2) put guidelines on the size/length of proposals and sections of proposals, and 3) be	11	1	0

	distributed to allow enough time for it to be posted to various trade groups, shared with underrepresented groups, and internationally minded outlets.			
SMMP R-16	The County should share the various steps of the process with the public, making updates available, and demonstrating transparency (cross-referencing subcommittee E.1. work).	12	0	0
SMMP R-17	The RFP should demonstrate flexibility in allowing further work plan development after applications are reviewed and accepted.	10	1	0
SMMP R-18	The SMMP Timeline should allow for extensive public interaction and engagement. In order to expedite the process, procedural elements should be done concurrently as possible. The timeline should generally be defined throughout the process.	10	2	0
SMMP R-19	Applicants should include various scope/cost options for one year, two years, and three-year timelines. The report should be released in sections, based on timeline and content priorities.	12	0	0
SMMP R-20	It's important that the SMMP process include extensive public outreach and engagement. In addition, a Technical Advisory Committee (TAC) should vet the consultant's technical work (SMMP development) and a Community Advisory Committee (CAC) to provide more general review. SMMP Sub-Committee members should be included in the CAC. The TAC should include subject matter experts from Oregon State University, and other regional academic institutions. Many of the subject areas of central importance to the SMMP are characterized by fast-moving science, and a SAC could help the SMMP consultant to navigate to the best available data and knowledge.	11	2	0
SMMP R-21	Proposals contain the following information, with parameters around each of these items in terms of document length. Requested information includes project team experience and qualifications, understanding of the project, approach to the scope of work, cost of the proposal, the project schedule, social/environmental responsibility, and references. Each criteria includes a total set of points the proposal can be awarded. See full report for more information.	10	2	0
SMMP R-22	An evaluation team consisting of County staff and members of the stakeholder group should determine	11	1	0

	the best proposal deemed most qualified based on the above criteria.			
SMMP R-23	The SMMP should emphasize impacts of the results of the RFP on social equity, innovation, to understand and emphasize the upstream aspects of material sustainability, and creative solutions that provide pathways for tangible long-term outcomes.	10	2	0
SMMP R-24	The workplan should include ongoing adaptive management and refinement and include a timeline for completion. The sections of the workplan outline include RFP development and release, a webinar for prospective consultants, a pre-proposal Q&A period, a period for application submittal, and the selection committee to identify shortlisted firms who are given time for additional presentation. The committee then evaluates proposals, selects a consultant, and develops a workplan with selected consultant. See full report for more information.	10	2	0
SMMP R-25	The County should evaluate if it would be in their best interest to have an SMMP in place prior to any major materials management decisions.	13	0	0
SMMP R-26	The county should consider using alternative funding mechanisms, including landfill revenue, to support the SMMP recommendations.	13	0	0
SMMP R-27	A complete materials audit is highly recommended as both a benchmark and a way to measure progress. Benton County should initiate a Waste Audit to characterize more precisely what is in the waste stream of Coffin Butte Landfill. The SMMP consultant can use this audit information when formulating this plan, and there is no up-to-date information specific to the landfill currently available. The benchmark audit should be completed as soon as possible, along with recommendations for follow up audits.	10	2	0
SMMP R-28	The SMMP should evaluate the costs, benefits, risks, and opportunities of a wide range of materials management strategies to find the most sustainable future for Benton County. The successful applicant should present a complete benefit-cost analysis of a wide range of strategies that work as a more integrated system, including but not limited to, the benefit-costs analysis of Benton County acting as the host of a regional landfill that contributes a small portion of the total waste the landfill receives. This analysis should	11	2	0

include key parameters of Coffin Butte landfill, such as its operating life, its large intake from outside the county, its franchise fees, and its long-term environmental risks and costs.

CONCLUSION

A modern, long-term SMMP that reflects the unique needs and values of Benton County, the Willamette Valley, and Oregon will serve the County, its residents and the state now and into the future. Acknowledging the long-term nature of such a plan, the SMMP should be adaptable to new technologies while aligning with clearly stated County and Statewide goals.

Benton County should not rush the selection process or solicitation process – selecting a partner team whose core values and vision align with what has been assembled will be a key component to getting the best outcome in the process of developing a long-term SMMP.

Section B: Landfill Size/Capacity/Longevity

INTRODUCTION

The landfill size/capacity/longevity subcommittee aimed to research and compile factual information about the landfill as it relates to the group's charge. One of the primary interests of the group was to communicate accurate information about the landfill's estimated end-of-life and capacity, which resulted in estimates provided by Republic Services staff, as well as other information about how the estimated life span of the landfill can change depending on various additional factors and scenarios not included as assumptions in Republic Services' estimate. The subcommittee's report includes information about the landfill's size over time, including annual tonnage accepted, landfill volume, and the landfill's geographic footprint. The report also includes information about specific locations at the landfill which relate to the capacity, including the status of the current active cell, the future disposal area currently occupied by the quarry operation, the landfill site zoning designation, and areas approved for disposal.

Supporting data researched and compiled by the group includes historical end-of-life projections, and annual intake tonnage over time. Some information about the landfill was not available for the group to review, a challenge most prevalent with the lack of information available about the landfill prior to 1974. The following Key Findings and Key Recommendations are based on the information compiled in the subcommittee's report, as well as the subcommittee's discussions in each of the topic areas.

SUBCOMMITTEE WEBPAGE LINK

SUBCOMMITTEE CHARGE

A chronological history of key Coffin Butte Landfill topics:

1. Size
2. Specific locations
3. Assumptions (e.g., when will the landfill close?)

SUBCOMMITTEE MEMBERS AT END OF PROCESS

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Mark Yeager
Paul Nietfeld
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			Unanimous Agreement		Consensus Agreement		Majority-Minority Approval	
Sub. Comm.	Findings and Recs	Total	# with all 1s	% with only 1s	# with no 3 votes	% with no 3 votes	# with at least one 3	% with at least one 3
LSCL	Findings	42	26	61.9%	41	97.6%	1	2.4%
LSCL	Recs	12	1	8.3%	12	100.0%	0	0.0%

Key Findings:

Landfill Estimated Remaining Life, Projected End of Life (EOL)

#	Finding	Formal Workgroup Polling		
		1's	2's	3's
LSCL F-1	In 2003 EOL was projected to be approximately 2074, with a Landfill Life estimate of 71 years (2003 East Triangle CUP document, Benton County file PC-03-11.pdf). Twenty years later EOL is projected to be 2037-2039 with a Landfill Life of 14.5-16 years, a reduction of approximately 36 years of estimated life in 20 elapsed years. In 2013 Valley Landfills Inc. reevaluated an area of Landfill Site zoned property in the northeast corner of the site for waste placement stability engineering. This area was removed from the landfill's site development plan based on updated state seismic guidance for landfill stability.	13	0	0
LSCL F-2	In 2013 EOL was projected to be 2053-2062, with a Landfill Life estimate of 40-49 years[64]. Ten years later EOL is projected to be 2037-2039 with a Landfill Life of 14-16 years, a lower and upper range reduction of approximately 16 and 23 years respectively.	13	0	0
LSCL F-3	Current (1Q2023) estimate for landfill EOL = CY 2037 – 2039, with a landfill life estimate of 14-16 years, based on an annual intake level of 1.0 – 1.1 MTons/year and a	13	0	0

[64] 2013 Coffin Butte Landfill and Pacific Region Compost Annual Report

	density of 0.999 Tons/yd3, assuming the quarry area will be fully excavated by the time the current disposal areas are full. Valley Landfills, Inc. has represented that this nominal life projection ("baseline") is derived from a few data points in annual measurements, and is the product of a modeling process that is standard in the landfill industry. Valley Landfills, Inc. acknowledges that a variety of factors, including human factors, can impact landfill site life, but are not included in this baseline calculation. Valley Landfills, Inc.'s baseline projection of a 2037-2039 closure date is based both upon existing demand and Valley Landfill Inc.'s efforts to maintain and/or grow its service area and business in the market.			
LSCL F-4	The 2021 Site Development Plan is a registered engineer of record stamped and dated plan set which includes but not limited to a projected a 2039 EOL based on an annual intake of approximately 846,000 Tons/year, but this intake tonnage is not considered binding or controlling by either ODEQ or Valley Landfills, Inc. This is based on the best information available at time of approval by Oregon DEQ, which can change based upon service area impacts.	11	2	0
LSCL F-5	Under the 2020 Franchise Agreement, the 1.1M tonnage cap is eliminated upon Benton County's approval of a CUP (expansion). If intake volumes increase, an **expansion would not necessarily guarantee an increase in site life** or the extension of the Landfill's closure date. For example, if an expansion increases available airspace but intake volumes increase the fill rate even more, the overall life of the landfill could decrease. Republic Services said it was unlikely such a scenario would occur, due to operational limitations at the Landfill and in the Service Area [could not reach consensus]. Nonetheless, transitioning from the current linear landfill economy to a circular economy landfill can potentially extend the life of a landfill. This is because a circular economy landfill is designed to minimize the amount of waste sent to the landfill and extract value from the materials that are discarded. By recovering valuable materials through recycling, composting, and other forms of recovery, a circular economy landfill reduces the volume of waste that needs to be disposed of in the landfill. This, in turn, reduces the rate at which the landfill is filled up, which can extend its lifespan with or without tonnage cap limitation.	6	6	0

	Notwithstanding, a landfill tonnage cap is a regulatory limit on the amount of waste that can be disposed of in a landfill over a certain period of time. The tonnage cap is typically set by the local or state government and is intended to prevent the landfill from becoming overfilled and causing environmental or problems such as contamination of groundwater, soil, air, or demand and supply equilibrium problems, while transitioning to a circular economy.			
LSCL F-6	For purposes of this discussion, the subcommittee agreed to rely on data from the annual reports and other landfill filings with the county. EPA also provides data in in its greenhouse gas reporting webpage that uses different data from another source.	12	0	0
LSCL F-7	Factors such as population growth and debris from disasters may drive up intake rates and thus shorten landfill life; factors such as recycling and waste diversion, plus emerging factors such as extended producer responsibility (EPR) incentives and climate crisis legislation, may drive down intake rates and thus lengthen landfill life.	12	1	0
LSCL F-8	Landfill Life (longevity) is the availability of the landfill reserve resources and landfill ancillary resources that currently operates the landfill's demand, supply and equilibrium of refuse disposal in a linear economy model.	12	1	0
LSCL F-9	The subcommittee identified these factors that could impact usable landfill airspace: Landfill expansion(s) and associated removal of tonnage cap; the quarry excavation schedule; water table concerns; disasters that happen to the landfill itself.	9	4	0
LSCL F-10	The subcommittee identified many factors that could impact the landfill's annual tonnage, i.e., the rate at which its usable volume fills up. These included: exceedance of the tonnage cap; recession(s); economic growth; structural and societal reductions in waste generation; disposal alternatives; transportation alternatives; global health issues such as pandemics; climate change and other environmental legislation concerning methane and other greenhouse gases; climate change and other environmental legislation concerning the reduction of waste and pollution in landfilled material; state and local legislation upgrading waste diversion efforts; environmental activism,	13	0	0

	especially about the climate crisis; wildfires and other disasters that generate debris for landfilling; service area changes; changes in population in the service area.			
LSCL F-11	Recognizing that the question "What factors could make the landfill close earlier than the Baseline Scenarios (by 2037–39)?" is of particular importance to this report's readers, the subcommittee has prepared a table that contains background information about each factor and proposes questions for the County and the SMMP to answer. This information can be found in Table 4.	11	1	0
LSCL F-12	Landfills are known to be major emitters of methane, but previously these emissions have typically been estimated through mathematical modeling, because the emissions themselves were hard to measure directly. The methane emissions from Coffin Butte Landfill have not been well-characterized, so the possible effects of methane-reducing legislation on the landfill's waste intake rates are also hard to characterize.	10	3	0
LSCL F-13	One proven way to reduce a landfill's greenhouse gas emissions is to divert organic material. Landfill gas collection systems are another tool to lessen the greenhouse gas impact but do not remediate it. In 2019 the Oregon DEQ estimated that Coffin Butte Landfill's controls (engine/generators with backup flare) collected 57% (https://downloads.regulations.gov/EPA-R10-OAR-2019-0640-0011/content.pdf). Republic Services provided data to Oregon DEQ for inclusion in EPA's 2021 Greenhouse Gas report that estimated the Landfill's gas collection system had an efficiency of 91.2 percent. (Reference: https://ghgdata.epa.gov/ghgp/service/html/2021?id=1007054&et=undefined)	11	1	0
LSCL F-14	The impetus to curtail methane emissions is focusing attention on ways to divert organic waste from landfill wastestreams. The 2023 Food Donation Improvement Act, for example, enables existing food donation organizations to expand operations and incentivizes the creation of new methods and innovations in preventing food waste, both to stop wasting a valuable resource and to reduce methane emissions.	13	0	0

Landfill Size: Capacity

#	Finding	Formal Workgroup Polling		
		1's	2's	3's
LSCL F-15	A significant portion of the permitted airspace in the quarry area (also known as Cell 6) is currently unavailable for waste disposal due to unexcavated rock. As with other cells at Coffin Butte, permitted airspace is ultimately the result of two separate decisions by two separate entities. Benton County approves the land use for the landfill's footprint, while DEQ and the franchisee (Valley Landfills Inc.), approve the cell design that determines the physical volume available.	13	0	0
LSCL F-16	The addition of Cell 6 added approximately 13,400,000 cubic yards of airspace. The Landfill total capacity increased by approximately 9,000,000 cubic yards in 2003 with the addition of the West and East triangle areas for a total of approximately 35,500,000 cubic yards. Since 2004, reported remaining airspace has decreased gradually, while total permitted airspace has remained remaining somewhat constant. As of end 2021 approximately 44% of permitted capacity remained unused. [See also LSCL F-17]	12	0	0
LSCL F-17	Valley Landfills Inc. anticipates it will no longer be able to place waste in Cell 5 by mid-year 2025. When Cell 5 is full, Republic Services is working on a plan to deposit waste in the permitted area of the landfill known as the quarry known as Cell 6. Excavation of the primary quarry footprint is scheduled to begin in Spring of 2023 with completion in Spring 2025.	11	2	0

Landfill Size: Intake Tonnage

#	Finding	Formal Workgroup Polling		
		1's	2's	3's
LSCL F-18	The amount of waste placed into the landfill has grown dramatically over the past 40 years. In 1983, 375 tons per day were placed into the landfill (117,000 tons per year). By 1993, the tonnage volume increased to 310,000 tons per year. In 2003, 550,000 tons were placed into the landfill. In 2013, the waste tonnage was 479,000, and in 2021, 1,046,000 tons were placed into the landfill.	12	1	0

LSCL F-19	The official 2022 Coffin Butte annual intake tonnage is not available at the time of this report (February 2023). The size of the Host Fee payment to Benton County in January 2023 indicates a 2022 intake volume of 1,066,436 Tons. Actual tonnage should be updated upon receipt of the 2022 Coffin Butte Landfill Annual Report.	12	1	0
LSCL F-20	The 2000 Landfill Franchise Agreement stipulated that the County was to perform a "Baseline" study as a reference for measuring potential future adverse effects (completed in 2001), and defined a ramping intake tonnage threshold to be applied during the term of the agreement (CY2001-2019). Intake volumes in excess of this threshold granted the County clear right to pursue specific remedies: a) the County, at its expense, could perform an updated Baseline assessment, and b) if the County determined that the new assessment indicated an adverse impact on "the Baseline," the agreement stipulated that "the parties shall immediately proceed in good faith to negotiate an increase in the Franchise Fee and/or Host Surcharge…".	12	0	0
LSCL F-21	The 2000 intake tonnage threshold was exceeded in calendar years 2017, 2018 and 2019.	12	0	0
LSCL F-22	Washington County waste tonnage accepted at the landfill increased by over 400% between 2016-2017, with the increased tonnage continuing through 2019. Riverbend Landfill was a regional landfill that accepted waste from many counties, including Washington County. Riverbend's owner/operator diverted tonnage to Coffin Butte in an effort to extend Riverbend's site life.	12	0	0
LSCL F-23	Benton County did not utilize either of the contractual remedies available to it as a result of the intake tonnage exceeding the threshold in 2017-2019. No updated Baseline study was performed, and no renegotiation of the landfill fee structure was undertaken.	12	0	0
LSCL F-24	Benton County received approximately $3.1M of incremental revenue from the increased intake volumes over the 2017-2019 period. Of this, approximately $1.08M was the result of intake volume in excess of the annual limits over the three-year period. This equates to roughly $11.50 total per Benton County resident for the three-year period.	11	0	0
LSCL F-25	In an official 2018 presentation to Benton County Board of Commissioners, Benton County represented the 2000	12	0	0

	Franchise Agreement intake threshold as “Annual Maximums Specified in Franchise Agreement.” However, the 2000 Franchise Agreement does not describe the tonnage threshold as a “limit” or “maximum” and does not limit the number of tons that can be accepted.			
LSCL F-26	Both the 2000 Landfill Franchise Agreement and the 2020 Landfill Franchise Agreement include a section stating that “The parties acknowledge that there may be adverse effects to the County’s infrastructure and environmental conditions due to increased annual volumes of Solid Waste accepted at the Landfill.” In both agreements this section of the agreement then stipulates terms regarding intake volumes.	12	0	0
LSCL F-27	The intake threshold defined in the 2000 Landfill Franchise Agreement and the Tonnage Cap defined in the 2020 Landfill Franchise Agreement were stipulated as contractual provisions, with consequences explicitly defined in the 2000 agreement and implicit (violation of contract) consequences in the 2020 agreement.	11	1	0
LSCL F-28	The 2020 Landfill Franchise Agreement defined a 2020 Tonnage Cap of 1.1 M Tons/year that the Landfill "shall not exceed." That includes 75,000 tons reserved annually for Benton County. The Tonnage Cap does not apply to fire, flood, natural disaster, or Force Majeure event materials.	10	2	0
LSCL F-29	The 2020 Landfill Franchise Agreement also includes a provision that the tonnage cap would be eliminated upon governmental approval of an application to “expand the landfill onto the Expansion Parcel.”	12	0	0
LSCL F-30	It is unclear if the 2020 Franchise Agreement’s enforcement mechanisms are strong enough to prevent agreement violation or if the County will pursue the options at its disposal.	12	0	0
LSCL F-31	The landfill operator generally chooses how much tonnage to accept, based on demand and their contracts with various jurisdictions and haulers. Some of the increasing tonnage accepted at the landfill from 1993-2021 reflect the increase in business development. (See, Post-meeting note in M11 Meeting Minutes, prepared by Republic in response to a member request - NOT vetted by the Workgroup and not part of the finding.)	12	0	0

LSCL F-32	The slow downward trend in intake volume in the 2006-2010 period is explained by the franchisee as resulting from the economic downturn of 2008.	12	0	0
LSCL F-33	Republic Services states that the drop in volumes to Coffin Butte in 2020 is due to the global COVID-19 pandemic, coupled with diversion of tonnage from Riverbend Landfill to other landfills besides Coffin Butte. However, tonnage volumes increased again in 2021 due in part to changes in lifestyle/development/at home shopping patterns as a result of the pandemic, as well as debris from the Oregon wildfires.	12	0	0
LSCL F-34	A range of human factors have been seen to influence the landfill's intake rate and therefore its operating life in the past. These include business factors such as expansions or contractions of the Service Area, social factors such as recessions and population growth, and environmental factors such as recycling and other initiatives that divert materials out of the waste stream.	12	0	0
LSCL F-35	More human factors are emerging that could influence the landfill's intake rate and therefore its operating life in the future. These include newly enacted state legislation assigning responsibility for disposal costs to the producers of waste material, newly enacted national legislation addressing food waste, and national legislation being rolled out that targets methane and other greenhouse gas pollution.	12	0	0
LSCL F-36	A 2016 MOU between Benton County and Republic Services acknowledged "Coffin Butte Landfill will be accepting municipal solid waste currently being delivered to Waste Management's Riverbend Landfill for a term of 1-2 years, beginning in January of 2017."	12	0	0
LSCL F-37	The 2016 MOU does not contain language preventing Benton County from exercising its rights under the 2000 Landfill Franchise Agreement (see Recommendations).	12	0	0

Specific Locations

#	Finding	Formal Workgroup Polling		
		1's	2's	3's
LSCL F-38	Approval of the 1983 rezoning was recommended by SWAC and CAC with on the condition that "No landfill be allowed on property south of Coffin Butte Road."	12	0	0

LSCL F-39	The recommended condition prohibiting landfill south of Coffin Butte Road was not included in the 1983 rezoning ordinance through a change recommended by Benton County Staff, in which Staff noted that any new disposal area would require approval of the Planning Commission in a public vote. The process for approving landfill south of Coffin Butte Road was subsequently changed to "allowed by conditional use permit." This appears to be done via Ord. 90-0069 (BCC 77.305) This change was memorialized in the 2002 Memorandum of Understanding executed by Valley Landfills and Benton County.	11	1	0

Landfill Size: Footprint and Structure

#	Finding	Formal Workgroup Polling		
		1's	2's	3's
LSCL F-40	The 1983 rezoning action defined 194 acres as Landfill Size (LS) zone. An additional 59-acre parcel south of Coffin Butte Road, while zoned LS, would not be used for disposal of solid waste unless approved by a conditional use permit and Department of Environmental Quality permit for solid waste landfill use. The site map attached to the 2002 MOU restricted "fill" activity to the north side of Coffin Butte Road.	11	0	0
LSCL F-41	Twenty-three tax lots are owned by landfill-affiliated entities. Six of these tax lots are zoned LS, and the five LS tax lots on the north side of Coffin Butte Road contain landfill cell disposal areas. The most recent tax lots associated with the landfill were purchased in 2001 (non-disposal areas).	11	1	0
LSCL F-42	The workgroup took two polls on various versions of this finding, and the results appear below: Version 1: The landfill has developed visually over time in accordance with site development plans. Coffin Butte Landfill has changed visually since it's designation as a regional landfill in 1974, growing in both height and size, and visual appearance. However, the overall landfill acreage has not changed significantly since 1983; it has filled in more of its footprint.	7	1	2
	Version 2: The landfill has developed visually over time in accordance with site development plans. Coffin Butte	8	1	2

Landfill has changed visually since it's designation as a ~~regional~~ landfill in 1974, growing in both height and size, and visual appearance. However, the overall landfill acreage has not changed significantly since 1983; it has filled in more of its footprint.			

Key Recommendations:

#	Recommendation	Formal Workgroup Polling		
		1's	2's	3's
LSCL R-1	The Sustainable Materials Management Plan should further develop scenarios and factors that may impact the landfill lifespan, including detailed analyses of likely projections. The Commissioners and County staff should keep the questions about these factors and their effects in mind when making decisions affecting the landfill.	11	2	0
LSCL R-2	Benton County should create and share a plan for the enforcement of all franchise agreements.	11	1	0
LSCL R-3	Benton County should contract for an updated Baseline Study to evaluate the impact of the current intake level at Coffin Butte. As with the 2001 Baseline Study stipulated in the 2000 Landfill Franchise Agreement, this new study should determine and measure adverse effects, including but not limited to: traffic, soil conditions and contamination levels, air quality, surface and ground water conditions and contamination levels, noise, odor, visual screenings, litter, hours of operation, solid waste control systems and compliance with all solid waste Permits. This baseline study could help inform Benton County in decision making and financial choices regarding how to use the income from the landfill.	9	4	0
LSCL R-4	The County should, as soon as possible, consider the public record of the deliberations leading to the execution of the 2020 Landfill Franchise Agreement in order to assess a) which party requested that the 2020 Tonnage Cap be eliminated if expansion was approved, b) if Benton County proposed the elimination of the 2020 Tonnage Cap, determine why this was done, c) determine the County's expectation for the benefit(s) to the County of accepting up to 1.1M Tons of waste per year when the County's reserve portion is approximately 6.8% of that amount, d) interpretation of	9	3	0

	the “Tonnage Cap”, specifically relative to the 2020 Tonnage Cap, and e) expectations of both parties for future landfill site expansion, including any plans for multiple (repeated) future expansions. The county should then use this information to inform landfill-related decision-making. These negotiations were conducted privately (not in public meetings), and there are elements of these discussions that may be proprietary and/or fall under attorney-client privilege.			
LSCL R-5	Benton County should clarify and document the process for officially establishing Permitted Space, including any and all required Benton County actions and regulatory agency approvals (ODEQ, EPA, etc.).	9	3	0
LSCL R-6	The County should clarify when formal approval of Cell 6 as a disposal area was granted. LLU F-23 provides information on this issue.	7	5	0
LSCL R-7	The Benton County Disposal Site Advisory Council (DSAC) should review all future Coffin Butte Landfill Annual Reports relative to past reports and official approvals, in particular with regard to intake volume, landfill traffic volume (both Municipal Solid Waste and leachate transport), expected landfill life and end of life, and total and remaining Permitted Space. DSAC should report these findings to the Board for consideration.	9	3	0
LSCL R-8	Benton County should secure information from Republic Services about the Annual Tonnage figures for presentation to SWAC/DSAC as soon as they are available, and not wait to include them for the first time in the Annual Report.	12	0	0
LSCL R-9	The baseline scenarios laid out in this report assume that landfilling will continue as it is doing today for the next 16 years. That expectation should be tempered by signals of factors that can reshape Coffin Butte Landfill's social and regulatory landscape, especially environmental considerations related to the climate crisis. This reshaping is something that Benton County can participate in, on behalf of its citizens, as the landfill’s permitted volume is filled.	12	1	0
LSCL R-10	Benton County should take steps to acquire better information about the methane emissions of Coffin Butte Landfill, because the landfill’s emissions are currently not well-characterized and use this information to guide diversion programs that could limit the amount of organic waste going to the Landfill.	12	1	0

LSCL R-11	In its current actions and in concert with its Sustainable Materials Management Plan, the County should be aware of and prepare for changes in Coffin Butte Landfill's social and regulatory landscape, as the future could hold significant opportunities for the County and affiliated organizations to bring waste management closer into alignment with the County's goals and values.	12	1	0
LSCL R-12	Benton County should keep in mind that the most effective way to curtail a landfill's greenhouse gas emissions is to divert organic material from being landfilled. This can inform County and area-wide decisions regarding recycling, composting, food waste, and other initiatives affecting how the landfill's permitted volume is filled.	11	2	0

ADDITIONAL INFORMATION

The current landfill activities north of Coffin Butte Road consist of a total of 194 acres, with 6 cells currently slated or approved for disposal of waste.

- In 2003 the End of Life (EOL) of Coffin Butte Landfill was projected to be approximately 2074, with a Landfill Life estimate of 71 years.
- In 2013 EOL was projected to be years 2053-2062, with a Landfill Life estimate of 40-49 years.
- In the current year of 2023 the EOL is projected to be years 2037 -2039, with a landfill life estimate of 14-16 years.

The above landfill progression reflects a linear economy model that represents a waste management approach in which waste is generated, collected, and disposed of in a linear manner, without much emphasis on resource recovery or reuse. This approach is often characterized by a "take-make-dispose" model, where resources are extracted, processed into products, used, and then discarded as waste by society.

The linear model of a landfill economy is being replaced by more sustainable models, such as the circular economy. In a circular economy, waste is minimized by prioritizing waste reduction and recycling, and by designing products and processes that focus on sustainability and longevity. In this model, waste is seen as a valuable resource that can be reused, repurposed, or recycled, rather than being discarded into a landfill.

This circular approach supports the solid waste management plan of Benton County working shoulder to shoulder with a sustainable materials management plan being developed by Benton County in conjunction with Oregon Department of Environmental Quality, local community members, as well neighboring Counties and municipalities using Republic Services waste management services.

In Republic Services' 2021 Sustainability Report, President and Chief Executive Officer, Jon Vander Ark, reports, "This is our company vision, which is intentionally ambitious because we believe we are uniquely positioned to help our customers achieve their own sustainability goals. That commitment begins with our Elements of Sustainability – Safety, Talent, Climate Leadership and Communities – and these elements anchor our 2030 sustainability goals."

The reader of this executive summary is encouraged to read further into the full subcommittee reports to appreciate the wealth of information members of the community have brought forward in a short amount of time during the Benton County Talks Trash bridge process, into a needed sustainable landfill economy and transportation plan for waste disposal.

Landfill Life Projections

CONCLUSION

After reviewing extensive information about the variable factors that can influence the landfill's size, capacity, and longevity, this subcommittee developed dozens of findings and recommendations. While these Key Findings and Key Recommendations summarize much of the group's work, readers are encouraged to review the full subcommittee report for more details on each topic. This subcommittee topic is complex; the variables influencing site life are nuanced and often multi-faceted. The findings and recommendations are supported by the details provided in the subcommittee's report, which cover the landfill's end-of-life, tonnage intake, volume, footprint, and specific locations.

Section C: Legal Issues and Land Use Review

INTRODUCTION

The purpose of this subcommittee is to address: a) law relevant to, and the legal status of, landfill operation and oversight; b) relevant law related to land use regulation, and c) typical practices in land use regulation. The majority of the subcommittee's work product is in the form of objective legal information; however, the charge elements that relate to land use also include descriptions of practices and considerations and are noted as such. In all areas, the subcommittee's goal is to be clear, concise, and legally informative.

Membership of the subcommittee consists of Benton County Counsel Vance Croney, Planning Commissioner Liz Irish, Republic Services land use attorney Jeff Condit and Republic Services in-house counsel Holly Doyle. The facilitator invited participation by Jeff Kleinmann, a land use attorney who represented a group of property owners in the vicinity of the landfill during the 2021 Planning Commission hearings on the proposed expansion. Mr. Kleinmann declined to participate and submitted a letter stating his reasons. The facilitator subcontracted with Virginia "Ginny" Lucker, a highly regarded Oregon land use attorney and Benton County community member, to participate on the subcommittee and provide a third legal perspective. The County staff member supporting the subcommittee was Greg Verret, Deputy Director of the Community Development Department.

The Key Findings and Key Recommendations summarize most of the subcommittee's work. However, a wealth of information on each charge element is presented in the subcommittee's full report and readers are encouraged to refer to that report for a full accounting of any topic.

SUBCOMMITTEE WEBPAGE LINK

SUBCOMMITTEE CHARGE

SUBCOMMITTEE CHARGE
Charge A:
2) A Summary of the County's current rights and obligations to Republic Services, and vice versa, surrounding:

a. The hauling franchise;
b. The landfill CUP; and
c. What legally can and cannot be conditions of any land use approvals (e.g., past compliance, compliance with future laws, codes, and policies, DEQ compliance, reopening, limitations on what can be brought into the County from where, required facilities and practices, reporting/compliance/financial monitoring requirements, etc.)

3) *Interpretation and Deference:* **A Summary of the rights and obligations of other entities surrounding landfills, hauling, and sustainability initiatives, etc.:**

a. Federal;
b. Tribal;
c. State (e.g., Is DEQ prohibited from permitting another landfill west of the Cascades and what does the "regional landfill" designation mean?);

d. Local Government; and
e. Summary of the step-by-step process in ORS chapter 459 and associated timing for the cross-jurisdictional approvals of landfill applications, (e.g. DEQ) including:

(i) What topics are within whose authority, and
(ii) Whether, for example, the County can or should consider the topics it does not have permitting authority over when assessing the criteria outlined in Code section 53.215?

Charge B: Clarifying existing criteria and information requirements for the land use review process for any proposed landfill expansion. Specifically:

1) Create a common understanding document outlining which Development Code criteria are applicable to the review of a conditional use application for landfill expansion by reviewing:
   - 53.215 (Criteria)
   - 77.305 (Conditional Uses)
   - 77.310 (Review)
   - 77.405 (DEQ)
   - Review Chapters 50 and 51 for context, and then

   a. Preparing a conceptual list of any other Development Code criteria the WORKGROUP recommends be applicable.
   b. Developing recommended guidelines for interpreting any ambiguous provisions recognizing current statutes, regulations, case law, and County precedent, etc.

      A. The phrase, "Other information as required by the Planning Official" 77.310(e)
      B. The terms found in Section 53.215, e.g.
      C. "seriously interfere"
      D. "character of the area"
      E. "purpose of the zone"
      F. "undue burden"
      G. "any additional criteria which may be required for the specific use of this code.
      H. Other: _____

2) In doing so, refer to Comprehensive Plan for policy guidance regarding interpretation of any ambiguous Development Code provisions (see, BCC 50.015,) and Review the Planning Commission comments made during its last review of Republic Services' CUP application for context. Examples for consideration include:
   a. Necessary Tasks to Start Planning Reopening of Existing Hauling Agreement
   b. Roles, Responsibilities, and Protocols of SWAC and DSAC
   c. Specific Recommended Review Criteria for the Evaluation of Landfill CUP applications
   d. SWAC/DSAC, Planning Commission, and BOC Use of the Review Criteria
   e. Future Timeline for Discussing any Needed Changes to the Benton County Code Flowing from WORKGROUP Recommendations

SUBCOMMITTEE MEMBERS AT END OF PROCESS

Jeff Condit
Liz Irish
Vance Croney
Holly Doyle
Ginny Lucker
County Staff: Greg Verret

The **SUBCOMMITTEE'S REPORT can be found linked HERE** in Appendix C.

The **SUBCOMMITTEE'S "MEETING NOTES" can be found linked HERE**.

KEY FINDINGS AND KEY RECOMMENDATIONS

This section lists Key Findings and Key Recommendations from the full subcommittee report below. These key findings and key recommendations do not capture the comprehensive discussions of the subcommittee, nor are they intended to do so. Instead, these provide a summary overview of key observations. The link adjacent to each Key Finding and Key Recommendation provides access to the full report. These summaries encourage readers to follow the links to find detailed content in the full subcommittee report.

			Unanimous Agreement		Consensus Agreement		Majority-Minority Approval	
Sub. Comm.	Findings and Recs	Total	# with all 1s	% with only 1s	# with no 3 votes	% with no 3 votes	# with at least one 3	% with at least one 3
LLU	Findings	35	23	65.7%	30	85.7%	5	14.3%
LLU	Recs	13	5	38.5%	9	69.2%	4	30.8%

Key Findings:

#	Finding	Formal Workgroup Polling		
		1's	2's	3's
LLU F-1 [Link]	Do conditions of approval imposed as part of a later land use approval supersede conditions imposed as part of a prior approval? Unless a later land use approval expressly addresses whether conditions of a prior land use approval are superseded, the issue will be subject to interpretation by the local government (the Board of County Commissioners, in this case).	11	0	0
LLU F-2 [Link]	Only the current franchise agreement has legal effect. The previous franchise agreement is superseded when a new agreement takes effect.	11	0	0

LLU F-3a [Link]	Up-front and ongoing financial assurance to cover the cost of closure, post-closure, and corrective actions are required by DEQ. Where this preliminary line of defense fails, Oregon statute holds any person owning or controlling the disposal site liable for closure and post-closure maintenance. [See additional DEQ information on this topic in full subcommittee report.]	11	0	0
LLU F-3b [Link]	DEQ reviewed the last annual FA update submittal, which was dated April 1, 2022 and approved on April 13, 2022. DEQ's approval letter summarizes the following: 1. The updated cost estimates for closure ($16,222,800) and post-closure care ($5,743,202) were correctly updated, prepared, and stamped by a registered P.E. 2. The current penal sum of your Bond, as provided by Evergreen National Indemnity Company, with your new Riders in place, covers the total of updated cost estimates. DEQ identifies Valley Landfill Inc. as the owner of the landfill and the DEQ solid waste permittee for DEQ permit #306. The operator of the landfill is Coffin Butte Landfill. The owner or operator of the landfill is responsible for compliance with the permit and permit conditions. The owner or operator is responsible for providing financial assurance for closure, post closure and any needed corrective action per ORS 459.272. Valley Landfill Inc. uses a bond to provide financial assurance. According to OAR 340-094-0140(6)(d) and (6)(e) the permittee is to recertify compliance every year which Valley Landfill Inc. did in a March 28, 2022 attachment to the annual financial assurance submittal that DEQ received.	11	1	0
LLU F-3c [Link]	In negotiating the 2020 landfill franchise agreement, Benton County established three elements to provide assurance that costs of closure, post-closure and corrective action are covered: Statutory DEQ financial assurances, insurance, and the environment trust fund	12	0	0
LLU F-4 [Link]	What legally can and cannot be conditions of any land use approvals? Conditions of approval must relate to approval criteria. To be approved, an applicant must demonstrate compliance with all discretionary approval criteria. Conditions of approval cannot substitute for compliance with applicable criteria but may be imposed to ensure the criteria are met. The county may find compliance with approval criteria by establishing that compliance is feasible,	11	0	0

	subject to compliance with a specific condition(s) of approval. A preponderance of the evidence must support a finding that the condition is "likely and reasonably certain" to result in compliance. To lessen adverse impacts on surrounding uses, the county may "impose conditions of approval to mitigate negative impacts to adjacent property, to meet the public service demand created by the development activity, or to otherwise ensure compliance with the purpose and provisions of this code." (BCC 53.220)			
LLU F-5 [Link]	In reviewing a CUP for landfill expansion, the County has jurisdiction over only the proposed expansion. Existing and past operations are not within the County's scope of review. Prior decisions are final and cannot be subjected to a new review or have additional/revised conditions of approval imposed as part of the CUP application for the expansion. The mechanism for enforcing conditions of approval is a separate process; see recommendation LLU R-11.	11	0	0
LLU F-6 [Link]	Benton County may not prohibit a private landfill operator from accepting solid waste from outside Benton County.	12	0	0
LLU F-7 [Link]	Is DEQ prohibited from permitting another landfill west of the Cascades? No.	12	0	0
LLU F-8 [Link]	What does the "regional landfill" designation mean? Oregon Revised Statute (ORS) 459.005(23) defines a Regional Disposal Site as "a disposal site that receives … more than 75,000 tons of solid waste a year from outside the immediate service area in which the disposal site is located…." The immediate service area of Coffin Butte is Benton County. Coffin Butte Landfill has received more than 75,000 tons from outside its immediate service area every year since at least 1993. Coffin Butte thus meets the definition of a regional landfill per ORS.	11	1	0
LLU F-9 [Link]	Interpretation of the review criteria for a landfill-expansion conditional use permit requires determinations that are based on the facts of the specific application. The rules of statutory construction describe how ambiguous terms are to be interpreted: text, context, and legislative history. However, LUBA's standard of review is highly deferential to the local decisionmaker's interpretations, so if the interpretation is plausible (does not conflict with the provision's language), LUBA (and the courts) will uphold the local interpretation. This gives the decision-maker a lot of flexibility in interpreting their own code provisions. In response to a request by the Board of Commissioners, the	11	1	0

	following four findings provide staff-provided historical information, particularly over the past 25 years, on how the County decision-makers have interpreted these terms across the full range of conditional use applications the County reviews. They are not recommendations on how the Planning Commission and Board should interpret future applications. Restated, each body fully retains its flexibility in interpreting those terms in the context of the specific application before it.			
LLU F-9a [Link]	The first criterion requires the decision-maker to find that "*The proposed use does not seriously interfere with uses on adjacent property, with the character of the area, or with the purpose of the zone"* [BCC 53.215(1)]. In applying the term "seriously interfere", Staff reports that in past CUP applications the Planning Official, Planning Commission or Board has considered factors such as: does the proposed use make it difficult to continue uses on the adjacent property; would it create significant disruption to the character of the area; would it conflict, in a substantive way, with the purpose of the zone. As noted above, the county decision-makers have wide discretion in evaluating whether a use will "seriously interfere." In the past, "seriously interfere" has generally been applied as meaning more than an inconvenience or irritation but is a lesser threshold than rendering the uses on adjacent property impossible. Speculated effect on property values has not been a primary consideration in determining serious interference. This is not a recommendation on how the Planning Commission and Board should interpret future applications. Restated, each body fully retains its flexibility in interpreting those terms in the context of the specific application before it.	11	0	0
LLU F-9b [Link]	In the phrase "character of the area" in BCC 53.215(1), how narrow or broad has "the area" typically been? When the County is evaluating the "character of the area", the "area" is based on the facts of each application and how far the effects of the proposed land use are likely to extend. The impacted area will be unique to each application and may differ by particular effect—for example, the impact of noise might extend farther than visual impact (or vice versa). Because each review is unique, examining past cases for the specific distances utilized may not be illuminating. Staff reports that in past CUP applications the Planning Official, Planning Commission or Board has considered	11	0	0

	these factors in determining the character of the area and its extent include: • The particular attributes of the geographic setting (including existing operations in the vicinity.) • Is there a distinct change in the area's physical characteristics beyond a certain point (such as a change from flat land to hills or from one river basin across a ridgeline into another)? • What features or elements give the area its character? Is it a homogenous or heterogeneous character (is there a high degree of similarity, or is it mixed)? • How far are the effects of the proposed land use likely to extend? This may differ by particular effect—for example, the impact of noise might extend farther than visual impact (or vice versa). This is not a recommendation on how the Planning Commission and Board should interpret future applications. Restated, each body fully retains its flexibility in interpreting those terms in the context of the specific application before it.			
LLU F-9c [Link]	In the conditional use review criterion of: "*The proposed use does not impose an undue burden on any public improvements, facilities, utilities, or services available to the area"* [BCC 53.215(2)], what constitutes a "burden" is again based on the facts of the application. Staff has stated that in past CUP applications the Planning Official, Planning Commission or Board has considered a "burden" on public infrastructure and service is likely "undue" if it overloads the system or causes significant degradation in terms of quality, effectiveness or timeliness of infrastructure or service. Lesser burdens may also be "undue" if the effect jeopardizes people's health, safety, or welfare. Burdens that the County has typically not considered "undue" include those that can be mitigated through planned improvements, that are incremental service additions[65] consistent with that generated by other uses in the area or that fall below an established threshold (such as road classification standards). For planned improvements to be relied upon in determining that a burden is not undue, the implementation of those improvements must be certain, such as through a condition	11	0	0

[65] Incremental service additions are additions to the overall burden on services that are small relative to the total. For example, adding 10 daily vehicle trips to a road currently experiencing 300 daily vehicle trips could be considered an incremental service addition.

	of approval specifying the improvement and the timeline for implementation. Again, as noted in LLU F-9 above, so long as the interpretation is plausible, the decision makers have wide discretion in interpreting the term "undue burden." This is not a recommendation on how the Planning Commission and Board should interpret future applications. Restated, each body fully retains its flexibility in interpreting those terms in the context of the specific application before it.			
LLU F-9d [Link]	With regard to the conditional use review criterion of BCC 53.215(3) *["The proposed use complies with any additional criteria which may be required for the specific use by this code."*], if the county has adopted additional code criteria that apply to a proposed use, then those code provisions would apply. This does not allow the county to apply unadopted criteria that are not in the code at the time of application. In applying for expansion in the Landfill Site zone, the BCC Chapter 77 does not adopt any additional criteria and, therefore, no additional criteria apply.	10	0	0
LLU F-10 [Link]	SWAC's bylaws require it to "assist the Board of Commissioners (Board) in Planning and implementing solid waste management, pursuant to BCC Chapter 23, the Benton County Solid Waste Management Ordinance." BCC 77.305 directs the Solid Waste Advisory Council (SWAC) to review and make recommendations regarding the Site Development Plan and Narrative submitted on a landfill-expansion CUP; however, the code does not specify what criteria or considerations that recommendation should be based on. Based on SWAC's bylaws and role in planning and implementing solid waste management, it appears that the intent of the language in BCC 77.305 is that the Planning Commission rely on SWAC for guidance on the impacts of the Site Development Plan and Narrative on solid waste management. However, the language of BCC 77.305 does not expressly limit the scope of SWAC's recommendations.	9	1	0
LLU F-11 [Link]	Pursuant to BCC 77.310(1)(e), to what extent may the Planning Official require additional information from an applicant for a Landfill Site Zone Conditional Use Permit? Only "other information" that relates to the approval criteria for a conditional use permit may be required under BCC 77.310(1)(e), and the applicant may choose to provide some, all, or none of the requested information. The land use decision must be based on demonstrating compliance	10	0	0

	with the code criteria, not on whether the applicant provided the requested information.			
LLU F-12 [Link]	BCC 77.310(1) lists the information required in the applicant's narrative submitted with a conditional use application. The information required under BCC 77.310(1) includes the documents and information required to be part of the application. During the "completeness" process, the Planning Official will consider whether the applicant's documents and information are sufficient for purposes of review of the application. A determination that an application is complete does not mean that the information satisfies the approval criteria.	10	0	0
LLU F-13 [Link]	In addition to the list of information listed in BCC 77.310(1)(a)-(d), BCC 77.310(1)(e) allows the Planning Official to request that the conditional use application narrative include "other information". This information must relate to the approval criteria. The applicant has the discretion whether to submit the requested information. The applicant's failure to submit any requested information is relevant to the decision on the application only to the extent that the decision maker determines that the information is necessary to comply with an approval criterion.	10	0	0
LLU F-14 [Link]	Pursuant to long-standing LUBA case law, representations and statements made by the applicant do not become conditions of approval unless those statements are specifically included or incorporated, directly or by reference, into the final decision as conditions of approval. See LLU R-10.	10	0	0
LLU F-15 [Link]	The workgroup took two polls on various versions of this finding/rec and the results appear below: Version 1: How does the 2002 Memorandum of Understanding (MOU) fit into the Workgroup considerations? The 2002 MOU clarifies authorization for landfill activities within the Landfill Zone and establishes a point in time at which the landfill was operating in compliance with state and local requirements. • The MOU does not address whether the County's determination of "compliance with local requirements" includes compliance with all conditions of past land use approvals. • The MOU indicates that, as of 11/5/2002, there were no known land use ordinance violations involving the landfill. The MOU does not describe the extent to	8	0	2

	which Benton County investigated the compliance status of any conditions of past land use approvals in preparing the MOU. • The MOU did not negate or supersede conditions of past land use approvals.			
	Version 2: ~~How does the 2002 Memorandum of Understanding (MOU) fit into the Workgroup considerations? The 2002 MOU clarifies authorization for landfill activities within the Landfill Zone and establishes a point in time at which the landfill was operating in compliance with state and local requirements.~~ ~~• The MOU does not address whether the County's determination of "compliance with local requirements" includes compliance with all conditions of past land use approvals.~~ ~~• The MOU indicates that, as of 11/5/2002, there were no known land use ordinance violations involving the landfill. The MOU does not describe the extent to which Benton County investigated the compliance status of any conditions of past land use approvals in preparing the MOU.~~ ~~The MOU did not negate or supersede conditions of past land use approvals.~~ <u>Notes Regarding the 2002 MOU: 1) it does not mention how the MOU was intended to relate to land use decisions 2) it is unclear as to what LUCS are referred to and their impact e.g.: the 1996 LUCS referred to in the MOU has not been found, 3) a LUCS dated 12/18/00 has been found as a free standing document, 4) a 2000 Site Plan (Is the last DEQ approve in 2000 the MOU refers to?) using a LUCS dated Feb 25 '22 was found i.e. an 8 year gap between LUCS issuance and use in an identified document. 4) the current Operating Permit was issued in 2019 but references a 12/18/00 LUCS i.e. 20 year gap</u>	2	4	4
LLU F-16 [Link]	Is there an opportunity for public input to determine whether an application is complete? The public may submit comments on the completeness of an application. However, the completeness process is not a review of the application's merits; only whether sufficient information has been submitted to the application's merits can be evaluated through the public hearing process. And there are no statutory or code requirements for incorporating	10	0	0

	public input on the county's administrative determination of whether an application is complete.			
LLU F-17 [Link]	Once any land use application is submitted to the County, the County Planning Official must determine within 30 days whether the application is complete. Following the completeness process, the County then has 150 days to make a final land use decision, including the completion of any appeal to the Board of Commissioners or other proceeding under County Code. If the County does not make a final decision within the prescribed time, an applicant may petition the circuit court for a "writ of mandamus." ORS 215.429(1) et seq and citing ORS 34.130. This statute requires the circuit court to approve the application unless the County can prove it violates a substantive provision of the Comprehensive Plan or Code. If the court determines the County has not met that burden, the applicant may then proceed with the development as proposed.	10	0	0
LLU F-18 [Link]	Section 2 of the June 7, 2022, collection franchise agreement between Benton County and Allied Waste Services of Corvallis ("Republic Services") contains a mandatory limited reopener provision. Contract negotiations are not conducted in public. With that said, a process could be designed to allow public input, comment, and feedback on any provisions subject to Section 2 that may be negotiated between the parties to the agreement. The renegotiated collection franchise agreement must be agreed upon, in its entirety, by both Benton County and Republic Services.	10	0	0
LLU F-19 [Link]	What options does the Planning Commission have if they determine that DEQ regulation of a particular parameter is inadequate or likely to be inadequate? The County could not determine that DEQ regulation of a particular environmental parameter is inadequate to protect public health and deny the application on those grounds. The County also has no authority to interpret, apply or enforce DEQ regulations (except for regulatory programs that DEQ formally delegates to a local government, such as with on-site sewage disposal regulation.) Additionally, the County cannot assume that an activity will result in a violation of DEQ parameters when the activity hasn't happened. The County could potentially determine that DEQ's regulation of a particular parameter is inadequate to	9	1	0

	prevent the proposed land use from seriously interfering with uses on surrounding properties. However, the County must articulate why DEQ's requirements are insufficient, and the County typically lacks the expertise or personnel to determine whether a particular environmental parameter is being exceeded. Alternatively, the County could require that specified mitigations be implemented, which is simpler to monitor than the level of certain emissions.			
LLU F-20 [Link]	Could a new CUP approval be conditioned on cleaning up noncompliance with existing operations? A new CUP cannot require as a condition of approval that an existing operation on a different property be modified or that noncompliance be rectified. Enforcement procedures (see Chapter 31 of the Benton County Code) would have to address the noncompliance. See recommendation R-11.	9	1	0
LLU F-21 [Link]	Is compliance/noncompliance with conditions of past land use approvals a topic that can be considered in any way during a new land use application? Generally, the new proposal must be evaluated on its own merits relative to the approval criteria. However, the current non-compliance of an existing land use condition could provide information that the Planning Commission considers in developing a condition on a new application. If an application is made to expand an existing land use that is currently out of compliance with a condition of approval of a previous decision, and that noncompliance is causing issues for surrounding land uses, noncompliance of the original land use decision is not in itself grounds to deny the new application. However, the decision-maker could potentially look at the fact of existing noncompliance in evaluating whether that noncompliance is causing the existing land use to "seriously interfere" with uses on surrounding properties. That fact can then be used as evidence in evaluating whether the proposed land use complies with the review criteria because the same land use in a similar location was seriously interfering with surrounding uses even though it was subject to conditions of approval. If the language in a condition of a past decision was unclear or insufficient to ensure compliance with an approval criterion, in evaluating a new application the decision maker could craft and impose a condition on a new decision that more clearly describes the measures necessary to ensure compliance. Past conditions	11	0	0

	superseded by subsequent decisions or changes in the law could not form a basis for such analysis.			
LLU F-22 [Link]	Were the site plan and narrative in PC-83-7 regulatory conditions of approval? No. The Board adopted the applicant's site plan and narrative in PC-83-07 as "findings" but did not specifically adopt them as conditions of approval. Findings are not conditions of approval. Rather, they explain how the decision was reached and the facts the decision maker relied on to determine compliance with a criterion. For compliance with specific findings to be enforceable they must be made conditions of approval. The conditions that were adopted through the 1983 decision, described as "conditions of development", specified changes to be made to the applicant's site plan. Compliance with those revisions was not required as a condition of approval; the conditions required only that the revisions be submitted. The decision did not describe these revisions as necessary to establish compliance with any approval criteria and required only submission of additional documentation and a revised narrative. Because a) the site plan and narrative, while relied upon as findings, were not made conditions of approval, and because b) the conditions imposed in PC-83-07 that required changes to the site plan did not require those changes on the basis that they were necessary to establish compliance with any criterion but rather required only that they be submitted, the site plan and narrative are not conditions approval of PC-83-07.	7	1	3
LLU F-22A [Link]	In 1983 the County created community expectations for how the landfill would look in decisions documented in PC83-07. Appearance issues including steepness of the landfill slopes, terracing, screening, and returning the land to grazing or other farm-like uses were addressed and committed to by the County and landfill operator. The way the County chose to implement these commitments is questionable given legal hindsight. Whether they be enforceable "conditions of approval" or "findings" in the PC83-07 record remains in dispute. The BCTT Workgroup is not a court of law. The differing interpretations over a possible process or wording error of the 83-07 decision, that causes this issue to arise, should not be the primary	5	2	4

	concern. Of greater importance for the County's relationship with its residents is the Planning Commission and Board of Commissioners decisions to adopt the offered designs and reclamation plans to meet public expectations. These expectations were made clear in the records of PC83-07. At a minimum, the debate over PC83-07's intended vs. actual conditions of approval or findings draws attention to the fragile "good neighbor" relationship between the County, landfill owner/operator and the public established through the 83-07 land use hearing process. Acknowledging these discrepancies with prior commitments should form a basis for the County, landfill owner/operator, DEQ and the public to come to reasonable expectations for the appearance and long-term use and closure of the landfill facility.			
LLU F-23 [Link]	*The workgroup took three polls on various versions of this finding, and the results appear below:* *Version 1:* Clarify when formal approval of landfilling Cell 6 (current quarry) was granted. Land Use File PC-83-7 has been interpreted by Benton County, including in the 2002 MOU, as authorizing landfilling of the area known as Cell 6, the current quarry. The record in PC-83-07 does not clearly specify that the portion of the property containing the current quarry is authorized for landfilling. However, the Board of Commissioners' findings in PC-83-7 state that 194 acres are approved for landfilling on the property north of Coffin Butte Road; that the total area of the property in the LS zone is approximately 266 acres; and that 59.23 acres of the LS zone are located south of Coffin Butte Road. That leaves approximately 207 acres north of Coffin Butte Road. Given that several areas are clearly shown on the 1983 site plan as being designated open space/buffer, there is no possible configuration of 194 acres out of the 207 acres total that does not include the current quarry area. Based on this analysis, this subcommittee concludes that quarry area was included in the area approved for landfills by PC-83-7.	5	3	3
	Version 2: Clarify when formal approval of landfilling Cell 6 (current quarry) was granted. Land Use File PC-83-7 has been interpreted by Benton County, including in the 2002 MOU, as authorizing	5	2	4

landfilling of the area known as Cell 6, the current quarry. The record in PC-83-07 does not clearly specify that the portion of the property containing the current quarry is authorized for landfilling. However, the Board of Commissioners' findings in PC-83-7 state that 194 acres are approved for landfilling on the property north of Coffin Butte Road; that the total area of the property in the LS zone is approximately 266 acres; and that 59.23 acres of the LS zone are located south of Coffin Butte Road. That leaves approximately 207 acres north of Coffin Butte Road. Given that several areas are clearly shown on the 1983 site plan as being designated open space/buffer, there is no possible configuration of 194 acres out of the 207 acres total that does not include the current quarry area. Based on this analysis, this subcommittee concludes that quarry area was included in the area approved for landfills by PC-83-7. "Cell 6" is: 1) not mentioned in PC-83-7. 2) not show on applicant drawings of the landfill as late as 2011. 3) is shown on applicant drawings dated 2022. The portion of a drawing LS offered showing the 1983 "Existing Quarry": 1) places the quarry outside the "Approximate Solid Waste Disposal Boundary" and "Proposed Solid (illegible word) Disposal Boundary". 2) does not show a quarry extending into the area identified in 2020 as Cell 6. 3) does not show what use the drawing was intended for, no date drawn, etc. i.e. it cannot be validated. 4) shows a requirement for screening the landfill along Coffin Butte Road and Hwy 99 with about 3 dozen conifers. Regarding the 2002 MOU: 1) it does not mention how the MOU was intended to relate to land use decisions 2) is unclear as to what LUCS are referred to and their impact e.g.: the 1996 LUCS referred to in the MOU has not been found, 3) a LUCS dated 12/18/00 has been found as a free standing document, 4) a 2000 Site Plan (Is the the last DEQ approve in 2000 the MOU refers to?) using a LUCS dated Feb 25 '22 was found i.e. an 8 year gap between LUCS issuance and use in an identified document. 5) the current Operating Permit was issued in 2019 but references a 12/18/00 LUCS i.e. 20 year gap 6) it was written years before a "Cell 6" was defined in a landfill operator's drawing.			
Version 3:	5	1	5

	Clarify when formal approval of landfilling Cell 6 (current quarry) was granted. Land Use File PC-83-7 has been interpreted by Benton County, including in the 2002 MOU, as authorizing landfilling of the area known as Cell 6, the current quarry. The record in PC-83-07 does not clearly specify that the portion of the property containing the current quarry is authorized for landfilling. However, the Board of Commissioners' findings in PC-83-7 state that 194 acres are approved for landfilling on the property north of Coffin Butte Road; that the total area of the property in the LS zone is approximately 266 acres; and that 59.23 acres of the LS zone are located south of Coffin Butte Road. That leaves approximately 207 acres north of Coffin Butte Road. Given that several areas are clearly shown on the 1983 site plan as being designated open space/buffer, there is no possible configuration of 194 acres out of the 207 acres total that does not include the current quarry area. Based on this analysis, this subcommittee concludes that quarry area was included in the area approved for landfills by PC-83-7. <u>However, no official county land use determination has been made on this point.</u>			
LLU F-24 [Link]	The County's decision on a conditional use permit must be based on the evidence submitted into the record. Evidence must be submitted into the record before the record is closed. The Planning Commission makes the initial decision on a conditional use application to expand the landfill, and the record includes all evidence submitted into the record before the Planning Commission makes its decision. The Planning Commission's decision may be appealed to the Board of Commissioners. The Board considers the record of the decision being appealed (all evidence and testimony submitted to the Planning Commission) and any new evidence or testimony that is submitted into the record at the Board's appeal hearing. The record closes either at the end of the final hearing on the application, or if there has been a request to leave the record open before the end of the final hearing, on the date specified at that hearing.	10	0	0
LLU F-25a	The current CUP criteria give the Board discretion and, under the existing statute, LUBA and the courts will defer to the Board's interpretation of its criteria so long as the interpretation is "plausible." That discretion, however, is not unlimited and does not extend to applying unadopted criteria or to adding criteria that are not in the code at the time an application is filed. The current CUP criteria do not	10	0	0

	include – and cannot plausibly be interpreted to include -- any requirement that the applicant demonstrate need or that it must evaluate alternatives to a proposed landfill expansion. Interpreting the existing code criteria to require demonstration of "need" or alternatives is beyond the range of discretion afforded by state statute and would constitute an improper code amendment under the guise of interpretation.			
LLU F-25b	Under both state law and the county code, an application must be evaluated based on the criteria in effect on the date the application is filed. Because the current CUP criteria do not require the applicant to address need or reasonable alternatives to the expansion, even if the evidence existed today, evidence regarding the need for or alternatives to landfill expansion is not relevant to the existing conditional use approval criteria; and therefore the possible evidence that might flow from a future SMMP is not relevant to the Board's evaluation of whether there is substantial evidence in the record as a whole related to compliance with the CUP criteria.	10	0	0
LLU F-25c	The County could amend BCC chapter 77 to add a criterion under BCC 53.215(3) to require compliance with specific provisions of an adopted SMMP. However, that criterion would apply only to applications filed after the code was amended to include, as criteria, specific requirements of such a plan. [See also Recommendation LLU R-8.]	10	0	0
LLU F-26	Oregon Department of State Lands (DSL) has regulatory authority for all wetlands that meet the definition of "jurisdictional wetlands." Benton County has additional regulatory authority for wetlands the County has identified as "significant" in a wetland inventory adopted pursuant to the Oregon Administrative Rule 660 Division 23 (Statewide Planning Goal 5 procedures). While wetlands are present in the vicinity of Coffin Butte Landfill, they have not yet been evaluated and determined to be "significant" in accordance with OAR 660. The County has not conducted a comprehensive wetland inventory and analysis of significance since the 1980s. Until then, the County cannot regulate land uses in these wetlands. See LLU R-11.	11	0	1

Key Recommendations:

#	Recommendation	Formal Workgroup Polling		
		1's	2's	3's
LLU R-1	The County should enable public input on all franchise agreements. Specifically regarding the 2022 collection franchise agreement between Benton County and Allied Waste Services of Corvallis ("Republic Services"), a process to allow public input, comment, and feedback on any provisions subject to Section 2 of that agreement could be designed as follows: After the parties have begun discussing what specific terms may be amended pursuant to Section 2, but no more than 60 days prior to any amendment being approved by the Board of Commissioners, the County will publish a notice that it is seeking suggestions from the public for negotiation topics generated from the "concepts from the consensus-seeking process." Any input received would be presented to the Board of Commissioners at a work session, at which time the Board would identify those ideas or suggestions that may be included as negotiation topics. Following the work session and as part of the ongoing negotiations, Benton County Staff will discuss with Republic Services the topics and ideas the Board of Commissioners identified. At such time as Benton County and Republic Services reach a tentative agreement on the renegotiated terms, County staff would bring the proposed franchise agreement changes to the Board meeting, where consideration of the amended franchise agreement would be conducted in a public hearing pursuant to BCC 23.235, which will include an opportunity for the public to present testimony. The Board could approve the agreement as presented or may direct staff to resume negotiations with Republic Services to include specific topics identified by the Board. The renegotiated collection franchise agreement must be agreed upon, in its entirety, by both Benton County and Republic Services. At such time as the terms have been agreed upon, and the Board is satisfied that public input has been adequately included or addressed in the renewed agreement, the franchise agreement will be the subject of a	6	6	0

	public hearing and, ultimately, decision by the Board of Commissioners at a regular board meeting.			
LLU R-2	The County should provide to the public a description of the purpose of the statutory completeness review process, and the scope of the information the county planning official considers at the completeness stage. That description should clearly explain how the administrative "completeness" process fits into the review of a land use application. While the county should not discourage public involvement at all stages of the review process, the public should be informed that the statutory completeness is a preliminary step that does not include any review of whether an application does or can satisfy the approval criteria; and that the public review and hearing process that follows after the application is complete provides the public an opportunity to provide evidence and arguments to the decision makers on the merits of the application. The information should clearly inform the public that any evidence or testimony submitted at the completeness stage is not part of the "record" that the decision makers will review, and that information would have to be re-submitted during the public hearing process in order for the decision makers to review it.	7	3	1
LLU R-3	Benton County should engage with the Oregon Department of Environmental Quality at the pre-application stage to understand relative permitting responsibilities and processes, with the goal of a more coordinated and informed review of both the land use application (by Benton County) and, if the County land use application is approved, the subsequent landfill-related permitting (by DEQ).	12	0	0
LLU R-4	With regard to other information needed to make an application complete, BCC 77.310 states that "The applicant for a conditional use permit shall provide a narrative which describes: * * * Other information as required by the Planning Official." [BCC 77.310(1)(e)] The workgroup could make recommendations regarding what "other information" would be helpful in a narrative. However, any committee recommendations would have to be limited to information related to the applicable criteria and could not expand that criteria. "Additional information" required by the Planning Official does not become part of the applicable criteria but may contribute to the completeness of the application. BCC 77.310 states only what the applicant's narrative shall include; it does not identify criteria for	10	2	0

	SWAC's review of a CUP application. This absence contributed to the subcommittee's recommendation in LLU R-6.			
LLU R-5	BCC 77.310(1) lists the information required for a conditional use application in the landfill site zone and permits the planning official to request that the applicant's narrative include "additional information." However, the development code does not specify how or when that information is to be requested. In the past, the Planning Official has used the statutory completeness review process to request additional information. However, in addition to the Planning Official's review of the information after the application has been submitted, the Board could amend the code to require that the Planning Official conduct a "preapplication conference" with the applicant to discuss the information that is required. It could also require a "neighborhood meeting" before the application is filed that requires the applicant to present its proposal to the public and allow the applicant to obtain more information about the proposal. Public comment during a pre-application neighborhood meeting, as with other public comment submitted before the application is complete and notification is sent, is not part of the formal record of the land use review and cannot be considered by decision-makers. The record includes only public comment submitted after formal notification has been sent to affected parties stating that the comment period is open.	11	0	0
LLU R-6	BCC 77.305 directs the Solid Waste Advisory Council (SWAC) to review and make recommendations regarding the Site Development Plan and Narrative submitted on a landfill-expansion CUP; however, the code does not specify what criteria or considerations that recommendation should be based on. Consistent with SWAC's bylaws and Chapter 23 of the County Code, which require SWAC to "assist the Board of Commissioners (Board) in Planning and implementing solid waste management, pursuant to BCC Chapter 23, the Benton County Solid Waste Management Ordinance", the Board of Commissioners should provide nonbinding guidelines for SWAC's role by articulating the scope, manner and timing of SWAC's review. Interpreting the existing County Code is within the Board's purview, but amending that code effects a more permanent solution. As an initial step, the Board could issue an official interpretation of SWAC's role pursuant to Chapter 23. Then, as a subsequent step, the Board could initiate amendments to Chapter 23 and/or Chapter 77, which	7	4	1

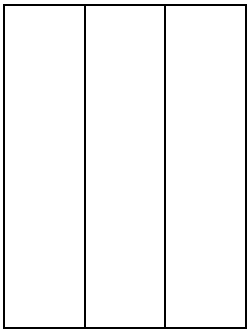
	would then proceed through a public hearings process. (If/when SWAC's overall role shifts to sustainable materials management, instances of the term "solid waste management" above should be replaced with "sustainable materials management.")			
LLU R-7	Amendments to the Development Code may be needed to create a clear and legally consistent process for SWAC's involvement in reviewing a CUP. Pursuant to the Development Code as written, the only criteria that a CUP decision can be based upon are those of BCC 53.215, and the Planning Commission is the decision-making body. Yet, the code states an ambiguous role for SWAC in that process and seems to imply that other considerations beyond those of BCC 53.215 should go into the decision-making process. This needs clarification.	7	4	1
LLU R-8	In addition to the two criteria listed in BCC 53.215(1) and (2), BCC 53.215(3) requires the decision maker to consider whether the "proposed use complies with any additional criteria which may be required for the specific use by this code." Currently Chapter 77 (Landfill Site zone) does not include any additional criteria that must be considered in the review of a conditional use application for the expansion of a landfill in the landfill zone. If there are additional criteria that the Board of Commissioners determines are necessary for the review of a conditional use application in the landfill zone, the Board would have to amend Chapter 77 to specify those additional approval criteria. The Board could also require that compliance with the site plan and reclamation plan (currently required by Chapter 77 to be submitted with the application) be adopted as conditions of approval of any approved conditional use permit.	9	2	1
LLU R-9	When the County adopts its SMMP, it should amend BCC chapter 77 to add a criterion under BCC 53.215(3) to require compliance with specific provisions of an adopted SMMP.	11	0	0
LLU R-10	BCC 77.405 states, "*Copies of materials submitted to the Oregon Department of Environmental Quality as a part of any permit process shall be submitted to the Planning Official. If at any time the Planning Official determines that permit application materials or conditions of DEQ permit are judged to merit public review, a Public Hearing before the Planning Commission shall be scheduled.*" This provision is unclear. (The provision might have been codified before adoption of the current state agency	9	2	0

	coordination requirements, which now require a land use compatibility statement (LUCS) as part of any application for a state permit in which local land use is implicated.) The subcommittee interprets this section as requiring a review if the use originally approved has been or will be modified due to the DEQ permit. The Planning Official could make such a determination using a formal "Interpretation" pursuant to BCC 51.205(1). Recommend a code amendment to clarify this provision. For example, a code amendment could require that when DEQ issues a landfill permit, the Planning Official shall review the permit and conditions of approval and, if discrepancies with the County's land use approval are noted, determine whether this constitutes a "modification of a conditional use permit" (BCC 53.225) and, if so, require the applicant to submit application for such modification. A workgroup recommendation on how public review of DEQ permit requirements could most benefit the public would also be helpful.			
LLU R-11	Compliance with Oregon Department of State Lands regulations and permitting requirements for any impacts to wetlands should be a condition of approval of any land use approval at the landfill.	12	0	0
LLU R-12	In issuing land use decisions, Benton County decision-makers should: a) Draft clear findings and be certain to incorporate into the conditions of approval the items that are intended to be binding. b) State conditions of approval in clear and explicit terms and ensure that what is expected of the applicant in order to comply is clearly stated in the text of the conditions.	11	0	0
LLU R-13	Benton County should evaluate its existing system regarding compliance monitoring and enforcement to determine if there are sufficient mechanisms in place to ensure compliance with conditions of approval that the County imposes on land use approvals and, if not, recommend improvements. Elements of such an evaluation could include: a) What enforcement mechanisms exist within the County Code? b) Is there a mandamus option or a private right of action option?	10	1	0

c) What is missing?

d) What provisions and procedures do other counties have, particularly counties that host a privately operated landfill?

The future cost of such a system, the benefits, and the consequences of not improving the current practices and procedures.



ADDITIONAL INFORMATION

The following table summarizes the topic areas Benton County can and cannot regulate. Some of these topic areas are discussed more fully in the full subcommittee report.

Topic Areas Benton County Can or Cannot Regulate
-- Summary Table –

Topic Area	***Agency with Primary Jurisdiction***	***County Allowed to Regulate?***	***Notes***
Wetlands	Department of State Lands	Yes, if the County has identified significant wetlands at the site in a wetland inventory adopted through the Statewide Planning Goal 5 procedure.	No significant wetlands are identified in the vicinity of the landfill on the County's adopted inventory.
Groundwater quality	DEQ	No. Statute precludes.	County can regulate the impact of one land use on another.
Groundwater quantity	OWRD	No. Statute precludes.	County can regulate the impact of one land use on another.
Noise	DEQ	Yes. DEQ has adopted noise standards but does not enforce. County may apply (only) those standards and enforce.	
Odors	DEQ's regulation of air quality via emissions standards does not specifically address odor, but DEQ does regulate nuisance odor through a complaint-based system (see	Benton County cannot substitute a different regulatory standard for DEQ's regulation of air quality emissions. County could determine that odor will violate a CUP	No objective "odor meter" (similar to a decibel meter for noise) seems to be available.

	DEQ's Nuisance Odor Strategy).	criterion and then impose a condition regulating odor, typically by requiring specified odor mitigations to be in place.	
Methane emissions	DEQ	Precluded if regulated by DEQ.	
Wildlife	ODFW	Yes, if Benton County were to adopt a program pursuant to the Statewide Planning Goal 5 procedure.	Requires Comprehensive Plan Amendment.
Stormwater runoff	DEQ	Yes, pursuant to BCC 99.650-99.680.	
Point-source discharge to surface waters	DEQ	Yes, pursuant to BCC Chapter 36 Illicit (Non-Stormwater) Discharges.	
Light	None	Yes, through CUP criteria and resulting conditions of approval. Not directly regulated in Development Code.	No state regulations that we are aware of.

CONCLUSION

Solid waste topics in Benton County intersect with legal and land use issues in several ways:

- Franchise agreements (in this case collection and landfill franchises) are contracts between a local government and a service provider.
- Legal requirements for permitting a landfill at a given location.
- Land use regulations.
- Benton County's oversight of solid waste topics through Chapter 23 of the Benton County Code, including the Solid Waste Advisory Council and the state-mandated Disposal Site Advisory Committee.

Franchise agreements are subject to contract law, applicable Oregon Revised Statutes and County Code, and applicable federal law and court cases. For example, the U.S. Supreme Court has determined the federal constitution prevents the County from limiting the area from which the landfill can accept waste.

While franchise agreements are the product of confidential contract negotiations between the parties, the County and Republic Services also recognize and acknowledge the public interest in these agreements and the desire to ensure the agreements reflect community priorities.

Permitting a landfill or changes to a landfill is a complex mixture of state law (involving a variety of agencies) and Benton County Code. Understanding the roles and limitations on authority of

each entity is important to enable community members to provide informed comment and for Benton County decision-makers to arrive at informed decisions.

Benton County has latitude to interpret the provisions of its own code and to interpret ambiguities in past decisions, provided those interpretations are plausible. Decisions and conditions of approval must be rooted in the applicable criteria in the County's Development Code and can only address the current application (not look to alter previous land use decisions or conditions). Subjective terms in the review criteria and procedures applicable to a conditional use permit (CUP) in Benton County, including a CUP to expand the landfill, were discussed in the subcommittee findings with the intent *not* of directing how these terms should be interpreted and applied in a future land use review but of providing such legal context as exists and how the County has historically interpreted them.

The County's long land use history with Coffin Butte Landfill has resulted in legal and interpretation questions which the subcommittee has attempted to clarify from an objective legal perspective. The 1983 approval of the landfill did include approval for landfilling of Cell 6 (the present quarry) and did not establish the site plan and narrative as regulatory conditions of approval. The 2002 memorandum of understanding (MOU) between Benton County and the landfill operator memorialized the County's understanding that at that time the landfill was operating in compliance with local requirements, but the MOU did not replace or negate conditions of past land use approvals.

The subcommittee makes recommendations to:

- clarify the role of the Solid Waste Advisory Council in the land use conditional use review process;
- consider specifying what "additional information" would be helpful in review of a conditional use application;
- consider requiring a "pre-application conference" and a "neighborhood meeting";
- consider specifying any additional criteria necessary for CUP review and/or requiring compliance with the proposed site plan and reclamation plan;
- clarify BCC 77.405 regarding review of DEQ permits;
- provide the public with information regarding the initial review of the completeness of an application;
- consider a proposed process for public input in the re-opener of the collection franchise agreement;
- evaluate the system of compliance monitoring and enforcement;
- ensure that land use findings are clear and that conditions of approval include all elements intended to be binding and are clear about what is necessary to comply with the conditions.

ANDFILL

Section D: Past Land Use Application Conditions

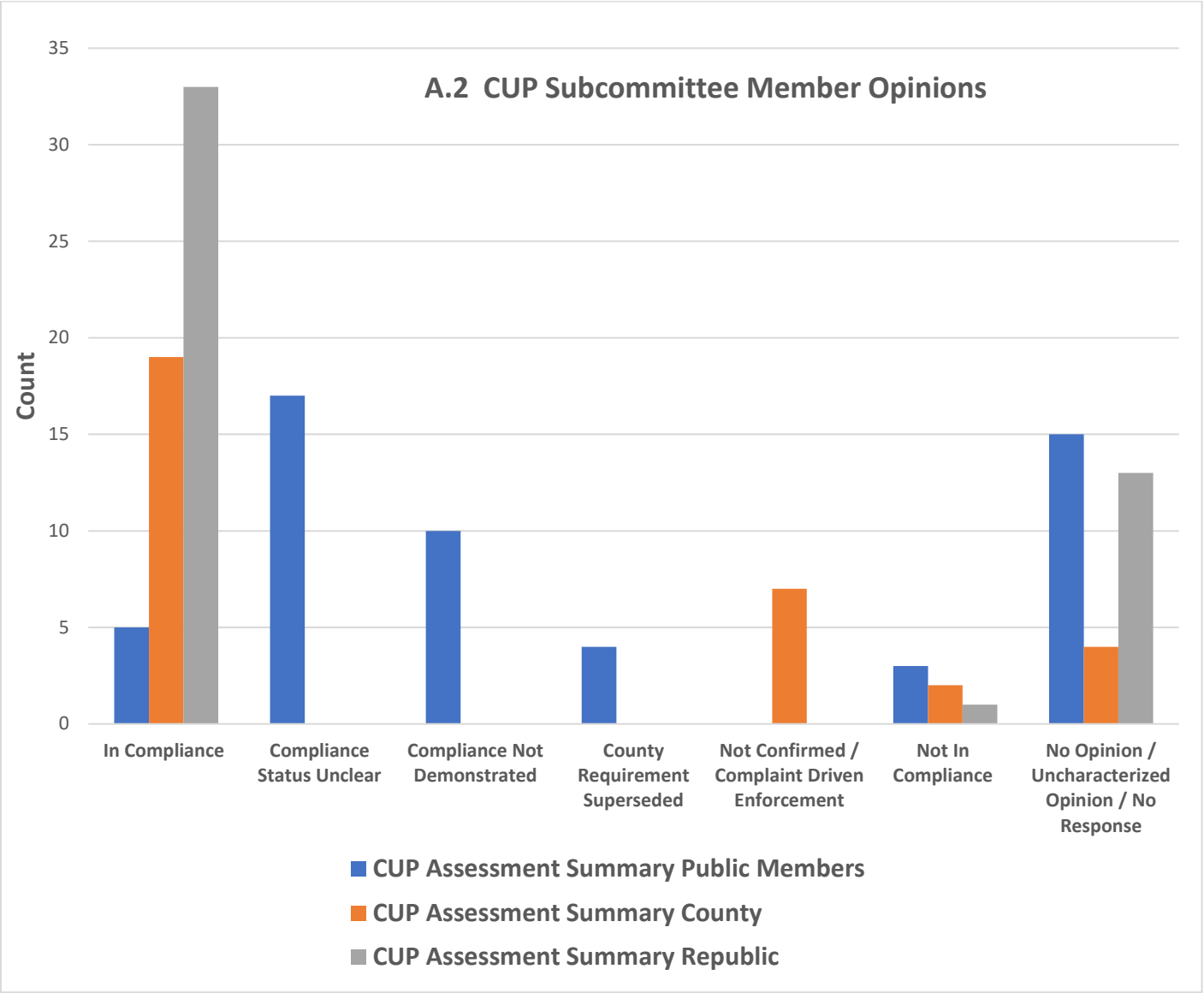
INTRODUCTION

The subcommittee's report is intended to provide an overview of all the Coffin Butte historical documents, starting in 1974, relating to land use provided to the Subcommittee by Benton County as of November 2022. It provides the context needed to better understand how Benton County got to where it is now regarding the Coffin Butte Landfill. All files were reviewed in depth by, at a minimum, the public members of the subcommittee (Catherine Biscoe, Edward Pitera, Mark Yeager).

The subcommittee report contains a summary and plain language evaluation of each of the historical files. Where possible, real-world examples are used to explain a review. Some situations point to a need for further information from the Oregon Department of Environmental Quality (DEQ). Other situations are annotated as possibly involving requirements stated in the 50-year long historical record that may have been superseded by legal interpretations of land use decisions or new laws or modified by subsequent decisions.

Table 2. *Assessments of Land Use Application Conditions* of the subcommittee report provides an overview of 13 historical documents representing 85 conditions of approval or other information contained in the reviewed files. The 85 conditions include 17 associated with power generation and 12 associated with the quarry. Although all conditions were reviewed, the subcommittee's efforts focused on the 56 associated with the landfill. The public members and the County indicated their evaluation of each condition in six clearly defined categories including "In Compliance", "Compliance Unclear", "Not In Compliance", "No Opinion" etc. The Republic evaluations tended to be as comments making it difficult to summarize how close to consensus the three parties were. A chart summarizing the subcommittee's review of the historical record since 1974 is included follows below. It illustrates that the public members feel they need more information before concluding the landfill is in compliance with CUP Conditions.

Evaluations of legal theories impacting the enforceability of past land use decisions can be found in the section authored by the Legal Subcommittee. Some key situations where the Legal Subcommittee findings point to Land Use commitments that may no longer be enforceable are: 1) limitations on the geographical area sending solid wastes to Coffin Butte (1974 CP-74-01) due to legal precedents; 2) screening the landfill from view from County roads, plus how the site is to appear and be used after solid waste disposal operations stop (1983 PC-83-07 / L-83-07) due to how the County decision was structured; 3) A 2002 County/Republic Memorandum of Understanding.



SUBCOMMITTEE WEBPAGE LINK

SUBCOMMITTEE CHARGE

Charge: A chronological history of key Coffin Butte Landfill topics:

A) Conditions of past land use approvals;
B) Compliance with prior land use approvals and SWMP;

SUBCOMMITTEE MEMBERS AT END OF PROCESS

Catherine Biscoe
Ed Pitera
Jeff Condit
Mark Yeager
County Staff: Inga Williams

The **SUBCOMMITTEE'S REPORT can be found linked HERE** in Appendix C.

The **SUBCOMMITTEE'S "MEETING NOTES" can be found linked HERE**.

KEY FINDINGS AND KEY RECOMMENDATIONS

This section lists Key Findings and Key Recommendations from the full subcommittee report below. These Key findings and Key recommendations do not capture the comprehensive discussions of the subcommittee, nor are they intended to do so. Instead, these provide a summary overview of key observations. The link adjacent to each Key Finding and Key Recommendation provides access to the full report. These summaries encourage readers to follow the links to find detailed content in the full subcommittee report.

			Unanimous Agreement		Consensus Agreement		Majority-Minority Approval	
Sub. Comm.	Findings and Recs	Total	# with all 1s	% with only 1s	# with no 3 votes	% with no 3 votes	# with at least one 3	% with at least one 3
CUP	Findings	33	22	66.7%	33	100.0%	0	0.0%
CUP	Recs	25	13	52.0%	23	92.0%	2	8.0%

Key Findings:

A review of the extensive number of land use decisions and associated conditions of approval reveals some overarching key findings regarding how land use decisions for the landfill, the quarry, power generation, and associated uses are implemented in Benton County.

#	Finding	Formal Workgroup Polling		
		1's	2's	3's
CUP F-1	The Subcommittee's Full Report is an in-depth review of selected historical land use documents. County Staff, Republic, Workgroup and public members participating on the Subcommittee provided comments, opinions and evaluations of the historical record. Each condition was vetted in depth. Consensus was reached by public members of the Subcommittee on most topics. Consensus was not reached with County Staff and Republic. Information from DEQ is needed to potentially reach consensus on many Conditions of Approval. All inputs have been retained to assist the public in understanding the historical documents and how they were viewed by the Subcommittee. Where needed, information obtained by firsthand experiences on BCTT's Landfill and Neighborhood	11	0	0

	Tours was used to verify the compliance status of visible Conditions of Approval.			
CUP F-2	Benton County has not and does not actively monitor compliance with many Conditions of Approval, nor does it proactively act to enforce compliance. See Table 5 in Appendix C4 of the CUP subcommittee report.	11	0	0
CUP F-3	Benton County relies on complaints to initiate action to enforce Conditions of Approval.	11	0	0
CUP F-4	All County materials reviewed reflect historical information and/or decisions from public processes (e.g., meetings, hearings, advertisement notices, etc.) based on public input and approval by appropriately authorized public planning boards.	11	0	0
CUP F-5	For over 50 years, Conditional Use Approvals have been the basis for the public's understanding of many aspects of the landfill, including but not limited to: hours of operation, management of noise, screening of the site from view, how the site should look, and how the site can be used after the landfill is closed.	11	0	0
CUP F-6	No record was found of an official Benton County decision to increase the number of counties sending wastes to Coffin Butte Landfill prior to the Supreme Court's 1998 ruling. However, the 1983 land use decision expressly repealed the comprehensive plan provisions that were adopted after the 1974 decision that limit the number of counties that could waste to landfill. According to the staff report, the effect of this change was to remove such limitation.	10	1	0
CUP F-7	Conditions of Approval 4 and 6 in CP-74-01 require reclamation of the landfill to meet criteria relating to visual appearance, screening from abutting county road, and use for grazing or another farm-type operation or other permitted use as approved by the Planning Commission and Board of County Commissioners. Reclamation was also addressed in PC-83-07.	11	0	0
CUP F-8	The required DEQ reports are submitted by the Applicant and maintained by the County for the public record. A full review of these County required submittals (e.g. monitoring records) was not conducted due to time constraints.	11	0	0
CUP F-9 [Link]	Compliance with Conditions of Approval often involves a direction from the County that the Applicant should obtain permits from other entities such as, but not limited to, state agencies.	11	0	0

CUP F-10	Benton County did not and does not have a readily accessible, transparent complaint tracking system known to the public in place to receive and record land use complaints for documentation, investigation, and resolution.	11	0	0
CUP F-11	In assessing the status of compliance with past land use documents, there are numerous instances where supporting evidence may not be or is not available in County records.	11	0	0
CUP F-12	Benton County does not review reports and other submitted materials as required per conditions of approval. Examples include: copies of water quality and air quality permits, emergency plans, permit submittals, financial assurance statements, etc., and data produced from associated monitoring programs required of the applicant by the Oregon Department of Environmental Quality or other governmental agencies. See Table 5 in Appendix C4 of the CUP subcommittee report.	11	0	0
CUP F-13	Benton County has issued land use Conditions of Approval before the Applicant was granted necessary operating permits from multiple State agencies. The County advised the Applicant that those permits were required but did not check that those required permits were procured by the Applicant, except for DEQ permits.	11	0	0
CUP F-14	As of 1974 the Coffin Butte landfill was identified as a regional landfill site for wastes from ten areas in three counties. Expanding beyond this limited geographic area was to require re-review by the Planning Commission. Starting in 1998, legal precedents are believed to have superseded the 1974 requirements allowing for the expansion of the service area beyond the original three counties. Since 2013, the Coffin Butte Landfill has served 39 counties. Also, since 2013, Coffin Butte Landfill has accepted waste from seven out-of-state counties (2 from CA, 5 from WA). Only one out-of-state county (in WA) was served in 2021, which represented 1.88 Tons (0.00018% of total). For supporting information see Comments for CP-74-01 Condition 1 in Table 2 Assessments of Land Use Conditions and Legal Land Use Subcommittee analysis.	11	0	0
CUP F-15	County land use decisions have been written in a way that makes it difficult to understand the County's commitment to public expectations and enforceability of Conditions of Approval. Building on information presented by the Legal	11	0	0

	issues and Landfill Capacity Subcommittees, examples of these are:· • A 1983 County decision where all but one of the publicly agreed to requirements for the visual appearance and ultimate use of the landfill may be unenforceable. • A 1983 Benton County Amendment to the Comprehensive Plan. • A 1992 United States Supreme Court ruling (Fort Gratiot Sanitary Landfill, Inc. v. Michigan Dept. of Natural Resources, 504 U.S. 353, 112 S.Ct. 2019 (1992) limiting the County's power to regulate where wastes come from, wastes from as many as 39 counties in three states (OR, WA, ID) are allowed to be brought to Coffin Butte. These wastes have made up over 90 percent of the material coming to Coffin Butte in the last 5 years. The Workgroup's CUP Subcommittee and Legal Subcommittee have analyzed past land use documents and have reached different conclusions as to their effect. This has resulted in changes to what was authorized to occur at the landfill without notification or a public review process that would ensure public trust.			
CUP F-16	County approval documents and Applicant submittals for PC 83-07/L-83-07 describe reclamation of the site once it stops receiving waste. Requirements include what the appearance of the site is to be, terracing, allowable steepness of slopes, screening, use for grazing, consistency with agricultural and forest land use, etc. The Subcommittee did not reach a consensus on whether the County decisions and Applicant submittals associated with PC 83-07/L-83-07 are enforceable and require compliance. The public members believe they are enforceable. The County and Republic members believe they are not enforceable. Information on the County documents and Applicant submittals are in Comments for PC 83-07/L-83-07 Conditions 1 and 3 in Table 2 Assessments of Land Use Conditions. The viewpoints of the Public Members can be found here. The position of the Legal Subcommittee is found at here.	11	0	0
CUP F-17	DEQ's requirements for a Worst–Case Closure and Post-Closure Care Plan and financial assurances do not require Valley Landfills to comply with County's reclamation conditions of approval or public expectations.	11	0	0

CUP F-18 [Link]	Currently, it is not clear to the public what appropriate reclamation will look like for the ultimate disposition of the landfill.	11	0	0
CUP F-19	The Subcommittee did not reach a consensus on the applicability and the authority of the 2002 Memorandum of Understanding and how it may affect Conditions of Approval in pre-2002 decisions. The resolution of this issue potentially impacts ten land-use matters, which is over half of the decisions, containing fifty-three Conditions of Approval.	11	0	0
CUP F-20	Generally, DEQ has jurisdiction over many environmental impacts, and the County has jurisdiction over the land use impacts. The line between "environmental impact" and "land use" is not always clear. and may lead to conflicting perceptions of what is to be done. For example, as a remedy for groundwater contamination at the site, DEQ requires the purchase of land to limit the public's exposure to contaminated water (Record of Decision from the DEQ Cleanup Program), which may or may not adversely impact neighboring County approved land uses. In another situation, the County publicly agreed to limitations on the appearance and uses of the closed landfill (PC 83-07/L-83-07), but these are not reflected in Republic's current DEQ-required site closure plans. Republic prepares annual plans to verify there is sufficient financial assurance per DEQ requirements.	10	1	0
CUP F-21 (CONVERTED TO FINDING FROM PREVIOUS CUP R-19, WHICH HAS SINCE BEEN REMOVED)	With regard to the 2002 MOU, DEQ has provided information already on what a LUCS is used for. A LUCS should not be used as evidence of compliance with DEQ requirements. Per Oregon Administrative Code, OAR 340-018, a LUCS is a signed document provided by a local government that verifies that the entity applying for a DEQ permit is located in an area zoned appropriately for the proposed use by the local government.	9	2	0
CUP F-22 [Link]	Leachate from the landfill site is currently trucked to public wastewater treatment plants in Corvallis and Salem which discharge to the Willamette River. The last five years have ranged from 25.6 to 31.8 million gallons per year, with an average of 28.5. Last year the amount was 29.1 million gallons. The tanker truck capacity is 7000 gallons, which means 6 to 13 trips per day with an average of ten.	11	0	0
CUP F-23	The acquisition of buffer land by landfill-related entities is a condition of DEQ's Record of Decision from the DEQ Cleanup Program for the landfill. Landfill-related entities	11	0	0

	have acquired such buffer lands over the years that are currently zoned Rural Residential, Forest Conservation, Exclusive Farm Use. This situation was not evaluated by this subcommittee for consistency with Vision 2040 which went into effect in 2019.			
CUP F-24 [Link]	Documentation for a required submittal of a plan for emergency water supplies to the Power Generation facility was not found in the land use records.	11	0	0
CUP F-25	Odor issues have not been addressed in any of the land use Conditions of Approval.	9	2	0
CUP F-26 [Link]	In reviewing historical files it was not clearly specified what conditions were to be completed before final approval of the application and which conditions are applied to the on-going use of the land.	11	0	0
CUP F-27	A Land Use Compatibility Statement (LUCS) with a faxed date of Feb 25 '92 along with instructions on how to fill it out and what the intended use of the LUCS is was found as a supporting document in a 2000 Updated Site Development Plan report. The current 2019 dated Operating permit is based on a 2000 dated LUCS.	7	3	0
CUP F-28	There are Valley Landfill, Inc. Closure Plan Reports / Financial Assurance documents dating from the mid 1990's identifying areas of the landfill that are closed to meet DEQ requirements. Financial Assurance amounts were reduced to reflect the closure. The landfill owner utilized existing financial assurance to meet DEQ closure requirements in the 1990s. For explanation of financial assurance see LLU F-3b.	9	2	0
CUP F-29	There is a record of citizen odor complaints in a March 29, 2005 DSAC meeting minutes. Detailed information (e.g. date, time, weather conditions) on odors was reportedly presented to DSAC. Two odor control methods mentioned: 1) Keep the power generation equipment running or keep the flare lit (i.e. burn the vapors), 2) "We are using soil cover and closing the landfill at night." September 16, 2008. Landfill representative told County to refer complainants to the landfill organization because the landfill is obligated to report them to DEQ.	9	2	0
CUP F-30	Sources of Wastes: A 2001 tonnage report does not list any wastes as coming from out of state. Reports from subsequent years do e.g. 2002 lists ~12,000 tons under "Private Vehicles" (as separate from Commercial). 2003 @	9	2	0

	~37,000; 2004 @ ~34,000 tons; 2005 @ ~18,000; 2006 @ ~16,000			
CUP F-31	A "Special Waste Management Plan (Draft) 10/03 file date" identifies wastes other than household material that can be brought to Coffin Butte. *(See, Post-meeting note in M11 Meeting Minutes, prepared by Republic in response to a member request - NOT vetted by the Workgroup and not part of the finding.)*	8	3	0
CUP F-32	A number of County records were made available for review as of November 2022. However, files for PC-94-10[66] and PC-94-11[67] listed for CUP review in the October CUP planning document were not available.	9	2	0
CUP F-33	Hosting a privately owned landfill in the County involves a complex interplay of land use decisions, environmental regulations, legal precedent, and community perceptions.	11	0	0

Key Recommendations:

#	Recommendation	Formal Workgroup Polling		
		1's	**2's**	**3's**
CUP R-1	Maintain the CUP Appendix along with the supporting County and DEQ files as an integral part of the Final Workgroup Report.	11	0	0
CUP R-2	Make the Appendix and supporting comprehensive library of files related to the Coffin Butte landfill electronically and continuously available to the public to increase accessibility and reduce the need for public records requests.	11	0	0
CUP R-3	Actively monitor and enforce prior land use decision Conditions of Approval for the landfill or any other land use decision.	7	4	0
CUP R-4	Establish and widely advertise a reporting process for receiving, tracking, and resolving complaints, such as odor, noise, hours of operation, not following conditions of approval. This administrative process should include an appeals process. Ensure there is a mechanism for providing reports regarding the nature, number and resolution of complaints to be	11	0	0

[66] PC-94-10 Zone change from Rural Residential to Landfill Site Zone, Comprehensive Plan change from Rural Residential to Landfill Site

[67] PC-94-11 A conditional use permit to expand the area approved for a landfill within the Landfill Site Zone and update the site development plan.

	provided to the Board of County Commissioners in the normal course of its business.			
CUP R-5	Ensure that all documents involved in a land use application and all documentation required to be submitted by a Condition of Approval are acquired and placed in the County records for that land use application and posted electronically and continuously available to the public.	11	0	0
CUP R-6	Create a system that tracks receipt of reports that are submitted as required per Conditions of Approval (E.g., copies of water quality and air quality permits, emergency plans, permit submittals, financial assurance statements, etc., and data produced from associated monitoring programs, etc.).	10	1	0
CUP R-7 [Link]	Determine if the Site Plan and Narrative included in the applicant submittals for PC-83-07/L-83-07 are regulatory conditions the landfill is required to follow. Please see LLU F-22 for a contrary view.	6	5	0
CUP R-8 [Link]	In 1983 the County created community expectations for how the landfill would look in decisions documented in PC83-07. Appearance issues including steepness of the landfill slopes, terracing, screening, and returning the land to grazing or other farm-like uses were addressed and committed to by the County and landfill operator. The way the County chose to implement these commitments is questionable given legal hindsight. Whether they be enforceable “conditions of approval” or “findings” in the PC83-07 record remains in dispute. The BCTT Workgroup is not a court of law. The differing interpretations over a possible process or wording error of the 83-07 decision, that causes this issue to arise, should not be the primary concern. Of greater importance for the County’s relationship with its residents is the Planning Commission and Board of Commissioners decisions to adopt the offered designs and reclamation plans to meet public expectations. These expectations were made clear in the records of PC83-07. At a minimum, the debate over PC83-07's intended vs. actual conditions of approval or findings draws attention to the fragile “good neighbor” relationship between the County, landfill owner/operator and the public established through the 83-07 land use hearing process. Acknowledging these discrepancies with prior commitments should form a basis for the County, landfill owner/operator, DEQ and the public to come to reasonable expectations for the appearance and long-term use and closure of the landfill facility.	7	2	2
CUP R-9	Clarify and communicate to the public what appropriate reclamation will look like to appropriately manage community	12	0	0

	expectations for the ultimate disposition of the landfill. For example, the county should explain to the public, with DEQ's and Republic's assistance, DEQ's minimum reclamation requirements in the current Worst–Case Closure and Post-Closure Care Plan.			
CUP R-10 [Link]	Determine how or if the County's reclamation conditions of approval can be incorporated into DEQ's requirements for Valley Landfill's Worst–Case Closure and Post-Closure Care Plan for the landfill.	11	1	0
CUP R-11	Determine the authority of the 2002 Memorandum of Understanding as it relates to pre-2002 Conditions of Approval and broadly communicate the applicability of the 2002 MOU to the public to help manage community expectations.	9	2	0
CUP R-12	Clarify the intersecting roles between the County and DEQ in future CUP actions, recognizing the line between "environmental" and "land use" impacts may not be clear and establish a process of reconciliation.	11	0	0
CUP R-13	Establish a reporting program for compliance confirmation for facilities contributing to environmental impacts on the County, such as a landfill, industrial-scale composting, or direct dischargers to water bodies within the County, etc.	11	0	0
CUP R-14	Consider the impact of leachate from the landfill site on traffic safety, road maintenance, public wastewater treatment plants (Corvallis, Salem), and the Willamette River (water quality, sediments, wildlife, etc.) in future assessments of the impact of landfilling in Benton County.	11	0	0
CUP R-15	The workgroup took two polls on various versions of this recommendation, and the results appear below: *Version 1:* Evaluate whether acquiring buffer land by landfill-related entities <u>impacts</u> ~~is consistent with~~ 2040 Initiative including the impact on housing, forestry, and agricultural land uses. ~~Acquiring buffer land is an action specified in DEQ's Record of Decision from the DEQ Cleanup Program for the landfill. "Property purchases as buffer around the landfill." is identified as one of the remedies for groundwater contamination.~~ <u>In addition, identifying options to disclose to the community who adjacent land owners are.</u>	9	1	2
	Version 2: Evaluate whether acquiring buffer land by landfill-related entities is consistent with 2040 Initiative including the impact on housing, forestry, and agricultural land uses. Acquiring buffer land is an action specified in DEQ's Record of Decision from the DEQ Cleanup Program for the landfill.	8	2	2

	"Property purchases as buffer around the landfill." Is identified as one of the remedies for groundwater contamination.			
CUP R-16 [Link]	Require submittal of a plan for emergency water supplies for fire protection to the Power Generation facility per S-97-58.	11	0	0
CUP R-17	Develop a comprehensive emergency preparedness/response plan with neighboring counties, cities and fire districts given the experiences from the nationally reported 1999 landfill fire.	11	0	0
CUP R-18	To address public concerns about odor, engage in a dialogue with the community to promptly develop and implement an odor reporting and mitigation plan that is consistent with the community's needs and DEQ requirements and County health and nuisance regulations.	10	1	0
CUP R-19	Update the Benton County Code and land use application documents to reflect the conditions of approval that are to be completed before final approval of an application and which conditions are applied to the on-going use of the land. This would improve understanding of the differing conditions of approval for the applicant, public, and decision-making bodies.	11	0	0
CUP R-20	Benton County should ensure that its land use decisions clearly capture and make binding the intent of the decision-makers; and should communicate with the public the outcome of such decisions in understandable language. In addition, the County should inform the public – particularly those members living within 5 miles of the landfill - when changes outside of a public land use process affect how the landfill operates or is regulated.	11	0	0
CUP R-21	Review historical and current closure related documentation to determine their impact on the ultimate closure of the landfill site.	9	1	0
CUP R-22	Continue working with DEQ to access their files and make the information readily available on the County website.	10	1	0
CUP R-23	Conduct additional searches of County records and other depositories of County correspondence such as DEQ records to uncover documents that may impact the evaluation of future land use matters. Make existing files for PC-94-10 and PC-94-11 available to the public.	9	2	0
CUP R-24	Future users are encouraged review all then-available source files for evaluating land use decisions and not rely solely on Appendix C4 documentation.	11	0	0
CUP R-25	Retain a specialized professional team of outside resources to act in the County's behalf in all aspects of upcoming expansions of the landfill. This team should be structured to	9	3	0

require only guidance from County staff. The team resources should not be dependent on County staff for administrative tasks or clerical support. Public Members of BCTT knowledgeable in the issues should participate in the selection of outside resources.

CONCLUSION

The Land Use subcommittee reviewed documents spanning more than 50 years to assess compliance with land use requirements and Conditions of Approval placed on the landfill. The efforts of the Benton County staff to locate and organize records and provide them in an electronic format was essential to allowing a full review of the historical documents and is appreciated. DEQ's similar efforts to assemble and make documents available for review was of great value and is also recognized. As a result of these efforts, for the first time the County now has a documented history of land use files for the landfill.

The subcommittee members reviewed these files from differing positions. The public members were looking for a record of compliance. In many cases, documentation of decisions made and tracked were missing, reasoning around decisions was sparse or missing, follow up documentation, once an application was closed, is seldomly found. Some records may have been in other files kept by DEQ or other county departments, but these were not available for review.

County staff and Valley Landfills, Inc. (Republic Services) were working from alternate views. Valley Landfills, Inc. has presumed their work processes have achieved compliance with Conditions of Approval since their purchase of the landfill business in 2008. Throughout this process Valley Landfills has asserted their belief that the landfill was also in compliance at the time of purchase.

Benton County's work processes do not proactively monitor and enforce all land use Conditions of Approval. This means that when an application is given final approval and the requested use is allowed to begin, County staff then find the applicant to be in compliance with initial Conditions of Approval. However, Conditions of Approval that span the life of a use are not necessarily tracked once an application file is closed. Benton County relies on complaints to initiate a compliance review rather than performing proactive site inspections.

The Public Members of the Subcommittee looked for facts in County and DEQ records to assess compliance as illustrated in the chart titled A.2 CUP Subcommittee Member Opinions, additional information is needed to gain consensus on roughly 80% of land use requirements.

Section E: Community Education & Public Outreach Summary

INTRODUCTION

Benton County relies on community participation for nearly all aspects of its policies and decisions. In June 2021, Republic Services filed its initial Conditional Use Permit (CUP) application, requesting to expand landfill operations south of Coffin Butte Road. Community members affected felt they had limited opportunity for input. The Benton County Planning Commission denied Republic's CUP application in December, 2021, at which point Republic Services timely appealed that decision to the Benton County Board of Commissioners. In March 2022, Republic services withdrew its appeal, stating its intent to file a new CUP request in 2023.

The County and its Board-appointed bodies, including the Solid Waste Advisory Council Committee (SWAC) and the Planning Commission must follow legal criteria in making land use decisions, including following County regulations that provide opportunities for community input. This input is critically important. Recommendations to ensure that community engagement and education are present for the next CUP process and other future land use decisions are discussed below.

Committee recommendations include: providing more time for public comments, updating community outreach methods to include underserved populations, providing more language accessibility, expanding website and social media reach beyond the existing self-selected lists, and ensuring that public comments are organized and easily accessible for review.

Goals and Objectives

- Best practice recommendations for Benton County communication and outreach with the public for future CUP's and communications concerning the Sustainable Materials Management Plan (SMMP.)
- Review past CUP processes and standard Benton County Communication practices.
- Provide ideas and feedback for the BCTT, SWAC, and the PC to help in Community Engagement
- Develop an outreach plan that allows community members more time to be involved in the CUP and other Land Use processes in the future and gives the County more access to community input for decision-making.

SUBCOMMITTEE WEBPAGE LINK

SUBCOMMITTEE CHARGE

1) General History:
    a. Directed at the public and those new to the issue.
    b. Not as detailed as the initial draft
    c. Narrative more than a table of newspaper articles
    d. Other historical details will appear in the Capacity and CUP reports for cross-referencing.
2) Next CUP Communications Protocols:
    a. Start with legal requirements from Legal Subcommittee

b. Develop protocols for the timely and broad distribution of CUP-related information to the public, other governmental entities, and internal committees, groups, and divisions.
c. Look at wide distribution via multiple communication channels.
d. Note opportunities for input from the jump.
e. Possible Open House/Community Forum events
f. Benton County devoted website with public comment email/form, Etc.
g. Legal Issue: Apply to just landfill CUP or all CUPs – perhaps, two processes; one for big/large area impacts vs. smaller/localized impacts, etc. It may require code amendments.

3) Executive Summary:
   a. Emphasis will be on recommendations.
   b. Note where "consensus" and MAJ- MIN
4) Community Education Plan:
   a. Focus on the ending of the BCTT process and preparation for the next CUP.
   b. SMMP info?
   c. FAQs from a process perspective – not the substantive perspective
   d. Outreach Plan
5) Recommendations

SUBCOMMITTEE MEMBERS AT END OF PROCESS
Cory Grogan
Ginger Rough
JonnaVe Stokes
Louisa Shelby
Marge Popp
Mark Henkels
Mary Parmigiani
Staff: Amelia Webb

The **SUBCOMMITTEE'S REPORT can be found linked HERE**, in Appendix C.

The **SUBCOMMITTEE'S "MEETING NOTES" can be found linked HERE**.

KEY FINDINGS AND KEY RECOMMENDATIONS

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Sub. Comm.	Findings and Recs	Total	# with all 1s	% with only 1s	# with no 3 votes	% with no 3 votes	# with at least one 3	% with at least one 3
CEO	Findings	6	1	16.7%	5	83.3%	0	0.0%
CEO	Recs	16	13	81.3%	16	100.0%	0	0.0%

Key Findings:

Public engagement needs to be widened and become more inclusive. This is most likely to be achieved through the following measures:

#	Finding	Formal Workgroup Polling		
		1's	2's	3's
CEO F-1	Insure language accessibility for at least the County's most used languages. (English, Spanish, Mandarin, and Cantonese)	10	1	0
CEO F-2	Use methods that help target underserved populations, particularly youth and low-income demographics. a. This can be achieved through more SMS communication and ensuring all websites and surveys are mobile-friendly. b. Increase social media communication and expand to more platforms. (Reddit, TikTok, Sub-Reddit, etc.) c. Utilize social media advertising.	11	0	0
CEO F-3	Use outreach methods that do not require people to be pre-signed up or self-selected. This includes, but is not limited to, flyers in public spaces, paid advertising on social media, in newspapers, and on the radio, informational mailers, and other resources.	10	1	0
CEO F-4	Create user-friendly access to public input documents and testimonies during the process to ensure Benton County, Planning Commission, SWAC, and others.	10	1	0
CEO F-5	It is important for CUP applicants to have a pre-application meeting with community members to further foster collaboration and open communication.	9	2	0
CEO F-6	Community input on environmental health and safety concerns in the area around the landfill is helps assess criteria for a CUP. In the last CUP process, community members were concerned about odor, noise, air quality and other environmental health issues that may affect the use of	n/a	n/a	n/a

the surrounding property and character of the area[68]. Concerns & Complaints on the Benton County website provides links and phone numbers to report odor and air quality concerns about the landfill to the County, DEQ and Republic Services. There is not a link for noise or light complaints. The follow up and public access to this data is unclear.

NOTE: We inadvertently did not poll on this finding, but the companion recommendation (CEO R-16) was polled with this result: 9-3-0.

Key Recommendations:

NOTE: Generally, these recommendations focus on the landfill. However, absent a change to the existing County Code they could potentially apply to all CUP expansions. In addition, please note that recommendations are listed in chronological order of their application, and not necessarily in order of significance.

#	Recommendation	Formal Workgroup Polling		
		1's	2's	3's
CEO R-1	County Development Department and County PIO are responsible for conducting communication and outreach.	7	4	0
CEO R-2	The Board should consider changes to these notification recommendations based on the potential impact of other CUP applications.	12	0	0
CEO R-3	Notifications for the BCTT Survey for public input on the Workgroup Report should include an email blast, website post, and displays or presentations where people already spend time (i.e., Library, community events). Notifications should include a 10-Mile radius from the landfill and should go out ideally a month before the survey closes.	11	0	0
CEO R-4	Notifications for the BCTT Report completion should include an email blast to the Interested Parties List, Organic Subscribers, those who spoke at the meetings, the Soap Creek Neighbors Group, and other landfill neighbors. Notifications should also include a possible postcard to the entire county with a link to go to and/or scan to get on a list to be informed of further updates and/or have an open house event/public informational meeting. It should be on a	11	0	0

[68]Benton County. (2021). Planning commission findings. https://www.co.benton.or.us/pc

	weekend during the day so that most people can attend, and the link and email list should be readily available. A 10-mile radius from the landfill is proposed, and notifications should be sent 72 hours after the report is finished.			
CEO R-5	Notifications for Board Hearings on the report should include a postcard, an email blast, a newspaper notification, and social media posts and advertisements. The postcards should be sent to everyone in a 10- or 15-Mile radius of the landfill, and notifications should be sent 24 hours after the board hearing is scheduled.	11	0	0
CEO R-6	The County should notify the public when Republic first notifies the County that they plan to file a CUP application. This starts off any pre-filing public involvement. Notifications should include a postcard, email blast, newspaper notification, and social media posts and advertisements. Postcards should be sent to everyone within a 10- or 15-Mile radius of the landfill, and notifications need to begin 24 hours after the County is notified.	9	2	0
CEO R-7	Notifications for CUP filings, which includes the application review process, should consist of a postcard, email blast, newspaper notification, and social media posts and advertisements. Postcards should be sent to everyone within a 10- or 15-Mile radius of the landfill, and notifications need to begin 24 hours after the initiation of a CUP filing. During the "completeness" process, the Planning Official will consider whether the applicant's documents and information are sufficient for purposes of review of the application. Determining that an application is complete does not mean the information satisfies the approval criteria.	11	0	0
CEO R-8	Notification when County determines the application is complete will include a postcard, email blast, newspaper notification, and social media posts and advertisements. They should be sent to the entire county and occur 24 hours after completion.	11	0	0
CEO R-9	Notifications for SWAC Meetings should include website posts and email blasts to interested groups and people already on the existing email list. The notifications should be sent one to two weeks before the meeting.	11	0	0
CEO R-10	Notifications of the SWAC Recommendation should include website posts and email blasts to interested groups and people already on the existing email list. The notifications should be sent out 24 hours after the recommendation.	11	0	0

CEO R-11	Notifications for Planning Commission Meetings should include website posts and email blasts to interested groups and people already on the existing email list. The notifications should be sent no later than two weeks before the meeting.	11	0	0
CEO R-12	Notifications of the Planning Commission's decision on the application should include website posts and email blasts to interested groups and people already on the existing email list. The notifications should be sent out 24 hours after the recommendation.	11	0	0
CEO R-13	Notifications of when the Board is hearing the CUP application for approval will include a postcard, email blast, newspaper notification, and social media posts and advertisements. They should be sent to everyone within a 10- or 15-Mile radius of the CUP site and occur 24 hours after scheduled.	11	0	0
CEO R-14	Notifications of the Board's decision on the application will include an email blast, website banner, newspaper notification, and social media posts. The notifications should be sent out 24 hours after the decision.	11	0	0
CEO R-15	Applicants of CUPs should have a pre-application meeting with notification to the communities affected by the CUP as directed by the County.	12	0	0
CEO R-16	Neighborhood concerns about the landfill need to be collected, tracked, and resolved in an organized reporting and appeals process as cross referenced in CUP R-4 and CUP R-18. The data and actions taken should be accessible by the public. An updated area of the website with a streamlined reporting process for odor, noise, air quality and other environmental health concern reporting is needed. For example, a community member could click on the area of concern and check off boxes quickly to make a report. Phone numbers and emails should also be available for those who can more easily access these methods of communication. A link to the reporting area of the website on social media accounts would also be needed.	9	3	0

CONCLUSION

Community education and extended outreach are vital steps of the land use application process. Making sure everyone in the community gets information about this process requires two broad methods: specifically targeting underserved groups and using multiple outreach methods. Targeting underserved groups can include increased social media use and other outreach methods that can easily be accessed with a phone. It is also essential that

communications are succinct and easily understood by the entire population. In addition, it is critical that some of the communications do not require community members to be pre-signed up. Using multiple outreach methods is also important, and during the process, the county should gauge the effectiveness of the communication strategy and change it if necessary.[69]

[69] Benton County Oregon. (2022). Benton County Talks Trash solid waste process workgroup communication and outreach plan. https://www.co.benton.or.us/sites/default/files/fileattachments/community_development/page/8384/imperati_grogan_121222_fw_bctt_subcommittee_e_swppwg_communication_outreach.pdf

V. Polling Template

WORKGROUP Member	**Polling**	**Charge**	**Not Here**	**Abstain**	**1**	**2**	**3**
1) Chuck Gilbert	X	All					
2) Marge Popp	X	All					
3) Elizabeth Irish	X	All					
4) Russ Knocke / Ginger Rough	X	All but C					
5) Shawn Edmonds/Julie Jackson	X	All but C					
6) John Deuel	X	All					
7) Kathryn Duvall	X	All					
8) Christopher McMorran	X	All					
9) Ryan McAlister	X	All					
10) Mary Parmigiani	X	All					
11) Ed Pitera	X	All					
12) Louisa Shelby	X	All					
13) Catherine Biscoe	X	All					
Polling Totals:							
RESULT: Consensus / No Consensus (Keep One) **Majority-Minority Result: 1s = X and 2s = X | 3s = X**							
EX-Officio	**Polling**	**Charge**	**Not Here**	**Abstain**	**1**	**2**	**3**
Audrey O'Brien	No	All					
Brian May/Andrew Johnson	No	All					
Shane Sanderson	No	All					
Daniel Redick	No	All					
Sean McGuire/Jen Brown	No	All					
Ex-Officio Totals:							

Final Polling results can be found in Appendix B.

The Meeting 10 and Meeting 11 recordings can be found here:

Meeting 10 March 23, 2023: Recording Link (Passcode: Tvzb^h1$)

Meeting 11 April 3, 2023: Recording Link (Passcode: =W3GCHU0)

Meeting 10 and Meeting 11 meeting transcripts can be found in Appendix B3**.**

Benton County
HISTORY O
COFFIN BUT
LANDFILL
Benton County Talks Trash

VI. Member (Past and Current) Statements

Past and current workgroup members and subcommittee members were invited to submit Member Statements for inclusion in the final report. Member names below are hyperlinked.

Member	Affiliation
Catherine Biscoe	Public
Ed Pitera	Public
Ginger Rough (Follow-up information)	Republic Alternate
Joel Geier	Former Member
Ken Eklund	Subcommittee
Elizabeth Irish	Planning Commission
Louisa Shelby	Public
Marge Popp	SWAC/DSAC
Mark Henkels	Subcommittee
Mark Yeager	Subcommittee
Mary Parmigiani	Public
Russ Knocke	Republic: National
Ryan McAlister	Public
John Deuel	Public
Shawn Edmonds	Republic: Local
Chuck Gilbert	SWAC/DSAC

A Reflection on the Benton County Talks Trash Work Group: Biscoe

"Benton County and key stakeholders seek assistance identifying and implementing a constructive path forward relating to sustainable materials management and the future of solid waste disposal in the Mid-Willamette Valley, including at the Coffin Butte regional landfill."

In September 2022, at the onset of the Benton County Talks Trash Work Group, the expectation was for an intensive 4-month review and report to support this "future of solid waste disposal in the Mid-Willamette Valley." What manifested was more than 8 months of work group and subcommittee activity, represented in more than 102 meetings and more than 208 meeting hours for the workgroup members, that produced a comprehensive 445-page report to be utilized by the Benton County Board of Commissioners and planning officials to map the future of Benton County waste management.

What was discovered in this process as the subcommittees work developed was the intersecting nature of the history, landfill management, waste volumes, capacity expectations, legal interpretations, compliance status of the 50-year history of land use decisions regarding the Coffin Butte Regional Landfill, gaps in managing conditions of approval, adverse impacts from landfill activities and public expectations which were not upheld.

After this more than 8 months of unprecedented community effort, the BCTT workgroup delivered, within the report, an extensive set of findings and recommendations for the county to consider in moving forward to improve gaps in the process and manage expectations between Benton County, Republic Services, and the public.

Many members statements will speak to the fine nuances of many topics. My statement is designed to encourage strong participation in the next steps of this process, including public and stakeholder review of the Benton County Talks Trash Report as the community looks to determine the best path forward with for the Benton County relationship with the Coffin Butte Regional Landfill.

For the future reader of the BCTT Work Group Report, understanding the Benton County Talks Trash (BCTT) originations, goals, processes, and outcomes will assist in navigation of the 450+ page report, identified successes, and gaps discovered through the process.

For a foundational review of the BCTT Work Group expectations, review of the Bylaws and Charter is helpful. ***The Bylaws and Charter for the BCTT Work Group can be found here:*** benton_county_talks_trash_charter_and_bylaws_approved_8-23-22_final.pdf

Gaps that stood out for me:

- Absence of BCTT Work Group representation from Benton County city officials
- Absence of BCTT Work Group representatives from Tribal Nations.
- The comprehensive review of topics by the subcommittees contributed great value; the inability of the transference of the content of each subcommittee review to the greater BCTT Work Group complicated the final consensus stage of the process
- The lack of timely feedback throughout the process

- The challenges of short turnaround times of workgroup and subcommittee members to review large documents and reports

The Benton County Board of Commissioners appointed the following polling member representative to the BCTT Work Group: two Disposal Site Advisory Committee/Solid Waste Advisory Council members, two County Planning Commission members, two members from Republic Services, Inc., and eight members from the Benton County community. The Board also appointed ex officio members: two members from neighboring counties, one member from the Oregon Department of Environmental Quality (DEQ) and two Benton County staff members.

The length and intensity of the BCTT process led to changes in the appointed membership of the BCTT Work Group over the course of 8 months. Ultimately it was the contributing participation of these members of the Benton County Talks Trash (BCTT) Workgroup, the BCTT Work Group Subcommittees, as well as the supporting staff members and the greater public participation of this work process that led to its completion. The below list is designed to publicly recognize these contributors, and exceeds the official BCTT Work group membership list. As the Benton County community moves forward in its relationship with Coffin Butte Landfill, these are the key individuals who are now "experts" in understanding the unprecedented more than 50 years history of the landfill and have contributed to a road map for future relationships between Benton County and the Coffin Butte Regional Landfill. **The collective efforts toward the completion of this project over 8 months of these individuals represents more than**

- **11 BCTT Work Group meetings, each 4-8 hours long and in combination more than 60 hours**
- **a Coffin Butte Regional Landfill Tour**
- **a Neighborhood Tour of areas surrounding Coffin Butte Regional Landfill**
- **91 Subcommittee meetings of more than 148 meeting hours**

I wish to personally thank the contributors to the Benton County Talks Trash Work Group report *(and respectfully ask forgiveness if I have forgotten any key individuals!)*

- Marge Popp, Solid Waste Advisory Council / DS Advisory Council
- Joel Geier, Solid Waste Advisory Council (SWAC) / DS Advisory Council (DSAC)
- Chuck Gilbert, Solid Waste Advisory Council (SWAC), DS Advisory Council (DSAC)
- Liz Irish, Benton County Planning Commission
- Nancy Whitcombe, Benton County Planning Commission
- Andrew Struthers, Benton County Planning Commission
- Russ Knocke, Republic Services
- Shawn Edmonds, Republic Services
- Julie Jackson, Republic Services
- Ginger Rough, Republic Services
- Ian McNab, Republic Services
- Bill Bromann, Republic Services
- Jeff Condit, Republic Services legal counsel
- Brandon Bates, Public
- Mark Yeager, Public
- Ken Eklund, Public

- Paul Nietfeld, Public
- John Deuel, Public
- Kathryn Duvall, Public
- Christopher McMorran, Public
- Ryan McAlister, Public
- Mark Henckels, Public
- Mary Parmigiani, Public
- Ed Pitera, Public
- Louisa Shelby, Public
- Catherine Biscoe, Public
- Brian Fuller, DEQ
- Audrey O'Brien, DEQ
- Brian May, Marion County
- Shane Sanderson, Linn County
- Daniel Redick, Benton County Staff
- Vance Croney, Benton County legal counsel
- Scott Kruger, Benton County staff
- Sean McGuire, Benton County staff
- Greg Verret, Benton County staff
- Darren Nichols, Benton County staff
- Inga Williams, Benton County staff
- Daniel Redick, Benton County staff
- Sam Imperati, ICM Solutions, BCTT Facilitator
- Amelia Webb, ICM Solutions staff
- Ginny Lucker, Legal Counsel
- The extensive members of the public who contributed and engaged in rich and dynamic dialogue with the BCTT workgroup through in-person and virtual public testimony, online surveys, BCTT Open Houses, local organizations, and direct outreach with individuals on this list and Benton County staff serving as the connection to the greater body of public stakeholders.

Executive Summary

Many members of the committee are likely to speak to the Executive Summary, so I will reserve my comment for other areas. I encourage the future reader to consider those viewpoints from the perspective of vested members in the BCTT Work Group process and report.

History

The history of the relationship between Benton County and the Coffin Butte Regional Landfill is rich in story, complex in nature and filled with perspectives of a community and public interests that have changed over time. Rooted in the past of Camp Adair, through the planning of the Chemeketa, the development of better environmental and waste management practices, the onset of intentional

recycling efforts and today's question about the types of waster and future impacts to our quality of life and environment, the history is an important element to better understanding the BCTT Work Group Process and Report

Elements of the history of the Coffin Butte Landfill that stood out for me:

- The Neighborhood Tour
  geier_100222_neighborhood_tour_guide.pdf (benton.or.us)

- The Coffin Butte Landfill Tour
  pitera_092922_coffin_butte_tour_notes_092422.pdf (benton.or.us)

- Intake Volume History of Coffin Butte Regional Landfill as presented by Paul Nietfeld
  geier_100222_neighborhood_tour_guide.pdf (benton.or.us)

- The 2002 Memorandum of Understanding between Benton County and Coffin Butte Landfill that has been proposed to conclude that all pre-2002 Conditions of Approval for the landfill had been met. This was a subject that could not be met with consensus of the work group
  mou_documents.pdf (benton.or.us)

- The authority of the 1983 Land Use file 83-07 of which reportedly Coffin Butte Landfill is still subject to some of the conditions, but of which a substantial number of conditions remain inconclusive

- The relevance of the Coffin Butte Landfill fire in 1999
  (notes found in document from Ed Pitera Stop 6 of Neighborhood Tour)
  pitera_100422_notes_cb_neighborhood_tour.pdf (benton.or.us)

- The historical management of methane gas emissions from Coffin Butte Landfill

- The environmental impacts of leachate from the landfill in the immediate area, in groundwater and in surface waters through treated effluent
  Drinking Water Health Advisories for PFAS Fact Sheet for Public Water Systems (PFOA, PFOS, GenX Chemicals and PFBS) (epa.gov) (see page 3 of 5 regarding EPA's Health Advisories for PFOA, PFOS, GenX Chemicals and PFBS)

- The risk of long-range environmental impacts of landfill contaminants that will begin to impact the environment as liners and mitigation measures age and begin to fail.

The Work of the Subcommittees

This part of my member statement is a summary of subcommittee work to encourage future readers navigate the complexity of the BCTT Work Group process. The following is formatted to include the

subcommittee members, the meetings and hours spent, the charge of each subcommittee, the links to the main webpage of the subcommittee where supporting documents are found.

Sustainable Materials Management Plan Subcommittee

(known as SMMP in findings/recommendations documents)

The Charge: Does not include completing a Sustainable Materials Management Plan, but rather the discussion of preliminary scoping to start the planning process including subjects to be covered, benefit-cost topics, contracting options, alignment with the 2040 Thriving Communities initiative, stakeholders to be included, a workplan outline and timeline, and lessons learned.

Meeting agendas, recordings and supporting documents for this workgroup can be found here: BCTT Subcommittee - C.1. Sustainable Materials Management Plan (SMMP) | Benton County Oregon

This subcommittee held 13 additional meetings with a minimum of 19 additional meeting hours beyond the BCTT Work Group meetings.

- Brian May, Marion County
- Sean McGuire, Benton County staff
- John Deuel, Public
- Marge Popp, SWAC/DSAC
- Ken Eklund, Public
- Daniel Redick, Benton County staff
- Ryan McAlister, Public

Landfill Size/Capacity/Longevity Subcommittee

(known as LSCL in findings/recommendations documents)

Charge: Develop a chronological history of key Coffin Butte Landfill topics including size, specific locations, and assumption (e.g., when landfill will close)

Meeting agendas, recordings and supporting documents for this workgroup can be found here: BCTT Subcommittee - A.1. Landfill Size/Capacity/Longevity | Benton County Oregon

This subcommittee held a minimum of 16 additional subcommittee meetings with a minimum of 25 additional hours beyond the BCTT full Work Group meetings.

- Paul Nietfeld, Public
- Chuck Gilbert, SWAC/DSAC
- Brian May, Marion County
- Shane Sanderson, Linn County
- Ian Macnab, Republic Services
- Bill Bromann, Republic Services
- Daniel Reddick, Benton County staff
- Mark Yeager, Public

- Ken Eklund, SWAC/DSAC
- Ginger Rough, Republic Services

Legal Issues and Land Use Review Subcommittee

(known as LLU in findings/recommendations documents)

Legal Issues Charge

1. **Create a summary of the County's current rights and obligations to Republic Services and vise versa, surrounding the Franchise Agreement, the landfill CUP, what legally can and cannot bee conditions of land use approvals and interpretation of deference.**
2. **A summary of the rights and obligations of other entities surrounding landfills, hauling and sustainability initiatives, etc. of the following parties: Federal, tribal, state, local government and a summary of the process and timing for cross-jurisdictional approvals of landfill approvals**

Land Use Review

1. **Create a common understanding document outlining which Benton County Development Code criteria are applicable to the review of a conditional use application for landfill expansion.**
2. **Review Chapters 50 and 51 of Benton County Code for context and prepare a conceptual list of any other Development Code criteria the BCTT Workgroup recommends to be applicable.**
3. **Develop recommended guideline for interpreting ambiguous Development Code provisions and review Planning Commission comments made during the last review of Republic Services CUP application for context.**
4. **Develop protocols for the timely and broad distribution of CUP-related information to the public and other stakeholders.**

Meeting agendas, recordings and supporting documents for this workgroup can be found here: BCTT Subcommittee - A.3. Legal Issues and B.1. Land Use Review | Benton County Oregon

This subcommittee held a minimum of 17 additional subcommittee meetings with a minimum of 25 additional meeting hours beyond the BCTT full Work Group meetings.

- Liz Irish, BCTT member, Planning Commission
- Vance Croney, Benton County legal counsel
- Jeff Condit, Republic Services attorney
- Greg Verret, Benton County staff
- Virginia (Ginny) Lucker, legal counsel

Past Land Use Application Conditions Subcommittee

(known as CUP in findings/recommendations docs)

Charge: To develop a chronological history of key Coffin Butte Landfill actions, report on conditions of past land use approvals and compliance with prior land use approvals and SWMP

- Catherine Biscoe, Public
- Mark Yeager, Public
- Ed Pitera, Public
- Jeff Condit, Republic Services attorney
- Inga Williams, Benton County staff

This subcommittee held 21 additional subcommittee meetings and 11 additional small workgroup meeting (generally 3 of 5 subcommittee members) with a minimum of 63 additional hours beyond the BCTT full Work Group meetings.

Meeting agendas, recordings and supporting documents for this workgroup can be found here: BCTT Subcommittee - A.2. Past Land Use Application Conditions | Benton County Oregon

Community Education Subcommittee

(known as COE in findings/recommendations and survey docs)

Charge:

1. **To develop protocols for community education, outreach, FAQs, etc. regarding the general landfill history including road distribution of CUP-related information to the public, other government entities, and internal committees, groups, and divisions.**
2. **To Report the Executive Summary**

Meeting agendas, recordings and supporting documents for this workgroup can be found here: BCTT Subcommittee - E.1. Community Education | Benton County Oregon

This subcommittee held a minimum of 13 additional subcommittee meetings with a minimum of 16 additional meeting hours beyond the BCTT full Work Group meetings.

- Ginger Rough, Republic Services
- JonnaVe Stokes/Cory Grogan, Benton County staff
- Louisa Shelby, Public
- Marge Popp, SWAC/DSAC
- Mary Parmigiani, Public
- Mark Henkels, Public
- Amelia Webb, consultant staff
- Sam Imperati, contracted Facilitator

Through the work group subcommittees which were established in October 2022, each subcommittee was focused on their assigned or chosen topic. The benefit of this model allowed for a more comprehensive review and summary development of the topics. The flaws of this process were that the BCTT full Work Group became dependent on a narrow subset of perspectives of the subcommittee

members, without the benefit of the fuller context, leading to a lack of comprehensive understanding of the other subcommittee efforts. This was especially true for the History of the Landfill, the Land Use Applications Conditions of Approval, and the Legal and Land Use topics. The extent of complex subcommittee documents would make it difficult to present the entirely of the nuances of each topic to the greater BCTT work group, creating a situation where consensus could not always be reached, and leaving the final conclusions in the report unsatisfactory in the final document. In some instances, the "summary" was diluted, or minimized or narratives were altered to better suit certain interests within the full work group.

What was discovered in this process

Some of the information discovered through this process that stood out to me:

- Coffin Butte Regional Landfill now collects wastes from 39 counties from three states: Oregon, Washington and Idaho. The Idaho/Oregon border is approximately 390 miles away, the Washington state border is approximately 90 miles away, a substantial distance to haul regional waste, with real-time impacts to infrastructure life and fossil fuel emissions.

- It is known in the industry that landfill liners can and do fail over time. These liners that protect the landfill contaminants from the surrounding environment age and fail over varying timelines depending on the composition and management of the landfill materials. Understanding that the environmental risk of regional landfill exists even with the best of practices is essential for Benton County decision makers and the public to understand in weighing the costs vs benefits.

- It is not clear whether all potential contaminants of leachate are being treated or even tested for before landfill leachate reaches its end destination. Substantial amounts of Coffin Butte Regional Landfill leachate is treated in Corvallis, ultimately being discharged into the Willamette River. Drinking Water Health Advisories for PFAS Fact Sheet for Public Water Systems (PFOA, PFOS, GenX Chemicals and PFBS) (epa.gov) (see page 3 of 5 regarding EPA's Health Advisories for PFOA, PFOS, GenX Chemicals and PFBS)

- It is unclear whether the existing groundwater test wells around the landfill are testing for all potential environmental contaminants Drinking Water Health Advisories for PFAS Fact Sheet for Public Water Systems (PFOA, PFOS, GenX Chemicals and PFBS) (epa.gov) (see page 3 of 5 regarding EPA's Health Advisories for PFOA, PFOS, GenX Chemicals and PFBS)

- Unexpected contaminants may be required to be accepted at Coffin Butte Landfill. A recent example of this was the acceptance of 1600 tons of diesel contaminated soil from a train derailment in Toledo, Oregon which occurred in February 2023. The contaminated soils were accepted at the landfill, although it remains unclear which authority requires or allows acceptance of such high-risk wastes, or the mitigation measures provided by the landfill operations to contain waste of this nature.
  A train derailment at the Georgia-Pacific Mill in Toledo, OR spilled about 2,000 gallons of diesel (koin.com)

Train derails at GP mill in Toledo | News | newportnewstimes.com

- Improvements to the Franchise Agreement process, including improvements to timelines, and public transparency

- The importance of integrating Benton Counties 2040 Thriving Communities Initiative in this process moving forward
  2040 Thriving Communities Initiative | Benton County Oregon

- "The importance of Potential adverse effects of the landfill – traffic, soil conditions and contamination levels, air quality, surface and groundwater conditions and contamination levels, noise, odor, visual screenings, litter, hours of operation, solid waste composition of non-household waste sources" (directly quoted from unknown survey respondent)
  Landfill Liability and the Future of Recycling: An Ounce of Prevention is Worth a Pound of Cure (Commentary) (benton.or.us)

- The critical nature of transparency, and the management of public expectations. Efforts have been made, in particular during the process of the BCTT Work Group, but public testimony suggests there is need and cause for improvements

Looking Ahead

1. Public expectations and participation should be encouraged…and every voice should be given opportunity to be heard in its essence and to its true narrative. While there was public testimony through this process that was supportive from local government officials, and members of the business community that have direct interests in relationships of Coffin Butte Regional Landfill operations, there was far greater input from members of the public expressing concerns over past practices, environmental concerns and most urgently and obviously quality of life impacts. Suggestions were made by some that the cost benefit of having a locally accessible regional landfill should outweigh the desire for quality of life for those living directly in the region or passing by through unknown air contaminants or odors. These are issues that are important for our leadership to address keeping in mind that history has shown the consequences of decision making that ignores impacts to minority communities or suppresses minority opinion is fraught with consequences. If we are to do right in decision-making regarding he landfill that is good for all of Benton County, than all factors and elements must be considered no matter how small a portion of our community

2. Intentionally include a robust and dynamic process engaging a full spectrum of stakeholders to Ensuring balance and that no voice goes unrecognized through majority/minority consensus process that diminishes minority perspectives. The discourse apparent in public testimony reflects a diminishing of public trust and suggests improvements in transparency are needed. Stakeholders should at a minimum include:
   - Community members across Benton County
   - Advocacy groups

- Business – small and large
- Industry partners
- State agency and regulatory partners
- Local government elected and appointed officials
- Regional partners (cities, counties, watershed councils,
- Adjacent property owners/nearby community representatives

3. Recognizing the value of BCTT work group experience, members of this workgroup that represent different stakeholder positions should be involved in the development of an RFP and the evaluation and selection of a consultant tasked with any actions taken as a result of the BCTT report.

4. Ensure adequate and sustainable funding to establish a Benton County staff position to serve as a liaison to Coffin Butte Regional Landfill and to cultivate a partnership in reaching and maintaining compliance, interfacing, and managing response to community concerns and overseeing all regulatory filings and reports with partners such as DEQ, including providing mechanisms to help the community understand CBL operations, and practices
5. Above all, the assurance that Benton County will prioritize the health, safety and welfare in its policies and decisions regarding the Coffin Butte Regional Landfill and how it directly and for the future will have bearing on Benton County residents quality of life, first and foremost, for generations to come.

It was a privilege to be asked and be able to serve as a public member of this Benton County Talks Trash Work Group. The historical document and record produced will help to shape the future of waste management and support a balanced approach to ensuring the safety, health and well-being of Benton County residents.

Respectfully submitted,

Catherine Biscoe
Benton County Talks Trash Work Group Member
Land Use Application Conditions of Approval Subcommittee Member

BCTT Solid Waste Workgroup Final Report: **Pitera**

Member Statement

Please add your comments to any or all of the following sections. Structuring your comments in this order will better enable readers to connect your comments to the relevant sections of the BCTT Report.

Name: Ed Pitera

Date of Statement: 7 April 2023

1. Report Transmittal

No comment.

2. Report Executive Summary

Many County residents are aware of the charged atmosphere surrounding community discussions of all aspects of hosting a privately owned landfill in Benton County. As conceived and guided by the Institute for Conflict Management, Inc. (ICM), the concept of a "bridge" process designed to reset the community dynamics with development of "common understandings" and recommended protocols for the future substantive consideration of solid waste issues is a sound one. From my view, common understandings with essentially full agreement were reached on what should be addressed in a future Sustainable Materials Management Plan (SMMP) and on what could be done to enhance Community Education & Public Involvement processes. For the three other topics - Landfill Size/Capacity/Longevity, Legal Issues & Land Use Review, Past Land Use Application Conditions – I consider many findings and recommendations being within ICM's process definition of a "common understanding" i.e., assigned a 1 or 2 in the group polling process. In other cases, efforts were made to clearly state the differences in views and recommend the Board of Commissioners look closely at those matters.

In the version of the Executive Summary available at the time this Member Statement was prepared, mention is made of at least one item that came up too late in the process for the Workgroup to vet or was left unresolved for future work. My first impression is that 2017 Metro Council Ordinance No. 17-1401 potentially impacts the 2020 Franchise Agreement (volume trigger levels) and the need to promptly move ahead with consideration of a Conditional Use Application for a Coffin Butte Expansion. It is also noted that the Board agreed with the ICM Assessment recommendations to retain outside legal and planning advice for the anticipated expansion CUP application. It is recommended that the implications of this 2017 Metro Council Ordinance No. 17-1401 be assessed and considered by the County and these outside resources.

Overall, the Institute for Conflict Management, Inc. and the County exceeded my expectations for the nature and quality of the work product of the BCTT WorkGroup.

3. History

The History section seems generally accurate. The late addition of information from a community member's public records request demonstrated the need for the County to be open with the community about the potential number, scope, and size of landfills in Benton County.

4. Sustainable Materials Management Plan (SMMP)

The SMMP should clearly address the impact of landfilling wastes from outside the County. It is my understanding that Benton County contributes less than 10% of the wastes brought to Coffin Butte from 39 counties in three states (OR, WA, ID).

5. Landfill Size/Capacity/Longevity

For me, the "understandings" arising from the ICM process are like building blocks. The wording of several different findings can be agreed to but the picture the findings paint is not clear until combining the blocks. An example is landfill longevity. Longevity is assessed in two separate findings. One finding indicates a landfill life of 14 to 16 years. Another, a life of two years. Both answers are valid "common understandings". For me, combining the two gives a more complete picture. The result of combining LSCL F16 and F37 plus adding some percentages for perspective is:

> Prior to 2003, the airspace capacity was 13,100,000 cubic yards. This increased 69% to 22,100,000 cubic yards in 2003 when the County approved the addition of the West and East triangle areas for disposal. If approved by the County, the proposed "Cell 6" would add 13,400,000 cubic yards of airspace for a total of 35,500,000 cubic yards of disposal capacity. This is a 170% increase in permitted landfill airspace since 2003.
>
> The expected landfill longevity is 2 to 3 years (2025) without Cell 6 being constructed and 14 to 16 years (2037 – 2040) if Cell 6 is approved and operational in 2025.
>
> Valley Landfills Inc. anticipates it will no longer be able to place waste in Cell 5 by mid-year 2025. Excavation of the footprint of Cell 6 within the current rock quarry is scheduled to begin in Spring of 2023 with completion in Spring 2025.

Putting the two findings together provides perspective on the County's recent statements that the landfill life is 14 to 16 years. Both statements* seem to imply the Conditional Use Permit for the 2020 Proposed Expansion has previously been approved.

*(Ref. KEZI TV News at 6 interview (March 29, 2023) and on the County Public Podcast Series Episode 1)

It is suggested readers of the BCTT report look for "building blocks" or connections between multiple Findings.

6. Legal Issues & Land Use Review

Two comments are provided. The first deals with the Authorization of Cell 6, the second with the impact of the commitments conveyed in land use file PC-83-7.

Authorization of Cell 6

This section of the BCTT report adds a building block to the evaluation of landfill longevity. A key one is LLU F-23 which states "Land Use File PC-83-7 has been interpreted by Benton County, including in the 2002 MOU (Memorandum of Understanding), as authorizing landfilling of the area known as Cell 6, the current quarry as authorizing landfilling of the area known as Cell 6, the current quarry."

The Past Conditional Use Permit Subcommittee had independently studied PC-83-7 records as part of their charter. The public members of the Subcommittee do not agree with the opinions provided in LLU F-23. Highlights of facts that do not support the LLU opinion include the following:

- "Cell 6" is not mentioned in PC-83-7. No contemporaneous drawing was provided showing "Cell 6". "Cell 6" is not show on a landfill owner's drawings of the landfill as late as 2011. "Cell 6" is shown on a landfill drawing dated 2022 i.e. about 40 years later than the PC-83-7 decision.
- The portion of a drawing the Legal Subcommittee provided showing the 1983 "Existing Quarry" also does not support an opinion that "Cell 6" was authorized in 1983 because it:
    1. places the quarry outside the "Approximate Solid Waste Disposal Boundary" and "Proposed Solid (illegible word) Disposal Boundary".
    2. does not show a quarry extending into the area identified in 2020 as Cell 6.
    3. does not show what use the drawing was intended for, no date drawn, etc. i.e., it cannot be validated.

After the Legal Subcommittee provided their views on the 2002 MOU, the public members of the Subcommittee reviewed County and DEQ files and did not reach the same conclusions. The main issues with the MOU are:

1. it does not mention how the MOU was intended to relate to land use decisions such as PC-83-7.
2. it is unclear as to what the LUCS referred to and its impact e.g., the 1996 LUCS referred to in the MOU has not been found.
3. a LUCS dated 12/18/00 has been found as a free-standing document in DEQ files making it difficult to determine what it was associated with – it may have nothing to do with the MOU.
4. a 2000 Site Plan i.e. a DEQ submittal around the timeframe sited in the MOU, contains a LUCS dated Feb 25 '22. This is an 8-year gap between LUCS issuance and its use in an identified document.
5. it was written years before a "Cell 6" was defined in a landfill operator's drawing.
6. interpretation of the link between the requirement for having a LUCS and issuance of a permit is unclear. For example, the current landfill Operating Permit was issued in 2019 but references a 12/18/00 LUCS i.e., a 20-year gap.

This MOU critique also applies to LLU 15.

Land Use File PC-83-7 (Relates to LLU-22 and CUP R-7)

In 1983 the County created community expectations for how the landfill would look in decisions documented in PC-83-07. Appearance issues including steepness of the landfill slopes, terracing, screening, and returning the land to grazing or other farm-like uses were addressed and committed to by the County and landfill operator. The way the County chose to implement these commitments is questionable given legal hindsight. Whether they be unenforceable, or enforceable "conditions of approval" or "findings" in the PC-83-07 record remains in dispute. The differing interpretations over a possible process or wording error of the PC-83-07 decision should not be the primary concern. Of greater importance for the County's relationship with its residents is the Planning Commission and Board of Commissioners decisions to adopt the offered designs and reclamation plans to meet public expectations. Again, these expectations were made clear in the records of PC-83-07. The design issues

are now moot. What was built appears to meet minimum DEQ requirements and cannot be changed. The County is typically not involved in oversight of DEQ's environmental requirements. However, the appearance and uses of the landfill after it stops receiving wastes is an area where the County does have jurisdiction. From my perspective it is not possible to return the site to grazing or other farm like operations as envisioned in 1983. But it is possible for the County, the landfill owner/operator and DEQ to work together with the neighbors of the landfill to develop realistic expectations and plans with the necessary funding for the reclamation of the site.

7. Past Land Use Application Conditions

Based on questions from BCTT members, the following topics need to be re-emphasized:

Compliance enforcement
In response to the CUP Subcommittee's review of how County land use requirements have been enforced over time, the County legal function stated that the County does not actively enforce compliance with its requirements and relies on community complaints to trigger ongoing compliance. The resulting CUP Subcommittee recommendations include the County considering actively enforcing their requirements and making County and DEQ files readily available to community members to facilitate their understanding of requirements and determination if a resident complaint is warranted.

Emergency Response for large scale incidents
In listening to community members, there is concern about being able to mount a multi – organization firefighting response to put out a large landfill fire like the one in 1999 which reportedly drew resources from multiple jurisdictions in the Willamette Valley. The resulting recommendation is to consider developing a multi-county, multi-organization emergency response plan to handle large fires.

Landfill Owners Closure and Post-Closure Funding Requirements (Financial Assurance)
The dollar amount needed is based on meeting DEQ's minimum requirements. The cost of meeting County land use requirements - such as applying a thicker layer of topsoil to allow farm like activities - is not included in the minimum amount of funds the landfill operator must assure DEQ is available for closure. Hence the CUP recommendation that the County, DEQ, and landfill owner work together to define the work needed to meet both County and DEQ requirements and adjust the estimated costs to meet both organizations requirements. The alternative is the County should recognize that funds to close the landfill to meet County land use requirements are not guaranteed to be available when needed.

Landfill Odors
An odor management method was described in recently reviewed SWAC meeting notes from the 1980s. The landfill operator reported that under some weather conditions closing and covering the landfill at night successfully reduced odor complaints in the neighborhood. Obviously, the landfill operator is involved in this odor control approach but there is a role for DEQ in setting regulatory requirements for managing odors and the County setting limitations on hours of operation of the landfill.

CUP Summary
Overall, the CUP Recommendations are intended to promote continuous improvement in the way the community near the landfill, County government, the landfill owner, and DEQ work harmoniously to set and meet expectations for regulation, oversight, and corrective actions at the landfill.

8. Community Education & Public Involvement

This is good work. I fully support their Findings and Recommendations.

9. Overall Comments

The consensus building process implemented by IMC clarified and documented essential facts about how the Coffin Butte Landfill started, grew, and continues to be such an immense physical and huge visual impact on our County. It also highlighted some key conflicting views of historical records dealing with expansion of the landfill.

The Board of Commissioners is to be commended for engaging IMC and perusing this consensus building process. The thoughtful contributions of DEQ, Valley Landfill, County staff and community members were essential in making progress toward a common understanding of the Coffin Butte Landfill situation.

10. Conclusion

A document with a Conclusion was not available for review at the time this Member Statement was written.

----- END-----

From:	Rough, Ginger
To:	Sam Imperati
Cc:	Benton County Talks Trash
Subject:	Member statements
Date:	Friday, April 7, 2023 11:52:55 AM
Attachments:	Member Statements_Edmonds.docx Member Statements_Knocke.docx

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Please find the enclosed member statements from Russ Knocke and Shawn Edmonds.

In addition, subcommittee members requested we provide information about two items in the workgroup document. That language is below.

LSCL-F-27

We did not discuss this finding at the final workgroup session because no one polled a "3" on it. However, in the comments, Ed Pitera requested additional information about whether there would be any impacts/ramifications if Benton County exceeded its 75,000 annual tons of waste, as specified in the 2020 Franchise Agreement. Specifically, he wanted to know where the additional tons (over 75,000) would go, in a hypothetical scenario. The short answer is this: Benton County's waste will always be disposed of locally, at Coffin Butte, even if the amount is higher than what is contractually anticipated. If it became necessary to divert tonnage because of the 1.1 million tonnage cap, Valley Landfills, Inc., would divert tonnage that originated elsewhere – not in Benton County.

CUP-F-29

Valley Landfills, Inc., has robust special waste protocols outlined in its operations' plan. The most recent of these was submitted to Oregon DEQ in October of 2020. Special waste is defined broadly as most everything that is not household or hazardous waste.
It includes industrial waste from factories, clean-up materials from leaking tanks or spills, street sweeping material and the like. Special waste is tested by a third-party laboratory and profiled before it arrives at the Landfill to ensure it is safe for disposal. The materials are then disposed of alongside general municipal solid waste, covered and monitored in accordance with all Oregon DEQ regulations.

It is important to note that volume plays a role in whether waste is called "special" waste or considered general household waste. For example, a homeowner who changes the oil on his or her truck in the driveway, and spills a little on the group can scoop it up with some dirt and place it in their household trash can. But if a tanker truck crashes and leaks oil, then that same material becomes special waste.

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BCTT Solid Waste Workgroup Final Report

Joel Geier, Ph.D.

April 7, 2023

As one of the original members of this workgroup who was removed by vote of the Board of Commissioners after raising concerns about illegalities related to this process, I did not expect to be commenting here. I was not invited to comment by the ICM facilitator until 5 PM on April 4th, less than 72 hours before his deadline of noon on Good Friday. I have not had an adequate chance to review the most recent drafts of the workgroup report, which I understand has been changing continually, right up through the final meeting on April 3rd.

So I will keep my comments brief at this stage.

First, I'm glad that the County recognizes the need to update the solid waste management plan for Benton County. The last time this was done was in 1977, when it was expected that the Coffin Butte Landfill would close by 2000.

Second, I appreciate the energy that many community-member volunteers brought to this process, hoping to be part of developing a new plan to be called a "sustainable materials management plan" (SMMP), which reflects a shift to broader awareness of sustainability issues.

Indeed, in our first two meetings, workgroup members were twice polled about where we wanted to place our primary focus. Both times, members clearly supported placing a stronger focus on producing a sustainable plan, and less focus on criteria for landfill expansions. But both times, this clear preference of workgroup members was discounted.

The goal of working toward a better plan for sustainable materials management in Benton County was non-controversial. This is reflected in the very efficient progress of the SMMP subcommittee, on which I served. From the subcommittee meeting records, you can see that our most substantial work was concluded by December 12, 2022, within the original time frame proposed for the workgroup as a whole.

Everyone on the SMMP subcommittee quickly agreed that yes, the County should engage qualified, independent consultants, including consultants with experience in countries that have reduced and even eliminated dependence on landfills. The consultants should produce an updated plan that reflects our shared community values, and so far as possible, be independent of vested interests in the solid waste disposal industry.

Third, I am deeply disappointed that the workgroup was not allowed to address how the current landfill is impacting global climate, as likely the largest source of atmospheric carbon emissions in the mid-Willamette Valley.

There is ample scientific evidence that landfills are a major source of emissions of methane, a potent greenhouse gas. Recent studies in California show that landfills are a more significant source of methane than the state's much-maligned oil/gas and dairy industries, once fugitive emissions are accounted for. The list of "super-emitters" discovered in California includes the Sunshine Canyon Landfill, also operated by Republic Services.

The workgroup report does note that future legislation to regulate methane emissions could impact landfill operations, but it does not discuss why this issue is of urgent importance for global climate. It briefly mentions methane capture for electrical energy generation, but does not discuss how much excess methane is simply flared off. Two giant

flares can be seen from the highway, burning 24 hours a day to convert excess methane into carbon dioxide — another greenhouse gas.

The report does suggest that the County should make a better effort to monitor methane emissions from the landfill, and suggests that that the County could "use this information to guide diversion programs that could limit the amount of organic waste going to the landfill." This ignores the problem that upward of 90% of the garbage coming to Coffin Butte each year comes from other counties.

Diversion programs in Benton County will have little impact so long as the landfill operator continues to haul in vast tonnage from other jurisdictions. Even worse, by allowing further landfill expansions with no restrictions on annual tonnage, Benton County will become an enabler of unsustainable practices throughout western Oregon.

These are the types of issues that should have been on the table, as part of the "broad community discussion of all things related to solid waste" that the County originally promised.

Many volunteer members clearly would have liked to do more brainstorming of the options, including more climate-friendly alternatives to landfills, even before hiring consultants. However we SMMP volunteers were discouraged from those discussions. The facilitator and county staff repeatedly stressed that our "charge" as set by the county commissioners was much more limited. We were only supposed to "scope topics" for consideration as the lead-up to an eventual request-for-proposal (RFP) from consultants that the County would choose later.

Constrained to this limited scope, the SMMP subcommittee quickly wrapped up our main work. Although meetings continued past the original December 15th deadline, the record shows that changes in the main conclusions after that date were minimal.

In other words, if just "coming up with guidelines for an RFP for a better solid waste management plan for Benton County" was the main objective of this workgroup, that work could have been concluded within the original budget and time schedule.

But as workgroup members came to realize — some sooner, some later — this was not the main objective of this workgroup, despite the County's literal advertisements to the contrary.

The main objective was to grease the skids for future landfill expansions.

This is why four other subcommittees were set up to ease the process for the anticipated request from Republic Services for an expansion of the landfill, or perhaps even multiple expansions.

One subcommittee focused on arguments about capacity and longevity of the "airspace" for the currently permitted landfill footprint. From their deliberations, it appears that there's no real crisis, except a crisis of Republic's own making.

Another subcommittee focused on past land-use application conditions. We all learned that the County doesn't actually enforce these conditions, except on a "complaint-driven" basis. So compliance with most conditions cannot be assessed, except in the cases where the continuing violations are flagrant. We're also left with zero confidence that the County will enforce any conditions of compliance, if future expansions are allowed.

Then there was a "legal issues" subcommittee which convened multiple corporate lawyers from Republic Services along with the same County Counsel who negotiated the agreement

that gave the County a fiscal incentive to approve a landfill expansion. Even the ICM facilitator realized that this wasn't a good look. He made efforts to recruit prominent land-use attorneys, most of whom declined. Finally he found one retired attorney who agreed to serve as a "neutral" member of the subcommittee, ostensibly representing community concerns. However to my knowledge, that attorney did not contact any north Benton County residents for our views.

Finally there was a "community education" subcommittee which looked at the issue of how to inform local residents, if and when Republic Services submits their next application to expand the landfill. This committee came up with a sensible recommendation to inform all neighbors within a 10-mile radius of any land-use actions.

That's a good start, although I suggest that all residents of Benton County and Polk County should be informed, even beyond that radius. The cities of Monmouth and Independence — with 20,000 people living just as close to the landfill as most residents of Corvallis — were offered no representation on the workgroup, nor were any rural residents of southern Polk County. Benton County should do better by our neighbors, in the future.

Taken together, these subcommittees — all focused on future landfill expansions — accounted for the bulk of the time spent by this workgroup, and the according budget expenditures. Somewhere in the neighborhood of a quarter million dollars have been spent already, perhaps more.

This really ends up looking like a direct subsidy from our County government to a single corporation, to promote its interest in expanding a landfill in this place where we live. Why is our County government doing this? And why have they reacted so strongly to quash voices of dissent?

For a County that claims to be focused on sustainability, this process has been a misguided step in almost exactly the opposite direction. That is not the fault of the volunteers who did our best, but rather the fault of those who pushed us down this road toward enabling future expansions of this unsustainable development.

Process Evaluation and Member Statement

Ken Eklund

Subcommittee Member, Landfill Size, Capacity, Operating Life
Subcommittee Member, Sustainable Materials Management Plan

Overview

I thank the Benton County Talks Trash Work Group (TTWG) for an opportunity to provide feedback about the report creation process and a statement about my experience as a participating member.

As a community member, when it was announced that there would be a TTWG, I was cautiously optimistic. In response to Republic's 2021 application to expand the landfill, community members had gathered quite a few questions and assembled quite a few answers to those questions, but any effort to do anything with them was frustrated. It's impossible to convey much information in the three minutes allowed for public testimony, and no one at the County or Republic would answer any questions that the public asked. The one exception to this was at the Planning Commission hearing on the application, where the Chair and the Commission took the time to respond to public testimony; the Planning Commission subsequently denied the application in a unanimous vote.

After the 2021 application failed, a small group of community members were able to meet with the Commissioners individually, in substantive meetings each over 2 hours long, and convey the information we had gathered. The impression we got was that the Commissioners were largely unaware of the issues surrounding the landfill. They agreed that the issues presented were substantive and the questions being raised were important for the County to answer. I feel these meetings helped inspire the TTWG, the idea that there could be a "community-powered" process to close the reality gap that the Commissioners and county staff had drifted into, regarding the landfill specifically and solid waste management in general. And that such a process, if honestly conducted, might begin to heal the public's loss of confidence in County government as a protector of community interest and values.

So, as I said, I was cautiously optimistic when the TTWG was announced. It was encouraging when the Community Development Director at the County, Darren Nichols, said that "listening" would be a primary goal for the County in the process. I have participated in other convenings with similar goals, both as a convening organizer and as community participant, and found the convenings can be effective at creating "common understandings" if they create a safe space where various groups can come together and envision a mutual path forward.

But I think it's become apparent that the TTWG process did not do this. It did not create a safe space, nor did it seek to envision a mutual path forward. It was not about "listening" to the public. It was not about values. It has not assembled a coherent narrative about where we've been and where we should go regarding Benton County waste management. It did not focus on common understandings but rather "consensus through attrition," in which community input was ground down until it fit into a designated slot or was entirely reduced to powder. The process was an ordeal for many if not all of its participants,

and its product – the TTWG Report – is unreadable. This is because the process that the facilitator chose for the TTWG did not have structure in place to prevent this outcome, and the facilitator proved unwilling or unable to adapt his methods to avert this outcome.

If the TTWG process has one enduring result, it is this: it has firmly established that the County is functionally unable to truly embrace its shortcomings and try to do better. The public's perception that County staff are not on their side is well founded. The TTWG process was ostensibly convened because the County has not done its due diligence regarding solid waste management. Ostensibly, over the years, the County has drifted away from any sort of meaningful oversight over the company owning the landfill and its successors, to the point where in 2021 the County approved the idea that it would surrender a segment of its vital public infrastructure (Coffin Butte Road) to further the profitability of that company, and was blindsided by the firestorm of public outrage that followed.

The TTWG has made apparent that the County's drift away from responsibility has now been normalized and is part of its culture. Out of the universe of possible facilitators and processes, the County selected this facilitator and his process. This process has been nothing but an unbroken string of warning signs – work products undelivered, deadlines unmet, a budget that needs to be doubled then tripled then quadrupled, participants that "need to be fired" for speaking up, lawsuits filed – and the County has met each of these portents of trouble with unwavering approval. At taxpayer expense, the County inserted its own people into key points of the process, to squelch embarrassing information and outcomes. And now I expect the Commissioners will be blindsided again as their voters come to realize that, a half-million dollars or so later, the emperor still has no clothes.

I hasten to make clear here that I am not speaking against the Workgroup or the Subcommittee Members who volunteered so much of their time, and engaged in this process by working so hard to produce something of value. They may respond by pointing to the places in the document where facts have been laid out and truths have been made plain, and I support them fully in doing so. I can do the same myself. The Workgroup itself has done an excellent job overall, I feel, in triaging what has come before it from its Subcommittees. But in my experience as a subcommittee member, these points of light had to overcome considerable process resistance to be in the Report at all, and the sharpest headwinds came off County staff and the facilitator they hired.

Any fact and truth that one can dig out of the corpus of the TTWG Report would have come forward more readily if the process had been different. In my opinion the TTWG process cannot be defended against the visions of what it *could have been*. It could have been a process focusing on asking relevant questions, or on mapping out the future, or on creating a forum space for community learning. It could have started from urgent topics of today such as climate change. Most obviously, it could have been a community-focused process with a facilitator who was chosen for ability to facilitate grassroots-up dialogue with the public rather than one who is used to imposing top-down structure like a courtroom. The TTWG itself tried to redefine its focus along these lines, several times if memory serves, but was not allowed to.

As I mentioned earlier, I have experience working in community engagement, so I am haunted more than most perhaps at the opportunity that has been lost here. I now hear Darren Nichols extol the extraordinary passion that brought some volunteer members to devote days of their time to uncovering relevant truths, and it's plain to me that *Darren, those people are trying to do their best <u>despite</u> the system you've put them in, not <u>because</u> of it*. I know this

because it's what I did also. I went into the process in good faith, hoping to see it course-correct, but it never did. It ended up right where it was heading all along.

* * *

The facilitator called for both a Process Evaluation and a Member Statement; I'm supplying those here. I have a long list of insights into the process in my notes, but I will only include the top half-dozen or so in the Process Evaluation. Similarly, I will try to keep the Member Statement brief (a summary characterizing my experience while participating). **Update: the County has sent some guidance about the facilitator's original request for a Process Evaluation and Member Statement, i.e., the request that I am responding to with this document you're reading. I'll respond to that guidance in an Epilog.**

PROCESS EVALUATION

Systemic anti-volunteer bias

The process isn't structured to encourage volunteers to participate, or to protect them while they're participating. The process has regularly added new meetings, extended schedules, set short-fuse timelines, and so on – which are relatively easy for Republic and county staff to adjust to, as participation is part of their job. For volunteers, however, these practices impose an undue burden. The process could have been timeline-driven, which would have protected volunteers and honored their level of commitment.

Cultural bias / assumed knowledge

The process isn't structured to accommodate volunteers who may have different experiences or no experience with its format. Again, Republic and county staff are advantaged, as being conversant in that culture is part of their job, while volunteers are disadvantaged as they have to decipher or discover what is intended. The process made it easy to create extra work for community members and to denigrate the efforts they had made as "not on target."

Anti-narrative / anti-sensemaking

The process isn't structured to "make sense" either while it is happening or with its work product, from anything other than a legal sense of view. Humans in general and community members in particular make sense of new information through narrative, a story which places that information in context with human experience. The process, however, focused on decontextualized "findings" and "recommendations" and systematically removed the coherent narrative. The result has been to render the TTWG Report impenetrable to most people. The process could have been structured to build cogent narratives about waste management rather than systematically destroy them.

Bias against the future

The process isn't oriented toward addressing the public's concerns about the future direction of their county. "Where are we going? Where are we headed?" are narratives that could be foundational to a successful effort to find common understandings, but this process chose instead to focus on looking back, "Where have we been?" The process has been

contentious as a result, as community members balk at being pulled into one rabbit-hole about the past after another, while pressing questions about the future go unasked.

No complaints allowed at the 'one table'

The process isn't structured to act as the 'one table' for community input about waste management and the landfill. This role had been given to the workgroup by the county Board of Commissioners, but when the first complaint about the landfill was put before the Workgroup, in September 2022, the facilitator declared that the process would not accommodate it or any subsequent ones. As a result, community input has not informed the workgroup process as originally envisioned by the Commissioners, and since other county functions such as the Solid Waste Advisory Council have been suspended in deference to the 'one table,' input such as complaints has nowhere to go at all.

'How to win at TTWG'

The process is vulnerable to being manipulated ("gamed") to one's advantage, in ways that burden the process and denigrate the product. One example: because the process places no value on supplying information earlier rather than later, it incentivizes participants to withhold information until the last minute, so that others have less time to critique the information. We've seen ample instances of the process being gamed in this way, in the slew of substantive last-minute changes that have caused the TTWG process to be extended. The process could have focused work section by section instead, or used a scaffold-building organizational structure, or otherwise incentivized providing information in a timely manner.

Process unable to anticipate, or to learn

If the process had a way to self-adapt (other than damage control), I never saw it. More typically, the facilitator would resist all attempts to streamline or course-correct until the process collapsed, and then he would seek a timeline extension and schedule more meetings to straighten out the wreckage. This "fix" placed an undue burden on volunteers, who often were hard put to commit more time or to accommodate new meetings suddenly hitting the calendar, but it burdened all the participants and caused wheelspin.

Predictable lacunae

The process produced a report that is, as you know, hundreds of pages long – yet it has notable, purposeful gaps. There is no information from Republic on how much rock it wants to remove prior to placing trash in the quarry area – a number that Republic knows but will not divulge. There is no information on the County's legal options to counter the hike in garbage fees threatened by Republic if their next landfill expansion is not approved; somehow the Legal Subcommittee, composed almost entirely of Republic's lawyers and County staff, never found time to address this public concern. And so on. Most notably, perhaps: I don't remember seeing an accounting in the Report of its lacunae.

Performative process management

The process was managed in a performative way, that is, it undertook actions primarily so that they could be checked off a list, rather than in ways that are actually useful. An example would be to issue calls for written input with impossibly short deadlines, or (a favorite) to bury notifications about opportunities for feedback somewhere in the text of lengthy mass emails. Performative managers are able to say "X was done" and have it be technically true, but X was uselessly done.

MEMBER STATEMENT

I was a member of the Sustainable Materials Management Plan (SMMP) Subcommittee and a member of the Landfill Size/Capacity/Longevity Subcommittee.

Participating in these subcommittees was an ordeal, for many reasons. I will mention just two of them here: wheelspin (time-wasting) and microaggressions.

Wheelspin

In both subcommittees, it soon became apparent that the process was not designed to succeed at its goal (producing a coherent report). It would take too long to explain the design flaws, but maybe all you need to know is: (1) the process readily allows text to be added but can only slowly edit it (and can't really delete it), so draft reports balloon in size, and (2) due to an unrealistic schedule we were editing new drafts before the edits to the old drafts had been implemented, which led to chaos, and (3) by default there is no editor, no one responsible for making the report coherent. I had assumed that the facilitator would bring in editors as needed as part of his service, but no.

In some other subcommittees, community volunteers stepped forward and assumed an editorial role. But in my subcommittees, the chaos level of the reports soon made that task too daunting for anyone to contemplate. In fact the task of just *navigating the draft document* soon took up more time than discussing it and editing it – an incredible time-waster.

Target of microaggressions

As you may know, being the target of microaggressions is by design a difficult thing to talk about – taken individually, the aggressive acts sound small, but in aggregate they take their toll. In my case, the aggressor was a county staff member, and the facilitator eventually had to step in and take over as chair of the subcommittee meetings. For myself, I found good advice online on how to recognize microaggression, how to contextualize the microaggressor's goals (to beat down/demoralize those with threatening viewpoints) and how to form strategies to blunt the aggression. But it made attending each meeting a thing to dread.

I don't think my experience is isolated. A colleague from outside Benton County sat in on a TTWG meeting via Zoom, and the first thing they commented on afterward was the palpable level of hostility in the meeting, which they noted was directed at a community volunteer (not me, I was not in that meeting).

* * *

In this Statement I've brought forward the idea of the process as ordeal, and two illustrative examples of the difficulties with participating, because I feel it's important for TTWG Report readers to hear a honest account on why the document is as it is. From the outside and after the fact, it might be difficult to understand how so much money and so many person-hours can produce something as disjointed and gormless as the Report is; I've tried to explain that as best I can.

Epilog

The facilitator requested "Process Evaluation and Member Statements" from us some weeks ago, and I began mine (the document you are reading) about a week before its original due date. The facilitator then extended the deadline, so I was able to fiddle with this document some more; I was having trouble coming up with a conclusion that felt right.

Then, a day or two before deadline, some "guidance" arrived sent not by the facilitator but by County staff. This guidance redefines Member Statements to be comments about the Report section by section, and the County seems, on second thought, to have abandoned the idea of asking for Process Evaluations. Because they started receiving the early returns, maybe.

The guidance says it's necessary for us to specify which section our Statements apply to. **My Statement and its Evaluations discuss systemic issues, so they apply to all of the Report's sections.**

– And there it is, the conclusion I was looking for – the facilitator, seeking to check something off a list, adds another request for work from the TTWG members, and then, once County staff sees what's happening, they issue countermanding instruction designed to stifle input. A dysfunctional process staying dysfunctional right to the end. Not with a bang but a whimper.

BCTT Solid Waste Workgroup Pinal Report- Member Statement

4.7.2023

Liz Irish

Benton County Planning Commissioner

I am very happy to have had the opportunity to participate in the BCTT Workgroup. I found the process to be educational and helpful in understanding where Benton County stands historically and presently regarding the permitting process for landfills.

While I know that this report does not fit any members ideal perfectly, the workgroup members have given a colossal amount of effort and their personal time. I have no doubt that what we have here is an amazing example of cooperation of a very challenging. As in any very large projects, it took focused efforts of volunteers to work together on their own schedule and they had to work together to the reports you see today.

There was cross over at times between the committees. Those committees did their best to talk out and work through the differences in understanding and interpretations. All committees were open to members and the public as formal sub-committee members and as participants.

My subcommittee – Legal and Land Use issues – had no public, neighborhood, or other workgroup volunteers other than myself. The first sub-committee meeting via zoom had two visitors and the remaining meetings had none. There were mixed sub committee meetings that had other sub committee members on occasionally.

I enjoyed each subcommittee meeting and found County Council, Republic Services Council and our neutral third attorney to be cooperative, forthcoming, and gracious. I had no legal background, and everyone was willing to answer all my questions. We worked hard at making the language in our report more digestible for everyone. Working with these three attorneys was amazing. We talked about every aspect of how land use and landfills intersect. We looked at case law, existing process and how many of these processes are identical to those for other kinds of land use. We addressed and talked about every topic, document and question the public and other sub committees had. They are all there to listen to and read. I wish we could have had at least one volunteer from the neighbors/community, but no one raised their hand.

I had never been through a process like this workgroup before. Once the goal and the process were understood, I felt that the group really came together. In general, with a few exceptions, everyone really enjoyed working with each other and getting to know their community members. I always felt included and valued. I always felt

heard. The experience very much unlike what was portrayed in the new media. In fact, I don't know of one newspaper article that tried to reach out and get more than one view of the Workgroup.

I enjoyed the participation of other cities, counties, and state agencies. DEQ was a valued participant, and it helped a great deal to have them there to clarify. The patience of county staff is beyond words. They were always available, helpful, and kind.

I left this process more informed, and I am confident the final report will help the County Commissioners with any future CUPs that may come. I know it will help me every time I sit as a Benton County Planning Commissioner for any land use decision that comes before me.

BCTT Solid Waste Workgroup Final

Report: **Shelby Member Statement**

Please add your comments to any or all of the following sections. Structuring your comments in this order will better enable readers to connect your comments to the relevant sections of the BCTT Report.

Name: Louisa Shelby

Date of Statement: 4/6/2023

1. Introduction

2. Executive Summary

   The executive summary is professionally written and clear. There are terms in the summary and the entire document that aren't defined and for the public to better understand, the document could use a glossary of terms. For example: circular economy and other sustainability terms, landfill use terms and legal terms and codes in the legal committee section. During this whole process I had to look up definitions frequently, not being an environmental scientist, and the public shouldn't have to do that.

3. History

   I was on the history committee, and I saw all the work that was put into this document. Although the facilitator commented several times to us that much of the history document was not in our original charge as a subcommittee, I feel very proud of what our committee produced. The document started out being somewhat one sided in its view and our committee worked hard to create an objective, informative end product. As a citizen and fairly close neighbor of the landfill I appreciate the knowledge I gained from learning about the history of the area and the social and political context of the landfill in our community. Without the history section, this report would be lacking in the area of the holistic view of this issue on the community. I appreciate that the commissioners and the facilitator came to accept the wishes of the committee to have a more comprehensive look at the history and social aspects of the landfill in the community.

4. Sustainable Materials Management Plan (SMMP)

   The SMMP is the most important part of the product of the work group because it calls for a consultation to assess and improve the future of solid waste management in Benton County. Regardless of landfill status in the future, this plan will help the County to have the tools and resources to mitigate climate change and to move forward in planning for what to do as far as landfill and other solid waste management. I was shocked to find out that our county hadn't revised

their solid waste management plan since the 1970s and the SMMP recommendations are the start to an urgent need in this area. This plan is crucial to the health and vitality of the community.

5. Landfill Size/Capacity/Longevity

6. Legal Issues & Land Use Review

We were given links to the codes to understand what was happening in this area of the work group but there was no way I had time to read and understand them all. A presentation with brief explanations would have been helpful. Also, a glossary of the codes and a brief explanation should have been added to the document.

7. Past Land Use Application Conditions

I feel this committee's work in reading and connecting past documents related to landfill land use in the past is crucial in the County moving forward in the process of improving solid waste management plans. The committee, as far as I can understand, found documents that were filed away and organized them digitally or is on the way towards this. The past landfill permits and applications were not organized. This seemed to lead to past issues not being followed through with or monitored. Knowing the issues of the past will help the county and community to know what to ask for in future applications and not to let concerns fall through the cracks.

8. Community Education & Public Involvement

I was on this committee and more work is needed in this area; we didn't have as much time as the other committees to develop a complete plan. Education and outreach as far as the SMMP and other solid waste management issues will need further assessment in this area.

9. Overall Comments

Being a volunteer on this work group was very time consuming, many hours more than I realized, and I didn't volunteer as much time as many of the other members since I also work fulltime and was in graduate school. I learned a lot about project management processes, how the County involves the community in government operation and decisions and the importance of the voice of the community.

As a member of the public that a minimal knowledge of the topic it would have been very, very helpful to have more of a verbal overview or some kind of presentation about the history of the issues rather than given lists of documents and links to read. A presentation about the issue and the varying views and issues could have been done and saved some time, stress and improved clarity. Definitions and explanations of terms would have also been helpful. At the end of the process I feel I had a good grasp on the big picture but it would have been better to understand the history at first rather than having to do my own investigations.

I was impressed by the ability of the work group to be able to express their concerns, opinions and ideas without judgement and with respectful treatment by all members. Two members during the process were asked to leave the group but they also didn't follow the guidelines set out before hand for the group process. I was sad for them to leave because they had significant knowledge and

passion, but I also found them to create tension in a group that's goal was to find consensus. The group process may not be right for everyone. Having members that are transparent, respectful and listen to all views is crucial. Overall, the group was productive and the information found, assessed and evaluated will definitely improve the future of the solid waste management and the health of the community in the future.

10. Conclusion

    I did not see a conclusion on the most recent document we were emailed. See my conclusion under the comments section.

Popp Workgroup Member Statement

I have misgivings about the BCTT process design and how it unfolded. For example, the formation of subcommittees unearthed heretofore unknown information that can potentially be enlightening and useful to the community. A downside of the subcommittee strategy as it played out in the BCTT workgroup was that it yielded information silos in which a small percentage of the workgroup became very familiar with particular aspects of the workgroup charge but remained relatively uninformed about charges outside their subcommittee.

One issue that bothers me in particular is the manner in which 'consensus' is defined to be achieved. The crux of this issue, for me, is the exceedingly long and complex set of Findings and Recommendations (F&Rs) that were compiled for members of the community and the workgroup to vote on via 'consensus polling.' Those votes are then tabulated and massaged to measure 'consensus.'

Many of the F&Rs were exhaustively detailed and contained subtle and complex points. Some queries were multi-part and contained paragraphs of information. Folks with professional training in survey design have expressed concern with a number of aspects surrounding this survey.

Some of the F&Rs were stated obliquely and contained a good deal of difficult to understand insider language, so it is questionable whether all respondents fully appreciated what they had agreed with or not agreed with. There were no clarifying statements as there are in voter pamphlets containing pro and con arguments, yet many of F&Rs have similarly far-reaching implications.

Survey designers know that for a survey to be considered valid, it must be verified in a number of ways, one of which is testing the consistency of answers by measuring against questions that are stated differently to assess the respondent's comprehension.

In fairness, the facilitator stated that this survey was not intended to measure up to formal survey methodology. But, if that is the case, we cannot use the results to reach any conclusions, much less the ephemeral conclusion of consensus.

From: Mark Henkels <henkelm@wou.edu>

Sent: Thursday, April 6, 2023 4:33 PM

To: Sam Imperati <samimperati@icmresolutions.com>; Amelia Webb <AmeliaWebb@icmresolutions.com>; Mark Henkels <henkelm@mail.wou.edu>

Subject: BCTT participant statement

Sam and Amelia:
Here are my thoughts on the process as this phase winds up. I consider myself lucky to be on Workgroup E and respect Ginger's work and am amazed at your and Ameila's patience and endurance.
I have attached this as a word file, if you find that easier to use.

Mark Henkels. Participant, Subcommittee E

My personal perspective and concerns regarding the BCTT process:

While Ginger Rough, Republic's representative on Subcommittee E, was as reasonable as you could hope for, reaching consensus meant we did not include things that we feel the public ought to know more about.

Consensus means veto power. This is a problem because as a Benton County citizen, I think the goal here should be to identify what process (and perhaps ultimately, what policy) regarding Coffin Butte is best for Benton County residents, not all interested parties. From what I can tell,

each Subcommittee was presented with the impossible challenge of reaching consensus in face of divergent concepts of whose interests matter most.

Specific areas where perhaps a separate history report would have been good:
1) the history of fires and fire risk were downplayed;

2) the significance of Republic Services corporate decision-making in increasing annual deposits at the landfill to seemingly force the county to accept the southward expansion;

3) we should have expanded on the visible transformation of the area as the landfill and its trucks and lights changed the Coffin Butte area from an almost bucolic area to an industrial zone in the past twenty years;

Point Number 2 is also the central concern to Subcommittee A. To estimate landfill life they might as well assume that the volume to be dumped per year will be the maximum allowed. Republic Services makes those decisions independently up to the very high limit of 1.1 million tons. There should be more clear recognition that expanding to the south at Coffin Butte solves very little without more clear strict restrictions on the volumes that can be deposited.

Broader concerns that are relevant to the process

4) While the immediately previous decision was not conducted properly and the public and perhaps some officials were not well-informed of the process or basic information concerning expansion in the 2020-2022 era,
Many of those who were involved understood the nature of the issues and this process is basically a re-do of a decision that was probably valid.

Finally,
5) in the bigger picture, this process seems to completely ignore the Core Values of the Benton County 2040 Thriving
Communities Initiative. There should be a direct consideration of

whether expansion of the landfill helps create the Benton County we envision for 2040.
The brief commentary by Benton County staff regarding how expansion or this process fits the Thriving Communities framework is superficial.

Member Statement

Name: **Mark Yeager**

Date of Statement: April 7, 2023

At this time, I cannot comment on the specific language in the final report given the extremely short time allotted to review the 500 page report, the extensive number of last minute changes proposed, and the effect of minor language changes that significantly alter the meaning and intent of the document. I will attempt to provide detailed comments during the broader public comment period.

I will take this opportunity to comment generally on the process and resultant outcome.

1. Introduction
2. Executive Summary
3. History
4. Sustainable Materials Management Plan (SMMP)
5. Landfill Size/Capacity/Longevity
6. Legal Issues & Land Use Review
7. Past Land Use Application Conditions
8. Community Education & Public Involvement

9. Overall Comments

The idea for a community engagement process began after the County's failed effort to gain approval for the promised expansion of the Coffin Butte Landfill. During negotiations for the 2020 landfill franchise agreement between Benton County and Republic Services (dba, Valley Landfills), the County assured Repbulic Services that an expansion would be approved no later than 2025, and **there is a $1 million incentive built into the franchise agreement** to reward the County for expansion approval.

The first attempt failed on a 6-0 denial of the conditional use permit application by the Planning Commission over the objections and recommendation of County staff. Most of that group of Planning Commissioners were subsequently relieved of their duties by the County Commissioners and replaced.

At the end of that first conditional use application and landfill expansion review process, the then Chair of the Planning Commission suggested that **a design charette was needed** (an intensive, hands-on workshop that brings people from different disciplines and backgrounds together with members of the community to explore options). This process would work through the many issues and concerns surrounding the proposed expansion of Coffin Butte Landfill and **evaluate alternative futures that do not involve having an active landfill at Coffin Butte forever**.

So, the County decided to proceed with a community engagement process. Great.

I would like to **thank all the volunteers** who worked on the Benton County Talks Trash (BCTT) workgroup, thanks to the County Commissioners for funding and supporting the effort, and thanks to the staff and facilitation team for bringing the BCTT process to closure. While most of the Workgroup members were being paid by their employers (County staff, Republic Services employees, lawyers, etc.) to participate, the **volunteers put hundreds of unpaid hours into this effort**.

Through this process and the final report, it is now clear that **there is no emergency need to expand the landfill** now. The landfill has 14-16 years of remaining capacity, and Benton County residents are guaranteed trash disposal services until the year 2039 through the franchise agreement.

At present, Coffin Butte is a little more than half full -- without an expansion. Again, **the franchise agreement protects landfill availability for all residents of Benton County until 2039**. Plenty of time to develop and implement alternative strategies for managing wastes that do not involve an active landfill in Benton County forever.

We learned that **Benton County contributes less than 10% of the trash currently going into the landfill**. Over 90% comes from outside our County, much of it from several counties away, and from other states. The amount of **trash coming to the landfill every year has nearly doubled since 2016** due to business practices (low tipping fees) of the landfill operator to incentivize and increase the amount of waste trucked in from other counties (including Portland). Extending the life of the existing landfill site without an expansion is completely within the power of the landfill operator and its business practices.

We also learned that **Benton County** did not and **does not monitor or enforce conditions of approval** imposed as part of land use decisions that are designed to mitigate negative impacts of land uses that are incompatible (e.g., landfills) with adjacent properties. The County relies on receiving complaints about non-compliance before acting, and there is no formal system to track or resolve complaints.

It became abundantly clear through this process that **County staff are strongly biased in favor of the landfill operator and expanding the landfill** now. For example, County staff took extraordinary efforts to find legal loopholes or technicalities to exonerate the landfill operator from non-compliance with land use requirements, to muzzle the Solid Waste Advisory Council's input into future landfill land use applications, and to object to community efforts to engage in and voice their opinions regarding the future of Coffin Butte and of waste management in the County.

Further, any effort to explicitly discuss the threatened, near-term second request to expand the landfill, or to include alternatives to landfilling forever in Benton County were strongly resisted by County staff and excluded from the process. In addition to the rejection of the 2021 request to expand the landfill, a similar request to expand the landfill in 1994 was also rejected by the previous County Commissioners. But **the Workgroup was prohibited from any discussion of landfill expansion** as part of this process.

There is no such thing as a safe landfill. Despite state and federal regulation, landfills leach harmful chemicals into the ground and water supply and pass through sewage plants untreated. Landfills emit huge amounts of greenhouse gases and are one of the largest contributors to global climate change. No matter how many barriers, liners, and pipes are installed to try to mitigate the risk, landfills will always leak toxic chemicals into the soil and water, and harmful gases into the atmosphere.

All landfills leak. Some over time and some from day one of operation. Coffin Butte landfill has two existing, unlined locations (Cell 1 and 1a) that, although they were "closed" in the 1970s, are still producing two million gallons of toxic leachate each year. **Safe landfills are a fairytale**.

In the end, instead of the recommended hands-on effort to explore alternatives to expanding the landfill (charette), **the community got a charade** (a pretense intended to create a pleasant or respectable appearance). Sadly, this effort was **a wasted opportunity** that was explicitly designed by the County to avoid addressing the most important question, landfill expansion, and the process was neither pleasant nor respectable.

BCTT Solid Waste Workgroup Final Report

Name: **Mary Parmigiani**

Date of Statement: 04/06/2023

1. Letter of Transmittal

No Comment.

2. Executive Summary

No Comment.

3. History

As the History section was part of Subcommittee E, I personally saw the work that went into this and I would like to commend Mark, Marge, and Ginger for working through many versions of this document and managing to come to a consensus. However, I would like to echo Mark's public comments in mentioning that I feel the history document falls short covering the history of fire and the fire risks that come with the landfill. I feel this section falls short in describing the communities perspective of the fire, and the continued risk of fire that the community has to deal with. I also feel the history section doesn't go in depth enough on environmental issues that the landfill has caused which have great implications in the neighboring community. These issues include: air quality, a disproportionate amount of cancer cases in neighboring communities of the landfill, and noise pollution. I do however, feel that the history of Coffin Butte in relation to Indigenous peoples is well covered as well as the history of waste management in Benton County.

4. Sustainable Materials Management Plan (SMMP)

I would like to further emphasize the need for Benton County to have a SMMP in place before any approval or refusal of the landfill expansion. As mentioned in the SMMP section, the SMMP would put in place much needed expectations and plans for solid waste management in our county. I would also like to further emphasize the need of the county to look past landfilling and focus on new technologies for dealing with solid waste.

5. Landfill Size/Capacity/Longevity

I feel that all sections of this part of the report are valuable, however the Landfill Life Projections section is particularly valuable. From what I've heard, there is confusion on the landfill's life (with and without

cell 6). While the data in this section are just projections, I feel they do a nice job clearing that up and giving us a new perspective on the need of our county to further assess our solid waste management systems.

6. Legal Issues & Land Use Review

I would again, like to commend the tremendous amount of work done with this section. However, in general I feel that the language presented in this section is not appropriate for a community document. I also feel that LLU R-6 and LLU R-7 inappropriately limit SWAC's role. I feel with the implementation of these two recommendations, SWAC's role would be minimized which would further the mistrust between community members and the county.

7. Past Land Use Application Conditions

No Comment.

8. Community Education & Public Involvement

While this section might not satisfy everyone, the recommendations are a step in the right direction in working to restore the trust between the community in the county. I would also like to express my gratitude in being given the opportunity to work on this subcommittee. I learned a lot and am very proud of our report.

9. Overall Comments

I would like to thank and commend the members of the public who commented during our meetings. I am inspired by the many neighbors that chose to comment meeting after meeting. These comments brought a much needed perspective of the people most affected by the landfill and brought to light the many environmental issues posed by the landfill. With the unfortunate removal of the Workgroup members who are neighbors of the landfill this perspective was very much needed. I am very grateful for this opportunity to work on this Workgroup and would like to thank my fellow Workgroup members for always being supportive throughout this process.

10. Conclusion

No Comment.

BCTT Solid Waste Workgroup Final Report

Template for Member Statements

Please add your comments to any or all of the following sections. Structuring your comments in this order will better enable readers to connect your comments to the relevant sections of the BCTT Report.

Name: **Russ Knocke, VP of Government/Public Affairs, Republic Services**

Date of Statement: **April 8, 2023**

1. Introduction

2. Executive Summary

3. History

4. Sustainable Materials Management Plan (SMMP)

5. Landfill Size/Capacity/Longevity

6. Legal Issues & Land Use Review

7. Past Land Use Application Conditions

8. Community Education & Public Involvement

9. Overall Comments

Thank you for the opportunity to participate in and share some final comments on this process. Republic Services cares deeply about this community, and we want to be good partners with Benton County and its residents.

Republic Services and Coffin Butte Landfill have been serving Benton County for decades**.** I hope our participation in the Benton County Talks Trash workgroup has made it clear that we value our ties to the people and businesses we serve.

It has been two years since we first filed our CUP application and the need for an expansion has only grown more critical in the interim.

We put our CUP application and community outreach plans on hold this past year, honoring our commitment to the one-table concept, even as some members of the community (including subcommittee participants) have launched petition drives against us and spoken negatively about other aspects of our operations at local government meetings.

Rarely is any public process such as this perfect, and we recognize that some residents have very strong opinions about Coffin Butte Landfill. Participating in the workgroup sessions has significantly compressed our operating timeline when it comes to excavating the quarry and providing continuity of service to residents.

Despite these many challenges, we recognized that stepping back and engaging in the Oregon Consensus process was the right thing to do. And I thank the Benton County Commissioners and staff for their dedication to these critical topics, and for ensuring that Republic Services had an equitable seat at the table.

Over the last nine months, we have had robust discussions with some of the most outspoken members of the community. While we did not reach agreement in all areas, we've nevertheless found these conversations and debates to be enlightening and valuable.

If you look at the Findings and Recommendations, you'll see that there are only a handful – out of hundreds – on which the workgroup could not reach consensus. I believe that workgroup members strove tirelessly to find common ground and understanding.

I do want to highlight a handful of topics on which members of the workgroup were unable to bridge their differences and make clear our position as it relates to the applicable Findings and Recommendations. These include:

- The 2002 Memorandum of Understanding between the County and the landfill owner/operator
- Cell 6 (the Quarry) and its designation/permitting as a waste disposal site
- The applicability of the 1983 CUP in relation to today's landfill closure requirements

The above topics were all discussed in depth by both the Legal and the Past Land Use Application/Conditions subcommittee, including during a joint work session.

Republic Services agrees with the Legal subcommittee and the County's position on the following key findings and recommendations:

LLU-F-15: How does that 2002 Memorandum of Understanding (MOU) fit into the workgroup considerations? The 2002 MOU clarifies authorization for landfill activities within the Landfill Zone and establishes a point in time at which the landfill was operating in compliance with state and local requirements.

We agree with Version 1 of this finding. The 2002 MOU concluded that Coffin Butte Landfill was in compliance with all County requirements at the time of execution. While the Legal and Land Use Subcommittee could not determine the degree to which the County examined the decisions leading up to MOU, Sections 1 through 15 describe the history of Coffin Butte (dating back to 1974) in detail, indicating that it was examined. It is also important to note that Section 16 determines these decisions authorized Valley Landfills Inc., to expand in the landfill zone north of Coffin Butte without any additional county permitting requirements.

LLU-F-22: Were the site plan and narrative of PC-83-7 regulatory conditions of approval?

The 1983 CUP and compliance with its terms were the subject of significant debate and disagreement between the Past Land Use and the Legal subcommittees, especially as it relates to screening and post-closure/future land use topics.

We agree with LLU F-22, and the more detailed memorandum prepared by the Legal and Land Use Subcommittee, that the provisions of the site plan and narrative are not enforceable conditions of approval.

LLU-F-23: Clarify when formal approval of landfilling of Cell 6 (the current quarry) was granted.

PC-93-7 included the quarry within the area approved for landfilling for the reasons explained in Version 1 of the finding. On June 15, 1983, the Benton County Board of Commissioners adopted comprehensive plan and zoning amendments designating 266 acres as the "Landfill Site" zone, as well as approving a site development plan for the landfill. The Board order expressly adopted the County staff report as part of the findings in support of the decision. According to page 7 of the staff report, the decision was intended to expand the area approved for landfill use to 194 acres; the remaining 72 acres of the 266 acres zoned LS would be utilized for other uses or remain in open space. Because of testimony regarding expansion of the landfill into the portion of the LS zone located south of Coffin Butte Road, the Board included a provision in the new LS zone (Ordinance 261) that "[a]ny proposal to expand the area approved for landfill must be reviewed and approved by the Planning Commission at a public hearing." The text of the staff report is therefore clear that the County approved 194 acres for landfill use and that any expansion into the remaining 72 acres would be subject to review by the Planning Commission. If the acreage south of Coffin Butte Road is deducted and the areas north of Coffin Butte reserved for open space and screening are also deducted, the remainder includes approximately 194 acres north of Coffin Butte Road, including the quarry area. The "waste disposal area" shown on the site plan could not have been the intended boundary of the area approved for landfill because it is less than 100 acres in size. The Legal and Land Use Committee's interpretation as set forth in Version 1 of the Finding is the only interpretation that reconciles the text of the decision with the site plan.

In addition, one of the objections focuses on the lack of any mention of "Cell 6" in the 1983 decision. The term "Cell" is not a county land use definition; it is how Republic Services classifies the areas where landfill occurs. This term did not come into use until the late 1980s when liners were first required, as part of update U.S. EPA regulations. Therefore, the term "cell" is not relevant to the interpretation of whether the 1983 decision included the quarry area in the "area approved for landfill." Cell 6 is shown on, and is part, of the 178-acre footprint approved for landfilling under Valley Landfills' current DEQ waste disposal permit.

Finally, as noted above, the 2002 MOU resolves any remaining ambiguity; it clearly states that additional county permitting is not required for expansion of the landfill within in the LS zone north of Coffin Butte Road.

As we enter the public comment period of this process on April 11, we look forward to hearing more from the surrounding community on the topics covered in this report -- and the future of solid materials management in Benton County and beyond.

Coffin Butte Landfill looks forward to continued engagement with the community, including public tours of the Landfill, as requested by numerous interested residents. We will continue to listen to community input and feedback in the coming months in advance of filing an improved CUP application.

I would like to thank the Commissioners and Benton County staff again for creating this forum for conversation; I have no doubt the Oregon Consensus process will result in better outcomes for all involved.

BCTT Solid Waste Workgroup Final Report

Template for Member Statements

Please add your comments to any or all of the following sections. Structuring your comments in this order will better enable readers to connect your comments to the relevant sections of the BCTT Report.

Name: **Ryan McAlister**

Date of Statement: April 5, 2023

1. Introduction

2. Executive Summary

    a. I think the executive summary does a very good job of giving the reader an overview of the work product and what is contained in the entire report. I appreciate the effort done here to help provide a bridge to the larger document as many readers will not get past the executive summary and recommendations.

3. History
    a. I found the history of the landfill very enlightening and appreciate the fact that now we can have a single document that brings most, if not all of the historical elements surrounding the origination of the landfill and the history of area in which it was sited.

4. Sustainable Materials Management Plan (SMMP)
    a. I was a subcommittee member of the SMMP work group. The group worked very well together to bring as much information as we could in one place so as to allow the future RFP writers a good resource with which to begin the RFP process. I look forward to seeing Benton County move forward with this process and be a leader in the state with an SMMP plan that will be the model for many to follow.

5. Landfill Size/Capacity/Longevity
    a. Baselining the conversation to better understand where we are at today and the factors that can affect the time the County has remaining to use the landfill. This will also provide a timeframe in which an SMMP will need to be complete so that we can move beyond being dependent upon a landfill.

BCTT Solid Waste Workgroup Final Report

Template for Member Statements

Please add your comments to any or all of the following sections. Structuring your comments in this order will better enable readers to connect your comments to the relevant sections of the BCTT Report.

Name: **John Deuel**

Date of Statement: 4/8/23

1. Introduction – My comments are about the Letter of Transmittal
    a. 2nd paragraph: . . . and to develop a detailed outline to inform the development of a request for proposals (RFP) from a consultant to prepare a Sustainable Materials Management Plan (SMMP)

2. Executive Summary
    a. First paragraph: While the problems with the landfill's history and current situation stimulated the formation of the Work group, another part of the background was a flatline of progress on managing and particularly reducing waste and the lack of a long term plan to do so. This element led the Work Group to some important realizations about what would be needed for the County to not only have a plan for the landfill, but for creating a significantly more robust system and set of policies and practices that would support the County's overall sustainability and help it realize its visions for 2040. Perhaps adding the following sentence after the first two sentences. The purpose of these sentences is to introduce the reader to the broader materials crisis and that the landfill's history is in part, a product of that crisis, as well as a global issue.

    "The challenges of the landfill's development have exposed the lack of a long-term plan for managing materials sustainably, throughout the County. While Benton County has met most standards required by the State of Oregon for recycling, there has been confusion and frustration among citizens about the lack of a more comprehensive, aggressive plan, given the long term and global impacts of materials throughout their life cycle, not just the on the Coffin Butte landfill."

    b. Page 9, line 4 (on landfill size etc.) Add
    . . . . including the impact of potential wildfires, regulatory changes and the future size of the landfill.

    c. Middle of P 10: There were several items that came up too late in the process for the Workgroup to vet or were left unresolved for future work. They are:

3. History
    a. P.32- first sentence: increase the capacity of the landfill by 64 to 80%.36 As reported in the Gazette Times on November 3, 1994, this request encountered stiff opposition when local landowners cited ~~concerned~~ concerns over smell, noise, groundwater contamination while other county residents wondered how large the county would let the landfill grow and whether increased capacity would affect the incentives to reduce consumption or recycle.

4. Sustainable Materials Management Plan (SMMP)
    a. On bottom of page 46- Introduction:

The more recent subcommittee work focused on future next steps and recommendations for the RFP process, including contracting out, workplan and timeline, and who should be "at the table" in future discussions.

    b. Next sentence- at bottom of page 46 and beginning of page 47:

The Subcommittee included lessons learned from outside of Benton County Talks Trash Workgroup Report 47 Benton County, including ~~information and lessons~~ from neighboring counties' presentations to the full work group.
Suggested alternative: . . . information about planning strategies and outcomes . . .

    c. Conclusion: Acknowledging the long-term nature of such a plan, the SMMP should be adaptable to new technologies and economic and environmental trends while aligning with clearly stated County and Statewide goals.
    d. Conclusion- next sentence: selecting a ~~partner~~ consultant team

5. Landfill Size/Capacity/Longevity: The findings and recommendations listed in the report will be a very important resource for the Citizens of Benton County, decision makers, and the consultants who are selected to prepare an Sustainable Materials Management Plan. I am concerned about the timing of possible decisions that would be required and made about extension of the landfill and other policies or initiatives that would enhance waste prevention, reuse and reduction. There were many opinions expressed to delay such decisions until an SMMP was completed. While I agree with this generally, I also would encourage Benton County leaders to move forward more aggressively to reduce and prevent waste. A working group of local waste prevention experts, including some that were on SWAC at the time, developed a list of recommendations to do just that.

6. Legal Issues & Land Use Review: No statement

7. Past Land Use Application Conditions: I applaud the subcommittee's work on this section and the extensive record of past land use actions. One of the trends I saw throughout this process, and in

the report about these land use actions, is that the County and others were derelict in securing and maintaining accurate records of land use requirements and compliance with those requirements. I strongly hope that going forward, the County and others responsible for authorizing and enforcing land use conditions will allocate the resources needed to maintain sufficient records so that 50 years from now, the next generation of citizen decision makers will have better information.

8. Community Education & Public Involvement: No statement

9. Overall Comments: No statement

10. Conclusion: Did not see it in DRAFT 6.

6. Legal Issues & Land Use Review
    a. This section added some clarity to why Coffin Butte must receive waste from outside the region. The legal issues are very complicated, but the group did a good job getting to a more common understanding of what the issues are and how the land use process works.

7. Past Land Use Application Conditions
    a. The subcommittee did a very good job of daylighting many of the issues and bringing them together in one common space. My hope is that this will allow the Land Use Experts to take the next steps in providing clarity on where things really stand today and what is relevant to the upcoming conversations.

8. Community Education & Public Involvement
    a. Subcommittee did a very good job of highlighting the importance of communication on this issue. We are trying to clearly communicate complicated concepts and processes. My hope is that the BOC will embrace some of these communication recommendations.

9. Overall Comments
    a. I am thankful for the opportunity to be a part of this process. I have learned a great deal and hope that the information that was gathered (findings) and recommendations are not quickly dismissed by the future readers of the report.

10. Conclusion
    a. I applaud Benton County and the BOC for choosing to spend the time and energy to invest in this process to bring about a common understanding of a very complicated and mis-understood issue within our community. I believe that the only way we can make meaningful change and move forward with purpose is to first understand where we are at right now and how we got here. Otherwise, we will not be able to learn from our past decisions and not make the best decision for how to move forward from here. What is decided in the next few years will have an impact on future generations.

BCTT Solid Waste Workgroup Final Report

Template for Member Statements

Please add your comments to any or all of the following sections. Structuring your comments in this order will better enable readers to connect your comments to the relevant sections of the BCTT Report.

Name: **Shawn Edmonds, Area Vice President (Northwest), Republic Services**

Date of Statement: **April 8, 2023**

1. Introduction

2. Executive Summary

3. History

4. Sustainable Materials Management Plan (SMMP)

5. Landfill Size/Capacity/Longevity

6. Legal Issues & Land Use Review

7. Past Land Use Application Conditions

8. Community Education & Public Involvement

9. Overall Comments

   Rather than commenting on each subcommittee's work and the associated section of the report, I'd like to generally begin my remarks with a thank you and expression of gratitude to all the members of the workgroup, especially those resident volunteers who gave untold hours of their own time to participate in this process.

I served as Republic Services' General Manager in Western Oregon from 2015 to 2022, overseeing not only Coffin Butte Landfill, but our hauling divisions in the area, Pacific Regional Compost and Agri-tech.

Republic Services' ties to this community go back decades, but we have owned and operated Coffin Butte Landfill since 2008. The Landfill is a regional asset that has served the residents and businesses in this area for more than 40 years.

During the Oregon Consensus process, it became clear that there are many misconceptions about the Landfill, confusion about how it operates in accordance with regulatory requirements and land use permits, and how it co-exists with its neighbors.

It is my hope that this workgroup process brought clarity to many of these issues – or at least provided new and helpful information about the benefits of having a highly-engineered, state-of-the-art local waste option.

I've divided my remarks below into three sections: the SMMP, compliance and our future CUP application.

Republic Services was not permitted to participate in – or vote on – the SMMP findings and recommendations. While we understand the reason for this, we would have liked to be part of those discussions.

We are not simply a company that runs landfills – we are sustainability leaders in one of the most highly-regulated industries in the United States. This year we will open the nation's first integrated plastics recycling facility in the country in Las Vegas and we recently announced a joint venture with Archaea Energy to develop 39 landfill renewable-gas-to-energy projects across 19 states. Once these projects are online in 2027, we anticipate capturing and beneficially reusing 70 percent of our total landfill gas.

In addition, we've set an ambitious goal to increase the recovery and circularity of key materials by 40 percent by 2030 . We are currently collecting commercial recycling in Idaho using electric (EV) trucks. Additional EV deployments are planned in the near future.

Our commitment to sustainability and the circular economy – one key focus of the SMMP subcommittee – is already evident in Benton County, where we divert over 140,000 tons of green waste and food waste annually at the Pacific Regional Compost Facility. Our recycling center in Albany, Oregon, processes 20,000-25,000 tons of recycling material every year, much of which is organic material.

In addition, Coffin Butte was one of the first landfills in the Northwest to collect landfill gas for conversion to energy, generating enough capacity to power over 4,000 homes.

It is our hope that Benton County will consider us a resource and a valued partner as it continues to delve deeper into its upcoming materials management process.

Next, I'd like to address compliance with our various land use and operating permits. I recognize the extraordinary amount of effort and time that members of the Past Land Use Application subcommittee put into the review process. They have produced and organized a trove of documents recreating the history of the Landfill. These will no doubt prove to be a valuable resource.

However, I disagree with the subcommittee's approach and/or conclusions in several of its findings and recommendations. Coffin Butte Landfill is in compliance with its DEQ and county land use permits, and works closely with its regulatory partners (county, state and federal) on all aspects of its operations.

In several instances, members of the CUP subcommittee authored findings that were based on one or more outdated documents. Their review did not consider more recent documents that are readily available to the public. This resulted in findings that, in my opinion, were myopic in nature and/or lacking context at best.

In the interest of time (nearly 8 hours into our final meeting), Republic Services agreed to poll a "2" on these findings, rather than continuing to debate the merits of alternate and substitute language. I will instead address some of them here:

- **CUP-F-26: There are Valley Landfill, Inc. Closure Plan Reports / Financial Assurance documents dating from the mid 1990's identifying areas of the landfill that are closed to meet DEQ requirements. Financial Assurance amounts were reduced to reflect the closure.**

Republic Services acknowledges that these documents exist. However, Valley Landfill's Inc. is still required to maintain post-closure funds on areas of the Landfill that are considered closed. In addition, VLI is required to add to the closure fund as new cells are constructed. As a result, both the closure and the post-closure funds have increased since the 1990s and now sit at $16,222,800 (closure) and $5,7343,202 (post-closure.) These amounts are updated annually, insured by third-party bonds, and approved by DEQ. LLU-F-3B, as drafted by the Legal subcommittee, reiterates this position.

- **CUP-F-29: A "Special Waste Management Plan (Draft)" 10/03 file date identifies wastes other than household material that can be brought to Coffin Butte.**

This finding is based on a document that is two decades old and is significantly out of date. We have a special waste section in our operations plan that's been updated several times since 2003. The most recent of these was submitted to DEQ in 2020 and is publicly available.

- **CUP-F-30: No records for DEQ's air emissions (Title V) or surface water (NPDES) programs were available for review.**

Title V reports are submitted to the county in our quarterly reports; the air quality and annual reports are available on the DEQ website. And the stormwater NPDES permits, and monitoring reports were provided to the Benton County FTP site and via a public records request.
There are other disputes of record – most notably with the 2002 Memorandum of Understanding and the use of Cell 6 (also known as the Quarry) as a disposal site. My colleague discusses these in detail in his member statement, but it is my belief that the Legal subcommittee's review, and subsequent conclusions, are accurate as it relates to both issues.

Finally, I'd like to address Republic Services' forthcoming CUP. Coffin Butte Landfill applied to Benton County for a conditional use permit in May 2021. Two years have since passed, and the need for this vital expansion remains critical.

Coffin Butte Landfill now has -- at most -- 2 years of remaining disposal life if we don't utilize Cell 6/the Quarry**.** Without approval of our upcoming CUP there will be no outlet for the County's waste in the very near future.

Yes – we are making plans to move into the quarry, but the clock is ticking. We cannot begin construction of the cell until we excavate the rock. We are working aggressively on an accelerated excavation schedule, but this does not guarantee the continuity of an environmentally responsible, safe, and cost-effective disposal option for Benton County and surrounding communities. An expansion onto a previously zoned portion of our existing property (that is already being used for routine landfill operations) does.

10. Conclusion

I do not yet have a date by which Republic Services plans to file its CUP application, but time is of the essence. It is our intent – and my commitment – that the future application will align with the spirit of the Oregon Consensus/Benton County Talks Trash workgroup process. We have had numerous conversations with very passionate members of the local community, and greatly appreciate their input. We've listened and heard their concerns and will do our best to be mindful of those as we re-engage with the County on Coffin Butte Landfill and the future of solid waste management in Benton County.

Thank you again for allowing us a seat at the table as you consider these vital issues.

BCTT Solid Waste Workgroup Final Report

Template for Member Statements

Please add your comments to any or all of the following sections. Structuring your comments in this order will better enable readers to connect your comments to the relevant sections of the BCTT Report.

Name: **Chuck Gilbert**

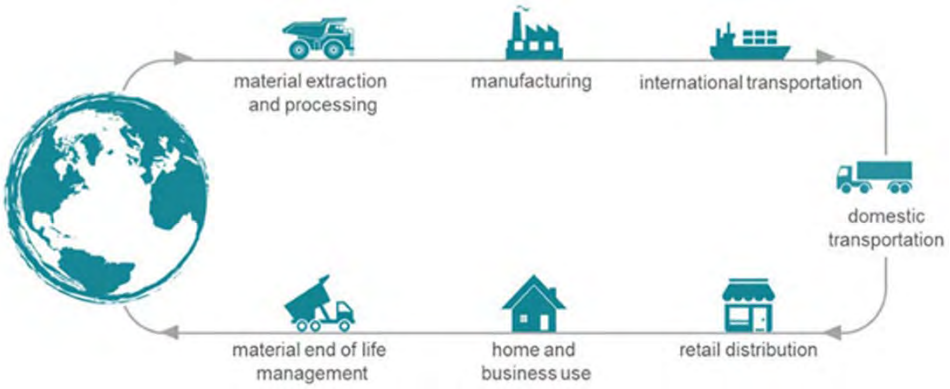
Date of Statement: 4/8/2023

1. Introduction
   Looks good.

2. Executive Summary

   Looks good.

3. History



Solid Waste Reduction Advancement

Today, most developed countries are industrial societies, although there is a growing trend towards automation and digitalization, which is changing the nature of work and production. Many developing countries are also undergoing a process of industrialization, as they seek to modernize their economies and increase their global competitiveness.

Solid waste management is of great importance in today's industrial societies due to the high volume of waste generated by industrial and commercial activities, as well as by households. Effective solid waste management practices are necessary to protect public health, prevent environmental pollution, and conserve natural resources.

A linear economy is a traditional model of production and consumption in which resources are extracted, processed into products, used, and then discarded as waste. In this model, the focus is on maximizing economic growth and consumption, with little regard for the long-term environmental and social impacts of resource depletion and waste generation.

In a linear economy, resources are treated as disposable and the waste generated is typically disposed of in landfills or incinerated. This approach leads to the depletion of finite resources, pollution, and greenhouse gas emissions that contribute to climate change, if unchecked.

The linear economy is often referred to as a "take-make-dispose" approach, as it involves taking raw materials, making products, and disposing of the waste generated. It is a linear process with a clear end point: waste.

As awareness of environmental issues and resource constraints grows, there is increasing recognition of the need to move towards a more sustainable and circular economy.

The aim of a circular economy is to create a more sustainable and resilient economic system that maximizes the use of resources and minimizes waste and pollution. In a circular economy, materials and resources are kept in use for as long as possible, through processes such as recycling, refurbishment, remanufacturing, or waste energy conversion.

The circular economy is based on three key principles: designing out waste and pollution, keeping products and materials in use, and regenerating natural systems. By applying these principles, the circular economy seeks to create a closed-loop system in which waste is minimized, and resources are kept in circulation for as long as possible.

The circular economy has many potential benefits, including reducing waste and pollution, conserving natural resources, creating new business opportunities and jobs, and improving economic and social resilience. It also has the potential to contribute to climate change mitigation by reducing greenhouse gas emissions associated with the extraction and processing of virgin materials.

Overall, the aim of a circular economy is to create a more sustainable and resilient economic system that meets the needs of people and the planet.

4. Sustainable Materials Management Plan (SMMP)

A Sustainable Materials Management Plan (SMMP) is a comprehensive plan that outlines strategies for managing materials and resources in a sustainable way. The plan typically includes a range of strategies, policies, and practices that focus on reducing waste generation, increasing resource efficiency, and promoting sustainable consumption and production.

Overall, an SMMP can work in synergy with the circular economy, by providing a comprehensive approach to managing materials and resources in a sustainable way, and by helping to support the transition to a more circular and sustainable economic system.

A SMMP transportation plan outlines strategies for managing the transportation of materials and resources in a sustainable way.

A SMMP transportation plan may include strategies to reduce the environmental impact of transportation, such as reducing fuel consumption, greenhouse gas emissions, and air pollution. This may involve promoting the use of alternative modes of transportation, as well as encouraging the use of low-emission truck vehicles or electric truck vehicles and optimizing the routing of transportation.

In addition, an SMMP transportation plan may also focus on optimizing the efficiency of transportation, to reduce costs and improve overall sustainability. This may involve implementing strategies to reduce the distance and frequency of transportation, promoting the use of intermodal transportation, and adopting technologies that can improve the efficiency of transportation.

Overall, a SMMP transportation plan is an important component of a comprehensive approach to sustainable materials management. By optimizing the transportation of materials and resources, organizations and communities can reduce their environmental impact, improve their economic efficiency, and promote social sustainability.

5. Landfill Size/Capacity/Longevity

   Looks good.

6. Legal Issues & Land Use Review

   Looks good.

7. Past Land Use Application Conditions

   Looks good

8. Community Education & Public Involvement
   Look good.

9. Overall Comments

The SMMP Intermodal Transportation Plan is a transportation planning document that outlines strategies and policies for improving the movement of freight and goods in and around a particular region, with a particular focus on intermodal transportation, in particular solid waste and renewal and scrap recyclables.

Intermodal transportation refers to the use of multiple modes of transportation, such as roads, railways, and waterways, to move freight and goods from one place to another. The SMMP Intermodal Transportation Plan aims to improve the efficiency and effectiveness of this transportation network by identifying key challenges, goals, and opportunities for improvement of solid waste management and materials management in a sustainable circular economy,

The plan may include a range of strategies and initiatives, such as improving the connectivity between different modes of transportation, enhancing the safety, reliability, and interoperability of transportation systems, promoting sustainable transportation options, and engaging with stakeholders to better understand their needs and preferences.

By developing an effective and comprehensive intermodal transportation plan, communities and regions can better manage the movement of goods and freight, reduce congestion and environmental impacts, and improve overall quality of life for residents and businesses, in particular with a viable solid waste management plan working shoulder to shoulder with sustainable materials management plan.

10. Conclusion

VII. Public Outreach Summary and Analytics

1. **Benton County Solid Waste Situation Assessment**
   a. On Tuesday, July 19, 2022, the Benton County Board of Commissioners heard the results of a Situational Assessment focused on solid waste and disposal, including Coffin Butte landfill. An independent third-party affiliated with Oregon Consensus presented the situation assessment. For a copy of the written report, please click HERE. The assessment included a recommendation for the Board of Commissioners to create a temporary workgroup for making recommendations to the Board regarding specific solid waste topics. During the July 26, 2022 meeting, the Board decided to move forward with the process of convening this workgroup.
   b. Information about the Board meetings that approved the Assessment and the Charter, along with BOC meetings where members of the public gave testimony can be found at the Solid Waste Process Workgroup (SWPW) webpage.

2. **Outreach: Sep. '22 – Mar. '23**
   a. Products:
      i. Talking Points completed Sept. 15
      ii. Strategic communications information completed Sept. 30
      iii. Updates about workgroup prior to every meeting sent to SWPW subscription list every time.
         1. SWPW mtg, Sept. 8 Recap and Sept. 15 mtg info – Sept. 15, 2022
         2. SWPW mtg, Oct. 6 – Sept. 22, 2022
         3. SWPW mtg reminder, Oct. 6 – Sep – Oct. 5, 2022
         4. SWPW mtg, Oct. 27 – Oct. 20, 2022
         5. SWPW subcommittee mtgs, Oct. 24-25 - Oct. 21, 2022
         6. SWPW mtg reminder, Oct. 27 – Oct. 25, 2022
         7. SWPW mtg CANCELLED, Nov. 3 – Nov. 1, 2022
         8. SWPW mtg reminder, Nov. 17 & Open House – Nov. 15, 2022
         9. SWPW mtg, Dec. 15 – Dec. 7, 2022
         10. SWPW mtg reminder, Dec. 15 – Dec. 13, 2022
         11. SWPW mtg, Jan. 19 – Jan. 12, 2023
         12. SWPW mtg reminder, Jan. 19 – Jan. 18, 2023
         13. SWPW mtg update, Jan. 19 – Jan. 19, 2023
         14. SWPW delivers draft report – Jan. 30, 2023
         15. SWPW mtg, Feb. 23 – Feb. 17, 2023
         16. SWPW mtg reminder, Feb. 23 – Feb. 22, 2023
         17. SWPW mtg, Mar. 16 – Mar. 9, 2023
         18. Benton County asks public to "talk trash" and the future of solid waste – Mar. 14, 2023
         19. SWPW mtg reminder, Mar. 16 – Mar. 15, 2023
         20. SWPW mtg, Mar. 23 – Mar.17, 2023
         21. BOC statement on BCTT – Mar. 22, 2023
         22. SWPW mtg reminder, Mar.23 – Mar. 22, 2023
         23. SWPW survey notification - Mar. 24, 2023
         24. SWPW mtg, Apr. 3 – Mar. 29, 2023
         25. Benton County launches Public Podcast series – Mar. 31, 2023

26. UPDATE Benton County launches Public Podcast series – Apr. 1, 2023
27. Benton County launches Public Podcast series – Mar. 31, 2023
28. UPDATE Benton County launches Public Podcast series – Apr. 1, 2023

iv. Periodic workgroup updates
    1. County internal and external newsletters.
        a. "Benton County Talks Trash" workgroup scheduled to address future of solid waste! – Aug. 11, 2022
        b. Benton County News - September 2022 – Sept. 6, 2022
        c. Benton County workgroup talking trash & the future of solid waste – Sept. 12, 2022
        d. The Buzz, Benton County Employee Newsletter - September 2022 – Sept. 20, 2022
        e. Benton County News - October 2022 – Oct. 3, 2022
        f. Benton County News - November 2022 – Nov. 1, 2022
        g. Benton County News - December 2022 – Dec. 6, 2022
        h. Benton County News - January 2023 – Jan. 3, 2023
        i. Benton County News - February 2023 – Feb. 6, 2023
        j. Benton County asks public to "talk trash" and the future of solid waste – Mar. 14, 2023
        k. The Buzz, Benton County Employee Newsletter - March 2023 – Mar. 22, 2023
        l. Benton County News - April 2023 – Mar. 30, 2023
        m. UPDATE Benton County launches Public Podcast series – Apr. 1, 2023
    2. Social media updates
        a. SWPW community outreach (Aug. – Dec. 2022 analytics) report completed Jan. 24, 2023, see last page.
        b. SWPW community outreach (Jan. – Mar. 2023 analytics) report under development.

v. Public Engagement Events
    1. Tour of Coffin Butte Landfill – Sept. 24, 2022
        a. Nextdoor
        b. Website Press Release – Sept. 22, 2022
        c. Sent to all Benton County employees
        d. Benton County organic subscribers
        e. Sent SWPWG subscriber list - Sept. 20, 2022
        f. Sent to media partners via FlashAlert
        g. Facebook – Sept. 22, 2022
        h. Twitter – Sept. 22, 2022
        i. Instagram – Sept. 22, 2022
    2. Tour of Neighborhood – Oct. 1, 2022
        a. Nextdoor
        b. Website Press Release
        c. Sent to all Benton County employees
        d. Benton County organic subscribers
        e. Sent SWPW subscribers – Sept. 28, 2022
        f. Sent SWPW subscribers reminder email – Sept. 29, 2022
        g. Sent to media partners via FlashAlert
        h. Facebook event – Sept. 26, 2022

3. Open House – Nov. 17, 2022
    a. Nextdoor
    b. Benton County organic subscribers – Nov. 10, 2022
    c. Sent to SWPW subscribers – Nov. 10, 2022
    d. Sent to media partners via FlashAlert
    e. Facebook – Nov. 14, 2022
    f. Developed flyer
    g. Supported logistics
4. Open House – Apr. 4
    a. Nextdoor – Mar. 29, 2022
    b. Website Press Release – Mar. 14, 2022
    c. Sent to all Benton County employees
    d. Benton County organic subscribers – Mar. 14, 2022
    e. Sent to SWPW subscribers – Mar. 14, 2022
    f. Sent to media partners via FlashAlert – Mar. 14, 2022
    g. Facebook
    h. Twitter
    i. Instagram
    j. Developed flyer
    k. Supported logistics

vi. Media releases
1. "Benton County Talks Trash" work group scheduled to address future of solid waste! – August 11, 2022
2. Benton County workgroup talking trash and the future of solid waste – September 9, 2022
3. "Benton County Talks Trash" Solid Waste Process Workgroup's scheduled to offer landfill/neighborhood tours – September 22, 2022
4. Benton County asks public to "talk trash" and the future of solid waste – March 14, 2023
5. Benton County Solid Waste Process Workgroup open house invites community members to "Talk Trash" – March 21, 2023
6. El Condado de Benton le pide al público que hable sobre la basura y el futuro de los residuos sólidos – March 21, 2023
7. Benton County Board of Commissioners response to Community petition regarding Coffin Butte landfill – March 22, 2023
8. La jornada de puertas abiertas del Grupo de Trabajo de Tratamiento de Residuos Sólidos del condado de Benton invita a los miembros de la comunidad a "hablar basura" – March 30, 2023
9. Benton County launches Public Podcast series – March 31, 2023
10. Solid Waste Workgroup Talks Trash at community open house – April 5, 2023

vii. Social media posts
1. Facebook, Twitter, Instagram & Nextdoor, Aug. 12, 2022. The #BentonCountyBoardOfCommissioners want you to help "talk trash" this fall by participating in Benton County Talks Trash.
2. Facebook, Twitter, Instagram & Nextdoor, Sept. 9. The "Benton County Talks Trash" workgroup officially kicked off yesterday with a welcome from the

#BentonCountyBoardOfCommissioners. The workgroup discussed the collaborative process from now through mid-December that will support decision-making about the future of solid waste in Benton County.

3. Facebook, Twitter & Instagram, Sept. 15, 2022. #BentonCountySolidWasteWorkgroup is meeting today from 3-7pm. Members of the public are invited to attend in person at the Kalapuya Bldg, 4500 SW Research Way, Corvallis or via Zoom.
4. Facebook & Nextdoor, Sept. 15. Neighborhood Tour events created.
5. Facebook, Twitter & Instagram, Sep. 22, 2022. ICYMI: The Benton County Talks Trash Solid Waste Process Workgroup is offering a tour of the Coffin Butte Landfill this Saturday!
6. Facebook, Twitter & Instagram, Oct. 5, 2022. ICYMI the Solid Waste Process Workgroup is holding meeting #3 tomorrow from 3-7pm. Join in person at the Kalapuya Building - 4500 SW Research Way, Corvallis or attend online.
7. Facebook & Nextdoor, Oct. 1, 2022 Neighborhood Tour events created.
8. Facebook, Twitter & Instagram, Oct. 5, 2022. Workgroup is holding meeting #3 tomorrow from 3-7pm. Join in person at the Kalapuya Building - 4500 SW Research Way, Corvallis or attend online.
9. Facebook & Nextdoor, Oct. 6, 2022. Meeting #3 events created.
10. Facebook, Twitter & Instagram, Oct. 25, 2022. Meeting #4 post shared: Workgroup meeting #4 this Thursday, from 3-7pm. Join in person at the Kalapuya Building at 4500 SW Research Way, Corvallis or attend online.
11. Facebook & Nextdoor, Oct. 27, 2022. Meeting #4 events created.
12. Facebook & Nextdoor, Nov. 1, 2022. CANCELLED meeting #5 (Nov. 3, 2022) posts and events created.
13. Facebook & Nextdoor, Nov. 14, 2022. Meeting #5 (Nov. 17) post and events created.
14. Facebook & Nextdoor, Dec. 12, 2022. Meeting #6 (Dec. 15) post and events created.
15. Facebook, Twitter, Instagram & Nextdoor, Jan. 12, 2023. Meeting #7 (Jan. 19) posts and events created.
16. Facebook, Twitter & Instagram, Jan. 19, 2023. ICYMI: the Solid Waste Process Workgroup meeting #7 is TODAY from 3-7:30pm. Join in person at the Kalapuya Building [4500 SW Research Way, Corvallis] or attend online.
17. Facebook, Twitter, Instagram & Nextdoor, Feb. 17, 2023. Meeting #8 (Feb. 23) posts and events created.
18. Facebook, Twitter, Instagram & Nextdoor, Mar. 9, 2023. Meeting #9 (Mar. 16) posts and events created.
19. Facebook, Twitter & Instagram, Mar. 13, 2023. The #BentonCountyBoardOfCommissioners invites community members to “talk trash” and learn more about the future of sustainable materials management, solid waste, and disposal in Benton County. Share your feedback this Thursday. Learn more: http://ow.ly/3JhO50NfPPa
20. Facebook, Twitter & Instagram, Mar. 17, 2023. Community members, The Benton County Talks Trash Solid Waste Process Workgroup is seeking your feedback. Take a survey on the Workgroup’s draft recommendations until Mar. 22:

http://ow.ly/Zx1Z50NkJw2. Learn more about the BCCT SWPW: http://ow.ly/rEiv50NkJAs

21. Facebook, Twitter & Instagram, Mar. 20, 2023. The LAST Solid Waste Process Workgroup meeting is this Thursday! Join us to discuss the future of sustainable materials management, solid waste, and disposal in Benton County. Join us in person at the Kalapuya Bldg. at 4500 SW Research Way or register to be online: http://ow.ly/nkx950NlHez. Learn more: http://ow.ly/Ukoi50NlHcq
22. Facebook, Twitter, Instagram & Nextdoor, Mar. 21, 2023. Meeting #10 (Mar. 23) posts and events created.
23. Facebook, Twitter & Instagram, Mar. 22, 2023. ICYMI: Today is the last day to share your feedback to the Benton County Talks Trash (BCTT) Solid Waste Process Workgroup (SWPW) on solid waste materials management in Benton County. Take the survey: http://ow.ly/liRO50NkJw4. Learn more about the BCCT SWPW: http://ow.ly/zpUl50NkJAt
24. Facebook, Twitter & Instagram, Mar. 23, 2023. Benton County seeking public input on sustainable waste disposal.
25. Facebook, Twitter & Instagram, Mar. 27, 2023. At the request of the Benton County Talks Trash (BCTT) Solid Waste Process Workgroup (SWPW), the survey on solid waste materials management in Benton County has been extended until noon on Friday. Take the survey: http://ow.ly/liRO50NkJw4. Learn more about the BCCT SWPW: http://ow.ly/zpUl50NkJAt.
26. Facebook, LinkedIn & Nextdoor, Mar. 24, 2023. Open House events created.
27. Facebook, Twitter & Instagram, Mar. 30, 2023. ***Español a continuación*** Mark your calendars for the Benton County “Talks Trash” – Solid Waste Process Workgroup in-person Community Open House! WHEN: April 4 from 5:00 to 7:00 p.m. WHERE: 4500 SW Research Way, Corvallis. RSVP to pioinfo@bentoncountyor.gov. MORE: https://bit.ly/BentonCoGov-BCCTApr4OpenHouse
28. Facebook, Twitter & Instagram, Mar. 31, 2023. Listen to Episode 1 of Benton County's brand new Public Podcast: http://ow.ly/5q9w50Nxurt. This series features: - The history of the Coffin Butte landfill, - The critical work of the #BentonCountyTalksTrash #SolidWasteProcessWorkgroup, - What the County is doing to manage solid waste now and in the future, and - What individuals can do to help decrease consumption. Guests include Workgroup member Kathryn Duvall and Community Development Deputy Director Greg Verret. The podcast mentions how members of the Workgroup have volunteered thousands of hours working to provide recommendations about the future of #SustainableMaterialsManagement, #SolidWaste, and disposal in Benton County. The podcast strives to dive deeper into topics the community cares about. We hope you can take some time to listen. Feedback is encouraged and welcome; please share it with pioinfo@bentoncountyor.gov.
29. Facebook, LinkedIn, Twitter & Instagram, Apr. 1, 2023. Episode 1 of Benton County's brand-new Public Podcast: rss.com/podcasts/bentonpublicpodcast/890401/. Episode 1 of the series features history of Coffin Butte, Solid Waste Workgroup, what & what we can all do to decrease consumption. Stay tuned for our next episode in May!

30. Facebook, Twitter & Instagram, Apr. 3, 2023. ***English continued below*** ¡No se olviden de que mañana por la noche es el ÚLTIMO evento en persona de jornada de puertas abiertas comunitaria de “Habla de la Basura” - Grupo de Trabajo de Proceso de Residuos Sólidos! CUÁNDO: El 4 de abril de las 5:00 a las 7:00 p.m. DÓNDE: 4500 SW Research Way, Corvallis. Confirme su asistencia a través de: pioinfo@bentoncountyor.gov. PARA MÁS INFORMACIÓN: https://bit.ly/BentonCoGov-Abr4OpenHouse
31. Facebook, Twitter & Instagram, Apr. 4, 2023. ***Español a continuación*** TONIGHT is the night to join us for the Benton County “Talks Trash” – Solid Waste Process Workgroup in-person Community Open House event! We look forward to seeing you there. WHEN: April 4 from 5:00 to 7:00 p.m. WHERE: 4500 SW Research Way, Corvallis. RSVP: to pioinfo@bentoncountyor.gov. MORE: https://bit.ly/BentonCoGov-BCCTApr4OpenHouse.

3. Media Coverage

Another one bites the dustbin in Benton County trash committee

Albany Democrat-Herald, Dec. 13, 2022. Benton County’s elected board took another of its trash advisers to the curb, voting Tuesday morning, Dec. 13, to remove someone from the task force that focuses on a potential expansion at Coffin Butte.

DEADLINE APPROACHES, OFFICIALS ANNOUNCE DAYTIME WARMING CENTERS

Corvallis Advocate, Dec. 23, 2022. Ahead of the new year, the Benton County Board of Commissioners got another update from the Benton County Trash Talks workgroup during their meeting on Tuesday, Dec. 20.

Tour provides peek into landfill operations, Benton workgroup dynamics

Albany Democrat-Herald, Sep. 24, 2022. Operators of Coffin Butte had local leadership on hand, and views of the landfill near Corvallis during a tour on Saturday, Sept. 24 — but few answers.

BENTON COUNTY SEEKS LANDFILL BOARD MEMBERS, SPENDS $88,000 ON FACILITATORS

Corvallis Advocate, Aug. 15, 2022. Benton County came out with some trashy news this week. Yes, things are moving forward for the question of what to do about the Coffin Butte landfill, as well as solid waste management in general for our County.

County awards more time, money to Coffin Butte workgroup; fires member

Albany Democrat-Herald, Oct. 25, 2022. Benton County’s executive board took the unusual step of firing a volunteer adviser, voting 2-1 Tuesday, Oct. 25 to remove a delegate from its landfill task force.

COUNTY BACKS NEW TRAIL IN MONROE, CITY OFFERS MORE ASSISTANCE, MORE UPCOMING SOLID WASTE MEETINGS

Corvallis Advocate, Dec. 9, 2022. Trash Talks continue in Benton County with several upcoming meetings for the Solid Waste Process Workgroup, with the next scheduled on Dec. 15.

County awards more time, money to Coffin Butte workgroup; fires member

Albany Democrat-Herald, Oct. 25, 2022. Benton County's executive board took the unusual step of firing a volunteer adviser, voting 2-1 Tuesday, Oct. 25 to remove a delegate from its landfill task force.

OSU GROWS, ROCKIT COMES TO TOWN, DAIRY POLLUTANT PETITION FAILS BY FUNDING, UPDATE TO ROCK CREEK FOREST WATERSHED, OPEN HOUSE FOR TRASH TALKS, & CHAMBER EVENTS

Corvallis Advocate, Nov. 14, 2022. On Thursday, November 17, all are welcome to come to the Trash Talks Open House from 3:00-7:30 p.m. at the Benton County Kalapuya Building, located at 4500 SW Research Way, Corvallis.

JSIP & TRASH TALKS UPDATES, MHADDAC MEETING DISCUSSES MEASURE 110 FAILURES, ELECTION DENIERS & CORPORATE FUNDING

Corvallis Advocate, Nov. 3, 2022. Darren Nichols and Sam Imperati spoke about how things are going with the talks about the possible expansion of the Coffin Butte Landfill.

TRASH TALKS START UP, JSIP DRAFT OF MASTER PLAN, NEW PUBLIC HEALTH POSITIONS REQUESTED

Corvallis Advocate, Sep. 5, 2022. The Benton County Talks Trash workgroup will have its first meeting.

"Benton County Talks Trash" Solid Waste Process Workgroup scheduled to offer landfill/neighborhood tours

Flashalert, Sep. 22, 2022. The Benton County Talks Trash Solid Waste Process Workgroup is offering the following tours:

Benton County workgroup talking trash and the future of solid waste.

Flashalert, Sep. 9, 2022. The "Benton County Talks Trash" workgroup officially kicked off Sept. 8 with a welcome from the Benton County Board of Commissioners, introductions, and discussion about a collaboration process that will be happening through mid-December to support decision-making about the future of solid waste in Benton County.

Benton county talks trash - Twitter Search / Twitter

Solid Waste Process Workgroup Meeting #7 | Facebook

Facebook, Jan. 12, 2023. Solid waste process workgroup meeting #7.

Solid Waste Process Workgroup Meeting #6 | Facebook

Facebook, Dec. 7, 2022. Solid waste process workgroup meeting #6.

Solid Waste Process Workgroup Meeting #5 & Open House Event | Facebook

Facebook, Nov. 14, 2022. Solid Waste Process Workgroup Meeting #5 & Open House.

Solid Waste Process Workgroup Meeting #4 | Facebook

Facebook, Oct. 21, 2022. Solid Waste Process Workgroup Meeting #4.

Solid Waste Process Workgroup Meeting #3 | Facebook

Facebook, September 26, 2022. Solid Waste Process Workgroup Meeting #4.

Solid Waste Process Workgroup meeting

Nextdoor, Jan. 12, 2023. Please join us for the next Solid Waste Process Workgroup meeting on Jan 19.

Solid Waste Process Workgroup Meeting #6

Nextdoor, Dec. 7, 2022. Please join us for the next Solid Waste Process Workgroup Meeting #6.

Solid Waste Process Workgroup Meeting #5 & Open House Event

Nextdoor, Nov. 14, 2022. Please join us for the next Solid Waste Process Workgroup Meeting #5 and a special open house event.

BENTON COUNTY WORKGROUP TALKING TRASH AND THE FUTURE OF SOLID WASTE

Nextdoor, Sep. 12, 2022. The "Benton County Talks Trash" workgroup officially kicked off Sept. 8 with a welcome from the Benton County Board of Commissioners, introductions, and discussion about a collaboration process that will be happening through mid-December to support decision-making about the future of solid waste in Benton County.

Trash Talks Report Deadline

Corvallis Advocate, Dec. 23. Ahead of the new year, the Benton County Board of Commissioners got another update from the Benton County Trash Talks workgroup during their meeting on Tuesday, Dec. 20.

Letter: Four years before landfill is full

Gazette Times, Jan. 11, 2023**.** Benton and Linn counties dump only 15% of the trash in our landfill, while the rest of the waste comes from elsewhere.

COUNTY MULLS CHANGING CONSTRUCTION RULES, TRASH TALKS WORKGROUP RELEASED ONE DRAFT, WORKS ON ANOTHER

Corvallis Advocate, Jan. 18, 2023. **New Construction Rules Changes:** Benton County Board of Commissioners were given an update on proposed changes to the current development code for stormwater management.at their Jan. 17 meeting.

Trash Talks: Benton County Board of Commissioners was also given a project status update from the Benton County Trash Talks work group at the Jan. 17 meeting ahead of the release of the second draft for the project.

Benton dump findings take shape

Democrat Herald, Jan. 26, 2023. A task force charged in part with deciding the fate of Coffin Butte landfill has sent its draft findings to the committees that will oversee the dump owner's next effort to expand.

Letter: Republic will make billions, walk away

Democrat Herald, Feb. 3, 2023. I'm very disappointed that two very outspoken community members were kicked off the Benton County Talks Trash committee and were replaced with pro-Republic Services members!

Trash Talks: The Advocate, Feb. 8, 2023. The Benton County Solid Waste Workgroup has several upcoming meetings that they want the public to be aware of. The next work group meeting will take place on Feb. 23 prior to the next draft report release.

Corvallis to negotiate new trash agreement with Republic Services

Gazette Times, Feb. 16, 2023. Corvallis officials are slated to discuss a trash deal at an upcoming meeting.

LANDFILL WORKGROUP WILL UPDATE COUNTY LEADERS TUESDAY, CITY MULLS SUPPORTIVE HOUSING POSITION MONDAY NIGHT, POLICE 101 SESSION COMING

Corvallis Advocate, Mar. 6, 2023. Trash Talk: The Benton County Talks Trash Work Group will be giving one of its final updates at the Benton County Board of Commissioners meeting on March 7.

Wyse Seeks Trash Talk Budget Clarity: Corvallis Advocate, Mar. 13, 2023. There were two agenda items for the Trash Talks workgroup at the March 7 Benton County Board of Commissioners meeting.

PUBLIC COMMENT DEADLINE APPROACHES ON LANDFILL, WYSE SEEKS TRASH TALK BUDGET CLARITY, COUNTY ENDORSES HOUSELESSNESS RELIEF PROJECT

Corvallis Advocate, Mar. 13, 2023. Talks Trash: It's the final days of the Benton County Talks Trash work group, they only have two more meetings on the books – and the online link for public comment expires March 20.

Benton County asks public to "talk trash" and future of solid waste

FlashAlert, Mar. 14, 2023. The Benton County Board of Commissioners is inviting community members to "talk trash" and learn more about the future of sustainable materials management, solid waste, and disposal in Benton County. (See also KMTR16, KEZI9).

Benton County seeking public input on sustainable waste disposal

KEZI, Mar. 14, 2023. Benton County's Board of Commissioners is seeking public input on future sustainable solid waste disposal management practices.

LANDFILL PROCESS NEARING END

Corvallis Advocate, Mar. 17, 2023. "It is important for Benton County to work with the broader community on a long-term strategy for solid waste and disposal," said Benton County Commissioner Pat Malone.

'Talk Trash' series continues with public comment opportunities

Philomath News, Mar. 21, 2023. The Benton County Board of Commissioners announced opportunities for the public to participate in its "Talk Trash" series, a program looking at the future of sustainable materials management, solid waste and disposal in Benton County. (See also: KEZI)

Benton County to advisers about landfill: Stop advising us

Gazette-Times, Mar. 21, 2023. Elected officials in Benton County have told the advisers appointed to guide county policy on land use and trash disposal not to have any more meetings about the Coffin Butte Landfill until further notice.

Benton County Board of Commissioners responds to petition regarding Coffin Butte landfill

KVAL-13, Mar. 22, 2023. Advocates have asked the Benton County Board of Commissioners to delay its consideration of any land use action at Coffin Butte landfill, until after the County has completed a sustainable materials management plan.

Benton County Board of Commissioners response to community petition regarding Coffin Butte landfill

FlashAlert, Mar. 22, 2023. The Benton County Board of Commissioners is aware that advocates are circulating a petition asking the Board to delay its consideration of any land use action at Coffin Butte landfill until after the County has completed a sustainable materials management plan.

Benton County Commissioners respond to landfill concerns

KEZI-9, Mar. 27, 2023. In response to an upwelling of concern from some Benton County residents about the future of Coffin Butte landfill, the Benton County Board of Commissioners is clarifying its stance on the issue. (See also: Corvallis Advocate)

GOVERNMENT: WORKGROUP HAS NO OPINION ON LANDFILL EXPANSION

Corvallis Advocate, Mar. 29, 2023. The Benton County Trash Talks Solid Waste Workgroup will be hosting an open house on April 4.

Benton County Solid Waste Process Workgroup open house invites community members to "Talk Trash"

FlashAlert, Mar. 30, 2023. Benton County is inviting the public to an open house on April 4 from 5 to 7 p.m. at the Kalapuya Building in Corvallis hosted by the Benton County Talks Trash Solid Waste Process Workgroup. (Also, in Spanish)

Coffin Butte landfill in Benton County is filling up

KEZI-9, Mar. 30, 2023. Officials and members of the public in the Corvallis have concerns over the Coffin Butte landfill reaching capacity.

Solid Waste Process Workgroup talks trash at community open house

FlashAlert, Apr. 5, 2023. The Benton County “Talks Trash” Solid Waste Process Workgroup hosted a community open house, April 4 at the Kalapuya Building in Corvallis.

4. Advertising

Print & Digital: The Advocate and the Gazette-Times, BCTT Survey #1, open house, and important dates (Feb. 28 – Apr. 4)
Radio: Bicoastal Radio (KORCC) Survey #1, open house, and important dates (Mar. 21 – Apr. 3)
Television: KEZI BCTT Survey #1, open house, and important dates (Mar. 21 – Apr. 3)

Benton County Solid Waste Process Workgroup - Outreach Analysis

Benton County

Facebook reach = the # of unique users who saw your content.

Twitter impression = the # of times a tweet shows up in somebody's timeline.

Instagram reach = the # of unique accounts that have seen your post or story.

Nextdoor reach = the # of unique views, opens and clicks of the post in the

E-news reach = the # of users that opened the email.

Email reach = the # of users that opened the email.

Email	**August 11, 2022:**											
Benton County workgroup talking trash & the future of solid waste											Constant Contact Emails	
											Reach	3,666
Post	**August 12, 2022:**											
The #BentonCountyBoardOfCommissioners want you to help "talk trash" this fall by participating	Facebook		Twitter		Instagram		Nextdoor					
	Reach	155	Impressions	143	Reach	231	Reach	1,562				
							Benton County Talks Trash workgroup scheduled to address future of solid waste!					
E-news	**September 6, 2022:**											
Benton County News - September 2022: Talking Trash									E-news			
									Reach	4,783		
Post	**September 9, 2022:**											
The "Benton County Talks Trash" workgroup officially kicked off yesterday	Facebook		Twitter		Instagram		Nextdoor					
	Reach	411	Impressions	266	Reach	480	Reach	1,630				
							Benton County workgroup talking trash and the future of solid waste.					
Email	**September 12, 2022:**											
Benton County workgroup talking trash & the future of											Constant Contact Emails	
											Reach	3,564
Email	**September 15, 2022:**											
Solid Waste Workgroup Meeting, Sept. 15											Constant Contact Emails	
											Reach	119
Post	**September 15, 2022:**											
The #BentonCountySolidWasteWor	Facebook post		Twitter		Instagram							
	Reach	561	Impressions	126	Reach	219						
Event post	**September 15, 2022:**											
Neighorhood Tour	Facebook event						Nextdoor event					
	Reach	79					Reach		unable to capture			
Internal newsletter	**September 20, 2022:**											
This month, I would like to let you know about a new									Internal newsletter			
									Reach	156		
Email	**September 20, 2022:**											
Landfill and neighborhood tours scheduled											Constant Contact Emails	
											Reach	118
Email	**September 22, 2022:**											
Solid Waste Workgroup Meeting, "Benton County Talks											Constant Contact Emails	
											Reach	102
Post	**September 22, 2022:**											
The Benton County Talks Trash Solid Waste Process	Facebook post		Twitter		Instagram							
	Reach	1,226	Impressions	151	Reach	158						
Email	**September 28, 2022:**											
Neighborhood tour update											Constant Contact Emails	
											Reach	109
Email	**September 29, 2022:**											
Tour the Neighborhoods that											Constant Contact Emails	
											Reach	100
surround the Coffin Butte												
Event post	**October 1, 2022:**											
Neighorhood Tour	Facebook event						Nextdoor event					
	Reach	313					Reach		unable to capture			
E-news	**October 5, 2022:**											
Benton County News - October 2022: Solid Waste Process Workgroup tours Coffin Butte							Nextdoor		E-news			
							Reach	4,503	Reach	4,638		
Post	**October 5, 2022:**											
ICYMI the Solid Waste Process Workgroup is holding meeting #3 tomorrow from 3-7pm.	Facebook		Twitter		Instagram							
	Reach	2	Impressions	139	Reach	161						
	n/a Facebook error											
Email	**October 5, 2022:**											
Reminder - Solid Waste Workgroup Meeting, "Benton											Constant Contact Emails	
											Reach	111
Event post	**October 6, 2022:**											
Solid Waste Process Workgroup Meeting #3	Facebook event						Nextdoor event					
	Reach	164					Reach		unable to capture			
Email	**October 20, 2022:**											
Solid Waste Process Workgroup Meeting, "Benton											Constant Contact Emails	
											Reach	108
Email	**October 21, 2022:**											
Solid Waste Process Workgroup Subcommittee											Constant Contact Emails	
											Reach	115
Email	**October 25, 2022:**											
REMINDER: Solid Waste Process Workgroup Meeting -											Constant Contact Emails	
											Reach	111
Post	**October 25, 2022:**											
Attend the Solid Waste Process Workgroup meeting #4 this	Facebook		Twitter		Instagram							
	Reach	778	Impressions	122	Reach	130						
Event post	**October 27, 2022:**											
Solid Waste Process Workgroup Meeting #4	Facebook event						Nextdoor event					
	Reach	183					Reach		unable to capture			
E-news	**November 1, 2022:**											
Benton County News - November 2022: Solid Waste							Nextdoor		E-news			
							Reach	5,054	Reach	3,732		
Email	**November 1, 2022:**											
CANCELLED: Solid Waste Process Workgroup Meeting -											Constant Contact Emails	
											Reach	115
Email	**November 10, 2022:**											
Open House at the next Solid Waste Process Workgroup											Constant Contact Emails	
											Reach	3,516
Event post	**November 14, 2022:**											
Solid Waste Process Workgroup Meeting #5	Facebook event						Nextdoor event					
	Reach	220					Reach		unable to capture			
Email	**November 15, 2022:**											
REMINDER: Solid Waste											Constant Contact Emails	

Process Workgroup Meeting &
E-news
Benton County News -
December 2022: Upcoming
Email
Solid Waste Process
Workgroup Meeting - Dec. 15
Event post
Solid Waste Process
Workgroup Meeting #6
Post
Attend the Solid Waste Process
Workgroup meeting #6 this
Email
REMINDER: Solid Waste
Process Workgroup Meeting -
Benton County Solid Waste Process Workgroup totals:

December 6, 2022:

Nextdoor		E-news	
Reach	4,256	Reach	4,215

December 7, 2022:

Constant Contact Emails	
Reach	105

December 7, 2022:

Facebook event	
Reach	213

Nextdoor event	
Reach	unable to capture

December 12, 2022:

Facebook		Twitter		Instagram	
Reach	103	Impressions	142	Reach	179

December 13, 2022:

Constant Contact Emails	
Reach	109

Facebook		Twitter		Instagram		Nextdoor		E-news		Constant Contact Emails	
Reach total	4,408	Reach total	1,089	Reach total	1,558	Reach total	17,005	Reach total	17,524	Reach total	12,171
Follwers total	5,899	Follwers total	3,079	Follwers total	2,087	Follwers total	21,922	Subscribers total	6,959	Subscribers total	6,959

Total Reach =
***Total Followers =** 39,946 *as of 12/31/22

Web visits		Media advisories	
SWPW page views	1,084	Page views	437
Ave. time on page:	4:07		
Subcommittee page views	1,276		
Meeting links views	558		

Benton County Solid Waste Process Workgroup outreach

REACH:

- The greatest reach was through the County's E-newsletter and Nextdoor (ND) platforms, which also have the most followers/subscribers. The next greatest reach is through email subscriptions, followed by Facebook (FB), Instagram (IG), and Twitter (TW) channels.
- The County's total reach surpassed it's total number of followers/subscribers.

ENGAGEMENT:

- The County received a 3.5% overall engagement rate. 2022 industry standards for E-newsletters = 1%, ND = 0.45-0.55%, Email subscriptions = 1%, FB = 0.064%, IG = 0.67%, TW = 0.037%.
- Direct engagement rates: E-newsletter = 5%, ND = 0.09, Email subscriptions = 5.6%, FB = 2.9%, IG = 2.5%, TW = 1.5%. With the exception of ND, all of the engagement rates are higher than industry standards.

VIII. Member Process Evaluation Summary

Member Process Evaluation Summary

The member process survey concluded on April 10, 2023, at 5:00 PM. Nine "polling" Workgroup Members completed the survey. Here are five of the 13 results that speak to the overall process. The survey also included five open-ended questions asking about significant process challenges, achievements, advice for future processes, etc. The complete results can be found in Appendix F, and readers are encouraged to review them in their entirety and form their own conclusions.

Quality of the Findings

Dissatisfied	SMWHT Dissatisfied	Neutral	SMWHT Satisfied	Satisfied
0	0	0	5	3

One Abstained

Quality of the Recommendations

Dissatisfied	SMWHT Dissatisfied	Neutral	SMWHT Satisfied	Satisfied
0	0	0	6	2

One Abstained

Overall Results

Much Worse	Worse	Neutral	Better	Much Better
1	1	1	3	3

Impact on Relationships

Worsened	SMWHT Worsened	Neutral	SMWHT Improved	Improved
0	0	1	0	7

One Abstained

BCTT Process

Dissatisfied	SMWHT Dissatisfied	Neutral	SMWHT Satisfied	Satisfied
1	1	0	0	7

IX. Appendices – Table of Contents

A. **Meeting Summaries and Open House Topics**

B. **Final Poling Results**

1. **Draft #6 Language Final Polling Result – Grouped by F&Rs**
2. **Final Polling Numbers by Member – Grouped by F&R**
3. **Rev Transcripts for M10 and M11 (Formal Polling Meetings)**

C. **Subcommittee Reports**

1. Sustainable Materials Management Plan (SMMP)
2. Landfill Size/Capacity/Longevity
3. Legal Issues & Land Use Review
4. Past Land Use Application Conditions
5. Community Education & Outreach

D. **Draft #3 Feedback from the Planning Commission and SWAC/DSAC**

E. **Public Survey Results**

F. **Member Survey Results – Review of the Project Process**

G. **County Counsel Email Exchange**

Appendix A: Meeting Summaries and Open House Topics

MEETING ONE: 09/08/2022

1. **Main Topics**

   - Welcome & Introductions
   - Participant Meeting Instructions
   - Participant Commitments
   - How We Got Here
   - Review Major Charter Sections:
   - Collaboration 101 Training
   - Public Comment
   - Triage Charge Elements
   - Draft Report Structure Explore Common Understandings Section
   - Mechanics: Add Representative Table
   - Next Steps

2. **Materials Presented**

   - Agenda
   - Assessment
   - Facilitator Observations
   - Charter
   - PowerPoint
   - Survey Summary
   - First Draft of Report

3. **Workgroup Discussion**

   The workgroup reviewed the major Charter sections: these were the general scope, charge elements, guiding principles, how polling works, and the "one table" concept. The workgroup triaged the draft report structure, exploring the Common Understandings section. The major themes were refining the list of missing topics/questions, providing additional information where needed, and commenting on the next draft. When discussing the mechanics of the workgroup, the central topics were establishing meeting times, and scheduling suggestions for the landfill and neighborhood tours.

   For the complete Workgroup discussion, please review the 09/08/2022 Meeting Minutes HERE.

   The Zoom video recording is available HERE.

4. **Action Items**

   Members were given the Meeting One Evaluation link. Homework for the next meeting included providing information on member alternates and submitting any final topics and/or questions with supporting materials.

   The County agreed to work on increasing project visibility and public information and expanding the interested party list in the making with those that were on the CUP process list.

5. **Public Comment**

   Themes from Public Comments:

   a) Mountain of garbage. Need to keep existing capacity in mind and what this means for the County.
   b) Only 7% of waste comes from Benton County and should not be dumping ground for others.
   c) Process should focus more on SMMP – not a CUP application.
   d) Once a cutting-edge facility; now never-ending community problem.
   e) Coffin Butte a tragedy of commons; make those furthest away pay more.
   f) Future-orientated focus removed from the Charter – focus on more than landfilling.
   g) Consider options for harvesting energy from the landfill.
   h) He workgroup is in a unique position regarding common understandings. The workgroup should get the facts and work hard to develop common understandings. This could be a worthy outcome in and of itself.

MEETING TWO: 09/15/2022

1. **Main Topics**

   - Welcome & New Member Introductions
   - Participant Meeting Instructions
   - Participant Commitments
   - Approve Draft Minutes from Meeting One
   - Public Comment
   - Meeting One Evaluation Highlights
   - Homework Highlights
   - Explore Common Understandings & Refine List of Missing Topics/Questions
   - Discuss SWMP Table of Contents Concept
   - Triage Charge Elements/Workplan
   - Next Steps

2. **Materials Presented**

   - Agenda
   - Draft 9/8/22 Minuets
   - Comments
   - Meeting One Evaluation
   - Homework Summary
   - Common Understandings Table of Contents
   - SWMP Table of Contents

3. **Workgroup Discussion**

   Sam shared the results and explained how the evaluations and homework answers are compiled. Amelia pulls comments from SurveyMonkey and formats it for ease of review. The workgroup then had a brief discussion about fairness and balance. Important themes from exploring the Common Understandings Section and the SWMP include emphasizing that the workgroup's current purpose is to grow a full list of topics (not to finetune or get precise placement), brainstorming different areas of questioning. The

workgroup then triaged the Charge Elements/Workplan. The overarching theme was flushing out what the workgroup has the ability and resources to do.

For the complete Workgroup discussion, please review the 09/15/2022 Meeting Minutes HERE.

The Zoom video recording is available HERE.

4. **Action Items**

Members were given the Meeting Two Evaluation link, and tour updates were given. Homework for the next meeting included members track changing the Charge Common Understandings and SMMP Table of Contents with any topics/questions they think are missing.

5. **Public Comment**

- Paul Nietfeld (engineer and resident living between Corvallis city limits and the landfill): Issues: Historic intake for coffin butte. Shows a graph with landfill input and a table with projections for landfill life, including Cell 6. Quarry challenge. Shared a desire to document intake, life, and quarry in a final report.
- Sam's shared an example about assumptions used by different parties and the need to test them collaboratively. The use of sensitivity analyses.
- Ryan McAlister adds that life events make landfill input ebb and flow.
- Chuck Gilbert: Referenced the memo submitted on sustainability & looking at the landfill as a resource and encouraged the members to read it.
- Ken Ekland: Followed up on Paul's presentation. He had concerns about volume numbers in the report/document being incorrect, so the lifespan Paul predicted may be too generous. Shared comments on the history of the Solid Waste Advisory Council (SWAC) and the Disposal Site Advisory Committee (DSAC.)
- Brian Fuller also shared comments on the topic of comparing the different assumptions and metrics used by different groups.
- A subcommittee should be set up so people from different groups can discuss these assumptions and then present them together to the workgroup. Sam also encourages people to send in additional written comments on these topics.

MEETING THREE: 10/06/2022

1. **Main Topics**

- Welcome & New Member Introductions
- Review Participant Meeting Instructions & Agenda
- BOC Presentation
- Approve Draft Minutes: Last Meeting & Tours
- Landfill Tour Questions
- Public Comment
- Comments on Meeting Two Evaluation Suggestions
- Discuss County Counsel Deference Memo & Set Stage for Legal Subcommittee
- Check-in Activity
- Big Picture Discussion
- Stand-Up the Subcommittees

- Review Amended Workplan
- Next Steps

2. Materials Presented

- Agenda
- Draft 9/15/2022 Minutes
- Landfill Tour Minutes & Landfill Tour Questions
- Neighborhood Tour Minutes & Neighborhood Tour Questions
- Meeting Two Evaluation
- Email Attachment Comments
- County Council Deference Memo
- Common Understandings Table of Contents with Track Changes
- SWMP Table of Contents with Track Changes
- CUP Conditions with Track Changes
- Member Memo
- Republic Memo: Section 2 C and Section 3
- Charge C
- Charge B

3. Workgroup Discussion

The workgroup discussed what to do with the mass number of emails that get sent between meetings. Between meeting one and two it was roughly 1,600 emails. Many of these emails focused on understanding Charge b, so a legal subcommittee to present to the group on what the law was proposed. The big picture process discussion emphasized that the workgroup is engaging in a bridge process that will set the stage for subsequent processes and decisions. The subcommittees to stand up are as follows:

- Landfill Size/Capacity/Longevity Subcommittee (Existing)
- CUP Conditions Subcommittee (Existing)
- Law Subcommittee (Pending)
    i. Land Use Law 101
    ii. Deference Memos
    iii. Rights and Obligations
    iv. Entity Rights and Obligations
    v. Reporting Requirements
- Potential SWMP Subcommittee and Potential Amendment Request to BOC

For the complete Workgroup discussion, please review the 10/06/2022 Meeting Minutes HERE.

The Zoom video recording is available HERE.

4. Action Items

Members were given the Meeting Three Evaluation link. The facilitation team will schedule and conduct the subcommittee meetings before the next workgroup meeting. County staff will organize and add additional materials to the discussed documents and present them to the workgroup at the next meeting. Republic also committed to responding to tour questions for the subcommittees to review.

5. Public Comment

- Audrey Sterling (Community Member): Reflects that the talk in the community focuses on the idea that the landfill is full and what to do with the trash. They need to find a place for it, so the landfill does not overflow.
- Kristen Mitchell (Executive Director of Oregon Refuse & Recycling): Explains what her company does, noting that Coffin Bute is in very good standing. She also notes that because Senate Bill 882 was passed, RMA should come into effect soon
- Chris Reese (Community Member and Small Business Owner): Expresses appreciation for the work Republic does at Coffin Bute and notes he does not want small businesses to be forced to pay garbage trucks to haul longer distances.
- Chuck Gilbert (Community Member): Comments on how the landfill and rock removal are both valuable resources.
- Jennifer Holworth (Community Member): Reflects positively on Republic's compost and recycling programs.

MEETING FOUR: 10/27/2022

1. **Main Topics**

   - Welcome & New Member Introductions
   - Review Participant Meeting Instructions & Agenda
   - Approve M3 Draft Minutes
   - BOC Action on Updated Workplan
   - Public Comment
   - Update on Tour Questions & Answers
   - SMMO Values & Goals Discussion
   - Q&A Session with Representatives from other Counties
   - Subcommittee Reports
   - Next Steps

2. **Materials Presented**

   - Agenda
   - Draft M3 Minutes
   - M3 Evaluation Summary
   - Updated Workplan
   - Public Comments Document
   - Member Comments Document
   - BCTT Tour Questions 10/25
   - SMMP Values & Goals Presentation: 2040 Initiative History & Overview
   - Charge C
   - A.1 Subcommittee Report
   - A.2 Subcommittee Webpage
   - A.3 Subcommittee Webpage
   - C.1. Subcommittee Report

3. **Workgroup Discussion**

   The Facilitator reviewed the agenda, M3 Minutes, and updated workplan. The minutes were approved and the only significant change to the BOC Action and Workplan was more time was added between the Workgroup meetings, so there is time for

subcommittees to meet. After the public comment, the group went over the updated Tour Questions - Joel requested they be changed so it does not appear that the neighborhood leadership neglected to respond to Republic tour questions. Sean then presented on the SMMP Values & Goals with coverage of the 2040 Initiative, including History & Overview. Daniel had previously reached out to other Counties so they could talk about the issues/topics they have been dealing with. Key takeaways from this discussion:

1. Public engagement is critical, especially with the SWMP or SMMP.
2. Subcommittees can be very effective
3. The Recycling Modernization Act should be front and center
4. They should consider different housing types. EX: Multi-family homes have different recycling resources. How can you still support these homes?
5. Remember that solid waste is a transportation issue.
6. Keep in mind changing technologies (EX: JUNO)
7. Recycling is vital to the transient community. It is an equity issue.

Subcommittee reports were given to the group and there was discussion on ways to improve their action plans.

For the complete Workgroup discussion, please review the 10/27/2022 Meeting Minutes HERE.

The Zoom video recording is available HERE.

4. Action Items

Members were given the Meeting Four Evaluation link. The facilitation team will continue scheduling and conducting the subcommittee meetings with County staff. The discussion of applying Values to the CUP will be added to the agenda for the next applicable meeting. Staff and the Facilitation team will plan and communicate to members the plans for the Open House element of Workgroup Meeting Five.

5. Public Comment

- Doug Pollock (neighbor of the landfill, engineer, and parent): He explained how he documented that inkjet cartridges being sent to the landfill from HP were leaking ink into the landfill as they were crushed by landfill equipment. In response he helped develop a recyclable ink cartridges program which processed 200 tons of cartridges in its first year, half of that being ink. He also discussed how Corvallis public schools have been resistant to recycling and continue to put hazardous materials such as fluorescent tubes and epoxy into bins going to the landfill. Essentially, there is no audit of what is going into the landfill. He also emphasized that these consensus processes are hard for the real public to get involved with and be heard. He said these processes tend to favor process insiders more than the public.
- Debbie Palmer (resident) 11/16/22 Submittal: [She] expressed her opinion that the facilitator misrepresented the neighbors as wanting to close the landfill as soon as possible. She elaborated that the neighbors just want it to stop expanding, and that the County should take the estimated 10-15 years of landfill life left via already-permitted airspace to plan for post-closure waste management. She also noted the difference between intentionally-sited and accidentally-sited landfills, pointing out that Coffin Butte is an accidentally-sited one, and commented that since Republic

Services profits substantially from landfilling garbage, they have no incentive to pursue alternatives to landfilling. She summarized that she felt everyone wants to do something to combat the climate crisis, and that working towards eventual closure of the landfill would help.

- Linda Brewer (resident, soil scientist, and ten-year member of SWAC): stated that, in her opinion, Republic is doing a good job managing the landfill. She also noted that the Benton County trash rate has been held artificially low.
- Pat Schwartz (resident): expressed the belief that the Republic is an important part of the community.
- Cat Newsheller (resident): expressed the belief that Republic is simply trying a new tactic to get what they want – expanding the landfill and taking in more trash. She feels that Republic should not be making money off people's health, and if the County lets them expand, they will become out of control. She also shared personal experiences concerning the traffic and debris on HWY 99 from landfill trucks.
- Dale Elizabeth Draeger (resident): explained that they recently visited the landfill and were concerned that people were throwing away recyclable materials like metal. Republic should have someone to monitor the sorting.
- Pat Hare (City Manager of Adair Village): Pat reflected on their positive experiences working with Republic and noted that they are a large employer in the community. He also notes that when the cost to get rid of trash increases, more trash ends up on the street.
- James Rodell (resident, but not close to the landfill): He would like clear and transparent communication on whether Republic broke certain agreements and the consequences.

MEETING FIVE: 11/17/2022

1. **Main Topics**

   - Welcome
   - Review Participant Meeting Instructions & Agenda
   - Approve M4 Draft Minutes
   - Approve Updated Tour Q&A
   - Updated Workplan Facilitator 11/16/22
   - Public Comment
   - Subcommittee Reports
   - Reintroduce Charges D & E
   - Next Steps
   - Open House

2. **Materials Presented**

   - Agenda
   - Draft M4 Minutes
   - M4 Evaluation
   - Tour Q&A Final Version
   - Updated Workplan
   - Public Comments
   - Public & Member Comments (passcode: Benton1!)

- A.1. Subcommittee Report
- A.2. Subcommittee Homepage
- A.3. & B.1. Subcommittee Homepage
- C.1. Subcommittee Report

3. Workgroup Discussion

Joel Geier introduces a motion to revise the M4 notes as per the recent email exchange, which Ed Pitera seconds. Ed also suggests alternative ideas like using a transcript. Sam holds a quick poll on the original motion: Substituting the language that Joel Geier presented in place of the existing Doug Pollock comments in the Public Comments section of the Meeting 4 Minutes. (See Polling Issue 1, below, and 07:53 – 10:00 of meeting recording). Sam responds to the alternative ideas raised by Ed and suggests that people can bring in written statements if they would like or send in a written statement the next week to encapsulate the comment they made at the Workgroup. This is viewed favorably by the workgroup. Daniel explains how the comments are currently accessible on the meeting agendas via FTP's, and the Tour Q&A and Project Workplan updates are approved.

Subcommittee reports were given to the group and there was discussion on ways to improve their action plans.

For the complete Workgroup discussion, please review the 11/17/2022 Meeting Minutes HERE.

The Zoom video recording is available HERE.

4. Action Items

Members were given the Meeting Five Evaluation link. The facilitation team will continue scheduling and conducting the subcommittee meetings with County staff, and subcommittee E will be formed and begin meeting. Notes created from the open house will be prepared for presentation at the next meeting.

Polling Issue 1: Substituting the language that Joel Geier presented for Doug Pollock's current comments in the Public Comments section of the Meeting 4 Minutes.

WORKGROUP Member	Polling	Charge	Not Here	Abstain	Yes	No
Joel Geier	X	All			X	
Marge Popp	X	All		X		
Elizabeth Irish	X	All		X		
Russ Knocke	X	All but C			X	
Shawn Edmonds	X	All but C		X		
John Deuel	X	All			X	
Kathryn Duvall	X	All	X			

Christopher McMorran	X	All	X			
Ryan McAlister	X	All			X	
Mary Parmigiani	X	All			X	
Ed Pitera	X	All			X	
Louisa Shelby	X	All			X	
Catherine Biscoe	X	All	X			
Polling Totals:				**3**	**7**	**0**
EX-Officio	**Polling**	**Charge**	**Not Here**	**Abstain**	**Yes**	**No**
Brian Fuller				X		
Brian May			X			
Shane Sanderson				X		
County	**Polling**	**Charge**	**Not Here**	**Abstain**	**Yes**	**No**
Daniel Redick					X	
Sean McGuire				X		
Ex-Officio Totals:				**3**	**1**	**0**
Grand Totals:				**6**	**8**	**0**

RESULT: Consensus / No Consensus

Facilitator counts a Majority, so the group is going to move forward with making the changes.

Minority Proposal: None

5. **Public Comment**

- Schmidt Pathman: His company promotes research on Solid Waste Management and partners with universities, national, and international organizations. Some of their concerns about landfills are: 1) the underestimation of methane produced by landfills and lessoning organic materials thrown away, and 2) lessening cross contamination of recyclable materials, which can be better achieved with the sorting system they have designed. (Pending receipt (full statement) by speaker to be placed in Appendix A of Meeting Minutes.)
- Debbie Palmer: Notes that the link to the FTP links is only good for a month. She also notes that she likes the need for fidelity between the oral and written public comments.
- Daniel: Explains that, yes, the links need to be reset each month. However, they will ensure the links are always updated and available.

- Dr. Skip Rochefort: (Associate Professor of Chemical Engineering at Oregon State University) He presents a recorded lecture/slideshow on how they have created a way to create diesel fuel from plastics using only heat. (See Appendix B of Meeting Minutes for slideshow).

MEETING SIX: 12/15/2022

1. **Main Topics**

   - Welcome & New Member Introduction
   - Review Agenda
   - Member Shares Original Document
   - Public Comment
   - Subcommittees A.1. & E.1. Report
   - Review & Approve M5 Minutes & Evaluation Summary
   - Discuss Consultant/Attorney for Next CUP
   - Subcommittee A.2 Report and A.3 B.1 Report
   - Introduce & Approve Third Attorney with Poll
   - Subcommittee C.1. Reports
   - Updated Project Workplan
   - Next steps

2. **Materials Presented**

   - Working M6 Agenda
   - Draft M5 Minutes and Open House Notes
   - M5 Evaluations
   - Comments
   - Topic A.1. Landfill Capacity/Longevity
   - E.1 Community Education
   - Topic A.2. Past CUP Conditions
   - A.3. Legal Issues and Topic B.1. Land Use Review
   - Legal Subcommittee PPT
   - Legal Subcommittee Statement
   - Virginia Gustafson Lucker Resume
   - C.1. SMMP
   - BCTT Draft Workplan Gantt Chart
   - BCTT Draft Workplan Calendar

3. **Workgroup Discussion**

   For the complete Workgroup discussion, please review the 12/15/2022 Meeting Minutes HERE. The meeting recording can be found HERE.

4. **Action Items**

   Members were given the Meeting Six Evaluation link. The facilitation team will continue scheduling and conducting the subcommittee meetings with County staff, an Informal Member Survey will be sent out for Members to complete over the holiday, and facilitation staff will begin drafting the first draft of the final report.

Polling Issue 1: Virginia (Ginny) Lucker will join the Legal Subcommitee to serve as the neutral "third leg of the stool."

WORKGROUP Member	Polling	Charge	Not Here	Abstain	1	2	3
Chuck Gilbert	X	All			X		
Marge Popp	X	All	X				
Elizabeth Irish	X	All			X		
Russ Knocke	X	All but C				X	
Shawn Edmonds	X	All but C				X	
John Deuel	X	All			X		
Kathryn Duvall	X	All			X		
Christopher McMorran	X	All	X				
Ryan McAlister	X	All	X				
Mary Parmigiani	X	All			X		
Ed Pitera	X	All			X		
Louisa Shelby	X	All			X		
Catherine Biscoe	X	All			X		
Polling Totals:				**3**	**8**	**0**	**0**
EX-Officio	**Polling**	**Charge**	**Not Here**	**Abstain**	**1**	**2**	**3**
Brian Fuller					X		
Brian May					X		
Shane Sanderson					X		
County	**Polling**	**Charge**	**Not Here**	**Abstain**	**1**	**2**	**3**
Daniel Redick					X		
Sean McGuire					X		
Ex-Officio Totals:			**0**	**0**	**5**	**0**	**0**
Grand Totals:			**3**	**0**	**13**	**2**	**0**

RESULT: **Consensus** / No Consensus

Minority Proposal: None

5. **Public Comment**

- Camille Hall: (Resident) She is sad that the Board chose to remove Nancy, and now, Joel. These members have unique experiences and knowledge that was valuable. The County currently does not have a process to deal with the tons of trash that go into the landfill. She understands that the two removed people had complained about the facilitator and commissioners and is saddened they chose to remove them.
- Debbie Palmer: (Resident) Question: Who, in the end, will be writing the SMMP? Who will write the RFP? Darren: Answering - He does not know for sure, but staff will put together a draft RFP to hire the consultant. They may ask the Board and maybe some Subcommittees / WG if appropriate. They are looking at other counties' successful plans, and they are invested in getting it right.
- Tom Hewes: (Resident since 1974.) He seconds Camille's statement and is also extremely disappointed in the facilitator and the County for removing the two members. Question - How does having the second biggest landfill on OR align with the Country's values?
- Kate Harris: (Lives in Soap Creek and kids go to school in Adair Village) Thanks the group for being here. Explains that the Adair Village water source is in an area that gets contaminated by the landfill. The contaminants go to the Corvallis treatment plant, but how do we know the water from the park is getting cleaned for all the things? What is the filtration process? We know fires at the landfill, earthquakes, even air quality is starting to be tracked, but water is a big issue too. She hopes the focus can be on minimizing the landfill need. How can we move landfill storage to drier climates, so they are not so hazardous?
- Ron Thompson: (From Newport and is a third-generation garbage disposal business.) Wants to share his concerns if Coffin Butte were to close. It is expensive to haul stuff farther away, more emissions from trucks, and more wear on roads. They also had rates go way up when their local landfill closed, and as they already have a notable dumping problem, raising rates so people cannot afford it would make things worse. He would love to recycle everything, but landfills are an important and needed tool.
- Marge Popp: (Workgroup Member) She is also disappointed that Nancy and Joel were removed. They were hardworking and knowledgeable - and while they could challenge authority, she wishes that their positive qualities could have been more prioritized.
- Brain Fuller: (DEQ Workgroup Member) lets folks know he is retiring from DEQ, and that Audrey O'Brien will be replacing him. Audrey then introduced herself and shared some of her background at DEQ.

MEETING SEVEN: 1/19/2023

1. **Main Topics**

- Welcome
- Review Agenda
- Approve Draft M6 Minutes
- M6 Meeting Evaluation Summary
- Workgroup Report D2 Overview
- Comment Period
- Subcommittee Reports and Member Feedback:

- Topic E. Community Education
- Topic C.1. SMMP
- Topic A.2. Past CUP Conditions (~35 mins)
- Topic A.3. Legal Issues and Topic B.1. Land Use Review (~35 mins)
- Topic A.1. Landfill Capacity/Longevity (~40 mins)

6. **Materials Presented**

- BCTT Meeting 6 Evaluation Summary
- BCTT Key Dates 1/13/23 version
- BCTT Final Report Draft 2
- Memo to BCTT Regarding Consultant Selection Processes

3. **Workgroup Discussion**

For the complete Workgroup discussion, please review the 1/19/2023 Meeting Minutes HERE. The meeting recording is not available as that is the day that the Zoom meeting was hacked.

7. **Action Items**
None

5. **Public Comment**

No comments in the room or on Zoom.

MEETING EIGHT: 2/23/2023

1. **Main Topics**

- Welcome
- Review Agenda
- Approve Draft M7 Minutes
- Updated Workplan
- Introduce Key Findings and Key Recommendations (FRs) Crosswalk Document
- Review Tonight's Feedback Plan
  - Member FRs Feedback Session 1
  - Member FRs Feedback Session 2
  - Member FRs Feedback Session 3

2. **Materials Presented**

- BCTT Draft Workplan Calendar Update
- Draft 4 Findings and Recommendations
- Crosswalk – Draft 4 Findings and Recommendations

3. **Workgroup Discussion**

For the complete Workgroup discussion, please review the 12/15/2022 Meeting Minutes HERE. The meeting recording can be found HERE.

4. **Action Items**

Sam uses the last few minutes to walk through the calendar and next steps and add clarification for how 1-2-3 polling functions. He also notes that workgroup each member gets to make their own personal statement that goes into the final report.

There is an issue with one of the new BCTT calendar date being the same day as a sustainability event, so County will have to look at a new date.

5. Public Comment

- Bill Gellatly – (resident and mechanical engineer): Encouraged the group to consider key questions about the landfill, such as has there been a supplier analysis done if this site was a brand-new start-up, and has Republic been asked about long-term technology plans and getting recycling back to the people making the materials? (Bill Gellatly provided a copy of his statement, so please see Appendix A for the full comment.)
- Paul Nietfeld – (resident and subcommittee member): He resigns from the sub due to how his wife, Nancy, was dismissed. He offered criticism of the facilitator, including statements about his unprofessional behavior and overall engagement. He notes that Nancy brought a lot of experience to the workgroup, and yet she was dismissed because of her hard work. (For the full statement, please see Appendix B and the meeting recording provided on the project website.)
- Chris Workmen – (Philomath city manager): He notes the Republic has an exclusive contract with the city of Philomath, and that they do great work. He encourages the County to continue to see Republic as a partner to continue working with for community development. He also notes some concerns about timing and the report coming out. It would be problematic if the County waits to decide on the expansion until all the research and discussion is done. All development has adverse impacts, but you try to mitigate them. It is harder to do this them just saying no, but it would help a lot of people. . (For the full statement, please see Appendix B and the meeting recording provided on the project website.)
- Joel Geier – (resident and former BCTT member): He is sorry to see Paul going and would like to thank him for his role and hard work. He has a few questions for Darren: What did he mean when he said “many important things are happening behind the scenes” at the Board of Commissioners meeting, and when is this BCTT finally going to finish? . (For the full statement, please see Appendix B and the meeting recording provided on the project website.)
- Debbie Palmer – (resident and public participant): There are so many things wrong she doesn’t know where to start. She says that, at some point, the polling members will be asked to poll on the whole document, and that there will be pressure for consensus. She feels the process has been disingenuous due to the 1-2-3 polling. While she doesn't know if the group will poll on sections of the final report or just the whole thing, she emphasizes that, if you don’t understand something, you are well within your rights to poll a 3. . (For the full statement, please see Appendix B and the meeting recording provided on the project website.)
- Linda J. Brewer – (certified soil scientist, works in waste management, served 10 years on SWAC, resident): She makes several points, including that functioning solid waste management is essential for a County to function, SWMS needed for a county to function, Republic has been a reliable partner to the County, and climates like

ours requires special needs that Republic has provided. She also notes that the BCTT moniker was a mistake because it gives a humorous and unprofessional impression. . (For the full statement, please see Appendix B and the meeting recording provided on the project website.)

- Bernie Cummings – (resident): He appreciates that everyone, to some extent, is coming together. The County and Republic seem to be coming to the table, and he hopes more people can come to the table to help move forward. After all, the County will not stop making trash anytime soon. . (For the full statement, please see Appendix B and the meeting recording provided on the project website.)

MEETING NINE: 3/16/2023

1. **Main Topics**
   - Welcome
   - Review Agenda
   - Approve Draft M8 Minutes
   - Updated Workplan
   - Introduce Key Findings and Key Recommendations (FRs) Crosswalk DOC
   - Review Tonight's Plan
   - Member FRs Feedback Session 1
   - Member FRs Feedback Session 2
   - Member FRs Feedback Session 3
   - Member FRs Feedback Session 4
   - Discuss: Final polling on Body of the WG Report, not on the Appendix. The Appendix SUB sections will be approved by the Subcommittees, but not the full Workgroup. While linked to the findings and recommendations for ease of reference, they are for background purposes only.
   - 1-2-3 Polling Refresher
2. **Materials Presented**
   - BCTT Workplan 3/14/23 Update
   - Consensus Polling Refresher
   - Draft 5 without Appendices
   - Final Draft Recommendations as of 3/15/23
   - Crosswalk 3/16/23
3. **Workgroup Discussion**
4. **Action Items**
5. **Public Comment**

   One person in the room and 5 on zoom.

   The meeting recording can be found HERE (Passcode: 4C#uq@%F). There are three, and their comments are as follows.
   6:00 – mayor of Albany Alexander D. Johnson II - his short comment to the public.

MEETING TEN: 3/23/23

1. **Main Topics**

- Welcome
- Public Polling Results
- Review Tonight's Polling Plan 1-2-3 Polling Refresher
- Explore the F&Rs with "3s"
- Board of Commissioners' Thank You!

2. **Materials Presented**

- Draft 6 with Revisions
- BCTT Public Survey – all data 3/22/23
- BCTT Public Survey – Q 46 Responses 3/22/23
- BCTT Public Survey – Q 58 Responses 3/22/23
- BCTT Public Survey – Q 77 Responses 3/22/23
- BCTT Public Survey – Q 92 Responses 3/22/23
- BCTT Public Survey – Q 93 Responses 3/22/23
- BCTT Public Survey – Summary of Responses 3/22/23

3. **Workgroup Discussion**
   The meeting recording can be found HERE.

4. **Action Items**

5. **Public Comment**

   This meeting allowed for two extended public comment periods. Thirteen during the first public comment period and nine during the second public comment period.

MEETING ELEVEN: 4/3/2023

1. **Main Topics**

- Welcome
- Public Polling Results
- Review Tonight's Polling Plan 1-2-3 Polling Refresher
- Explore the F&Rs with "3s"

2. **Materials Presented**

- BCTT Public Survey Results – 3/31/23
- Findings & Recommendations – Polling & Revision Document
- List of Findings & Recommendations to Review – 4/3/23
- SMMP F-1 Polling and Revision Document
- CUP R-1 – Polling and Revision Document
- LLU F-22 – Polling and Revision Document
- LSCL F-16 - Polling and Revision Document
- Finding and Recommendations – Polling & Revision Document Final
- Findings & Recommendations – Excerpt from BCTT Final Report Draft 6
- BCTT Draft Workplan Calendar – Update 3/29/23

3. **Workgroup Discussion**

4. **Public Comment**

OPEN HOUSE: 4/4/23

The Benton County "Talks Trash" Solid Waste Process Workgroup hosted a community open house, April 4, from 5:00 to 7 p.m. in the Holmes & Shipley Public Meeting Rooms and lobby, of the Kalapuya Building in Corvallis.

Some of the community members who volunteered thousands of hours working with County staff and key stakeholders to provide recommendations about the future of sustainable materials management, solid waste, and disposal in Benton County supported the event. There were four workgroup members, two subcommittee members, and seven county employees staffing the open house.

The open house provided a chance for the public to learn more from the workgroup and subcommittees at seven stations that focused on:

- Check-in and survey submittal
- History section
- Landfill Size/Capacity/Longevity
- Sustainable Materials Management Plan
- Past Land Use Application Conditions
- Legal Issues and B.1. Land Use Review
- Community Education

The goal of the open house was to be open and transparent with the community by engaging with community members who have diverse perspectives. At least 23 members of the public signed the attendance form and some attended who did not sign the attendance form.

Appendix B Final Polling Results

Appendix B1: Draft #6 Language Final Polling Results – Grouped by F&R

"Benton County Talks Trash" Workgroup
Findings & Recommendations – Polling and Revisions Document

Contents

Legend
SMMP FINDINGS
SMMP RECOMMENDATIONS
LSCL FINDINGS
LSCL RECOMMENDATIONS
LLU FINDINGS
LLU RECOMMENDATIONS
CUP FINDINGS
CUP RECOMMENDATIONS
CEO FINDINGS
CEO RECOMMENDATIONS

Legend

INFORMAL POLLING:
Green Shading = All 1s
Yellow Shading = Any 2s
Red Shading = Any 3s

FORMAL POLLING:
Pink Shading = Consensus (All 1s and 2s)
Dark Blue Shading = Majority-Minority in Favor (At least one 3)
Light Blue Shading = Majority-Minority Against (More 3s than combined 1s and 2s)

SMMP FINDINGS

The first Workgroup Polling numbers are from the informal poll. Subsequent polling was completed at the Workgroup meetings and are formal polling numbers.

SMMP F-1	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text Many Sustainable Materials Management Plans (SMMP) and related Request For Proposals (RFP)s have been formulated, executed, and are in use in Oregon and beyond.	11	1	0
Language Proposed by 3s			
Language Proposed by 2s Although, many SMMP's are in use in Oregon not all are equal. Some have landfills, other do not. Some have incinerators, others have none. Many have transfer stations, while some have few. Nonetheless, all SMMP's progress from a linear economy to a more robust circular economy sustained by a materials management plan. A linear economy is a traditional economic model in which resources are extracted, used to produce goods, and then disposed of as waste. In this model, resources are typically extracted from the environment, transformed into products, used by consumers, and then discarded as waste. A circular economy is an alternative economic model that aims to keep resources in use for as long as possible, minimizing waste and maximizing the value of resources. In a circular economy, resources are used, reused, and recycled in a closed-loop system, with minimal loss of materials and energy. This in turn should increase the service life an existing landfill. In a circular economy, products are designed with their entire lifecycle in mind, so that they can be easily disassembled, repaired, and recycled. Instead of being discarded after use, products are repurposed or remanufactured into new products or materials. A Sustainable Materials Management (SMM) plan is a comprehensive approach to managing materials in a way that reduces waste and maximizes the reuse, recycling, and recovery of valuable resources. The goal of an SMM plan is to create a more sustainable and efficient materials management system that conserves natural resources, reduces greenhouse gas emissions, and supports a circular economy.			

Alternative Language Submitted by Chuck Gilbert The overarching process of Benton County is the tenets and goals of sustainability in the 2040 Thriving Communities Initiative. Within the underpinnings are both the needed proposed Sustainable Materials Management Plan (SMMP) and the existing Solid Waste Management Plan (SWMP) of Benton County working shoulder to shoulder for a transition from a linear economy model of landfill waste disposal to a more robust circular economy model sustained by the SMMP and SWMP. The Benton County Solid Waste Management Plan outlines how the county manages its solid waste, including garbage, recyclables, and other materials. The plan is designed to provide guidance on how to minimize waste, increase recycling, and reduce the environmental impact of waste disposal. Although, many SMMP's are in use in Oregon not all are equal. Some have landfills, other do not. Some have incinerators, others have none. Many have transfer stations, while some have few. The goal of an SMM plan is to create a more sustainable and efficient materials management system that conserves natural resources, reduces greenhouse gas emissions, and supports a circular economy. Nonetheless, all SMMP's progress from a linear economy to a more robust circular economy sustained by a materials management plan. A linear economy is a traditional economic model in which resources are extracted, used to produce goods, and then disposed of as waste. In this model, resources are typically extracted from the environment, transformed into products, used by consumers, and then discarded as waste. A circular economy is an alternative economic model that aims to keep resources in use for as long as possible, minimizing waste and maximizing the value of resources. In a circular economy, resources are used, reused, and recycled in a closed-loop system, with minimal loss of materials and energy. This in turn should increase the service life in an existing landfill. In a circular economy, products are designed with their entire lifecycle in mind, so that they can be easily disassembled, repaired, and recycled. Instead of being discarded after use, products are repurposed or remanufactured into new products or materials. A Sustainable Materials Management (SMM) plan is a comprehensive approach to managing materials in a way that reduces waste and maximizes the reuse, recycling, and recovery of valuable resources.			

This combination of approaches supports the solid waste management plan of Benton County working shoulder to shoulder with a sustainable materials management plan being developed by Benton County Community Development in conjunction with Oregon Department of Environmental Services, members of Benton County, as well neighboring Counties and municipality using Republic Services waste management services. In Republic Services 2021 Sustainability Report, Jon Vander Ark, President and Chief Executive Officer reports, "This is our company vision, which is intentionally ambitious because we believe we are uniquely positioned to help our customers achieve their own sustainability goals. That commitment begins with our Elements of Sustainability – Safety, Talent, Climate Leadership and Communities – and these elements anchor our 2030 sustainability goals". The reader of this committee executive summary is encouraged to read further into subcommittee reports to appreciate the wealth of information the members of the community have brought forwarded in the short amount of time granted under the Benton County Talks Trash bridge approach into a needed sustainable landfill economy and transportation plan for waste disposal.			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 Many Sustainable Materials Management Plans (SMMP) and related Request For Proposals (RFP)s have been formulated, executed, and are in use in Oregon and beyond.			

SMMP F-2	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text The charges of the SMMP Subcommittee are intimately related to and should be embodied when scoping the necessary tasks to start a Long-Term Sustainable Materials Management Plan process.	11	1	0
Language Proposed by 3s			
Language Proposed by 2s			

Not sure if this is mentioned in charges of SMMP Subcommittee but Long-Term Sustainable Materials plan should cover the economic and environmental advantages and disadvantages of other landfills and other technologies.			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 – No Changes Made	11	1	0

SMMP F-3	Workgroup Polling		
	1	**2**	**3**
Draft 6 Text Contracting-out processes often include a Technical Advisory Committee (TAC), which vet technical information in the RFP, and a Community Advisory Committee (CAC), which review the RFP from the community perspective. Institutions of higher learning, including Oregon State University has a large population of faculty, faculty emeriti, staff and students that are subject matter experts in many of the technical areas that the SMMP will address.	12	0	0
	Formal Workgroup Polling		
No Changes Made	12	0	0

SMMP F-4	Workgroup Polling		
	1	**2**	**3**
Draft 6 Text The overall length of the project can be heavily impacted and defined by the level of public interaction/engagement included in the project. The consultant may help define the scope of public engagement, including engagement in rural areas of the county and in communities outside the county.	10	2	0
Language Proposed by 3s			

Language Proposed by 2s • 'may be" in place of "can be" "should help" in place of "may help" Consider adding "Areas of the county should include representatives from all incorporated and unincorporated • Can also include recommendations from the CEO subcommittee for communication.			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 – No Changes Made	10	2	0

SMMP F-5	Workgroup Polling		
	1	**2**	**3**
Draft 6 Text There are aspects of the work to be performed that are technical in nature or lend themselves toward extensive research, that the consultant may conduct at the same time as public engagement. To expedite the process, certain procedural elements can be done concurrently. The timeline can generally be defined throughout the process.	11	1	0
Language Proposed by 3s			
Language Proposed by 2s Consider adding a sentence 1.5 "Extensive research work should be done in an open nature to avoid appearance of lack of transparency.			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 – No Changes Made	11	1	0

SMMP F-6	Workgroup Polling		
	1	**2**	**3**
Draft 6 Text	10	2	0

The SMMP aims to reduce the full lifecycle impacts of materials management practices in Benton County and where other jurisdictions' practices overlap with Benton County. Addressing only materials from Benton County would have limited impacts compared to that of all of all the materials from neighboring counties, as Benton County's waste contribution to the landfill is relatively small. SMMPs are not specifically about landfills, but about materials management across the full lifecycle of materials, including addressing impacts from production, transportation, use, reuse, recovery, and disposal.			
Language Proposed by 3s			
Language Proposed by 2s • ...is relatively small, " as1 of 39 counties, and contributing only X% of the waste received at CBL" • Not only other jurisdictions' not also other states/ countries			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 – No Changes Made	10	2	0

SMMP F-7	Workgroup Polling		
	1	**2**	**3**
Draft 6 Text Benton County has limited control over the waste management practices of the counties that emplace the vast majority of the annual landfill waste intake, and the volume of waste material they haul to Coffin Butte Landfill, however, the county and its infrastructure is impacted by other counties' waste stream contributions to facilities within Benton County (via Coffin Butte Landfill, Pacific Region Compost, and transportation methods through the county).	9	3	0
Language Proposed by 3s			
Language Proposed by 2s • ...Pacific Region Compost...add "municipal water treatment facilities"...and transportation methods, etc. • Does Benton County as well as other counties and municipalities have better control over the waste collection franchise that may be able to direct waste to other landfill locations that are economically beneficial to the longevity of Coffin Butte landfill.			

• Edit. " material hauled to Coffin Butte Landfill. However, the county and its infrastructure are impacted" or something like that. Confusing sentence structure.			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 – No Changes Made	9	3	0

SMMP F-8	Workgroup Polling		
	1	**2**	**3**
Draft 6 Text The 2040 Thriving Communities Initiative identified our communities' Core Values and has been adopted by Benton County government which is used as a benchmark or lens for initiatives such as the Benton County SMMP.	10	1	0
Language Proposed by 3s			
Language Proposed by 2s • The "Benton County" 2040 Thriving Communities… Other Comments: • i don't know what the 2040 Thriving Communities Initiative is so am uncomfortable providing a score			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 – No Changes Made	10	1	0

SMMP RECOMMENDATIONS

The first Workgroup Polling numbers are from the informal poll. Subsequent polling was completed at the Workgroup meetings and are formal polling numbers.

SMMP R-1	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Benton County Sustainable Materials Management Plan should be developed within a Sustainable Materials Management framework, reflecting full lifecycle impacts. The development of a Sustainable Materials Management Plan should consider, 1) the 2040 Thriving Communities Initiative and our communities' Core Values, 2) national, State and local goals, vision documents (DEQ's Materials Management in Oregon 2020 Framework for Action), plans, policies, ordinances, etc. relating to materials management and climate change, 3) examples of values and goals expressed in state and local jurisdiction materials management plans, and 4) long-term strategies (to 2040) with short-term action items (5 years or less).	10	3	0	45	17	97	35
Language Proposed by 3s							
Language Proposed by 2s • does 2) national, "State" need to be capitalized? • "...full lifecycle impacts of materials used in the County or brought into the County for disposal." • Also the SMMP should consider environmental and economic impacts							
	Formal Workgroup Polling						

Real-Time Draft Revision 4/3/23 – No Changes Made	10	3	0				

SMMP R-2	Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Benton County should use the 2040 Thriving Communities Initiative as a high-level lens to frame our communities' Core Values in developing the SMMP.	12	0	0	41	19	91	36
	Formal Workgroup Polling						
No Changes Made	12	0	0				

SMMP R-3	Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text The SMMP should not just be about how Benton County can better manage materials, but to also address how to approach inter-county collaboration from a regional perspective. The RFP should indicate the need for researching and exploring opportunities for a regional multi-county approach to achieve the goals of sustainable materials management. RFP firms with experience with Oregon's materials management legislation, policies and other county materials management plans may have the capability to address this need.	10	2	0	43	19	90	38
Language Proposed by 3s							

Language Proposed by 2s • regional multi-county approach... "to include the counties contributing waste to CBL" ...to achieve the goals of, etc. • ".. inter-county and inter-state collaboration... " "...other county and state (WA, ID, add CA?) materials management plans may have..."							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 – No Changes Made	10	2	0				

SMMP R-4	Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Counties impacting Benton County through their materials management practices (including by contributing materials to Coffin Butte Landfill) should have an SMMP in place. The SMMP should have a perspective on how to strategize this.	10	3	0	41	19	92	36
Language Proposed by 3s							
Language Proposed by 2s • Question: Do we have jurisdiction over other Counties? • how would Benton County compel other counties to have a SMMP? Instead, I wonder if Benton County could evaluate how other counties and wastesheds in Oregon by reviewing the Oregon DEQ annual material recovery survey results to see how other counties that send waste to Coffin Butte are doing with their OTR requirements and how they are doing with their own SMMPs.							

• "Counties and states..."							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 – No Changes Made	10	3	0				

SMMP R-5	Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text SMMP content should incorporate the sustainability of materials management strategies/tactics. The result of the process should give us a method of measuring costs and benefits to evaluate the impact on economic, social, and environmental indicators. Specific goals should be included of how materials in Benton County can fit within a circular economy, cradle-to-cradle, or similar framework.	12	0	0	41	19	90	35
	Formal Workgroup Polling						
No Changes Made	12	0	0				

SMMP R-6	Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text The SMMP should clarify Benefit-Cost perspectives being addressed through an equity analysis, including, 1) financial cost impacts associated with materials management and outcomes, 2) the equity of circular economy, how it engages and impacts consumers, 3) a	12	0	0	42	18	89	37

perspective that goes beyond landfilling, and 4) a "who's at the table" list of stakeholder perspectives.							
	Formal Workgroup Polling						
No Changes Made	12	0	0				

SMMP R-7	Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Bring "lessons learned" into the process from other sources, including international examples as well as other counties, lessons from past Benton County experiences, and West Coast states. See full report for more sources.	11	1	0	47	13	98	26
Language Proposed by 3s							
Language Proposed by 2s "...Benton County experiences, the waste industry - particularly Republic, and Western states."							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 – No Changes Made	11	1	0				

SMMP R-8	Workgroup Polling	Initial Public Polling as of 3/23/23	Cumulative Public Polling as of 3/31/23

	1	2	3	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Beyond those in the County, a wide assortment of stakeholders should be brought to the table. Stakeholders include community members, advocacy groups, businesses and industry, local and state government, and resources for innovation. See report for full stakeholder list. The consultant should provide recommendations based on analysis and extensive outreach and engagement with community stakeholders from the "who should be at the table" list. These stakeholders should represent a broader area than Benton County.	10	2	0	33	24	68	52
Language Proposed by 3s							
Language Proposed by 2s • Strike "Beyond those in the County" and begin with "A wide assortment..." Outside the county representation is identified with last sentence, "These stakeholders should represent a broader area than Benton County" • The people at the table should also include those who would be most affected by the landfill/ other waste technology being discussed.							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 – No Changes Made	10	2	0				

SMMP R-9	Workgroup Polling	Initial Public Polling as of 3/23/23	Cumulative Public Polling as of 3/31/23

	1	2	3	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Benton County should use an RFP to find consultant(s) for developing a Sustainable Materials Management Plan.	11	0	0	36	20	73	42
	Formal Workgroup Polling						
No Changes Made	11	0	0				

SMMP R-10	Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text The SMMP subcommittee researched other jurisdiction's plans, compared and aggregated a list of subjects, and the SMMP should evaluate and address the subjects listed in the full subcommittee report, answering the 117 questions listed as RFP priorities allow, and include recommended courses of action.	11	2	0	36	20	69	41
Language Proposed by 3s							
Language Proposed by 2s • Suggest "and the" be removed. Sentence would then read, "The SMMP should evaluate..." • The SMMP should address the aggregated list of subjects contained in the full subcommittee report, answering the 117 questions listed as RFP priorities allow, and include recommended courses of action.							
	Formal						

	Workgroup Polling						
Real-Time Draft Revision 4/3/23 – No Changes Made	11	2	0				

SMMP R-11	Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Recruitment for the RFP needs to be extensive, and selection of successful proposal should be careful and thorough. Qualities of a successful applicant should include those listed in the full subcommittee report.	11	1	0	34	19	76	34
Language Proposed by 3s							
Language Proposed by 2s Add sentence, "Evaluation of RFP candidates should include at a minimum, one member of the public."							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 – No Changes Made	11	1	0				

SMMP R-12	Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text	12	0	0	41	17	88	34

The scope of work for this project is expected to be broad and comprehensive, with specific goals recommended for the County to consider as milestones.							
	Formal Workgroup Polling						
No Changes Made	12	0	0				

SMMP R-13	Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text The RFP development process should: 1) provide details about the Workgroup process and its findings to RFP applicants, 2) prioritize topics, adding additional topics that are important to consider, and 3) communicate accurate priorities to applicants.	12	0	0	34	19	78	37
	Formal Workgroup Polling						
No Changes Made	12	0	0				

SMMP R-14	Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Members of this BCTT SMMP subcommittee should be offered to participate in subsequent stakeholder group meetings for RFP development and review. The County's Advisory Committees related	11	3	0	39	21	80	40

to SMMP work should have an advisory role during the development of the plan.							
Language Proposed by 3s							
Language Proposed by 2s • Members of this BCTT SMMP subcommittee should be offered an opportunity to participate in subsequent stakeholder group meetings for RFP development and review. The County's Advisory Committees related to SMMP work should have an advisory role during the development of the plan. • This just concerns me because there isn't a CAC for North Corvallis and the landfill area right? How should the County address this? I know there are other Advisory Committees but is the Community Advisory Committee being inactive a concern and should there be recommendations about that? • I do not disagree with what the recommendation is in itself. With how I read things, I feel like there are two separate recommendations being presented. I am fine with the language and would have no problem if it did not change but would ask for the reconsideration that it be split.							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 – No Changes Made	11	1	0				

SMMP R-15	Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text	11	1	0	37	20	79	36

The RFP Release/Announcement should: 1) communicate an expectation that this plan can be approached by teams (multiple firms), instead of just single firms, 2) put guidelines on the size/length of proposals and sections of proposals, and 3) be distributed to allow enough time for it to be posted to various trade groups, shared with underrepresented groups, and internationally minded outlets.							
Language Proposed by 3s							
Language Proposed by 2s communicate an expectation that this plan may be approached by teams of multiple firms, instead of just single firms,							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 – No Changes Made	11	1	0				

SMMP R-16	Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text The County should share the various steps of the process with the public, making updates available, and demonstrating transparency (cross-referencing subcommittee E.1. work).	12	0	0	44	15	98	29
	Formal Workgroup Polling						
No Changes Made	12	0	0				

SMMP R-17	Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text The RFP should demonstrate flexibility in allowing further work plan development after applications are reviewed and accepted.	10	1	0	35	20	77	40
Language Proposed by 3s							
Language Proposed by 2s too broad. perhaps use something like the following: the RFP should clarify that the county will allow some flexibility for the selected consultant/contractor to expand on the work plan development in the following areas: use phase 1 data developed/collected to clarify the work in phase 2, etc.							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 – No Changes Made	10	1	0				

SMMP R-18	Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text The SMMP timeline should allow for extensive public interaction and engagement. In order to expedite the process, procedural elements should be done concurrently as possible. The timeline should generally be defined throughout the process.	10	2	0	38	18	87	34
Language Proposed by 3s							

Language Proposed by 2s • A schedule for the overall project and each of its elements such as public engagement should be developed before the project is authorized by the Board of Commissioners. This schedule should be updated each calendar quarter. • And the timeline should be shared with the public.							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 – No Changes Made	10	2	0				

SMMP R-19	Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Applicants should include various scope/cost options for one year, two years, and three-year timelines. The report should be released in sections, based on timeline and content priorities.	12	0	0	35	20	73	38
	Formal Workgroup Polling						
No Changes Made	12	0	0				

SMMP R-20	Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text	11	2	0	38	19	82	36

It's important that the SMMP process include extensive public outreach and engagement. In addition, a Technical Advisory Committee (TAC) should vet the consultant's technical work (SMMP development) and a Community Advisory Committee (CAC) to provide more general review. SMMP subcommittee members should be included in the CAC. The TAC should include subject matter experts from Oregon State University, and other regional academic institutions. Many of the subject areas of central importance to the SMMP are characterized by fast-moving science, and a TAC could help the SMMP consultant to navigate to the best available data and knowledge.							
Language Proposed by 3s							
Language Proposed by 2s • SMMP "and/or BCTT" subcommittee members should be included... • What's the plan with including the North Corvallis area CACs when there isn't any (or is there one now, not on BC website). Comments from 1s • Seems redundant with one earlier in the list.							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 – No Changes Made	11	2	0				

SMMP R-21	Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text	10	2	0	36	19	76	36

Proposals contain the following information, with parameters around each of these items in terms of document length. Requested information includes project team experience and qualifications, understanding of the project, approach to the scope of work, cost of the proposal, the project schedule, social/environmental responsibility, and references. Each criteria includes a total set of points the proposal can be awarded. See full report for more information.							
Language Proposed by 3s							
Language Proposed by 2s • Proposals "should" contain the following... Strike "requested information includes" and start with "Project team experience" etc. • Proposals should project team experience and qualifications, understanding of the project, approach to the scope of work, cost of the proposal, the project schedule, social/environmental responsibility, and references. Each criteria includes a total set of points the proposal can be awarded. See full report for more information.							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 – No Changes Made	10	2	0				

SMMP R-22	Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text	11	1	0	35	18	73	43

An evaluation team consisting of County staff and members of the stakeholder group should determine the best proposal deemed most qualified based on the above criteria.							
Language Proposed by 3s							
Language Proposed by 2s An evaluation team consisting of County staff and members of the stakeholder group should determine the proposal deemed most qualified based on the above criteria (See Recommendation 21). *Comments from 1s* "...determine the three best proposals and their costs deemed..."							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 – No Changes Made	11	1	0				

SMMP R-23	Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text The SMMP should emphasize impacts of the results of the RFP on social equity and innovation, to understand and emphasize the upstream aspects of material sustainability and creative solutions that provide pathways for tangible long-term outcomes.	10	2	0	33	22	77	40
Language Proposed by 3s							
Language Proposed by 2s • Strike "and emphasize" the upstream... • The SMMP should emphasize impacts of its recommendations on social equity and innovation, while emphasizing the upstream							

aspects of material sustainability and creative solutions that provide new pathways for tangible positive long-term outcomes.							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 – No Changes Made	10	2	0				

SMMP R-24	Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text The workplan should include ongoing adaptive management and refinement and include a timeline for completion. The sections of the workplan outline include RFP development and release, a webinar for prospective consultants, a pre-proposal Q&A period, a period for application submittal, and the selection committee to identify shortlisted firms who are given time for additional presentation. The committee then evaluates proposals, selects a consultant, and develops a workplan with selected consultant. See full report for more information.	10	2	0	37	19	80	37
Language Proposed by 3s							
Language Proposed by 2s • The sections of the workplan "should" include... Start sentence "The selection subcommittee "should" identify... The committee "shall" then evaluate proposals... • Each firm's proposed SMMP workplan should include ongoing adaptive management and refinement and include a timeline for completion. The sections of the workplan outline should include							

RFP development and release plan, a webinar for prospective consultants, a pre-proposal Q&A period, and a period for application submittal. The selection committee should identify shortlisted firms who may be given time for additional presentation. The committee then evaluates proposals, selects a consultant, and develops a workplan with selected consultant. See full report for more information.							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 – No Changes Made	10	2	0				

SMMP R-25	Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text The County should evaluate if it would be in their best interest to have an SMMP in place prior to any major materials management decisions.	13	0	0	38	20	82	37
	Formal Workgroup Polling						
No Changes Made	13	0	0				

SMMP R-26	Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text	13	0	0	39	19	76	43

The county should consider using alternative funding mechanisms, including landfill revenue, to support the SMMP recommendations.							
	Formal Workgroup Polling						
No Changes Made	13	0	0				

SMMP R-27	Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text A complete materials audit is highly recommended as both a benchmark and a way to measure progress. The County should initiate a Waste Audit to characterize more precisely what is in the waste stream of Coffin Butte Landfill. The SMMP consultant can use this audit information when formulating this plan, and there is no up-to-date information specific to the landfill currently available. The benchmark audit should be completed as soon as possible, along with recommendations for follow up audits.	10	2	0	36	17	81	34
Language Proposed by 3s							
Language Proposed by 2s • Strike "and" there is no up-to-date, and start sentence with "There" is no... • this may be very important. DEQ is conducting a waste composition study currently and perhaps Benton County could evaluate the results of DEQ's waste composition study to see if the results meet the SMMP needs. If there are information gaps, perhaps Benton County may want to address through a partial waste audit.							

Other comments A complete materials audit is highly recommended as both a benchmark and a way to measure progress. The County should initiate a Waste Audit to characterize more precisely what is in the waste stream of Coffin Butte Landfill. The SMMP consultant may use this audit information when formulating this plan, as there is little up-to-date information specific to the landfill currently available. The benchmark audit should be completed as soon as possible, along with recommendations for follow up audits.							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 – No Changes Made	10	2	0				

SMMP R-28	Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text (NEW) The SMMP should evaluate the costs, benefits, risks, and opportunities of a wide range of materials management strategies to find the most sustainable future for Benton County. The successful applicant should present a complete benefit-cost analysis of a wide range of strategies that work as a more integrated system, including but not limited to, the benefit-costs analysis of Benton County acting as the host of a regional landfill that contributes a small portion of the total waste the landfill receives. This analysis should include key parameters of Coffin Butte landfill, such as its operating life, its large	11	2	0	None	None	None	None

intake from outside the county, its franchise fees, and its long-term environmental risks and costs.							
Language Proposed by 3s							
Language Proposed by 2s • "A complete benefit-cost analysis..." is dangerous language. I would soften it, otherwise you have people coming out of the woodwork stating that the analysis has to be scrapped because no one did a count on the number of candy wrappers heading to the landfill. I'd drop the word complete and add wholistic or reasonable or another term like that. • Strike "the successful applicant" and replace with "the consultant" *Comments from 1s* Excellent							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 – No Changes Made	11	2	0				

LSCL FINDINGS

The first Workgroup Polling numbers are from the informal poll. Subsequent polling was completed at the Workgroup meetings and are formal polling numbers.

LSCL F-1	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text In 2003 EOL was projected to be approximately 2074, with a Landfill Life estimate of 71 years (2003 East Triangle CUP document, Benton County file PC-03-11.pdf). Twenty years later EOL is projected to be 2037-2039 with a Landfill Life of 14.5-16 years, a reduction of approximately 36 years of estimated life in 20 elapsed years. In 2013 Valley Landfills Inc. reevaluated an area of Landfill Site zoned property in the northeast corner of the site for waste placement stability engineering. This area was removed from the landfill's site development plan based on updated state seismic guidance for landfill stability.	13	0	0
	Formal Workgroup Polling		
No Changes Made	13	0	0

LSCL F-2	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text In 2013 EOL was projected to be 2053-2062, with a Landfill Life estimate of 40-49 years[70]. Ten years later EOL is projected to be 2037-2039 with a Landfill Life of 14-16 years, a lower and upper range reduction of approximately 16 and 23 years respectively.	13	0	0
	Formal Workgroup Polling		

[70] 2013 Coffin Butte Landfill and Pacific Region Compost Annual Report

No Changes Made	13	0	0

LSCL F-3	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text Current (1Q2023) estimate for landfill EOL = CY 2037 – 2039, with a landfill life estimate of 14-16 years, based on an annual intake level of 1.0 – 1.1 MTons/year and a density of 0.999 Tons/yd3, assuming the quarry area will be fully excavated by the time the current disposal areas are full. Valley Landfills, Inc. has represented that this nominal life projection ("baseline") is derived from a few data points in annual measurements, and is the product of a modeling process that is standard in the landfill industry. Valley Landfills, Inc. acknowledges that a variety of factors, including human factors, can impact landfill site life, but are not included in this baseline calculation. Valley Landfills, Inc.'s baseline projection of a 2037-2039 closure date is based both upon existing demand and Valley Landfill Inc.'s efforts to maintain and/or grow its service area and business in the market.	13	0	0
	Formal Workgroup Polling		
No Changes Made	13	0	0

LSCL F-4	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text The 2021 Site Development Plan is a registered engineer of record stamped and dated plan set which includes but not limited to a projected a 2039 EOL based on an annual intake of approximately 846,000 Tons/year, but this intake tonnage is not considered binding or controlling by either ODEQ or Valley Landfills, Inc. This is based on the best information available at time of approval by Oregon DEQ, which can change based upon service area impacts.	11	2	0
Language Proposed by 3s			

Language Proposed by 2s • The 2021 Site Development Plan is a registered engineer of record stamped and dated plan set which includes but not limited to a projected a 2039 EOL based on an annual intake of approximately 846,000 Tons/year, but this intake tonnage is not considered binding or controlled by either ODEQ or Valley Landfills, Inc. This is based on the best information available at time of approval by Oregon DEQ, which can change based upon service area impacts. • On third line should be DEQ not ODEQ			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 – No Changes Made	11	2	0

LSCL F-5	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text Under the 2020 Franchise Agreement, the 1.1M tonnage cap is eliminated upon Benton County's approval of a CUP (expansion). If intake volumes increase, an **expansion would not necessarily guarantee an increase in site life** or the extension of the Landfill's closure date. For example, if an expansion increases available airspace but intake volumes increase the fill rate even more, the overall life of the landfill could decrease. Republic Services said it was unlikely such a scenario would occur, due to operational limitations at the Landfill and in the Service Area [could not reach consensus]. Nonetheless, transitioning from the current linear landfill economy to a circular economy landfill can potentially extend the life of a landfill. This is because a circular economy landfill is designed to minimize the amount of waste sent to the landfill and extract value from the materials that are discarded. By recovering valuable materials through recycling, composting, and other forms of recovery, a circular economy landfill reduces the volume of waste that needs to be disposed of in the landfill. This, in turn, reduces the rate at which the landfill is filled up, which can extend its lifespan with or without tonnage cap limitation.	6	6	0

Notwithstanding, a landfill tonnage cap is a regulatory limit on the amount of waste that can be disposed of in a landfill over a certain period of time. The tonnage cap is typically set by the local or state government and is intended to prevent the landfill from becoming overfilled and causing environmental or problems such as contamination of groundwater, soil, air, or demand and supply equilibrium problems, while transitioning to a circular economy.			
Language Proposed by 3s			
Language Proposed by 2s • Remove everything after "Service Area" • i don't know which state government is being referred to in this statement. • Remove everything after "Service Area" • Third paragraph: Flesh out the "regulatory limit" concept. Has one been set? Proposed? Point/link to supporting documentation in the report. • By transitioning the economy of Benton County and surrounding counties to support more circular systems of materials management, such as through product and packaging redesign, increased recycling, increased food waste prevention and composting, and other forms of recovery, the volume of waste that needs to be disposed of in the landfill will decrease. This, in turn, reduces the rate at which the landfill is filled up, which can extend its lifespan with or without tonnage cap limitation. • This could be more clear. Is this saying that there will be no tonnage cap at all or it will be another amount higher than 1.1 M? If the CUP is approved then there will be unlimited amounts of material dumping and so then the landfill could fill up more quickly even with expansion if materials increase? At some point, we were told that the SMMP would only make a minor dent in the landfill tonnage since Benton County is such a small percentage of the landfill's solid waste tonnage. I feel like this paragraph should have more clarity about the franchise, CUP, and tonnage correlation and how this would affect the community.			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 – No Changes Made	6	6	0

LSCL F-6	Informal Workgroup Polling

	1	2	3
Draft 6 Text For purposes of this discussion, the subcommittee agreed to rely on data from the annual reports and other landfill filings with the county. EPA also provides data in in its greenhouse gas reporting webpage that uses different data from another source.	12	0	0
	Formal Workgroup Polling		
No Changes Made	12	0	0

LSCL F-7	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text Factors such as population growth and debris from disasters may drive up intake rates and thus shorten landfill life; factors such as recycling and waste diversion, plus emerging factors such as extended producer responsibility (EPR) incentives and climate crisis legislation, may drive down intake rates and thus lengthen landfill life.	12	1	0
Language Proposed by 3s			
Language Proposed by 2s "...extended producer responsibility (EPR) incentives recently authorized by Oregon..."			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 – No Changes Made	12	1	0

LSCL F-8	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text	12	1	0

Landfill Life (longevity) is the availability of the landfill reserve resources and landfill ancillary resources that currently operates the landfill's demand, supply and equilibrium of refuse disposal in a linear economy model.			
Language Proposed by 3s			
Language Proposed by 2s "reserve resources.. ancillary resources .. linear economy model." The terms are very difficult to relate to. Please rewrite with a general community audience in mind.			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 – No Changes Made	12	1	0

LSCL F-9	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text The subcommittee identified these factors that could impact usable landfill airspace: Landfill expansion(s) and associated removal of tonnage cap; the quarry excavation schedule; water table concerns; disasters that happen to the landfill itself.	9	4	0
Language Proposed by 3s			
Language Proposed by 2s • Remove "water table concerns; disasters that happen to the landfill itself." • should also include engineering design, construction and management of current and future cell development, environmental considerations that may be discovered as part of future cell design, construction, operation and closure that DEQ must review and approve or request changes to. Also economic impacts that may influence generation of waste. • Remove water table concerns; disasters that happen to the Landfill itself. • Also environmental disasters/ other issues that would cause a lot of debris to be added to the landfill.			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 – No Changes Made	9	4	0

LSCL F-10	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text The subcommittee identified many factors that could impact the landfill's annual tonnage, i.e., the rate at which its usable volume fills up. These included: exceedance of the tonnage cap; recession(s); economic growth; structural and societal reductions in waste generation; disposal alternatives; transportation alternatives; global health issues such as pandemics; climate change and other environmental legislation concerning methane and other greenhouse gases; climate change and other environmental legislation concerning the reduction of waste and pollution in landfilled material; state and local legislation upgrading waste diversion efforts; environmental activism, especially about the climate crisis; wildfires and other disasters that generate debris for landfilling; service area changes; changes in population in the service area.	13	0	0
	Formal Workgroup Polling		
No Changes Made	13	0	0

LSCL F-11	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text Recognizing that the question "What factors could make the landfill close earlier than the Baseline Scenarios (by 2037–39)?" is of particular importance to this report's readers, the subcommittee has prepared a table that contains background information about each factor and proposes questions for the County and the SMMP to answer. This information can be found in Table 4.	11	1	0
Language Proposed by 3s			
Language Proposed by 2s In addition to Table 4, maybe also provide a page number to make it easier to find.			

	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 – No Changes Made	11	1	0

LSCL F-12	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text Landfills are known to be major emitters of methane, but previously these emissions have typically been estimated through mathematical modeling, because the emissions themselves were hard to measure directly. The methane emissions from Coffin Butte Landfill have not been well-characterized, so the possible effects of methane-reducing legislation on the landfill's waste intake rates are also hard to characterize.	10	3	0
Language Proposed by 3s			
Language Proposed by 2s • Remove "major" • Remove "major" in the first sentence. • see annual reports submitted to DEQ: https://www.oregon.gov/deq/ghgp/Documents/ghgAnnualaqpHold.			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 – No Changes Made	10	3	0

LSCL F-13	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text One proven way to reduce a landfill's greenhouse gas emissions is to divert organic material. Landfill gas collection systems are another tool to lessen the greenhouse gas impact but do not remediate it. In 2019 the EPA estimated that Coffin Butte Landfill's gas collection system operates at 57% efficiency.	10	1	2

Language Proposed by 3s • This will become a "1" with the inclusion of the following sentence at the end of the finding. (Note, this sentence appears in the body of the report but didn't make it's way into the finding.) "Republic Services provided data to the EPA for inclusion in the 2021 GHG report that estimated the Landfill's gas collection system had an efficiency of 91.2 percent." • This will become a "1" with the inclusion of the following sentence at the end of the finding. (Note, this sentence appears in the body of the report but didn't make it's way into the finding.) "Republic Services provided data to the EPA for inclusion in the 2021 GHG report that estimated the Landfill's gas collection system had an efficiency of 91.2 percent."			
Language Proposed by 2s • clarify language. Does collection system refer to monitoring, collection and treatment or just monitoring of landfill gas? Perhaps Benton County can obtain more recent gas monitoring, collection and treatment results from DEQ.			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 One proven way to reduce a landfill's greenhouse gas emissions is to divert organic material. Landfill gas collection systems are another tool to lessen the greenhouse gas impact but do not remediate it. In 2019 the Oregon DEQ estimated that Coffin Butte Landfill's controls (engine/generators with backup flare) collected 57% (https://downloads.regulations.gov/EPA-R10-OAR-2019-0640-0011/content.pdf). Republic Services provided data to Oregon DEQ for inclusion in EPA's 2021 Greenhouse Gas report that estimated the Landfill's gas collection system had an efficiency of 91.2 percent. (Reference: https://ghgdata.epa.gov/ghgp/service/html/2021?id=1007054&et=undefined)			
One proven way to reduce a landfill's greenhouse gas emissions is to divert organic material. Landfill gas collection systems are another tool to lessen the greenhouse gas impact but do not remediate it. In 2019 the Oregon DEQ estimated that Coffin Butte Landfill's controls (engine/generators with backup flare) collected 57% (https://downloads.regulations.gov/EPA-R10-OAR-2019-0640-0011/content.pdf).	4	3	5

Republic Services provided data to the Oregon DEQ for inclusion in EPA's 2021 Greenhouse Gas report that estimated the Landfill's gas collection system had an efficiency of 91.2 percent. (Reference: https://ghgdata.epa.gov/ghgp/service/html/2021?id=1007054&et=undefined)	8	3	0
One proven way to reduce a landfill's greenhouse gas emissions is to divert organic material. Landfill gas collection systems are another tool to lessen the greenhouse gas impact but do not remediate it. In 2019 the Oregon DEQ estimated that Coffin Butte Landfill's controls (engine/generators with backup flare) collected 57% (https://downloads.regulations.gov/EPA-R10-OAR-2019-0640-0011/content.pdf). Republic Services provided data to Oregon DEQ for inclusion in EPA's 2021 Greenhouse Gas report that estimated the Landfill's gas collection system had an efficiency of 91.2 percent. (Reference: https://ghgdata.epa.gov/ghgp/service/html/2021?id=1007054&et=undefined)	6	1	4
One proven way to reduce a landfill's greenhouse gas emissions is to divert organic material. Landfill gas collection systems are another tool to lessen the greenhouse gas impact but do not remediate it. In 2019 the Oregon DEQ estimated that Coffin Butte Landfill's controls (engine/generators with backup flare) collected 57% (https://downloads.regulations.gov/EPA-R10-OAR-2019-0640-0011/content.pdf). Republic Services provided data to Oregon DEQ for inclusion in EPA's 2021 Greenhouse Gas report that estimated the Landfill's gas collection system had an efficiency of 91.2 percent. (Reference: https://ghgdata.epa.gov/ghgp/service/html/2021?id=1007054&et=undefined)	11	1	0
~~*Concern with the 57% finding is not having a certain citation.*~~			
Oregon adopted DEQ regulations for GHG reporting in 2021 under air quality permit program. First requirement is to calculate emissions and then in the future control requirements will be implemented.			
Potential Recommendation LSCL R-XX Compare DEQ vs EPA and identify which the county wants to reference.			

LSCL F-14	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text The impetus to curtail methane emissions is focusing attention on ways to divert organic waste from landfill wastestreams. The 2023 Food Donation Improvement Act, for example, enables existing food donation	13	0	0

organizations to expand operations and incentivizes the creation of new methods and innovations in preventing food waste, both to stop wasting a valuable resource and to reduce methane emissions.			
	Formal Workgroup Polling		
No Changes Made	13	0	0

LSCL F-15	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text A significant portion of the permitted airspace in the quarry area (also known as Cell 6) is currently unavailable for waste disposal due to unexcavated rock. As with other cells at Coffin Butte, permitted airspace is ultimately the result of two separate decisions by two separate entities. Benton County approves the land use for the landfill's footprint, while DEQ and the franchisee (Valley Landfills Inc.), approve the cell design that determines the physical volume available.	13	0	0
	Formal Workgroup Polling		
No Changes Made	13	0	0

LSCL F-16	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text The addition of Cell 6 added approximately 13,400,000 cubic yards of airspace. The Landfill total capacity increased by approximately 9,000,000 cubic yards in 2003 with the addition of the West and East triangle areas for a total of approximately 35,500,000 cubic yards. The formal County approval of Cell 6 as a disposal area has not been identified or confirmed. Since 2004, reported remaining airspace has decreased gradually, while total permitted airspace has remained remaining somewhat constant. As of end 2021 approximately 44% of permitted capacity remained unused.	10	2	1

Language Proposed by 3s • Remove: The formal County approval of Cell 6 as a disposal area has not been identified or confirmed. It is not accurate			
Language Proposed by 2s • double check land use files for 2000 LUCS and verify what the county means in the signoff of this document. • Clarify. Past tense appropriate? Consider "The addition of Cell 6 would add approximately..."			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 The addition of Cell 6 added approximately 13,400,000 cubic yards of airspace. The Landfill total capacity increased by approximately 9,000,000 cubic yards in 2003 with the addition of the West and East triangle areas for a total of approximately 35,500,000 cubic yards. ~~The County should clarify whether/when formal approval of Cell 6 as a disposal area was granted. (See LLU F-23, CUP F-XX, detailed rebuttal) provides more information on this matter~~. Since 2004, reported remaining airspace has decreased gradually, while total permitted airspace has remained remaining somewhat constant. As of end 2021 approximately 44% of permitted capacity remained unused. [See also LSCL F-37]	12	0	0
Real-Time Draft Revision 4/3/23 Language Proposed by Ed Pitera (Consolidate with LSCL F-37) Prior to 2003, the airspace capacity was 13,100,000 cubic yards. This increased 69% to 22,100,000 cubic yards in 2003 when the County approved the addition of the West and East triangle areas for disposal. If approved by the County, the proposed "Cell 6" would add 13,400,000 cubic yards of airspace for a total of 35,500,000 cubic yards of disposal capacity. A 170% increase in permitted landfill airspace since 2003. The expected landfill longevity is 2 to 3 years (2025) without Cell 6 being constructed and 14 to 16 years (2037 – 2040) if Cell 6 is approved and operational in 2025. Valley Landfills Inc. anticipates it will no longer be able to place waste in Cell 5 by mid-year 2025. Excavation of the footprint of Cell 6 within the current rock quarry is scheduled to begin in Spring of 2023 with completion in Spring 2025.			

LSCL F-17	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text The amount of waste placed into the landfill has grown dramatically over the past 40 years. In 1983, 375 tons per day were placed into the landfill (117,000 tons per year). By 1993, the tonnage volume increased to 310,000 tons per year. In 2003, 550,000 tons were placed into the landfill. In 2013, the waste tonnage was 479,000, and in 2021, 1,046,000 tons were placed into the landfill.	12	1	0
Language Proposed by 3s			
Language Proposed by 2s Recommend paragraph be consistent in annual tons. First sentence could be, "In 1983, 117,000 tons were placed in to the landfill (375 tons per day)."			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 - No Changes Made	12	1	0

LSCL F-18	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text The official 2022 Coffin Butte annual intake tonnage is not available at the time of this report (February 2023). The size of the Host Fee payment to Benton County in January 2023 indicates a 2022 intake volume of 1,066,436 Tons. Actual tonnage should be updated upon receipt of the 2022 Coffin Butte Landfill Annual Report.	12	1	0
Language Proposed by 3s			
Language Proposed by 2s "The size of the Host Fee payment (add $ amount) to Benton..."			
	Formal		

	Workgroup Polling		
Real-Time Draft Revision 4/3/23 - No Changes Made	12	1	0

LSCL F-19	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text The 2000 Landfill Franchise Agreement stipulated that the County was to perform a "Baseline" study as a reference for measuring potential future adverse effects (completed in 2001), and defined a ramping intake tonnage threshold to be applied during the term of the agreement (CY2001-2019). Intake volumes in excess of this threshold granted the County clear right to pursue specific remedies: a) the County, at its expense, could perform an updated Baseline assessment, and b) if the County determined that the new assessment indicated an adverse impact on "the Baseline," the agreement stipulated that "the parties shall immediately proceed in good faith to negotiate an increase in the Franchise Fee and/or Host Surcharge…".	12	0	0
	Formal Workgroup Polling		
No Changes Made	12	0	0

LSCL F-20	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text The 2000 intake tonnage threshold was exceeded in calendar years 2017, 2018 and 2019.	12	0	0
	Formal Workgroup Polling		
No Changes Made	12	0	0

LSCL F-21	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text Washington County waste tonnage accepted at the landfill increased by over 400% between 2016-2017, with the increased tonnage continuing through 2019. Riverbend Landfill was a regional landfill that accepted waste from many counties, including Washington County. Riverbend's owner/operator diverted tonnage to Coffin Butte in an effort to extend Riverbend's site life.	12	0	0
	Formal Workgroup Polling		
No Changes Made	12	0	0

LSCL F-22	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text Benton County did not utilize either of the contractual remedies available to it as a result of the intake tonnage exceeding the threshold in 2017-2019. No updated Baseline study was performed, and no renegotiation of the landfill fee structure was undertaken.	12	0	0
	Formal Workgroup Polling		
No Changes Made	12	0	0

LSCL F-23	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text	11	0	0

Benton County received approximately $3.1M of incremental revenue from the increased intake volumes over the 2017-2019 period. Of this, approximately $1.08M was the result of intake volume in excess of the annual limits over the three-year period. This equates to roughly $11.50 total per Benton County resident for the three-year period.			
	Formal Workgroup Polling		
No Changes Made	11	0	0

LSCL F-24	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text In an official 2018 presentation to Benton County Board of Commissioners, Benton County represented the 2000 Franchise Agreement intake threshold as "Annual Maximums Specified in Franchise Agreement." However, the 2000 Franchise Agreement does not describe the tonnage threshold as a "limit" or "maximum" and does not limit the number of tons that can be accepted.	12	0	0
	Formal Workgroup Polling		
No Changes Made	12	0	0

LSCL F-25	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text Both the 2000 Landfill Franchise Agreement and the 2020 Landfill Franchise Agreement include a section stating that "The parties acknowledge that there may be adverse effects to the County's infrastructure and environmental conditions due to increased annual volumes of Solid Waste accepted at the Landfill." In both agreements this section of the agreement then stipulates terms regarding intake volumes.	12	0	0

	Formal Workgroup Polling		
No Changes Made	12	0	0

LSCL F-26	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text The intake threshold defined in the 2000 Landfill Franchise Agreement and the Tonnage Cap defined in the 2020 Landfill Franchise Agreement were stipulated as contractual provisions, with consequences explicitly defined in the 2000 agreement and implicit (violation of contract) consequences in the 2020 agreement.	11	1	0
Language Proposed by 3s			
Language Proposed by 2s This sentence isn't clear to me and probably not to the average person. "were required as part of the contract. The consequences of a violation of the contracts were clearly addressed in the documents" or something like that.			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 - No Changes Made	11	1	0

LSCL F-27	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text The 2020 Landfill Franchise Agreement defined a 2020 Tonnage Cap of 1.1 M Tons/year that the Landfill "shall not exceed." That includes 75,000 tons reserved annually for Benton County. The Tonnage Cap does not apply to fire, flood, natural disaster, or Force Majeure event materials.	10	2	0
Language Proposed by 3s			

Language Proposed by 2s • Republic was asked about the impact of Benton County going over 75,000 ton reservation at Mtg 8 and committed to reply. What is the reply? • suggestion to define Force Majeure or say unforeseeable circumstances			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 - No Changes Made	10	2	0

LSCL F-28	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text The 2020 Landfill Franchise Agreement also includes a provision that the tonnage cap would be eliminated upon governmental approval of an application to "expand the landfill onto the Expansion Parcel."	12	0	0
	Formal Workgroup Polling		
No Changes Made	12	0	0

LSCL F-29	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text It is unclear if the 2020 Franchise Agreement's enforcement mechanisms are strong enough to prevent agreement violation or if the County will pursue the options at its disposal.	12	0	0
	Formal Workgroup Polling		
No Changes Made	12	0	0

LSCL F-30	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text The landfill operator generally chooses how much tonnage to accept, based on demand and their contracts with various jurisdictions and haulers. Some of the increasing tonnage accepted at the landfill from 1993-2021 reflect the increase in business development.	12	0	0
	Formal Workgroup Polling		
No Changes Made	12	0	0

LSCL F-31	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text The slow downward trend in intake volume in the 2006-2010 period is explained by the franchisee as resulting from the economic downturn of 2008.	12	0	0
	Formal Workgroup Polling		
No Changes Made	12	0	0

LSCL F-32	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text Republic Services states that the drop in volumes to Coffin Butte in 2020 is due to the global COVID-19 pandemic, coupled with diversion of tonnage from Riverbend Landfill to other landfills besides Coffin Butte. However,	12	0	0

tonnage volumes increased again in 2021 due in part to changes in lifestyle/development/at home shopping patterns as a result of the pandemic, as well as debris from the Oregon wildfires.			
	Formal Workgroup Polling		
No Changes Made	12	0	0

LSCL F-33	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text A range of human factors have been seen to influence the landfill's intake rate and therefore its operating life in the past. These include business factors such as expansions or contractions of the Service Area, social factors such as recessions and population growth, and environmental factors such as recycling and other initiatives that divert materials out of the waste stream.	12	0	0
	Formal Workgroup Polling		
No Changes Made	12	0	0

LSCL F-34	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text More human factors are emerging that could influence the landfill's intake rate and therefore its operating life in the future. These include newly enacted state legislation assigning responsibility for disposal costs to the producers of waste material, newly enacted national legislation addressing food waste, and national legislation being rolled out that targets methane and other greenhouse gas pollution.	13	0	0
	Formal Workgroup Polling		

No Changes Made	12	0	0

LSCL F-35	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text A 2016 MOU between Benton County and Republic Services acknowledged "Coffin Butte Landfill will be accepting municipal solid waste currently being delivered to Waste Management's Riverbend Landfill for a term of 1-2 years, beginning in January of 2017."	12	0	0
	Formal Workgroup Polling		
No Changes Made	12	0	0

LSCL F-36	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text The 2016 MOU does not contain language preventing Benton County from exercising its rights under the 2000 Landfill Franchise Agreement (see Recommendations).	12	0	0
	Formal Workgroup Polling		
No Changes Made	12	0	0

LSCL F-37	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text	11	2	0

Valley Landfills Inc. anticipates it will no longer be able to place waste in Cell 5 by mid-year 2025. When Cell 5 is full, Republic Services is working on a plan to deposit waste in the permitted area of the landfill known as the quarry known as Cell 6. Excavation of the primary quarry footprint is scheduled to begin in Spring of 2023 with completion in Spring 2025.			
Language Proposed by 3s			
Language Proposed by 2 • DEQ will need to review and approve design plans before any construction takes place. • "...the landfill known as the quarry known as Cell 6." Typo? Please clarify.			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 - No Changes Made	11	2	0
[Delete, per Ed Pitera's proposed revision to LSCL F-16] *Moved to below LSCL F-16*			

LSCL F-38	Informal Workgroup Polling **1**	**2**	**3**
Draft 6 Text Approval of the 1983 rezoning was recommended by SWAC and CAC with on the condition that "No landfill be allowed on property south of Coffin Butte Road."	12	0	0
	Formal Workgroup Polling		
No Changes Made	12	0	0

LSCL F-39	Informal Workgroup Polling **1**	**2**	**3**
Draft 6 Text	11	1	0

The recommended condition prohibiting landfill south of Coffin Butte Road was not included in the 1983 rezoning ordinance through a change recommended by Benton County Staff, in which Staff noted that any new disposal area would require approval of the Planning Commission in a public vote. The process for approving landfill south of Coffin Butte Road was subsequently changed to "allowed by conditional use permit." This appears to be done via Ord. 90-0069 (BCC 77.305) This change was memorialized in the 2002 Memorandum of Understanding executed by Valley Landfills and Benton County.			
Language Proposed by 3s			
Language Proposed by 2s "The process for approving landfill south of Coffin Butte Road was subsequently changed to "allowed by conditional use permit."" Please clarify what this sentence means. What was changed by whom, how, when, why? What are the consequences?			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 - No Changes Made	11	1	0

LSCL F-40	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text The 1983 rezoning action defined 194 acres as Landfill Size (LS) zone. An additional 59-acre parcel south of Coffin Butte Road, while zoned LS, would not be used for disposal of solid waste unless approved by a conditional use permit and Department of Environmental Quality permit for solid waste landfill use. The site map attached to the 2002 MOU restricted "fill" activity to the north side of Coffin Butte Road.	11	0	1
Language Proposed by 3s Need to see the complete County file on 2002 MOU, particularly the site map referred to.			
Language Proposed by 2s			
	Formal Workgroup Polling		

Real-Time Draft Revision 4/3/23 The 1983 rezoning action defined 194 acres as Landfill Size (LS) zone. An additional 59-acre parcel south of Coffin Butte Road, while zoned LS, would not be used for disposal of solid waste unless approved by a conditional use permit and Department of Environmental Quality permit for solid waste landfill use. The site map attached to the 2002 MOU restricted "fill" activity to the north side of Coffin Butte Road.	11	0	0

LSCL F-41	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text Twenty-three tax lots are owned by landfill-affiliated entities. Six of these tax lots are zoned LS, and the five LS tax lots on the north side of Coffin Butte Road contain landfill cell disposal areas. The most recent tax lots associated with the landfill were purchased in 2001 (non-disposal areas).	11	1	0
Language Proposed by 3s			
Language Proposed by 2s Please fill in "totaling xx acres" then same for yy, zz acreage amounts "Twenty-three tax lots totaling xx acres are owned by landfill-affiliated entities. Six of these tax lots totaling yy acres are zoned LS, and the five 5 LS tax lots totaling zz acres on the north side of Coffin Butte Road contain landfill cell disposal areas. The most recent tax lots associated with the landfill were purchased in 2001 (non-disposal areas)." *Comments by 1s* Is LS defined somewhere?			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 - No Changes Made	11	1	0

LSCL F-42	Informal Workgroup Polling		
	1	**2**	**3**

Draft 6 Text The landfill has developed visually over time in accordance with site development plans. Coffin Butte Landfill has changed visually since it's designation as a regional landfill in 1974, growing in both height and size, and visual appearance. However, the overall landfill acreage has not changed significantly since 1983; it has filled in more of its footprint.	12	0	1
Language Proposed by 3s Replacement language: "The landfill has developed since 1974. It has grow in both height and size, and changed in visual appearance. Although still within the Landfill Zone designated in 1983, the actual footprint of the landfill cells has increased as more wastes are brought to the site." Note: The original F-42 language runs into issues of geographic & regional definitions that have numerous nuances. The topic has been better addressed in the CUP and LLU sections.			
Language Proposed by 2s			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 [unchanged] The landfill has developed visually over time in accordance with site development plans. Coffin Butte Landfill has changed visually since it's designation as a regional landfill in 1974, growing in both height and size, and visual appearance. However, the overall landfill acreage has not changed significantly since 1983; it has filled in more of its footprint.	7	1	2
Real-Time Draft Revision 4/3/23 The landfill has developed visually over time in accordance with site development plans. Coffin Butte Landfill has changed visually since it's designation as a landfill in 1974, growing in both height and size, and visual appearance. However, the overall landfill acreage has not changed significantly since 1983; it has filled in more of its footprint.	8	1	2

LSCL RECOMMENDATIONS

The first Workgroup Polling numbers are from the informal poll. Subsequent polling was completed at the Workgroup meetings and are formal polling numbers.

LSCL R-1	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text The Sustainable Materials Management Plan (SMMP) should further develop scenarios and factors that may impact the landfill lifespan, including detailed analyses of likely projections. The Board of Commissioners (Board) and Benton County (County) staff should keep the questions about these factors and their effects in mind when making decisions affecting the landfill.	11	2	0	34	16	76	32
Language Proposed by 3s							
Language Proposed by 2s • Add the following: "Benton County's decision on a future CUP application can neither be denied, nor delayed, based on the status and/or development of an SMMP." • Add the following: "Benton County's decision on a future CUP application can neither be denied, nor delayed, based on the status and/or development of an SMMP."							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 - No Changes Made	11	2	0				

LSCL R-2	Informal Workgroup Polling	Initial Public Polling as of 3/23/23	Cumulative Public Polling as of 3/31/23

	1	2	3	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text The County should create and share a plan for the enforcement of all franchise agreements.	11	1	0	38	13	80	26
Language Proposed by 3s							
Language Proposed by 2s The county should consider the Community Outreach and Education Subcommittee when deciding how to communicate a plan for enforcement of all franchise agreements.							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 - No Changes Made	11	1	0				

LSCL R-3	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text The County should contract for an updated Baseline Study to evaluate the impact of the current intake level at Coffin Butte Landfill. As with the 2001 Baseline Study stipulated in the 2000 Landfill Franchise Agreement, this new study should determine and measure adverse effects, including but not limited to: traffic, soil conditions and contamination levels, air quality, surface and ground water conditions and contamination levels, noise, odor, visual screenings, litter, hours of operation, solid waste control systems and compliance with all solid waste permits. This baseline study could	9	4	0	31	20	73	36

help inform the County in decision making and financial choices regarding how to use the income from the landfill.							
Language Proposed by 3s							
Language Proposed by 2s • This is at Benton County's discretion. Republic Services does not wish to opine on the county's business or operating decisions. • This is at Benton County's discretion. Republic Services does not wish to opine on the county's business or operating decisions. • The County should contract for an updated Baseline Study to evaluate the impact of the current intake level at Coffin Butte Landfill. As with the 2001 Baseline Study stipulated in the 2000 Landfill Franchise Agreement, this new study should determine and measure adverse effects, including but not limited to: traffic, soil conditions and contamination levels, air quality, surface and ground water conditions and contamination levels, noise, odor, visual screenings, litter, hours of operation, solid waste control systems and compliance with all solid waste permits. • The Baseline Study should also include human health impact of landfill.							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 - No Changes Made	9	4	0				

LSCL R-4	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text	9	3	0	24	24	62	40

The County should, as soon as possible, consider the public record of the deliberations leading to the execution of the 2020 Landfill Franchise Agreement in order to assess a) which party requested that the 2020 Tonnage Cap be eliminated if expansion was approved, b) if Benton County proposed the elimination of the 2020 Tonnage Cap, determine why this was done, c) determine the County's expectation for the benefit(s) to the County of accepting up to 1.1M Tons of waste per year when the County's reserve portion is approximately 6.8% of that amount, d) interpretation of the "Tonnage Cap", specifically relative to the 2020 Tonnage Cap, and e) expectations of both parties for future landfill site expansion, including any plans for multiple (repeated) future expansions. The county should then use this information to inform landfill-related decision-making. These negotiations were conducted privately (not in public meetings), and there are elements of these discussions that may be proprietary and/or fall under attorney-client privilege.							
Language Proposed by 3s							
Language Proposed by 2s "The county should use this information in its landfill-related decision-making and make it public to the extent possible. It should be recognized that the 2020 franchise negotiations were conducted privately (not in public meetings), and there are elements of these discussions that may be proprietary and/or fall under attorney-client privilege."							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 - No Changes Made	9	3	0				

LSCL R-5	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	2	3	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text The County should clarify and document the process for officially establishing Permitted Space, including any and all required Benton County actions and regulatory agency approvals (Oregon Dept. of Environmental Quality (ORDEQ), Environmental Protection Agency (EPA), etc.).	9	3	0	32	18	75	32
Language Proposed by 3s							
Language Proposed by 2s • Already addressed by Legal Subcommittee • This was already addressed by the Legal subcommittee. • Define or describe (a few adjectives would do) "Permitted Space" to help the general reader understand what is being recommended.							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 - No Changes Made	9	3	0				

LSCL R-6	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	2	3	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text	10	1	2	26	23	70	38

The County should clarify when formal approval of Cell 6 as a disposal area was granted.							
Language Proposed by 3s • This recommendation should be removed. This issue has already been addressed by the legal subcommittee. • This finding should be removed. This issue has already been addressed by the legal subcommittee.							
Language Proposed by 2s And communicate this with the County.							
	Formal Workgroup Polling						
Real-Time Draft Revision 3/23/23 The County should clarify when formal approval of Cell 6 as a disposal area was granted. LLU F-23 provides information on this issue.	7	5	0				

LSCL R-7	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text The Benton County Solid Waste Advisory Council (SWAC) should review all future Coffin Butte Landfill Annual Reports relative to past reports and official approvals, in particular with regard to intake volume, landfill traffic volume (both Municipal Solid Waste and leachate transport), expected landfill life and end of life, and total and remaining Permitted Space. SWAC should report these findings to the Board for consideration.	12	0	1	32	18	72	35

Language Proposed by 3s The Benton County Disposal Site Advisory Council (DSAC) should review all future Coffin Butte Landfill Annual Reports relative to past reports and official approvals, in particular with regard to intake volume, landfill traffic volume (both Municipal Solid Waste and leachate transport), expected landfill life and end of life, and total and remaining Permitted Space. DSAC should report these findings to the Board for consideration.							
Language Proposed by 2s							
	Formal Workgroup Polling						
Real-Time Draft Revision 3/23/23 The Benton County Disposal Site Advisory Council (DSAC) should review all future Coffin Butte Landfill Annual Reports relative to past reports and official approvals, in particular with regard to intake volume, landfill traffic volume (both Municipal Solid Waste and leachate transport), expected landfill life and end of life, and total and remaining Permitted Space. DSAC should report these findings to the Board for consideration.	9	3	0				

LSCL R-8	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Benton County should secure information from Republic Services about the Annual Tonnage figures for presentation to SWAC/DSAC as	12	0	0	31	19	74	34

soon as they are available, and not wait to include them for the first time in the Annual Report.							
	Formal Workgroup Polling						
No Changes Made	12	0	0				

LSCL R-9	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text The baseline scenarios laid out in this report assume that landfilling will continue as it is doing today for the next 16 years. That expectation should be tempered by signals of factors that can reshape Coffin Butte Landfill's social and regulatory landscape, especially environmental considerations related to the climate crisis. This reshaping is something that the County can participate in, on behalf of its residents, as the landfill's permitted volume is filled.	12	1	0	24	26	63	41
Language Proposed by 3s							
Language Proposed by 2s "That expectation should be tempered by signals of factors that can reshape Coffin Butte Landfill's social and regulatory landscape" Unclear, I don't know what you mean here. What signals and factors? What do you mean by reshaping and what does that entail?							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 - No Changes Made	12	1	0				

LSCL R-10	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	2	3	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text The County should take steps to acquire better information about the methane emissions of Coffin Butte Landfill, because the landfill's emissions are currently not well-characterized and use this information to guide diversion programs that could limit the amount of organic waste going to the Landfill.	12	1	0	30	21	75	35
Language Proposed by 3s							
Language Proposed by 2s please review latest submittal to DEQ before concluding that landfill gas is not well characterized.							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 - No Changes Made	12	1	0				

LSCL R-11	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	2	3	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text In its current actions and in concert with its Sustainable Materials Management Plan, the County should be aware of and prepare for changes in Coffin Butte Landfill's social and regulatory landscape, as the future could hold significant opportunities for the County and affiliated	12	1	0	33	17	72	33

organizations to bring waste management closer into alignment with the County's goals and values.							
Language Proposed by 3s							
Language Proposed by 2s In its current actions and in concert with its Sustainable Materials Management Plan, the County should be aware of and prepare for changes in Coffin Butte Landfill's social and regulatory landscape, as the future could hold significant opportunities for the County and affiliated organizations to bring materials management closer into alignment with the County's goals and values.							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 - No Changes Made	12	1	0				

LSCL R-12	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text The County should keep in mind that the most effective way to curtail a landfill's greenhouse gas emissions is to divert organic material from being landfilled. This can inform County and area-wide decisions regarding recycling, composting, food waste, and other initiatives affecting how the landfill's permitted volume is filled.	11	2	0	32	17	73	33
Language Proposed by 3s							

Language Proposed by 2s • The county should keep in mind that "ONE OF THE" most effective ways... Not the only way.... • The County should keep in mind that ONE OF the most effective WAYS to curtail a landfill's greenhouse gas emissions..." (As an industry leader with numerous composting operations, it is inaccurate to suggest this is the only way.)							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 - No Changes Made	11	2	0				

LLU FINDINGS

The first Workgroup Polling numbers are from the informal poll. Subsequent polling was completed at the Workgroup meetings and are formal polling numbers.

LLU F-1	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text Do conditions of approval imposed as part of a later land use approval supersede conditions imposed as part of a prior approval? Unless a later land use approval expressly addresses whether conditions of a prior land use approval are superseded, the issue will be subject to interpretation by the local government (the Board of County Commissioners, in this case).	11	0	0
	Final Workgroup Polling		
No Changes Made	11	0	0

LLU F-2	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text Only the current franchise agreement has legal effect. The previous franchise agreement is superseded when a new agreement takes effect.	11	0	0
	Final Workgroup Polling		
No Changes Made	11	0	0

LLU F-3A	Informal Workgroup Polling

	1	2	3
Draft 6 Text Only the current franchise agreement has legal effect. The previous franchise agreement is superseded when a new agreement takes effect.	12	1	0
Language Proposed by 3s			
Language Proposed by 2s "...and post-closure maintenance. The existing closure, post-closure plans do not include the physical work or monies needed to comply with the County's Land Use Conditions of Approval. [See additional DEQ information and CUP evaluations including PC-74-01 at conditions 4 & 6 and PC83-07 condition 10 in the full reports of the Legal and CUP subcommittees.]			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 - No Changes Made	12	1	0

LLU F-3B	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text DEQ reviewed the last annual FA update submittal, which was dated April 1, 2022 and approved on April 13, 2022. DEQ's approval letter summarizes the following: 1. The updated cost estimates for closure ($16,222,800) and post-closure care ($5,743,202) were correctly updated, prepared, and stamped by a registered P.E. 2. The current penal sum of your Bond, as provided by Evergreen National Indemnity Company, with your new Riders in place, covers the total of updated cost estimates. DEQ identifies Valley Landfill Inc. as the owner of the landfill and the DEQ solid waste permittee for DEQ permit #306. The operator of the landfill is Coffin Butte Landfill. The owner or operator of the landfill is responsible for compliance with the permit and permit conditions. The owner or operator is responsible for providing financial assurance for closure, post closure and any needed corrective action per ORS 459.272.	11	1	0

Valley Landfill Inc. uses a bond to provide financial assurance. According to OAR 340-094-0140(6)(d) and (6)(e) the permittee is to recertify compliance every year which Valley Landfill Inc. did in a March 28, 2022 attachment to the annual financial assurance submittal that DEQ received.			
Language Proposed by 3s			
Language Proposed by 2s #2: Who is "your"?			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 - No Changes Made	11	1	0

LLU F-3C	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text In negotiating the 2020 landfill franchise agreement, Benton County established three elements to provide assurance that costs of closure, post-closure and corrective action are covered: Statutory DEQ financial assurances, insurance, and the environment trust fund	12	0	0
	Formal Workgroup Polling		
No Changes Made	12	0	0

LLU F-4	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text What legally can and cannot be conditions of any land use approvals? Conditions of approval must relate to approval criteria. To be approved, an applicant must demonstrate compliance with all discretionary approval criteria. Conditions of approval cannot substitute for compliance with applicable criteria but may be imposed to	11	0	0

ensure the criteria are met. The county may find compliance with approval criteria by establishing that compliance is feasible, subject to compliance with a specific condition(s) of approval. A preponderance of the evidence must support a finding that the condition is "likely and reasonably certain" to result in compliance. To lessen adverse impacts on surrounding uses, the county may "impose conditions of approval to mitigate negative impacts to adjacent property, to meet the public service demand created by the development activity, or to otherwise ensure compliance with the purpose and provisions of this code." (BCC 53.220)			
	Formal Workgroup Polling		
No Changes Made	11	0	0

LLU F-5	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text In reviewing a CUP for landfill expansion, the County has jurisdiction over only the proposed expansion. Existing and past operations are not within the County's scope of review. Prior decisions are final and cannot be subjected to a new review or have additional/revised conditions of approval imposed as part of the CUP application for the expansion. The mechanism for enforcing conditions of approval is a separate process; see recommendation LLU R-11.	11	0	0
	Formal Workgroup Polling		
No Changes Made	11	0	0

LLU F-6	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text Benton County may not prohibit a private landfill operator from accepting solid waste from outside Benton County.	12	0	0

	Formal Workgroup Polling		
No Changes Made	12	0	0

LLU F-7	Informal Workgroup Polling **1**	**2**	**3**
Draft 6 Text Is DEQ prohibited from permitting another landfill west of the Cascades? No.	12	0	0
	Formal Workgroup Polling		
No Changes Made	12	0	0

LLU F-8	Informal Workgroup Polling **1**	**2**	**3**
Draft 6 Text What does the "regional landfill" designation mean? Oregon Revised Statute (ORS) 459.005(23) defines a Regional Disposal Site as "a disposal site that receives … more than 75,000 tons of solid waste a year from outside the immediate service area in which the disposal site is located…." The immediate service area of Coffin Butte is Benton County. Coffin Butte Landfill has received more than 75,000 tons from outside its immediate service area every year since at least 1993. Coffin Butte thus meets the definition of a regional landfill per ORS.	11	1	0
Language Proposed by 3s			
Language Proposed by 2s What does "regional landfill" mean as it relates to Coffin Butte? In the history of Coffin Butte, there are two meanings. As described in 1974 and 1983 County records, "regional landfill" is specified as one serving a three county geographic area (Benton, Linn, Polk). Also in 1983, a Benton County document includes mention of Coffin Butte receiving about 94,000 tons per year of waste from these three counties. Receiving this tonnage of wastes			

brings the landfill within the requirements of Oregon Revised Statute (ORS) 459.005(23) which defines a Regional Disposal Site as “a disposal site that receives … more than 75,000 tons of solid waste a year from outside the immediate service area in which the disposal site is located….” Whether the immediate service area of Coffin Butte is just Benton County or included Linn and Polk, Coffin Butte Landfill has received more than 75,000 tons from outside its immediate service area every year since at least 1993 bringing it under DEQ's requirements for "regional landfills". A US Supreme Court decision in 1998 which prohibits the County from limiting the collection area for the landfill makes the "regional" distinction moot. Coffin Butte has received wastes from 39 counties, some of them in the states of Washington and Idaho.			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 - No Changes Made	11	1	0

LLU F-9	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text Interpretation of the review criteria for a landfill-expansion conditional use permit requires determinations that are based on the facts of the specific application. The rules of statutory construction describe how ambiguous terms are to be interpreted: text, context, and legislative history. However, LUBA’s standard of review is highly deferential to the local decisionmaker’s interpretations, so if the interpretation is plausible (does not conflict with the provision’s language), LUBA (and the courts) will uphold the local interpretation. This gives the decision-maker a lot of flexibility in interpreting their own code provisions. In response to a request by the Board of Commissioners, the following four findings provide staff-provided historical information, particularly over the past 25 years, on how the County decision-makers have interpreted these terms across the full range of conditional use applications the County reviews. They are not recommendations on how the Planning Commission and Board should interpret future applications. Restated, each body fully retains its flexibility in interpreting those terms in the context of the specific application before it.	11	1	0
Language Proposed by 3s			
Language Proposed by 2s			

"...(does not conflict with the provision's language)"... What provision is being referred to? Awkward to read. Is the phrase in parentheses needed?			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 - No Changes Made	11	1	0

LLU F-9A	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text The first criterion requires the decision-maker to find that "*The proposed use does not seriously interfere with uses on adjacent property, with the character of the area, or with the purpose of the zone"* [BCC 53.215(1)]. In applying the term "seriously interfere", Staff reports that in past CUP applications the Planning Official, Planning Commission or Board has considered factors such as: does the proposed use make it difficult to continue uses on the adjacent property; would it create significant disruption to the character of the area; would it conflict, in a substantive way, with the purpose of the zone. As noted above, the county decision-makers have wide discretion in evaluating whether a use will "seriously interfere." In the past, "seriously interfere" has generally been applied as meaning more than an inconvenience or irritation but is a lesser threshold than rendering the uses on adjacent property impossible. Speculated effect on property values has not been a primary consideration in determining serious interference.	9	0	1
Language Proposed by 3s No contemporaneous historical factual records seem to have been reviewed. This appears to be the current County staffs impression / recollection of what others were thinking. This finding is extremely hard to support.			
Language Proposed by 2s			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 The first criterion requires the decision-maker to find that "*The proposed use does not seriously interfere with uses on adjacent property, with the character of the area, or with the purpose of the zone"* [BCC 53.215(1)]. In	11	0	0

applying the term “seriously interfere”, Staff reports that in past CUP applications the Planning Official, Planning Commission or Board has considered factors such as: does the proposed use make it difficult to continue uses on the adjacent property; would it create significant disruption to the character of the area; would it conflict, in a substantive way, with the purpose of the zone. As noted above, the county decision-makers have wide discretion in evaluating whether a use will “seriously interfere.” In the past, “seriously interfere” has generally been applied as meaning more than an inconvenience or irritation but is a lesser threshold than rendering the uses on adjacent property impossible. Speculated effect on property values has not been a primary consideration in determining serious interference. This is not a recommendation on how the Planning Commission and Board should interpret future applications. Restated, each body fully retains its flexibility in interpreting those terms in the context of the specific application before it.			

LLU F-9B	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text In the phrase “character of the area” in BCC 53.215(1), how narrow or broad has “the area” typically been? When the County is evaluating the “character of the area”, the “area” is based on the facts of each application and how far the effects of the proposed land use are likely to extend. The impacted area will be unique to each application and may differ by particular effect—for example, the impact of noise might extend farther than visual impact (or vice versa). Because each review is unique, examining past cases for the specific distances utilized may not be illuminating. Staff reports that in past CUP applications the Planning Official, Planning Commission or Board has considered these factors in determining the character of the area and its extent include: • The particular attributes of the geographic setting (including existing operations in the vicinity.) • Is there a distinct change in the area's physical characteristics beyond a certain point (such as a change from flat land to hills or from one river basin across a ridgeline into another)? • What features or elements give the area its character? Is it a homogenous or heterogeneous character (is there a high degree of similarity, or is it mixed)?	9	0	1

How far are the effects of the proposed land use likely to extend? This may differ by particular effect—for example, the impact of noise might extend farther than visual impact (or vice versa).			
Language Proposed by 3s No contemporaneous historical factual records seem to have been reviewed. This appears to be the current County staffs impression / recollection of what others were thinking. This finding is extremely hard to support.			
Language Proposed by 2s			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 In the phrase "character of the area" in BCC 53.215(1), how narrow or broad has "the area" typically been? When the County is evaluating the "character of the area", the "area" is based on the facts of each application and how far the effects of the proposed land use are likely to extend. The impacted area will be unique to each application and may differ by particular effect—for example, the impact of noise might extend farther than visual impact (or vice versa). Because each review is unique, examining past cases for the specific distances utilized may not be illuminating. Staff reports that in past CUP applications the Planning Official, Planning Commission or Board has considered these factors in determining the character of the area and its extent include: • The particular attributes of the geographic setting (including existing operations in the vicinity.) • Is there a distinct change in the area's physical characteristics beyond a certain point (such as a change from flat land to hills or from one river basin across a ridgeline into another)? • What features or elements give the area its character? Is it a homogenous or heterogeneous character (is there a high degree of similarity, or is it mixed)? • How far are the effects of the proposed land use likely to extend? This may differ by particular effect—for example, the impact of noise might extend farther than visual impact (or vice versa). This is not a recommendation on how the Planning Commission and Board should interpret future applications. Restated, each body fully retains its flexibility in interpreting those terms in the context of the specific application before it.	11	0	0

LLU F-9C	Informal Workgroup Polling		
	1	2	3
Draft 6 Text In the conditional use review criterion of: "*The proposed use does not impose an undue burden on any public improvements, facilities, utilities, or services available to the area"* [BCC 53.215(2)], what constitutes a "burden" is again based on the facts of the application. Staff has stated that in past CUP applications the Planning Official, Planning Commission or Board has considered a "burden" on public infrastructure and service is likely "undue" if it overloads the system or causes significant degradation in terms of quality, effectiveness or timeliness of infrastructure or service. Lesser burdens may also be "undue" if the effect jeopardizes people's health, safety, or welfare. Burdens that the County has typically not considered "undue" include those that can be mitigated through planned improvements, that are incremental service additions[71] consistent with that generated by other uses in the area or that fall below an established threshold (such as road classification standards). For planned improvements to be relied upon in determining that a burden is not undue, the implementation of those improvements must be certain, such as through a condition of approval specifying the improvement and the timeline for implementation. Again, as noted in LLU F-9 above, so long as the interpretation is plausible, the decision makers have wide discretion in interpreting the term "undue burden."	9	1	0
Language Proposed by 3s			
Language Proposed by 2s No contemporaneous historical factual records substantiating these statements are cited. Please cite and explain supporting records of actual Benton County "Undue Burden" decisions.			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 In the conditional use review criterion of: "*The proposed use does not impose an undue burden on any public improvements, facilities, utilities, or services available to the area"* [BCC 53.215(2)], what constitutes a "burden" is	11	0	0

[71] Incremental service additions are additions to the overall burden on services that are small relative to the total. For example, adding 10 daily vehicle trips to a road currently experiencing 300 daily vehicle trips could be considered an incremental service addition.

again based on the facts of the application. Staff has stated that in past CUP applications the Planning Official, Planning Commission or Board has considered a "burden" on public infrastructure and service is likely "undue" if it overloads the system or causes significant degradation in terms of quality, effectiveness or timeliness of infrastructure or service. Lesser burdens may also be "undue" if the effect jeopardizes people's health, safety, or welfare. Burdens that the County has typically not considered "undue" include those that can be mitigated through planned improvements, that are incremental service additions[72] consistent with that generated by other uses in the area or that fall below an established threshold (such as road classification standards). For planned improvements to be relied upon in determining that a burden is not undue, the implementation of those improvements must be certain, such as through a condition of approval specifying the improvement and the timeline for implementation. Again, as noted in LLU F-9 above, so long as the interpretation is plausible, the decision makers have wide discretion in interpreting the term "undue burden." This is not a recommendation on how the Planning Commission and Board should interpret future applications. Restated, each body fully retains its flexibility in interpreting those terms in the context of the specific application before it.			

LLU F-9D	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text With regard to the conditional use review criterion of BCC 53.215(3) *["The proposed use complies with any additional criteria which may be required for the specific use by this code."*], if the county has adopted additional code criteria that apply to a proposed use, then those code provisions would apply. This does not allow the county to apply unadopted criteria that are not in the code at the time of application. In applying for expansion in the Landfill Site zone, the BCC Chapter 77 does not adopt any additional criteria and, therefore, no additional criteria apply.	10	0	0
	Formal Workgroup Polling		

[72] Incremental service additions are additions to the overall burden on services that are small relative to the total. For example, adding 10 daily vehicle trips to a road currently experiencing 300 daily vehicle trips could be considered an incremental service addition.

No Changes Made	10	0	0

LLU F-10	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text SWAC's bylaws require it to "assist the Board of Commissioners (Board) in Planning and implementing solid waste management, pursuant to BCC Chapter 23, the Benton County Solid Waste Management Ordinance." BCC 77.305 directs the Solid Waste Advisory Council (SWAC) to review and make recommendations regarding the Site Development Plan and Narrative submitted on a landfill-expansion CUP; however, the code does not specify what criteria or considerations that recommendation should be based on. Based on SWAC's bylaws and role in planning and implementing solid waste management, it appears that the intent of the language in BCC 77.305 is that the Planning Commission rely on SWAC for guidance on the impacts of the Site Development Plan and Narrative on solid waste management. However, the language of BCC 77.305 does not expressly limit the scope of SWAC's recommendations.	9	1	0
Language Proposed by 3s			
Language Proposed by 2s Delete "Based on SWAC's bylaws and role in planning and implementing solid waste management, it appears that the intent of the language in BCC 77.305 is that the Planning Commission rely on SWAC for guidance on the impacts of the Site Development Plan and Narrative on solid waste management. However, the language of BCC 77.305 does not expressly limit the scope of SWAC's recommendations." Option is to use Oregon statutes to explain SWAC role.			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 - No Changes Made	9	1	0

LLU F-11	Informal Workgroup Polling		
	1	**2**	**3**

Draft 6 Text Pursuant to BCC 77.310(1)(e), to what extent may the Planning Official require additional information from an applicant for a Landfill Site Zone Conditional Use Permit? Only "other information" that relates to the approval criteria for a conditional use permit may be required under BCC 77.310(1)(e), and the applicant may choose to provide some, all, or none of the requested information. The land use decision must be based on demonstrating compliance with the code criteria, not on whether the applicant provided the requested information.	10	0	0
	Formal Workgroup Polling		
No Changes Made	10	0	0

LLU F-12	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text BCC 77.310(1) lists the information required in the applicant's narrative submitted with a conditional use application. The information required under BCC 77.310(1) includes the documents and information required to be part of the application. During the "completeness" process, the Planning Official will consider whether the applicant's documents and information are sufficient for purposes of review of the application. A determination that an application is complete does not mean that the information satisfies the approval criteria.	10	0	0
	Formal Workgroup Polling		
No Changes Made	10	0	0

LLU F-13	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text In addition to the list of information listed in BCC 77.310(1)(a)-(d), BCC 77.310(1)(e) allows the Planning Official to request that the conditional use application narrative include "other information". This information must relate	10	0	0

to the approval criteria. The applicant has the discretion whether to submit the requested information. The applicant's failure to submit any requested information is relevant to the decision on the application only to the extent that the decision maker determines that the information is necessary to comply with an approval criterion.			
	Formal Workgroup Polling		
No Changes Made	10	0	0

LLU F-14	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text Pursuant to long-standing LUBA case law, representations and statements made by the applicant do not become conditions of approval unless those statements are specifically included or incorporated, directly or by reference, into the final decision as conditions of approval. See LLU R-10.	10	0	0
	Formal Workgroup Polling		
No Changes Made	10	0	0

LLU F-15	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text How does the 2002 Memorandum of Understanding (MOU) fit into the Workgroup considerations? The 2002 MOU clarifies authorization for landfill activities within the Landfill Zone and establishes a point in time at which the landfill was operating in compliance with state and local requirements. • The MOU does not address whether the County's determination of "compliance with local requirements" includes compliance with all conditions of past land use approvals.	9	0	1

• The MOU indicates that, as of 11/5/2002, there were no known land use ordinance violations involving the landfill. The MOU does not describe the extent to which Benton County investigated the compliance status of any conditions of past land use approvals in preparing the MOU. • The MOU did not negate or supersede conditions of past land use approvals.			
Language Proposed by 3s Notes Regarding the 2002 MOU: 1) it does not mention how the MOU was intended to relate to land use decisions 2) it is unclear as to what LUCS are referred to and their impact e.g.: the 1996 LUCS referred to in the MOU has not been found, 3) a LUCS dated 12/18/00 has been found as a free standing document, 4) a 2000 Site Plan (Is the the last DEQ approve in 2000 the MOU refers to?) using a LUCS dated Feb 25 '22 was found i.e. an 8 year gap between LUCS issuance and use in an identified document. 4) the current Operating Permit was issued in 2019 but references a 12/18/00 LUCS i.e. 20 year gap	2	4	4
Language Proposed by 2s			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 How does the 2002 Memorandum of Understanding (MOU) fit into the Workgroup considerations? The 2002 MOU clarifies authorization for landfill activities within the Landfill Zone and establishes a point in time at which the landfill was operating in compliance with state and local requirements. • The MOU does not address whether the County's determination of "compliance with local requirements" includes compliance with all conditions of past land use approvals. • The MOU indicates that, as of 11/5/2002, there were no known land use ordinance violations involving the landfill. The MOU does not describe the extent to which Benton County investigated the compliance status of any conditions of past land use approvals in preparing the MOU. • The MOU did not negate or supersede conditions of past land use approvals.	8	0	2

LLU F-16	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text	10	0	0

Is there an opportunity for public input to determine whether an application is complete? The public may submit comments on the completeness of an application. However, the completeness process is not a review of the application's merits; only whether sufficient information has been submitted to the application's merits can be evaluated through the public hearing process. And there are no statutory or code requirements for incorporating public input on the county's administrative determination of whether an application is complete.			
	Formal Workgroup Polling		
No Changes Made	10	0	0

LLU F-17	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text Once any land use application is submitted to the County, the County Planning Official must determine within 30 days whether the application is complete. Following the completeness process, the County then has 150 days to make a final land use decision, including the completion of any appeal to the Board of Commissioners or other proceeding under County Code. If the County does not make a final decision within the prescribed time, an applicant may petition the circuit court for a "writ of mandamus." ORS 215.429(1) et seq and citing ORS 34.130. This statute requires the circuit court to approve the application unless the County can prove it violates a substantive provision of the Comprehensive Plan or Code. If the court determines the County has not met that burden, the applicant may then proceed with the development as proposed.	10	0	0
	Formal Workgroup Polling		
No Changes Made	10	0	0

LLU F-18	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text	10	0	0

Section 2 of the June 7, 2022, collection franchise agreement between Benton County and Allied Waste Services of Corvallis ("Republic Services") contains a mandatory limited reopener provision. Contract negotiations are not conducted in public. With that said, a process could be designed to allow public input, comment, and feedback on any provisions subject to Section 2 that may be negotiated between the parties to the agreement. The renegotiated collection franchise agreement must be agreed upon, in its entirety, by both Benton County and Republic Services.			
	Formal Workgroup Polling		
No Changes Made	10	0	0

LLU F-19	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text What options does the Planning Commission have if they determine that DEQ regulation of a particular parameter is inadequate or likely to be inadequate? The County could not determine that DEQ regulation of a particular environmental parameter is inadequate to protect public health and deny the application on those grounds. The County also has no authority to interpret, apply or enforce DEQ regulations (except for regulatory programs that DEQ formally delegates to a local government, such as with on-site sewage disposal regulation.) Additionally, the County cannot assume that an activity will result in a violation of DEQ parameters when the activity hasn't happened. The County could potentially determine that DEQ's regulation of a particular parameter is inadequate to prevent the proposed land use from seriously interfering with uses on surrounding properties. However, the County must articulate why DEQ's requirements are insufficient, and the County typically lacks the expertise or personnel to determine whether a particular environmental parameter is being exceeded. Alternatively, the County could require that specified mitigations be implemented, which is simpler to monitor than the level of certain emissions.	9	1	0
Language Proposed by 3s			
Language Proposed by 2s			

• This finding is very narrow. Consider adding this broader based finding. "The County could potentially determine that DEQ's regulations are inadequate to prevent the proposed land use from seriously interfering with uses on surrounding properties or becoming a public burden. The County could require that specified mitigations be implemented to address these concerns.			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 - No Changes Made	9	1	0

LLU F-20	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text Could a new CUP approval be conditioned on cleaning up noncompliance with existing operations? A new CUP cannot require as a condition of approval that an existing operation on a different property be modified or that noncompliance be rectified. Enforcement procedures (see Chapter 31 of the Benton County Code) would have to address the noncompliance. See recommendation R-11.	9	1	0
Language Proposed by 3s			
Language Proposed by 2s • "...an existing operation on the same or a different property" ...			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 - No Changes Made	9	1	0

LLU F-21	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text	11	0	0

Is compliance/noncompliance with conditions of past land use approvals a topic that can be considered in any way during a new land use application? Generally, the new proposal must be evaluated on its own merits relative to the approval criteria. However, the current non-compliance of an existing land use condition could provide information that the Planning Commission considers in developing a condition on a new application. If an application is made to expand an existing land use that is currently out of compliance with a condition of approval of a previous decision, and that noncompliance is causing issues for surrounding land uses, noncompliance of the original land use decision is not in itself grounds to deny the new application. However, the decision-maker could potentially look at the fact of existing noncompliance in evaluating whether that noncompliance is causing the existing land use to "seriously interfere" with uses on surrounding properties. That fact can then be used as evidence in evaluating whether the proposed land use complies with the review criteria because the same land use in a similar location was seriously interfering with surrounding uses even though it was subject to conditions of approval. If the language in a condition of a past decision was unclear or insufficient to ensure compliance with an approval criterion, in evaluating a new application the decision maker could craft and impose a condition on a new decision that more clearly describes the measures necessary to ensure compliance. Past conditions superseded by subsequent decisions or changes in the law could not form a basis for such analysis.			
	Formal Workgroup Finding		
No Changes Made	11	0	0

LLU F-22	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text Were the site plan and narrative in PC-83-7 regulatory conditions of approval? No. The Board adopted the applicant's site plan and narrative in PC-83-07 as "findings" but did not specifically adopt them as conditions of approval. Findings are not conditions of approval. Rather, they explain how the decision	9	0	1

was reached and the facts the decision maker relied on to determine compliance with a criterion. For compliance with specific findings to be enforceable they must be made conditions of approval. The conditions that were adopted through the 1983 decision, described as "conditions of development", specified changes to be made to the applicant's site plan. Compliance with those revisions was not required as a condition of approval; the conditions required only that the revisions be submitted. The decision did not describe these revisions as necessary to establish compliance with any approval criteria and required only submission of additional documentation and a revised narrative. Because a) the site plan and narrative, while relied upon as findings, were not made conditions of approval, and because b) the conditions imposed in PC-83-07 that required changes to the site plan did not require those changes on the basis that they were necessary to establish compliance with any criterion but rather required only that they be submitted, the site plan and narrative are not conditions approval of PC-83-07.			
Language Proposed by 3s I believe this question needs more review. One of the documents the CUP Subcommittee reviewed is the Planning Commission recommendation for approving changes to the Comprehensive Plan. The Commission based their positive recommendation on a Staff Report and completion of multiple narratives. Many of these materials are in the file. The submittals describe proposed landfill terracing, sloping, post closure grazing, expectations for future use of these lands as indicated by the existing farm and forest use designations, methane management, and some aspects of screening the landfill. Presumably these were included in the Comprehensive Plan. The question is what requirements / obligations, etc were agreed to for the site in 1983.			
Add as new finding LLU F-22a: In 1983 the County created community expectations for how the landfill would look in decisions documented in PC83-07. Appearance issues including steepness of the landfill slopes, terracing, screening, and returning the land to grazing or other farm-like uses were addressed and committed to by the County and landfill operator. The way the County chose to implement these commitments is questionable given legal hindsight. Whether they be enforceable "conditions of approval" or "findings" in the PC83-07 record remains in dispute. The BCTT Workgroup is not a court of law. The differing interpretations over a possible process or wording error of the 83-07 decision, that causes this issue to arise, should not be the primary concern. Of greater importance for the County's relationship with its residents is the Planning Commission and Board of Commissioners decisions to adopt the offered designs and reclamation plans to meet public expectations. These expectations were made clear in the records of PC83-07. At a minimum, the debate over PC83-07's intended vs.	5	2	4

actual conditions of approval or findings draws attention to the fragile "good neighbor" relationship between the County, landfill owner/operator and the public established through the 83-07 land use hearing process. Acknowledging these discrepancies with prior commitments should form a basis for the County, landfill owner/operator, DEQ and the public to come to reasonable expectations for the appearance and long-term use and closure of the landfill facility.			
Language Proposed by 2s			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 - No Changes Made Were the site plan and narrative in PC-83-7 regulatory conditions of approval? No. The Board adopted the applicant's site plan and narrative in PC-83-07 as "findings" but did not specifically adopt them as conditions of approval. Findings are not conditions of approval. Rather, they explain how the decision was reached and the facts the decision maker relied on to determine compliance with a criterion. For compliance with specific findings to be enforceable they must be made conditions of approval. The conditions that were adopted through the 1983 decision, described as "conditions of development", specified changes to be made to the applicant's site plan. Compliance with those revisions was not required as a condition of approval; the conditions required only that the revisions be submitted. The decision did not describe these revisions as necessary to establish compliance with any approval criteria and required only submission of additional documentation and a revised narrative. Because a) the site plan and narrative, while relied upon as findings, were not made conditions of approval, and because b) the conditions imposed in PC-83-07 that required changes to the site plan did not require those changes on the basis that they were necessary to establish compliance with any criterion but rather required only that they be submitted, the site plan and narrative are not conditions approval of PC-83-07.	7	1	3

LLU F-23	Informal Workgroup Polling		
	1	**2**	**3**

Draft 6 Text Clarify when formal approval of landfilling Cell 6 (current quarry) was granted. Land Use File PC-83-7 has been interpreted by Benton County, including in the 2002 MOU, as authorizing landfilling of the area known as Cell 6, the current quarry. The record in PC-83-07 does not clearly specify that the portion of the property containing the current quarry is authorized for landfilling. However, the Board of Commissioners' findings in PC-83-7 state that 194 acres are approved for landfilling on the property north of Coffin Butte Road; that the total area of the property in the LS zone is approximately 266 acres; and that 59.23 acres of the LS zone are located south of Coffin Butte Road. That leaves approximately 207 acres north of Coffin Butte Road. Given that several areas are clearly shown on the 1983 site plan as being designated open space/buffer, there is no possible configuration of 194 acres out of the 207 acres total that does not include the current quarry area. Based on this analysis, this subcommittee concludes that quarry area was included in the area approved for landfills by PC-83-7.	9	0	1
Language Proposed by 3s More background and historical support on the County's interpretation is needed. I am uncomfortable with the interpretation PC-83-7 and the 2002 MOU because: "Cell 6" is: 1) not mentioned in PC-83-7. 2) not show on applicant drawings of the landfill as late as 2011. 3) is shown on applicant drawings dated 2022. The portion of a drawing LS offered showing the 1983 "Existing Quarry": 1) places the quarry outside the "Approximate Solid Waste Disposal Boundary" and "Proposed Solid (illegible word) Disposal Boundary". 2) does not show a quarry extending into the area identified in 2020 as Cell 6. 3) does not show what use the drawing was intended for, no date drawn, etc. i.e. it cannot be validated. 4) shows a requirement for screening the landfill along Coffin Butte Road and Hwy 99 with about 3 dozen conifers. Regarding the 2002 MOU: 1) it does not mention how the MOU was intended to relate to land use decisions 2) is unclear as to what LUCS are referred to and their impact e.g.: the 1996 LUCS referred to in the MOU has not been found, 3) a LUCS dated 12/18/00 has been found as a free standing document, 4) a 2000 Site Plan (Is the the last DEQ approve in 2000 the MOU refers to?) using a LUCS dated Feb 25 '22 was found i.e. an 8 year gap between LUCS issuance and use in an identified document. 5) the current Operating Permit was issued in 2019 but references a 12/18/00 LUCS i.e. 20 year gap 6) it was written years before a "Cell 6" was defined in a landfill operator's drawing.			

Language Proposed by 2s Change "Clarify" at start of this finding.			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 Clarify when formal approval of landfilling Cell 6 (current quarry) was granted. Land Use File PC-83-7 has been interpreted by Benton County, including in the 2002 MOU, as authorizing landfilling of the area known as Cell 6, the current quarry. The record in PC-83-07 does not clearly specify that the portion of the property containing the current quarry is authorized for landfilling. However, the Board of Commissioners' findings in PC-83-7 state that 194 acres are approved for landfilling on the property north of Coffin Butte Road; that the total area of the property in the LS zone is approximately 266 acres; and that 59.23 acres of the LS zone are located south of Coffin Butte Road. That leaves approximately 207 acres north of Coffin Butte Road. Given that several areas are clearly shown on the 1983 site plan as being designated open space/buffer, there is no possible configuration of 194 acres out of the 207 acres total that does not include the current quarry area. Based on this analysis, this subcommittee concludes that quarry area was included in the area approved for landfills by PC-83-7.	5	3	3
Clarify when formal approval of landfilling Cell 6 (current quarry) was granted. Land Use File PC-83-7 has been interpreted by Benton County, including in the 2002 MOU, as authorizing landfilling of the area known as Cell 6, the current quarry. The record in PC-83-07 does not clearly specify that the portion of the property containing the current quarry is authorized for landfilling. However, the Board of Commissioners' findings in PC-83-7 state that 194 acres are approved for landfilling on the property north of Coffin Butte Road; that the total area of the property in the LS zone is approximately 266 acres; and that 59.23 acres of the LS zone are located south of Coffin Butte Road. That leaves approximately 207 acres north of Coffin Butte Road. Given that several areas are clearly shown on the 1983 site plan as being designated open space/buffer, there is no possible configuration of 194 acres out of the 207 acres total that does not include the current quarry area. Based on this analysis, this subcommittee concludes that quarry area was included in the area approved for landfills by PC-83-7. "Cell 6" is: 1) not mentioned in PC-83-7. 2) not show on applicant drawings of the landfill as late as 2011. 3) is shown on applicant drawings dated 2022. The portion of a drawing LS offered showing the 1983	5	2	4

"Existing Quarry": 1) places the quarry outside the "Approximate Solid Waste Disposal Boundary" and "Proposed Solid (illegible word) Disposal Boundary". 2) does not show a quarry extending into the area identified in 2020 as Cell 6. 3) does not show what use the drawing was intended for, no date drawn, etc. i.e. it cannot be validated. 4) shows a requirement for screening the landfill along Coffin Butte Road and Hwy 99 with about 3 dozen conifers. Regarding the 2002 MOU: 1) it does not mention how the MOU was intended to relate to land use decisions 2) is unclear as to what LUCS are referred to and their impact e.g.: the 1996 LUCS referred to in the MOU has not been found, 3) a LUCS dated 12/18/00 has been found as a free standing document, 4) a 2000 Site Plan (Is the the last DEQ approve in 2000 the MOU refers to?) using a LUCS dated Feb 25 '22 was found i.e. an 8 year gap between LUCS issuance and use in an identified document. 5) the current Operating Permit was issued in 2019 but references a 12/18/00 LUCS i.e. 20 year gap 6) it was written years before a "Cell 6" was defined in a landfill operator's drawing.			
Clarify when formal approval of landfilling Cell 6 (current quarry) was granted. Land Use File PC-83-7 has been interpreted by Benton County, including in the 2002 MOU, as authorizing landfilling of the area known as Cell 6, the current quarry. The record in PC-83-07 does not clearly specify that the portion of the property containing the current quarry is authorized for landfilling. However, the Board of Commissioners' findings in PC-83-7 state that 194 acres are approved for landfilling on the property north of Coffin Butte Road; that the total area of the property in the LS zone is approximately 266 acres; and that 59.23 acres of the LS zone are located south of Coffin Butte Road. That leaves approximately 207 acres north of Coffin Butte Road. Given that several areas are clearly shown on the 1983 site plan as being designated open space/buffer, there is no possible configuration of 194 acres out of the 207 acres total that does not include the current quarry area. Based on this analysis, this subcommittee concludes that quarry area was included in the area approved for landfills by PC-83-7. However, no official county land use determination has been made on this point.	5	1	5

LLU F-24	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text	10	0	0

The County's decision on a conditional use permit must be based on the evidence submitted into the record. Evidence must be submitted into the record before the record is closed. The Planning Commission makes the initial decision on a conditional use application to expand the landfill, and the record includes all evidence submitted into the record before the Planning Commission makes its decision. The Planning Commission's decision may be appealed to the Board of Commissioners. The Board considers the record of the decision being appealed (all evidence and testimony submitted to the Planning Commission) and any new evidence or testimony that is submitted into the record at the Board's appeal hearing. The record closes either at the end of the final hearing on the application, or if there has been a request to leave the record open before the end of the final hearing, on the date specified at that hearing.			
	Formal Workgroup Poll		
No Changes Made	10	0	0

LLU F-25A	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text A petition is circulating requesting the Board of Commissioners "OPPPOSE ANY expansion of the Coffin Butte Landfill before Benton County completes a thorough, detailed waste management plan that focuses on future resilience and includes alternatives for decreasing and redistributing materials from the waste steam." One of its sponsors said, "All [it] does is urge you, the Commissioners — if the application comes before you on appeal following a decision by the Planning Commission — to "oppose any expansion request before you have a materials management plan in place to guide you. How can you approve a land-use action that will have a permanent impact on our county and its inhabitants, for generations to come, when you don't know what all the alternatives are?" (Emphasis in original.)	6	3	1
Language Proposed by 3s Not relevant. It is not a work product of the WorkGroup.			
Language Proposed by 2s			

• Should the petition be mentioned considering there have been other comments that support continuation of the landfill, if not expansion. This is an issue of fairness. • The SMMP does not strike down the Solid Waste Management Plan but works shoulder to shoulder with the transition from a linear economy to a circular economy sustained by a material management plan that hopefully in time will increase the longevity of Coffin Butte with minimum expansions. If the Circular economy or in combination with an alternative inter-modal circular economy transfer station to another regional landfill does not complement the demand - supply equilibrium of Coffin Butte, then a minimum expansion of Coffin Butte may be needed to stay the supply equilibrium until the Circular economy can reach goals of sustainability. • Not sure why this would need to be considered a finding - feels like a bit of a stretch.			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 ~~A petition is circulating requesting the Board of Commissioners "OPPPOSE ANY expansion of the Coffin Butte Landfill before Benton County completes a thorough, detailed waste management plan that focuses on future resilience and includes alternatives for decreasing and redistributing materials from the waste steam." One of its sponsors said, "All [it] does is urge you, the Commissioners — if the application comes before you on appeal following a decision by the Planning Commission — to "oppose any expansion request before you have a materials management plan in place to guide you. How can you approve a land-use action that will have a permanent impact on our county and its inhabitants, for generations to come, when you don't know what all the alternatives are?" (Emphasis in original.)~~			
Eliminate F-25a, 25b, and 25c	11	0	0

LLU F-25B	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text The petition sponsors agree with the County's position that it cannot legally postpone consideration of any landfill expansion pending completion of a Sustainable Materials Management Plan (SMMP). However, *t*he petition	6	3	1

essentially states that a future waste management plan is necessary before the Board can thoroughly evaluate a proposed expansion because that plan may provide evidence that a landfill expansion is not needed, or that it may demonstrate suitable alternatives to a landfill expansion. Opposition to a conditional use permit based on potential findings from a future waste management plan would effectively impose an impermissible de facto moratorium pending the development of that plan. As discussed in Finding LLU F-17, failure by the County to reach a final decision, including all local appeals, within 150 days of a complete application can result in a writ of mandamus in which the circuit court may authorize the land use as proposed.			
Language Proposed by 3s Not relevant. It is not a work product of the WorkGroup.			
Language Proposed by 2s • Should the petition be mentioned considering there have been other comments that support continuation of the landfill, if not expansion. This is an issue of fairness. • Finding 25b seems to be the one to keep and possibly combined with portions of 25a.			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 ~~The petition sponsors agree with the County's position that it cannot legally postpone consideration of any landfill expansion pending completion of a Sustainable Materials Management Plan (SMMP). However, the petition essentially states that a future waste management plan is necessary before the Board can thoroughly evaluate a proposed expansion because that plan may provide evidence that a landfill expansion is not needed, or that it may demonstrate suitable alternatives to a landfill expansion. Opposition to a conditional use permit based on potential findings from a future waste management plan would effectively impose an impermissible de facto moratorium pending the development of that plan. As discussed in Finding LLU F-17, failure by the County to reach a final decision, including all local appeals, within 150 days of a complete application can result in a writ of mandamus in which the circuit court may authorize the land use as proposed.~~			
Eliminate F-25a, 25b, and 25c	11	0	0

LLU F-25C	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text Petition sponsors have stated that they are asking the Board to conclude that, in the absence of a waste management plan, any proposal to expand the landfill necessarily violates one or more of the *current* discretionary approval criteria. A land use decision on a conditional use permit application must be based on the specifics of that application. To make a determination as to whether a land use application violates one or more conditional use criteria requires the decision-maker to review the application and make written findings as to whether and how the application complies with the criteria. This cannot be done prior to receipt of an application or outside of the land use review process.	6	3	1
Language Proposed by 3s Not relevant. It is not a work product of the WorkGroup.			
Language Proposed by 2s • Should the petition be mentioned considering there have been other comments that support continuation of the landfill, if not expansion. This is an issue of fairness. • clarify land use application • This again feels like we are venturing into waters outside the charge of this scope.			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 ~~Petition sponsors have stated that they are asking the Board to conclude that, in the absence of a waste management plan, any proposal to expand the landfill necessarily violates one or more of the *current* discretionary approval criteria. A land use decision on a conditional use permit application must be based on the specifics of that application. To make a determination as to whether a land use application violates one or more conditional use criteria requires the decision-maker to review the application and make written findings as to whether and how the application complies with the criteria. This cannot be done prior to receipt of an application or outside of the land use review process.~~			

Eliminate F-25a, 25b, and 25c	11	0	0

LLU F-25D (CHANGED TO LLU F-25a)	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text The current CUP criteria give the Board discretion and, under the existing statute, LUBA and the courts will defer to the Board's interpretation of its criteria so long as the interpretation is "plausible." That discretion, however, is not unlimited and does not extend to applying unadopted criteria or to adding criteria that are not in the code at the time an application is filed. The current CUP criteria do not include – and cannot plausibly be interpreted to include -- any requirement that the applicant demonstrate need or that it must evaluate alternatives to a proposed landfill expansion. Interpreting the existing code criteria to require demonstration of "need" or alternatives is beyond the range of discretion afforded by state statute and would constitute an improper code amendment under the guise of interpretation.	9	0	1
Language Proposed by 3s Not relevant. It is not a work product of the WorkGroup.			
Language Proposed by 2s			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 - No Changes Made	10	0	0

LLU F-25E (CHANGED TO LLU F-25b)	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text	8	0	1

Under both state law and the county code, an application must be evaluated based on the criteria in effect on the date the application is filed. Because the current CUP criteria do not require the applicant to address need or reasonable alternatives to the expansion, even if the evidence existed today, evidence regarding the need for or alternatives to landfill expansion is not relevant to the existing conditional use approval criteria; and therefore the possible evidence that might flow from a future SMMP is not relevant to the Board's evaluation of whether there is substantial evidence in the record as a whole related to compliance with the CUP criteria.			
Language Proposed by 3s Not relevant. It is not a work product of the WorkGroup.			
Language Proposed by 2s			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 - No Changes Made	10	0	0

LLU F-25F (CHANGED TO LLU F-25c)	Informal Workgroup Polling **1**	**2**	**3**
Draft 6 Text The County could amend BCC chapter 77 to add a criterion under BCC 53.215(3) to require compliance with specific provisions of an adopted SMMP. However, that criterion would apply only to applications filed after the code was amended to include, as criteria, specific requirements of such a plan. [See also Recommendation LLU R-8.]	8	0	1
Language Proposed by 3s Not relevant. It is not a work product of the WorkGroup.			
Language Proposed by 2s			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 - No Changes Made	10	0	0

LLU F-26	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text (New) Oregon Department of State Lands (DSL) has regulatory authority for all wetlands that meet the definition of "jurisdictional wetlands." Benton County has additional regulatory authority for wetlands the County has identified as "significant" in a wetland inventory adopted pursuant to the Oregon Administrative Rule 660 Division 23 (Statewide Planning Goal 5 procedures). No significant wetlands are identified in the vicinity of Coffin Butte Landfill on the County's adopted inventory. The County has not conducted a comprehensive wetland inventory and analysis of significance since the 1980s. See LLU R-11.	10	0	1
Language Proposed by 3s It can be seen with the naked eye that, for example, there are significant wetlands in the E. E. Wilson Wildlife Area. This finding without [*Note: this is where the comment in SurveyMonkey ends.]*			
Language Proposed by 2s			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 (New) Oregon Department of State Lands (DSL) has regulatory authority for all wetlands that meet the definition of "jurisdictional wetlands." Benton County has additional regulatory authority for wetlands the County has identified as "significant" in a wetland inventory adopted pursuant to the Oregon Administrative Rule 660 Division 23 (Statewide Planning Goal 5 procedures). While wetlands are present in the vicinity of Coffin Butte Landfill, they have not yet been evaluated and determined to be "significant" in accordance with OAR 660.. The County has not conducted a comprehensive wetland inventory and analysis of significance since the 1980s. Until then, the County cannot regulate land uses in these wetlands. See LLU R-11.	11	0	1

LLU RECOMMENDATIONS

The first Workgroup Polling numbers are from the informal poll. Subsequent polling was completed at the Workgroup meetings and are formal polling numbers.

LLU R-1	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text The County should enable public input on all franchise agreements. Specifically regarding the 2022 collection franchise agreement between Benton County and Allied Waste Services of Corvallis ("Republic Services"), a process to allow public input, comment, and feedback on any provisions subject to Section 2 of that agreement could be designed as follows: After the parties have begun discussing what specific terms may be amended pursuant to Section 2, but no more than 60 days prior to any amendment being approved by the Board of Commissioners, the County will publish a notice that it is seeking suggestions from the public for negotiation topics generated from the "concepts from the consensus-seeking process." Any input received would be presented to the Board of Commissioners at a work session, at which time the Board would identify those ideas or suggestions that may be included as negotiation topics. Following the work session and as part of the ongoing negotiations, Benton County Staff will discuss with Republic Services the topics and ideas the Board of Commissioners identified.	8	3	1	21	20	49	39

At such time as Benton County and Republic Services reach a tentative agreement on the renegotiated terms, County staff would bring the proposed franchise agreement changes to the Board meeting, where consideration of the amended franchise agreement would be conducted in a public hearing pursuant to BCC 23.235, which will include an opportunity for the public to present testimony. The Board could approve the agreement as presented or may direct staff to resume negotiations with Republic Services to include specific topics identified by the Board. The renegotiated collection franchise agreement must be agreed upon, in its entirety, by both Benton County and Republic Services. At such time as the terms have been agreed upon, and the Board is satisfied that public input has been adequately included or addressed in the renewed agreement, the franchise agreement will be the subject of a public hearing and, ultimately, decision by the Board of Commissioners at a regular board meeting.							
Language Proposed by 3s What is the significance of naming Republic Services as Allied Waste Services of Corvallis ("Republic Services"), when it is referred to simply as Republic Services in all other contexts.							
Language Proposed by 2s Having public input on all franchise agreements opens up a pandora's box for BC. The issue at hand is the landfill - so keep it specific to that line item							
	Formal Workgroup Polling						
Real-Time Draft Revision 3/23/23 [Accepted changes above – no change to language]	6	6	0				

The County should enable public input on all franchise agreements. Specifically regarding the 2022 collection franchise agreement between Benton County and Allied Waste Services of Corvallis ("Republic Services"), a process to allow public input, comment, and feedback on any provisions subject to Section 2 of that agreement could be designed as follows: After the parties have begun discussing what specific terms may be amended pursuant to Section 2, but no more than 60 days prior to any amendment being approved by the Board of Commissioners, the County will publish a notice that it is seeking suggestions from the public for negotiation topics generated from the "concepts from the consensus-seeking process." Any input received would be presented to the Board of Commissioners at a work session, at which time the Board would identify those ideas or suggestions that may be included as negotiation topics. Following the work session and as part of the ongoing negotiations, Benton County Staff will discuss with Republic Services the topics and ideas the Board of Commissioners identified. At such time as Benton County and Republic Services reach a tentative agreement on the renegotiated terms, County staff would bring the proposed franchise agreement changes to the Board meeting, where consideration of the amended franchise agreement would be conducted in a public hearing pursuant to BCC 23.235, which will include an opportunity for the public to present testimony. The Board could approve the agreement as presented or may direct staff to resume negotiations with Republic Services to include specific topics identified by the Board. The renegotiated collection franchise agreement must be agreed upon, in its entirety, by both Benton County and Republic Services. At such							

time as the terms have been agreed upon, and the Board is satisfied that public input has been adequately included or addressed in the renewed agreement, the franchise agreement will be the subject of a public hearing and, ultimately, decision by the Board of Commissioners at a regular board meeting.							

LLU R-2	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text The County should provide to the public a description of the purpose of the statutory completeness review process, and the scope of the information the county planning official considers at the completeness stage. That description should clearly explain how the administrative "completeness" process fits into the review of a land use application. While the county should not discourage public involvement at all stages of the review process, the public should be informed that the statutory completeness is a preliminary step that does not include any review of whether an application does or can satisfy the approval criteria; and that the public review and hearing process that follows after the application is complete provides the public an opportunity to provide evidence and arguments to the decision makers on the merits of the application. The information should clearly inform the public that any evidence or testimony submitted at the completeness stage is not part of the "record" that the decision makers will review, and that information would have to be re-submitted during the public hearing process in order for the decision makers to review it.	9	2	1	23	19	48	41

Language Proposed by 3s Lawyer talk. What is the statutory completeness review process. How can I vote on something I know nothing about?							
Language Proposed by 2s • How and where this information will be described and communicated needs to be added. • For Community Outreach and Education use CEO subcommittee's recommendations.							
	Formal Workgroup Polling						
Real-Time Draft Revisions 3/23/23 [No changes to the existing language] The County should provide to the public a description of the purpose of the statutory completeness review process, and the scope of the information the county planning official considers at the completeness stage. That description should clearly explain how the administrative "completeness" process fits into the review of a land use application. While the county should not discourage public involvement at all stages of the review process, the public should be informed that the statutory completeness is a preliminary step that does not include any review of whether an application does or can satisfy the approval criteria; and that the public review and hearing process that follows after the application is complete provides the public an opportunity to provide evidence and arguments to the decision makers on the merits of the application. The information should clearly inform the public that any evidence or testimony submitted at the completeness stage is not part of the "record" that the decision makers will review, and that	7	3	1				

information would have to be re-submitted during the public hearing process in order for the decision makers to review it.							

LLU R-3	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text [NEW] Benton County should engage with the Oregon Department of Environmental Quality at the pre-application stage to understand relative permitting responsibilities and processes, with the goal of a more coordinated and informed review of both the land use application (by Benton County) and, if the County land use application is approved, the subsequent landfill-related permitting (by DEQ).	12	0	0	None	None	None	None
	Formal Workgroup Polling						
No Changes Made	12	0	0				

LLU R-4	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text BCC 77.310 states that "The applicant for a conditional use permit shall provide a narrative which describes: * * * Other information as required by the Planning Official." [BCC 77.310(1)(e)] The workgroup	11	0	1	25	18	43	42

could make recommendations regarding what "other information" would be helpful in a narrative. However, any committee recommendations would have to be limited to information related to the applicable criteria and could not expand that criteria. "Additional information" required by the Planning Official does not become part of the applicable criteria. BCC 77.310 states only what the applicant's narrative shall include; it does not identify criteria for SWAC's review of a CUP application. This absence contributed to the subcommittee's recommendation in LLU R-6.							
Language Proposed by 3s Again, lawyer talk. Why is not attempt made to advise me, a Benton County resident and taxpayer what the implications of this might be?							
Language Proposed by 2s							
	Formal Workgroup Polling						
Real-Time Draft Revisions 3/23/23 With regard to other information needed to make an application complete, BCC 77.310 states that "The applicant for a conditional use permit shall provide a narrative which describes: * * * Other information as required by the Planning Official." [BCC 77.310(1)(e)] The workgroup could make recommendations regarding what "other information" would be helpful in a narrative. However, any committee recommendations would have to be limited to information related to the applicable criteria and could not expand that criteria. "Additional information" required by the Planning Official does not become part of the applicable criteria but may contribute to the completeness of the application. BCC 77.310 states only what the applicant's narrative	10	2	0				

shall include; it does not identify criteria for SWAC's review of a CUP application. This absence contributed to the subcommittee's recommendation in LLU R-6.							

LLU R-5	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text BCC 77.310(1) lists the information required for a conditional use application in the landfill site zone and permits the planning official to request that the applicant's narrative include "additional information." However, the development code does not specify how or when that information is to be requested. In the past, the Planning Official has used the statutory completeness review process to request additional information. However, in addition to the Planning Official's review of the information after the application has been submitted, the Board could amend the code to require that the Planning Official conduct a "preapplication conference" with the applicant to discuss the information that is required. It could also require a "neighborhood meeting" before the application is filed that requires the applicant to present its proposal to the public and allow the applicant to obtain more information about the proposal. Public comment during a pre-application neighborhood meeting, as with other public comment submitted before the application is complete and notification is sent, is not part of the formal record of the land use review and cannot be considered by decision-makers. The record includes only public	11	0	0	21	21	40	47

comment submitted after formal notification has been sent to affected parties stating that the comment period is open.							
	Formal Workgroup Polling						
No Changes Made	11	0	0				

LLU R-6	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text BCC 77.305 directs the Solid Waste Advisory Council (SWAC) to review and make recommendations regarding the Site Development Plan and Narrative submitted on a landfill-expansion CUP; however, the code does not specify what criteria or considerations that recommendation should be based on. Consistent with SWAC's bylaws and Chapter 23 of the County Code, which require SWAC to "assist the Board of Commissioners (Board) in Planning and implementing solid waste management, pursuant to BCC Chapter 23, the Benton County Solid Waste Management Ordinance", the Board of Commissioners should more clearly define SWAC's role by articulating the scope, manner and timing of SWAC's review. Interpreting the existing County Code is within the Board's purview, but amending that code effects a more permanent solution. As an initial step, the Board could issue an official interpretation of SWAC's role pursuant to Chapter 23. Then, as a subsequent step, the Board could initiate amendments to Chapter 23 and/or Chapter 77, which would then proceed through a public	9	2	1	23	20	50	42

hearings process. (If/when SWAC's overall role shifts to sustainable materials management, instances of the term "solid waste management" above should be replaced with "sustainable materials management.")							
Language Proposed by 3s I can surmise that this is an attempt to stifle substantive public comment and I am opposed to this recommendation.							
Language Proposed by 2s Republic Services does not want to be in the position of giving direction to the County on issues relating to its code(s).							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 BCC 77.305 directs the Solid Waste Advisory Council (SWAC) to review and make recommendations regarding the Site Development Plan and Narrative submitted on a landfill-expansion CUP; however, the code does not specify what criteria or considerations that recommendation should be based on. Consistent with SWAC's bylaws and Chapter 23 of the County Code, which require SWAC to "assist the Board of Commissioners (Board) in Planning and implementing solid waste management, pursuant to BCC Chapter 23, the Benton County Solid Waste Management Ordinance", the Board of Commissioners should provide nonbinding guidelines for SWAC's role by articulating the scope, manner and timing of SWAC's review. Interpreting the existing County Code is within the Board's purview, but amending that code effects a more permanent solution. As an initial step, the Board could issue an official interpretation of SWAC's role pursuant to Chapter 23. Then, as a subsequent step, the Board could initiate amendments to	7	4	1				

Chapter 23 and/or Chapter 77, which would then proceed through a public hearings process. (If/when SWAC's overall role shifts to sustainable materials management, instances of the term "solid waste management" above should be replaced with "sustainable materials management.")							

LLU R-7	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Amendments to the Development Code may be needed to create a clear and legally consistent process for SWAC's involvement in reviewing a CUP. Pursuant to the Development Code as written, the only criteria that a CUP decision can be based upon are those of BCC 53.215, and the Planning Commission is the decision-making body. Yet, the code states an ambiguous role for SWAC in that process and seems to imply that other considerations beyond those of BCC 53.215 should go into the decision-making process. This needs clarification.	8	2	1	22	21	51	38
Language Proposed by 3s Again, I can surmise that this is an attempt to stifle substantive public comment and I am opposed to this recommendation.							
Language Proposed by 2s • Republic Services does not want to be in the position of giving direction to the County on issues relating to its development code.							

• Note: Republic Services does not want to be in the position of giving direction to the County on issues relating to its development code.							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 Amendments to the Development Code may be needed to create a clear and legally consistent process for SWAC's involvement in reviewing a CUP. Pursuant to the Development Code as written, the only criteria that a CUP decision can be based upon are those of BCC 53.215, and the Planning Commission is the decision-making body. Yet, the code states an ambiguous role for SWAC in that process and seems to imply that other considerations beyond those of BCC 53.215 should go into the decision-making process. This needs clarification.	7	4	1				

LLU R-8	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text In addition to the two criteria listed in BCC 53.215(1) and (2), BCC 53.215(3) requires the decision maker to consider whether the "proposed use complies with any additional criteria which may be required for the specific use by this code." Currently Chapter 77 (Landfill Site zone) does not include any additional criteria that must be considered in the review of a conditional use application for the expansion of a landfill in the landfill zone. If there are additional	9	1	1	23	20	49	38

criteria that the Board of Commissioners determines are necessary for the review of a conditional use application in the landfill zone, the Board would have to amend Chapter 77 to specify those additional approval criteria. The Board could also require that compliance with the site plan and reclamation plan (currently required by Chapter 77 to be submitted with the application) be adopted as conditions of approval of any approved conditional use permit.							
Language Proposed by 3s Again, no effort made to inform regarding the implications. I, as a Benton County resident but not a member of the legal community, am not intimately acquainted with either BCC 53.215(1) or (2), BCC 53.215(3).							
Language Proposed by 2s Note: Republic Services does not want to be in the position of giving direction to the County on issues relating to its development code.							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 In addition to the two criteria listed in BCC 53.215(1) and (2), BCC 53.215(3) requires the decision maker to consider whether the "proposed use complies with any additional criteria which may be required for the specific use by this code." Currently Chapter 77 (Landfill Site zone) does not include any additional criteria that must be considered in the review of a conditional use application for the expansion of a landfill in the landfill zone. If there are additional criteria that the Board of Commissioners determines are necessary for the review of a conditional use application in the landfill zone, the Board would have to amend Chapter 77 to specify those additional	9	2	1				

approval criteria. The Board could also require that compliance with the site plan and reclamation plan (currently required by Chapter 77 to be submitted with the application) be adopted as conditions of approval of any approved conditional use permit.							

LLU R-9	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text When the County adopts its SMMP, it should amend BCC chapter 77 to add a criterion under BCC 53.215(3) to require compliance with specific provisions of an adopted SMMP.	9	1	1	27	17	56	33
Language Proposed by 3s Again, what does this mean in layperson language?							
Language Proposed by 2s The County should evaluate specific recommendations of the SMMP, once adopted, and consider amending BCC chapter 77 to add a criterion under BCC 53.215(3) to require compliance with specific provisions of an adopted SMMP.							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 - No Changes Made	11	0	0				

LLU R-10	Informal Workgroup Polling	Initial Public Polling as of 3/23/23	Cumulative Public Polling as of 3/31/23

	1	2	3	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text BCC 77.405 states, "*Copies of materials submitted to the Oregon Department of Environmental Quality as a part of any permit process shall be submitted to the Planning Official. If at any time the Planning Official determines that permit application materials or conditions of DEQ permit are judged to merit public review, a Public Hearing before the Planning Commission shall be scheduled.*" This provision is unclear. (The provision might have been codified before adoption of the current state agency coordination requirements, which now require a land use compatibility statement (LUCS) as part of any application for a state permit in which local land use is implicated.) The subcommittee interprets this section as requiring a review if the use originally approved has been or will be modified due to the DEQ permit. The Planning Official could make such a determination using a formal "Interpretation" pursuant to BCC 51.205(1). Recommend a code amendment to clarify this provision. For example, a code amendment could require that when DEQ issues a landfill permit, the Planning Official shall review the permit and conditions of approval and, if discrepancies with the County's land use approval are noted, determine whether this constitutes a "modification of a conditional use permit" (BCC 53.225) and, if so, require the applicant to submit application for such modification. A workgroup recommendation on how public review of DEQ permit requirements could most benefit the public would also be helpful.	9	2	0	24	19	51	35
Language Proposed by 3s							
Language Proposed by 2s							

• DEQ has a separate public participation process that would not happen until after a county land use decision is made. • it's not clear if the subcommittee is recommending a code amendment. " A code amendment is recommended". Are you recommending a public review of DEQ permit requirements? How would that be carried out and why?							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 - No Changes Made	9	2	0				

LLU R-11	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text [NEW] Compliance with Oregon Department of State Lands regulations and permitting requirements for any impacts to wetlands should be a condition of approval of any land use approval at the landfill.	8	0	3	None	None	None	None
Language Proposed by 3s • Does this mean that we are acknowledging that there are wetlands in the landfill area? It is patently obvious that wetlands comprise a large percentage of the E. E. Wilson Natural Area. • This is a brand new finding and we haven't had a chance to discuss or understand it. • Polling as a 3 because this is a new finding we haven't had time to discuss or vet. Would like to hear more about impacts and ramifications at the workgroup meeting.							

Language Proposed by 2s							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 - No Changes Made	12	0	0				

LLU R-12	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text In issuing land use decisions, Benton County decision-makers should: a. Draft clear findings and be certain to incorporate into the conditions of approval the items that are intended to be binding. b. State conditions of approval in clear and explicit terms and ensure that what is expected of the applicant in order to comply is clearly stated in the text of the conditions.	9	1	1	26	16	56	31
Language Proposed by 3s Why was the recommendation to state matters in clear and explicit terms not applied to the LLU Recommendations themselves?							
Language Proposed by 2s Communicate decision with public							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 - No Changes Made	11	0	0				

LLU R-13	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Benton County should evaluate its existing system regarding compliance monitoring and enforcement to determine if there are sufficient mechanisms in place to ensure compliance with conditions of approval that the County imposes on land use approvals and, if not, recommend improvements. Elements of such an evaluation could include: a. What enforcement mechanisms exist within the County Code? b. Is there a mandamus option or a private right of action option? c. What is missing? d. What provisions and procedures do other counties have, particularly counties that host a privately operated landfill? e. The future cost of such a system, the benefits, and the consequences of not improving the current practices and procedures.	10	0	1	27	17	60	33
Language Proposed by 3s I give up, what is a legal "mandamus" option?							
Language Proposed by 2s							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 - No Changes Made	10	1	0				

CUP FINDINGS

CUP F-1	Informal Workgroup Polling		
	1	2	3
Draft 6 Text The Subcommittee's Full Report is an in-depth review of selected historical land use documents. County Staff, Republic, Workgroup and public members participating on the Subcommittee provided comments, opinions and evaluations of the historical record. Each condition was vetted in depth. Consensus was reached by public members of the Subcommittee on most topics. Consensus was not reached with County Staff and Republic. Information from DEQ is needed to potentially reach consensus on many Conditions of Approval. All inputs have been retained to assist the public in understanding the historical documents and how they were viewed by the Subcommittee. Where needed, information obtained by firsthand experiences on BCTT's Landfill and Neighborhood Tours was used to verify the compliance status of visible Conditions of Approval.	11	0	0
	Formal Workgroup Polling		
No Changes Made	11	0	0

CUP F-2	Informal Workgroup Polling		
	1	2	3
Draft 6 Text Benton County has not and does not actively monitor compliance with many Conditions of Approval, nor does it proactively act to enforce compliance.	9	1	1
Language Proposed by 3s Benton County has not monitored compliance with XXX (Name a specific CUP) Land Use Conditions of Approval for the Coffin Butte Landfill. Benton County is not actively monitoring compliance with XXX (Name a specific			

CUP) Land Use Conditions of Approval for the Coffin Butte Landfill. Benton County is currently taking no action to enforce compliance with XXX Land Use Conditions of Approval for the Coffin Butte Landfill.			
Language Proposed by 2s Is this strictly pertaining to the landfill or in all cases / projects that have conditions of approval across the board - clarifying this would be helpful			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 Benton County has not and does not actively monitor compliance with many Conditions of Approval, nor does it proactively act to enforce compliance. See Table 5 in Appendix C4 of the CUP subcommittee report.	11	0	0

CUP F-3	Informal Workgroup Polling **1**	**2**	**3**
Draft 6 Text Benton County relies on complaints to initiate action to enforce Conditions of Approval.	9	0	1
Language Proposed by 3s Benton County relies on complaints as a way to prioritize the initiation of actions to enforce Conditions of Approval for the Coffin Butte Landfill.			
Language Proposed by 2s			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 - No Changes Made	11	0	0

CUP F-4	Informal Workgroup Polling **1**	**2**	**3**

Draft 6 Text All County materials reviewed reflect historical information and/or decisions from public processes (e.g., meetings, hearings, advertisement notices, etc.) based on public input and approval by appropriately authorized public planning boards.	11	0	0
	Formal Workgroup Polling		
No Changes Made	11	0	0

CUP F-5	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text For over 50 years, Conditional Use Approvals have been the basis for the public's understanding of many aspects of the landfill, including but not limited to: hours of operation, management of noise, screening of the site from view, how the site should look, and how the site can be used after the landfill is closed.	11	0	0
	Formal Workgroup Polling		
No Changes Made	11	0	0

CUP F-6	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text No record was found of an official Benton County decision to increase the number of counties sending wastes to Coffin Butte Landfill prior to the Supreme Court's 1998 ruling. However, the 1983 land use decision expressly repealed the comprehensive plan provisions that were adopted after the 1974 decision that limit the number of	10	1	0

counties that could waste to landfill. According to the staff report, the effect of this change was to remove such limitation.			
Language Proposed by 3s			
Language Proposed by 2s No record was found of an official Benton County decision to increase the number of counties sending wastes to Coffin Butte Landfill prior to the Supreme Court's 1998 ruling which removed authority for government jurisdictions to restrict acceptance of waste from other jurisdictions. However, the 1983 land use decision expressly repealed the comprehensive plan provisions that were adopted after the 1974 decision that limit the number of counties that could waste to landfill. According to the staff report, the effect of this change was to remove such limitation.			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 - No Changes Made	10	1	0

CUP F-7	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text Conditions of Approval 4 and 6 in CP-74-01 require reclamation of the landfill to meet criteria relating to visual appearance, screening from abutting county road, and use for grazing or another farm-type operation or other permitted use as approved by the Planning Commission and Board of County Commissioners. Reclamation was also addressed in PC-83-07.	11	0	0
	Formal Workgroup Polling		
No Changes Made	11	0	0

CUP F-8	Informal Workgroup Polling

	1	2	3
Draft 6 Text The required DEQ reports are submitted by the Applicant and maintained by the County for the public record. A full review of these County required submittals (e.g. monitoring records) was not conducted due to time constraints.	11	0	0
	Formal Workgroup Polling		
No Changes Made	11	0	0

CUP F-9	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text Compliance with Conditions of Approval often involves a direction from the County that the Applicant should obtain permits from other entities such as, but not limited to, state agencies.	11	0	0
	Formal Workgroup Polling		
No Changes Made	11	0	0

CUP F-10	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text Benton County did not and does not have a readily accessible, transparent complaint tracking system known to the public in place to receive and record land use complaints for documentation, investigation, and resolution.	11	0	0
	Formal Workgroup Polling		
No Changes Made	11	0	0

CUP F-10.5	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text Benton County should ensure that its land use decisions clearly capture and make binding the intent of the decision-makers; and should communicate with the public the outcome of such decisions in understandable language. In addition, the County should inform the public – particularly those members living within 5 miles of the landfill - when changes outside of a public land use process affect how the landfill operates or is regulated	6	4	1
Language Proposed by 3s I am OK with this but it should be a "recommendation", not a finding.			
Language Proposed by 2s • Brand new finding. Haven't had time to discuss or vet. • This reads like a Recommendation, not a Finding. • This seems like a recommendation • The county should also rely on the CEO subcommittee's report for recommendations regarding how to communicate to community members.			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 Convert to a recommendation	11	0	0

CUP F-11	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text In assessing the status of compliance with past land use documents, there are numerous instances where supporting evidence may not be or is not available in County records.	11	0	0

	Formal Workgroup Polling		
No Changes Made	11	0	0

CUP F-12	Informal Workgroup Polling **1**	**2**	**3**
Draft 6 Text Benton County does not review reports and other submitted materials as required per conditions of approval. Examples include: copies of water quality and air quality permits, emergency plans, permit submittals, financial assurance statements, etc., and data produced from associated monitoring programs required of the applicant by the Oregon Department of Environmental Quality or other governmental agencies.	10	0	1
Language Proposed by 3s XXX (Name a specific CUP) Land Use Permits which require XXX (name specific reports or plans) documents to be reviewed by Benton County to support effective monitoring, were not reviewed on a scheduled basis.			
Language Proposed by 2s			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 Benton County does not review reports and other submitted materials as required per conditions of approval. Examples include: copies of water quality and air quality permits, emergency plans, permit submittals, financial assurance statements, etc., and data produced from associated monitoring programs required of the applicant by the Oregon Department of Environmental Quality or other governmental agencies. See Table 5 in Appendix C4 of the CUP subcommittee report.	11	0	0

CUP F-13	Informal Workgroup Polling

	1	2	3
Draft 6 Text Benton County has issued land use Conditions of Approval before the Applicant was granted necessary operating permits from multiple State agencies. The County advised the Applicant that those permits were required but did not check that those required permits were procured by the Applicant, except for DEQ permits.	11	0	0
	Formal Workgroup Polling		
No Changes Made	11	0	0

CUP F-14	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text As of 1974 the Coffin Butte landfill was identified as a regional landfill site for wastes from ten areas in three counties. Expanding beyond this limited geographic area was to require re-review by the Planning Commission. Starting in 1998, legal precedents are believed to have superseded the 1974 requirements allowing for the expansion of the service area beyond the original three counties. Since 2013, the Coffin Butte Landfill has served 39 counties. Also, since 2013, Coffin Butte Landfill has accepted waste from seven out-of-state counties (2 from CA, 5 from WA). Only one out-of-state county (in WA) was served in 2021, which represented 1.88 Tons (0.00018% of total). For supporting information see Comments for CP-74-01 Condition 1 in Table 2 Assessments of Land Use Conditions and Legal Land Use Subcommittee analysis.	11	0	0
	Formal Workgroup Polling		
No Changes Made	11	0	0

CUP F-14.5	Informal Workgroup Polling		
	1	**2**	**3**

Draft 6 Text (NEW) County land use decisions have been written in a way that makes it difficult to understand the County's commitment to public expectations and enforceability of Conditions of Approval. Building on information presented by the Legal issues and Landfill Capacity Subcommittees, examples of these are:· • A 1983 County decision where all but one of the publicly agreed to requirements for the visual appearance and ultimate use of the landfill may be unenforceable. • A 1983 Benton County Amendment to the Comprehensive Plan. • A 1992 United States Supreme Court ruling (Fort Gratiot Sanitary Landfill, Inc. v. Michigan Dept. of Natural Resources, 504 U.S. 353, 112 S.Ct. 2019 (1992) limiting the County's power to regulate where wastes come from, wastes from as many as 39 counties in three states (OR, WA, ID) are allowed to be brought to Coffin Butte. These wastes have made up over 90 percent of the material coming to Coffin Butte in the last 5 years. The Workgroup's CUP Subcommittee and Legal Subcommittee have analyzed past land use documents and have reached different conclusions as to their effect. This has resulted in a sense that the "rules of the game" have changed without notification or that what was authorized to occur at the landfill has altered without a public review process. This has undermined public trust.	9	0	2
Language Proposed by 3s • The last two sentences are opinion. We are prepared to vote "1" with the removal of the following text: This has resulted in a sense that the "rules of the game" have changed without notification or that what was authorized to occur at the landfill has altered without a public review process. This has undermined public trust. • We are prepared to vote "1" with the removal of the following text: This has resulted in a sense that the "rules of the game" have changed without notification or that what was authorized to occur at the landfill has altered without a public review process. This has undermined public trust.			
Language Proposed by 2s			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 County land use decisions have been written in a way that makes it difficult to understand the County's commitment to public expectations and enforceability of Conditions of Approval. Building on information presented by the Legal issues and Landfill Capacity Subcommittees, examples of these are:·			

• A 1983 County decision where all but one of the publicly agreed to requirements for the visual appearance and ultimate use of the landfill may be unenforceable. • A 1983 Benton County Amendment to the Comprehensive Plan. • A 1992 United States Supreme Court ruling (Fort Gratiot SanitaryLandfill, Inc. v. Michigan Dept. of Natural Resources, 504 U.S. 353, 112 S.Ct. 2019 (1992) limiting the County's power to regulate where wastes come from, wastes from as many as 39 counties in three states (OR, WA, ID) are allowed to be brought to Coffin Butte. These wastes have made up over 90 percent of the material coming to Coffin Butte in the last 5 years. The Workgroup's CUP Subcommittee and Legal Subcommittee have analyzed past land use documents and have reached different conclusions as to their effect. This has resulted in changes without notifications of what was authorized to occur at the landfill without a public notification process to ensure public trust.			
County land use decisions have been written in a way that makes it difficult to understand the County's commitment to public expectations and enforceability of Conditions of Approval. Building on information presented by the Legal issues and Landfill Capacity Subcommittees, examples of these are:· • A 1983 County decision where all but one of the publicly agreed to requirements for the visual appearance and ultimate use of the landfill may be unenforceable. • A 1983 Benton County Amendment to the Comprehensive Plan. • A 1992 United States Supreme Court ruling (Fort Gratiot Sanitary Landfill, Inc. v. Michigan Dept. of Natural Resources, 504 U.S. 353, 112 S.Ct. 2019 (1992) limiting the County's power to regulate where wastes come from, wastes from as many as 39 counties in three states (OR, WA, ID) are allowed to be brought to Coffin Butte. These wastes have made up over 90 percent of the material coming to Coffin Butte in the last 5 years. The Workgroup's CUP Subcommittee and Legal Subcommittee have analyzed past land use documents and have reached different conclusions as to their effect. This has resulted in changes to what was authorized to occur at the landfill without notification or a public review process that would ensure public trust.	11	0	0

CUP F-15	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text County approval documents and Applicant submittals for PC 83-07/L-83-07 describe reclamation of the site once it stops receiving wastes. Requirements include what the appearance of the site is to be, terracing, allowable	10	1	0

steepness of slopes, screening, use for grazing, consistency with agricultural and forest land use, etc.. The Subcommittee did not reach a consensus on whether the County decisions and Applicant submittals associated with PC 83-07/L-83-07 are enforceable and require compliance. The public members believe they are enforceable. The County and Republic members believe they are not enforceable. Information on the County documents and Applicant submittals are in Comments for PC 83-07/L-83-07 Conditions 1 and 3 in Table 2 Assessments of Land Use Conditions. The viewpoints of the Public Members can be found here. The position of the Legal Subcommittee is found at here.			
Language Proposed by 3s			
Language Proposed by 2s Maybe mention page number of Table 2 or even link it to make it easier for community members to quickly access.			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 - No Changes Made	10	1	0

CUP F-16	Informal Workgroup Polling **1**	**2**	**3**
Draft 6 Text DEQ's requirements for a Worst–Case Closure and Post-Closure Care Plan and financial assurances do not require Valley Landfills to comply with County's reclamation conditions of approval or public expectations.	11	0	0
	Formal Workgroup Polling		
No Changes Made	11	0	0

CUP F-17	Informal Workgroup Polling **1**	**2**	**3**

Draft 6 Text Currently, it is not clear to the public what appropriate reclamation will look like for the ultimate disposition of the landfill.	11	0	0
	Formal Workgroup Polling		
No Changes Made	11	0	0

CUP F-18	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text The Subcommittee did not reach a consensus on the applicability and the authority of the 2002 Memorandum of Understanding and how it may affect Conditions of Approval in pre-2002 decisions. About ten land use matters decisions – over half of the decisions - and fifty-three Conditions of Approval are potentially impacted.	9	0	2
Language Proposed by 3s • We could poll a "2" with removal of the last sentence. (already addressed by legal subcommittee.) • Could potentially move to a "2" with revised language. Strike last sentence and note that the legal subcommittee has addressed this.			
Language Proposed by 2s			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 The Subcommittee did not reach a consensus on the applicability and the authority of the 2002 Memorandum of Understanding and how it may affect Conditions of Approval in pre-2002 decisions. The resolution of this issue potentially impacts ten land-use matters, which is over half of the decisions, containing fifty-three Conditions of Approval.	11	0	0

CUP F-19	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text Generally, DEQ has jurisdiction over many environmental impacts, and the County has jurisdiction over the land use impacts. The line between “environmental impact” and “land use” is not always clear. and may lead to conflicting perceptions of what is to be done. For example, as a remedy for groundwater contamination at the site, DEQ requires the purchase of land to limit the public’s exposure to contaminated water (Record of Decision from the DEQ Cleanup Program), which may or may not adversely impact neighboring County approved land uses. In another situation, the County publicly agreed to limitations on the appearance and uses of the closed landfill (PC 83-07/L-83-07), but these are not reflected in Republic’s current DEQ-required site closure plans. The current Republic plan is the basis of DEQ’s required Financial Assurance filing that would fund the landfill’s closure if Republic could not do so.	10	0	2
Language Proposed by 3s • We could poll a "2" or potentially a "1" if we removed everything starting with "for example." • We could poll a "2" or potentially a "1" if we removed everything starting with "for example."			
Language Proposed by 2s			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 Generally, DEQ has jurisdiction over many environmental impacts, and the County has jurisdiction over the land use impacts. The line between “environmental impact” and “land use” is not always clear. and may lead to conflicting perceptions of what is to be done. For example, as a remedy for groundwater contamination at the site, DEQ requires the purchase of land to limit the public’s exposure to contaminated water (Record of Decision from the DEQ Cleanup Program), which may or may not adversely impact neighboring County approved land uses. In another situation, the County publicly agreed to limitations on the appearance and uses of the closed landfill (PC 83-07/L-83-07), but these are not reflected in Republic’s current DEQ-required site closure plans. Republic prepares annual plans to verify there is sufficient financial assurance per DEQ requirements.	10	1	0

CUP F-20	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text Leachate from the landfill site is currently trucked to public wastewater treatment plants in Corvallis and Salem which discharge to the Willamette River. The last five years have ranged from 25.6 to 31.8 million gallons per year, with an average of 28.5. Last year the amount was 29.1 million gallons. The tanker truck capacity is 7000 gallons, which means 6 to 13 trips per day with an average of ten.	11	0	0
	Formal Workgroup Polling		
No Changes Made	11	0	0

CUP F-21	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text The acquisition of buffer land by landfill-related entities is a condition of DEQ's Record of Decision from the DEQ Cleanup Program for the landfill. Landfill-related entities have acquired such buffer lands over the years that are currently zoned Rural Residential, Forest Conservation, Exclusive Farm Use. This situation was not evaluated by this subcommittee for consistency with Vision 2040 which went into effect in 2019.	11	0	0
	Formal Workgroup Polling		
No Changes Made	11	0	0

CUP F-22	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text	11	0	0

Documentation for a required submittal of a plan for emergency water supplies to the Power Generation facility was not found in the land use records.			
	Formal Workgroup Polling		
No Changes Made	11	0	0

CUP F-23	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text Odor issues have not been addressed in any of the land use Conditions of Approval.	9	2	0
Language Proposed by 3s			
Language Proposed by 2s • Remove "issues" • Remove "issues," which pre-supposes/implies there have been problems.			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 - No Changes Made	9	2	0

CUP F-24	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text In reviewing historical files it was not clearly specified what conditions were to be completed before final approval of the application and which conditions are applied to the on-going use of the land.	11	0	0
	Formal Workgroup Polling		

No Changes Made	11	0	0

CUP F-25	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text (NEW) A Land Use Compatibility Statement (LUCS) with a faxed date of Feb 25 '92 along with instructions on how to fill it out and what the intended use of the LUCS is was found as a supporting document in a 2000 Updated Site Development Plan report. The current 2019 dated Operating permit is based on a 2000 dated LUCS.	11	0	1
Language Proposed by 3s New. Haven't had time to vet or discuss.			
Language Proposed by 2s			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 - No Changes Made	7	3	0

CUP F-26	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text (NEW) There are Valley Landfill, Inc. Closure Plan Reports / Financial Assurance documents dating from the mid 1990's identifying areas of the landfill that are closed to meet DEQ requirements. Financial Assurance amounts were reduced to reflect the closure.	10	0	2
Language Proposed by 3s • We haven't had time to completely vet this new finding, but it lacks critical context: The annual closure fund update is based on the currently constructed area of the landfill that is not closed. So, if an area is closed it can be removed from the closure portion of the fund. But we still must maintain the post closure			

care portion. As we construct new cells to the landfill, we are required to add funds for their closure. Thus, the overall fund has increased, not decreased as implied in this finding. • We haven't had time to completely vet this new finding, but it lacks critical context: The annual closure fund update is based on the currently constructed area of the landfill that remains to be closed. So, if an area is closed it can be removed from the closure portion of the fund. But we still must maintain the post closure care portion. As we construct new cells to the landfill, we are required to add funds for their closure. Thus, the overall fund has increased, not decreased as implied in this finding.			
Language Proposed by 2s			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 There are Valley Landfill, Inc. Closure Plan Reports / Financial Assurance documents dating from the mid 1990's identifying areas of the landfill that are closed to meet DEQ requirements. Financial Assurance amounts were reduced to reflect the closure. The landfill owner utilized existing financial assurance to meet DEQ closure requirements in the 1990s. For explanation of financial assurance see LLU F-3B.	9	2	0

CUP F-27	Informal Workgroup Polling **1**	**2**	**3**
Draft 6 Text (NEW) There is a record of citizen odor complaints in a March 29, 2005 DSAC meeting minutes. Detailed information (e.g. date, time, weather conditions) on odors was reportedly presented to DSAC. Two odor control methods mentioned: 1) Keep the power generation equipment running or keep the flare lit (i.e. burn the vapors), 2) "We are using soil cover and closing the landfill at night." September 16, 2008. Landfill representative told County to refer complainants to the landfill organization because the landfill is obligated to report them to DEQ.	9	1	1
Language Proposed by 3s Relevance? This is an 18 year old odor complaint.			

Language Proposed by 2s Why is there a reference to an 18 year old odor complaint added to this document at the last minute?			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 - No Changes Made	9	2	0

CUP F-28	Informal Workgroup Polling **1**	**2**	**3**
Draft 6 Text (NEW) Sources of Wastes: A 2001 tonnage report does not list any wastes as coming from out of state. Reports from subsequent years do e.g. 2002 lists ~12,000 tons under "Private Vehicles" (as separate from Commercial). 2003 @ ~37,000; 2004 @ ~34,000 tons; 2005 @ ~18,000; 2006 @ ~16,000	9	2	0
Language Proposed by 3s			
Language Proposed by 2s Why do we need to know this?			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 - No Changes Made	9	2	0

CUP F-29	Informal Workgroup Polling **1**	**2**	**3**
Draft 6 Text (NEW) A "Special Waste Management Plan (Draft) 10/03 file date" identifies wastes other than household material that can be brought to Coffin Butte.	8	1	2
Language Proposed by 3s			

• this is significantly out of date. We have a special waste section in our operations plan that's been updated several times since 2003. The most recent was submitted to DEQ in 2020. • this is significantly out of date. We have a special waste section in our operations plan that's been updated several times since 2003. The most recent was submitted to DEQ in 2020.			
Language Proposed by 2s Why do we need to know this, what is it related to?			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 - No Changes Made	8	3	0

CUP F-30	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text (NEW) No records for DEQ's air emissions (Title V) or surface water (NPDES) programs were available for review.	9	1	2
Language Proposed by 3s • Title V reports are submitted to the county in our quarterly submittals. • Title V reports are submitted to the county in our quarterly submittals.			
Language Proposed by 2s the air quality permit and annual reports are available on the DEQ website. The stormwater NPDES permits and monitoring reports were provided to the Benton County FTP site and through public records requests.			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 Remove this Finding	11	0	0

CUP F-31	Informal Workgroup Polling

	1	2	3
Draft 6 Text (NEW) A number of County records were made available for review as of November 2022. However, files for PC-94-10[1] and PC-94-11[2] listed for CUP review in the October CUP planning document were not available.[1] PC-94-10 Zone change from Rural Residential to Landfill Site Zone, Comprehensive Plan change from Rural Residential to Landfill Site[2] PC-94-11 A conditional use permit to expand the area approved for a landfill within the Landfill Site Zone and update the site development plan.	9	2	0
Language Proposed by 3s			
Language Proposed by 2s Delete PC-94-10 NEW) A number of County records were made available for review as of November 2022. However, files for PC-94-11[1] listed for CUP review in the October CUP planning document were not available. [1] PC-94-11 A conditional use permit to expand the area approved for a landfill within the Landfill Site Zone and update the site development plan.			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 - No Changes Made	9	2	0

CUP F-32	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text (NEW Hosting a privately owned landfill in the County involves a complex interplay of land use decisions, environmental regulations, legal precedent, and community perceptions.	11	0	0
	Formal Workgroup Polling		
No Changes Made	11	0	0

CUP RECOMMENDATIONS

The first Workgroup Polling numbers are from the informal poll. Subsequent polling was completed at the Workgroup meetings and are formal polling numbers.

CUP R-1	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Maintain the CUP Appendix along with the supporting County and DEQ files as an integral part of the Final Workgroup Report.	11	0	0	33	12	69	25
	Formal Workgroup Polling						
No Changes Made	11	0	0				

CUP R-2	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Make the Appendix and supporting comprehensive library of files related to the Coffin Butte landfill electronically and continuously available to the public to increase accessibility and reduce the need for public records requests.	11	0	0	26	19	64	32

	Formal Workgroup Polling						
No Changes Made	11	0	0				

CUP R-3	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Actively monitor and enforce prior land-use decision Conditions of Approval for the landfill or any other land use decision.	7	4	0	29	16	63	31
Language Proposed by 3s							
Language Proposed by 2s • Actively monitor and enforce prior land-use Conditions of Approval for all land use decisions. • Actively monitor and enforce prior land-use decision Conditions of Approval for any land use decision. • Actively monitor and enforce currently active land-use decision Conditions of Approval for the landfill or any other land use decision. • Does this mean actively enforcing past CUP agreements now? I don't disagree, just the legal committee said we can't do that right?							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 - ***No Changes Made***.	7	4	0				

CUP R-4	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Establish and widely advertise a reporting process for receiving, tracking, and resolving complaints, such as odor, noise, hours of operation, not following conditions of approval. This administrative process should include an appeals process. Ensure there is a mechanism for providing reports regarding the nature, number and resolution of complaints to be provided to the Board of Commissioners (Board) in the normal course of its business.	11	0	0	29	16	63	32
	Formal Workgroup Polling						
No Changes Made	11	0	0				

CUP R-5	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Ensure that all documents involved in a land use application and all documentation required to be submitted by a Condition of Approval are acquired and placed in the County records for that	11	0	0	28	17	64	30

land use application and posted electronically and continuously available to the public.							
	Formal Workgroup Polling						
No Changes Made	11	0	0				

CUP R-6	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Create a system that tracks receipt of reports that are submitted as required per Conditions of Approval. For example, copies of water quality and air quality permits, emergency plans, permit submittals, financial assurance statements, and data produced from associated monitoring programs, etc.	10	1	0	29	16	65	30
Language Proposed by 3s							
Language Proposed by 2s and make these easily accessible to the residents of the community							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 - No Changes Made	10	1	0				

CUP R-7	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Determine if the Site Plan and Narrative included in the applicant submittals for PC-83-07/L-83-07 are regulatory conditions the landfill is required to follow.	9	0	2	28	16	59	31
Language Proposed by 3s • The Legal subcommittee has determined that these are NOT regulatory conditions. This recommendation should be removed. • The Legal subcommittee has determined that these are NOT regulatory conditions. This recommendation should be removed. • Add as a new CUP Finding: In 1983 the County created community expectations for how the landfill would look in decisions documented in PC83-07. Appearance issues including steepness of the landfill slopes, terracing, screening, and returning the land to grazing or other farm-like uses were addressed and committed to by the County and landfill operator. The way the County chose to implement these commitments is questionable given legal hindsight. Whether they be enforceable "conditions of approval" or "findings" in the PC83-07 record remains in dispute. The BCTT Workgroup is not a court of law. The differing interpretations over a possible process or wording error of the 83-07 decision, that causes this issue to arise, should not be the primary concern. Of greater importance for the County's relationship with its residents is							

the Planning Commission and Board of Commissioners decisions to adopt the offered designs and reclamation plans to meet public expectations. These expectations were made clear in the records of PC83-07. At a minimum, the debate over PC83-07's intended vs. actual conditions of approval or findings draws attention to the fragile "good neighbor" relationship between the County, landfill owner/operator and the public established through the 83-07 land use hearing process. Acknowledging these discrepancies with prior commitments should form a basis for the County, Republic, DEQ and the public to come to reasonable expectations for the appearance and long-term use and closure of the landfill facility.							
Language Proposed by 2s							
	Formal Workgroup Polling						
Real-Time Draft Revisions 3/23/23 Determine if the Site Plan and Narrative included in the applicant submittals for PC-83-07/L-83-07 are regulatory conditions the landfill is required to follow. Please see LLU F-22 for a contrary view.	6	5	0				
Real-Time Draft Revisions 4/3/23 Add as new Recommendation CUP R-7a: In 1983 the County created community expectations for how the landfill would look in decisions documented in PC83-07. Appearance issues including steepness of the landfill slopes, terracing, screening, and returning the land to grazing or other farm-like uses were addressed and committed to by the County and landfill operator. The way the County chose to implement these commitments is questionable given legal hindsight. Whether they be enforceable "conditions of	7	2	2				

approval" or "findings" in the PC83-07 record remains in dispute. The BCTT Workgroup is not a court of law. The differing interpretations over a possible process or wording error of the 83-07 decision, that causes this issue to arise, should not be the primary concern. Of greater importance for the County's relationship with its residents is the Planning Commission and Board of Commissioners decisions to adopt the offered designs and reclamation plans to meet public expectations. These expectations were made clear in the records of PC83-07. At a minimum, the debate over PC83-07's intended vs. actual conditions of approval or findings draws attention to the fragile "good neighbor" relationship between the County, landfill owner/operator and the public established through the 83-07 land use hearing process. Acknowledging these discrepancies with prior commitments should form a basis for the County, landfill owner/operator, DEQ and the public to come to reasonable expectations for the appearance and long-term use and closure of the landfill facility.							

CUP R-8	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Clarify and communicate to the public what appropriate reclamation will look like to appropriately manage community expectations for the ultimate disposition of the landfill. For example, the county should explain to the public, with DEQ's and	12	0	0	27	17	60	34

Republic's assistance, DEQ's minimum reclamation requirements in the current Worst–Case Closure and Post-Closure Care Plan.							
	Formal Workgroup Polling						
No Changes Made	12	0	0				

CUP R-9	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Determine how or if the County's reclamation conditions of approval can be incorporated into DEQ's requirements for Valley Landfill's Worst–Case Closure and Post-Closure Care Plan for the landfill.	11	1	0	25	19	58	34
Language Proposed by 3s							
Language Proposed by 2s the terminology may benefit from clarification. Worst case scenarios are different than closure and post closure plans.							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 - No Changes Made	11	1	0				

CUP R-10	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Determine the authority of the 2002 Memorandum of Understanding (MOU) as it relates to pre-2002 Conditions of Approval and broadly communicate the applicability of the 2002 MOU to the public to help manage community expectations.	9	2	0	25	20	56	34
Language Proposed by 3s							
Language Proposed by 2s ??							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 - No Changes Made	9	2	0				

CUP R-11	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Clarify the intersecting roles between the County and DEQ in future CUP actions, recognizing the line between "environmental" and "land use" impacts may not be clear and establish a process of reconciliation.	11	0	0	28	16	63	29

Language Proposed by 3s							
Language Proposed by 2s							
Real-Time Draft Revisions							

CUP R-12	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Establish a reporting program for compliance confirmation for facilities contributing to environmental burdens on the County, such as a landfill, industrial-scale composting, or direct dischargers to water bodies within the County, etc.	9	1	1	28	16	62	31
Language Proposed by 3s We can poll a "1" on this if "burdens" is changed to "impacts"							
Language Proposed by 2s Change "burdens" to "impacts"							
	Formal Workgroup Polling						
Real-Time Draft Revisions 3/23/23 Establish a reporting program for compliance confirmation for facilities contributing to environmental impacts on the County, such as a landfill, industrial-scale composting, or direct dischargers to water bodies within the County, etc.	11	0	0				

CUP R-13	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Consider the impact of leachate from the landfill site on traffic safety, road maintenance, public wastewater treatment plants (Corvallis, Salem), and the Willamette River (water quality, sediments, wildlife, etc.) in future assessments of the impact of landfilling in Benton County.	11	0	0	27	16	61	31
	Formal Workgroup Polling						
No Changes Made	11	0	0				

CUP R-14	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Evaluate whether acquiring buffer land by landfill-related entities is consistent with Vision 2040 including the impact on housing, forestry, and agricultural land uses. Acquiring buffer land is an action specified in DEQ's Record of Decision from the DEQ Cleanup Program for the landfill. "Property purchases as buffer around the	8	1	2	23	21	51	42

landfill." is identified as one of the remedies for groundwater contamination.							
Language Proposed by 3s • The County doesn't have authority to regulate transactions between private landowners. Remove recommendation • The County doesn't have authority to regulate transactions between private landowners. This recommendation should be removed.							
Language Proposed by 2s Replace "Vision 2040" with "2040 Initiative".							
	Formal Workgroup Polling						
Real-Time Draft Revisions 4/3/23 Evaluate whether acquiring buffer land by landfill-related entities impacts 2040 Initiative including the impact on housing, forestry, and agricultural land uses. In addition, identifying options to disclose to the community who adjacent land owners are.	9	1	2				
Real-Time Draft Revisions 4/3/23 Evaluate whether acquiring buffer land by landfill-related entities is consistent with 2040 Initiative including the impact on housing, forestry, and agricultural land uses. Acquiring buffer land is an action specified in DEQ's Record of Decision from the DEQ Cleanup Program for the landfill. "Property purchases as buffer around the landfill." Is identified as one of the remedies for groundwater contamination.	8	2	2				

CUP R-15	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Require submittal of a plan for emergency water supplies for fire protection to the Power Generation facility per S-97-58.	11	0	0	29	16	63	30
	Formal Workgroup Polling						
No Changes Made	11	0	0				

CUP R-16	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Develop a comprehensive emergency preparedness/response plan with neighboring counties, cities and fire districts given the experiences from the nationally reported 1999 landfill fire.	11	0	0	28	17	63	32
	Formal Workgroup Polling						
No Changes Made	11	0	0				

CUP R-17	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text To address public concerns about odor, engage in a dialogue with the community to promptly develop and implement an odor reporting and mitigation plan that is consistent with the community's needs and DEQ requirements and County health and nuisance regulations.	10	1	0	29	16	63	31
Language Proposed by 3s							
Language Proposed by 2s Especially target community members that live close to landfill. (Soap Creek VNEQS)							
	Formal Workgroup Polling						
Real-Time Draft Revisions 4/3/23 - No Changes Made	10	1	0				

CUP R-18	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text	11	0	0	27	17	59	31

Update the Benton County Code and land use application documents to reflect the conditions of approval that are to be completed before final approval of an application and which conditions are applied to the on-going use of the land. This would improve understanding of the differing conditions of approval for the applicant, public, and decision-making bodies.							
	Formal Workgroup Polling						
No Changes Made	11	0	0				

CUP R-19	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text (NEW) Do not use the existence of a LUCS as evidence or proof of compliance with DEQ requirements until additional information is available from DEQ on how to interpret their use of a LUCS.	8	1	3	None	None	None	None
Language Proposed by 3s • New finding. Need to discuss. • We haven't had time to vet this finding. • I feel like we need more information about this. I could support it with more information.							
Language Proposed by 2s DEQ has provided information already on what a LUCS is used for. A LUCS should not be used as evidence of compliance with DEQ							

requirements. Per Oregon Administrative Code, OAR 340-018, a LUCS is a signed document provided by a local government that verifies that the entity applying for a DEQ permit is located in an area zoned appropriately for the proposed use by the local government.							
	Formal Workgroup Polling						
Real-Time Draft Revisions 3/23/23 . New CUP F-19.5: With regard to the 2002 MOU, DEQ has provided information already on what a LUCS is used for. A LUCS should not be used as evidence of compliance with DEQ requirements. Per Oregon Administrative Code, OAR 340-018, a LUCS is a signed document provided by a local government that verifies that the entity applying for a DEQ permit is located in an area zoned appropriately for the proposed use by the local government.	9	2	0				

CUP R-20	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text (NEW) Review historical and current closure related documentation to determine their impact on the ultimate closure of the landfill site.	9	1	0	None	None	None	None
Language Proposed by 3s							

Language Proposed by 2s ??							
	Formal Workgroup Polling						
Real-Time Draft Revisions 4/3/23 - No Changes Made	9	1	0				

CUP R-21	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text (NEW) Continue working with DEQ to access their files and make the information readily available on the County website.	10	1	0	None	None	None	None
Language Proposed by 3s							
Language Proposed by 2s DEQ has provided information already on what a LUCS is used for. A LUCS should not be used as evidence of compliance with DEQ requirements. Per Oregon Administrative Code, OAR 340-018, a LUCS is a signed document provided by a local government that verifies that the entity applying for a DEQ permit is located in an area zoned appropriately for the proposed use by the local government.							
	Formal Workgroup Polling						
Real-Time Draft Revisions 4/3/23 - No Changes Made	10	1	0				

CUP R-22	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text (NEW) Conduct additional searches of County records and other depositories of County correspondence such as DEQ records to uncover documents that may impact the evaluation of future land use matters. Make existing files for PC-94-10 and PC-94-11 available to the public.	9	2	0	None	None	None	None
Language Proposed by 3s							
Language Proposed by 2s NEW) Conduct additional searches of County records and other depositories of County correspondence such as DEQ records to uncover documents that may impact the evaluation of future land use matters. Make existing files for PC-94-11 available to the public.							
	Formal Workgroup Polling						
Real-Time Draft Revisions 4/3/23 - No Changes Made	9	2	0				

CUP R-23	Informal Workgroup Polling	Initial Public Polling as of 3/23/23	Cumulative Public Polling as of 3/31/23

	1	2	3	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text (NEW) Future users review all then-available source files for evaluating land use decisions and not rely solely on Appendix A.2. documentation.	8	2	1	None	None	None	None
Language Proposed by 3s I need more information to support this							
Language Proposed by 2s							
	Formal Workgroup Polling						
Real-Time Draft Revisions 3/23/23 Future users are encouraged review all then-available source files for evaluating land use decisions and not rely solely on Appendix A.2. documentation.	11	0	0				

CUP R-24	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	2	3	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text (NEW) Retain a specialized professional team of outside resources to act in the County's behalf in all aspects of upcoming expansions of the landfill. This team should be structured to require only guidance from County staff. The team resources should not be dependent on County staff for administrative tasks or clerical	8	0	3	None	None	None	None

support. A Public Member of BCTT knowledgeable in the issues should participate in the selection of outside resources.							
Language Proposed by 3s • There are multiple "new" recommendations in this section of the report, none of which were discussed or vetted before being submitted for inclusion. • Would like to discuss further at the meeting as this is a new finding and we need more information about its intent. • Interesting but need more information. Isn't this what the Planning Commission and SWAC are for? Could this be an Advisory Committee combined with the ACs in the SMMP? Sounds expensive and if was only volunteers it would be hard to find people possibly due to not having any support staff.							
Language Proposed by 2s							
	Formal Workgroup Polling						
Real-Time Draft Revisions 3/23/23 Retain a specialized professional team of outside resources to act in the County's behalf in all aspects of upcoming expansions of the landfill. This team should be structured to require only guidance from County staff. The team resources should not be dependent on County staff for administrative tasks or clerical support. Public Members of BCTT knowledgeable in the issues should participate in the selection of outside resources.	9	3	0				

CEO FINDINGS

The first Workgroup Polling numbers are from the informal poll. Subsequent polling was completed at the Workgroup meetings and are formal polling numbers.

CEO F-1	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text Insure language accessibility for at least the County's most used languages. (English, Spanish, Mandarin, and Cantonese).	10	1	0
Language Proposed by 3s			
Language Proposed by 2s Replace "Insure" with "Ensure".			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 - ***No Changes Made***	10	1	0

CEO F-2	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text Use methods that help target underserved populations, particularly youth and low-income demographics. d. This can be achieved through more SMS communication and ensuring all websites and surveys are mobile-friendly. e. Increase social media communication and expand to more platforms. (Reddit, TikTok, Sub-Reddit, etc.) f. Utilize social media advertising.	11	0	0

	Formal Workgroup Polling		
No Changes Made	11	0	0

CEO F-3	Informal Workgroup Polling **1**	**2**	**3**
Draft 6 Text Use outreach methods that do not require people to be pre-signed up or self-selected. This includes, but is not limited to, flyers in public spaces, paid advertising on social media, in newspapers, and on the radio, informational mailers, and other resources.)	10	1	0
Language Proposed by 3s			
Language Proposed by 2s Note the closed parentheses			
	Formal Workgroup Polling		
Real-Time Draft Revisions 4/3/23 Use outreach methods that do not require people to be pre-signed up or self-selected. This includes, but is not limited to, flyers in public spaces, paid advertising on social media, in newspapers, and on the radio, informational mailers, and other resources.	10	1	0

CEO F-4	Informal Workgroup Polling **1**	**2**	**3**
Draft 6 Text Create user-friendly access to public input documents and testimonies during the process to ensure Benton County, Planning Commission, SWAC, and others.	10	1	0
Language Proposed by 3s			

Language Proposed by 2s Create user-friendly access to public input documents and testimonies during the public input process led by Benton County, Planning Commission, SWAC, and others.			
	Formal Workgroup Polling		
Real-Time Draft Revisions 4/3/23 - No Changes Made	10	1	0

CEO F-5	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text (NEW) It is important for CUP applicants to have a pre-application meeting with community members to further foster collaboration and open communication.	9	2	0
Language Proposed by 3s			
Language Proposed by 2s New finding.			
	Formal Workgroup Polling		
Real-Time Draft Revision 4/3/23 - No Changes Made	9	2	0

CEO F-6 [was not included in poll]	Informal Workgroup Polling		
	1	**2**	**3**
Draft 6 Text (NEW) Community input on environmental health and safety concerns in the area around the landfill is helps assess criteria for a CUP. In the last CUP process, community members were concerned about odor, noise, air quality and other environmental health issues that may affect the use of the surrounding property and			

character of the area[73]. Concerns & Complaints on the Benton County website provides links and phone numbers to report odor and air quality concerns about the landfill to the County, DEQ and Republic Services. There is not a link for noise or light complaints. The follow up and public access to this data is unclear.			
Language Proposed by 3s			
Language Proposed by 2s			
	No Formal Workgroup Polling Done		
Real-Time Draft Revision 4/3/23 - No Changes Made			

[73]Benton County. (2021). Planning commission findings. https://www.co.benton.or.us/pc

CEO RECOMMENDATIONS

The first Workgroup Polling numbers are from the informal poll. Subsequent polling was completed at the Workgroup meetings and are formal polling numbers.

CEO R-1	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text The County Development Department and County Public Information Officer are responsible for conducting communication and outreach.	7	4	0	33	12	66	26
Language Proposed by 3s							
Language Proposed by 2s • Add: "on future land use application filings." • Add: "on future land use application filings." • add: "for future land use applications." • The County Development Department and County Public Information Officer are responsible for conducting communication and outreach related to CUP and similar decision making processes.							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 - No Changes Made	7	4	0				

CEO R-2	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text The Board of Commissioners (Board) should consider changes to these notification recommendations based on the potential impact of other CUP applications.	9	0	1	29	15	58	32
Language Proposed by 3s I don't understand this recommendation.							
Language Proposed by 2s							
	Formal Workgroup Polling						
Real-Time Draft Revision 3/23/23 - No Changes Made	12	0	0				

CEO R-3	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Notifications for the BCTT Survey for public input on the Workgroup Report should include an email blast, website post, and displays or presentations where people already spend time (i.e., Library, community events). Notifications should include a 10-Mile radius from the landfill and should go out ideally a month before the survey closes.	11	0	0	27	17	58	35

	Formal Workgroup Polling						
No Changes Made	11	0	0				

CEO R-4	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Notifications for the BCTT Report completion should include an email blast to the Interested Parties List, Organic Subscribers, those who spoke at the meetings, the Soap Creek Neighbors Group, and other landfill neighbors. Notifications should also include a possible postcard to the entire county with a link to go to and/or scan to get on a list to be informed of further updates and/or have an open house event/public informational meeting. It should be on a weekend during the day so that most people can attend, and the link and email list should be readily available. A 10-mile radius from the landfill is proposed, and notifications should be sent 72 hours after the report is finished.	11	0	0	25	19	56	37
	Formal Workgroup Polling						
No Changes Made	11	0	0				

CEO R-5	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Notifications for Board Hearings on the report should include a postcard, an email blast, a newspaper notification, and social media posts and advertisements. The postcards should be sent to everyone in a 10- or 15-Mile radius of the landfill, and notifications should be sent 24 hours after the board hearing is scheduled.	11	0	0	24	20	55	36
	Formal Workgroup Polling						
No Changes Made	11	0	0				

CEO R-6	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text The County should notify the public when Republic Services first notifies the County that they plan to file a CUP application. This starts off any pre-filing public involvement. Notifications should include a postcard, email blast, newspaper notification, and social media posts and advertisements. Postcards should be sent to everyone within a 10- or 15-mile radius of the landfill, and notifications need to begin 24 hours after the County is notified.	9	2	0	25	20	56	38

Language Proposed by 3s							
Language Proposed by 2s • This should be at the county's discretion. • The County "at its discretion" should notify...							
	Formal Workgroup Polling						
Real-Time Draft Revision 3/23/23 - No Changes Made	9	2	0				

CEO R-7	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Notifications for CUP filings, which includes the application review process, should consist of a postcard, email blast, newspaper notification, and social media posts and advertisements. Postcards should be sent to everyone within a 10- or 15-Mile radius of the landfill, and notifications need to begin 24 hours after the initiation of a CUP filing. During the "completeness" process, the Planning Official will consider whether the applicant's documents and information are sufficient for purposes of review of the application. Determining that an application is complete does not mean the information satisfies the approval criteria.	11	0	0	24	21	54	38
	Formal Workgroup Polling						
No Changes Made	11	0	0				

CEO R-8	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Notification when County determines the application is complete will include a postcard, email blast, newspaper notification, and social media posts and advertisements. They should be sent to the entire county and occur 24 hours after completion.	11	0	0	22	22	53	36
	Formal Workgroup Polling						
No Changes Made	11	0	0				

CEO R-9	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Notifications for SWAC Meetings should include website posts and email blasts to interested groups and people already on the existing email list. The notifications should be sent one to two weeks before the meeting.	11	0	0	27	18	64	31
	Formal Workgroup Polling						

No Changes Made	11	0	0				

CEO R-10	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Notifications of the SWAC Recommendation should include website posts and email blasts to interested groups and people already on the existing email list. The notifications should be sent out 24 hours after the recommendation.	11	0	0	25	20	59	36
	Formal Workgroup Polling						
No Changes Made	11	0	0				

CEO R-11	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Notifications for Planning Commission Meetings should include website posts and email blasts to interested groups and people already on the existing email list. The notifications should be sent no later than two weeks before the meeting.	11	0	0	25	19	59	32

	Formal Workgroup Polling						
No Changes Made	11	0	0				

CEO R-12	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Notifications of the Planning Commission's decision on the application should include website posts and email blasts to interested groups and people already on the existing email list. The notifications should be sent out 24 hours after the recommendation.	11	0	0	25	19	59	34
	Formal Workgroup Polling						
No Changes Made	11	0	0				

CEO R-13	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Notifications of when the Board is hearing the CUP application for approval will include a postcard, email blast, newspaper	11	0	0	22	22	55	38

notification, and social media posts and advertisements. They should be sent to everyone within a 10- or 15-Mile radius of the CUP site and occur 24 hours after scheduled.							
	Formal Workgroup Polling						
No Changes Made	11	0	0				

CEO R-14	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text Notifications of the Board's decision on the application will include an email blast, website banner, newspaper notification, and social media posts. The notifications should be sent out 24 hours after the decision.	11	0	0	27	18	61	33
	Formal Workgroup Polling						
No Changes Made	11	0	0				

CEO R-15	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text	9	1	1	None	None	None	None

(NEW) Applicants of CUPs should have a pre-application meeting with communities affected by the CUP. These pre-application meetings should inspire transparency between the applicant and community members. Communication of these pre-application meetings should include an email blast, website post, and postings on the county's various social media outlets.							
Language Proposed by 3s Would like to discuss further at the meeting.							
Language Proposed by 2s Again, new finding.							
	Formal Workgroup Polling						
Real-Time Draft Revision 3/23/23 Applicants of CUPs should have a pre-application meeting with notification to the communities affected by the CUP as directed by the County.	12	0	0				

CEO R-16 [Not included in poll]	Informal Workgroup Polling			Initial Public Polling as of 3/23/23		Cumulative Public Polling as of 3/31/23	
	1	**2**	**3**	Generally Support	Generally Oppose	Generally Support	Generally Oppose
Draft 6 Text (NEW) CEO R- Neighborhood concerns about the landfill need to be collected, tracked, and resolved in an organized reporting and appeals process as cross referenced in CUP R-4 and CUP R-17. The data and actions taken should be accessible by the public. An updated area of the website with a streamlined reporting process	7	5	0	None	None	None	None

for odor, noise, air quality and other environmental health concern reporting is needed. Ideally a community member could click on the area of concern and check off boxes quickly to make a report. Phone numbers and emails should also be available for those who can more easily access these methods of communication. A link to the reporting area of the website on social media accounts would also be needed.							
Language Proposed by 3s							
Language Proposed by 2s							
	Formal Workgroup Polling						
Real-Time Draft Revision 4/3/23 Neighborhood concerns about the landfill need to be collected, tracked, and resolved in an organized reporting and appeals process as cross referenced in CUP R-4 and CUP R-17. The data and actions taken should be accessible by the public. An updated area of the website with a streamlined reporting process for odor, noise, air quality and other environmental health concern reporting is needed.	5	5	2				
Real-Time Draft Revision 4/3/23 Neighborhood concerns about the landfill need to be collected, tracked, and resolved in an organized reporting and appeals process as cross referenced in CUP R-4 and CUP R-17. The data and actions taken should be accessible by the public. An updated area of the website with a streamlined reporting process for odor, noise, air quality and other environmental health concern reporting is needed. For example, a community member could click on the area of concern and check off boxes quickly to make a report. Phone	9	3	0				

numbers and emails should also be available for those who can more easily access these methods of communication. A link to the reporting area of the website on social media accounts would also be needed.							

Appendix B2: Final Polling Numbers by Member – Grouped by F&R

The polling numbers by member were recorded by hand during Meeting #10 and Meeting #11, and converted to the digital format below. The scanned version of the handwritten polling numbers by member can be found HERE.

Meeting 10 Substantive Polls Raw Data

Poll #1: CUP R-7

WORKGROUP Member	1	2	3	Abstain	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp		X				X	All
3) Elizabeth Irish		X				X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough		X				X	All but C
6) Shawn Edmonds/Julie Jackson		X				X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall	X					X	All
9) Christopher McMorran	X				X	X	All
10) Ryan McAlister					X	X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe		X				X	All
Polling Totals:	**6**	**6**	**0**	**0**	**3**		
RESULT: Consensus							

Poll #2: CUP R-12

WORKGROUP Member	1	2	3	Abstain	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall	X					X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister					X	X	All

11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**11**	**0**	**0**	**0**	**3**		
RESULT: Consensus							

Poll #3: CUP R-19

WORKGROUP Member	1	2	3	Abstain	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough		X				X	All but C
6) Shawn Edmonds/Julie Jackson		X				X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall	X					X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**10**	**2**	**0**	**0**	**2**		
RESULT: Consensus							

Poll #4: CUP R-23

WORKGROUP Member	1	2	3	Abstain	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall	X					X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All

14) Catherine Biscoe	X					X	All
Polling Totals:	**12**	**0**	**0**	**0**	**2**		
RESULT: Consensus							

Poll #5: CUP R-24

WORKGROUP Member	1	2	3	Abstain	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough		X				X	All but C
6) Shawn Edmonds/Julie Jackson		X				X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall	X					X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby		X				X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**9**	**3**	**0**	**0**	**2**		
RESULT: Consensus							

Poll #6: CEO R-2

WORKGROUP Member	1	2	3	Abstain	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall	X					X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**12**	**0**	**0**	**0**	**2**		
RESULT: Consensus							

Poll #7: CEO R-15

WORKGROUP Member	1	2	3	Abstain	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall	X					X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**12**	**0**	**0**	**0**	**2**		
RESULT: Consensus							

Poll # 8: LLU R-1

WORKGROUP Member	1	2	3	Abstain	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp		X				X	All
3) Elizabeth Irish		X				X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough		X				X	All but C
6) Shawn Edmonds/Julie Jackson		X				X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall	X					X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister		X				X	All
11) Mary Parmigiani		X				X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**6**	**6**	**0**	**0**	**2**		
RESULT: Consensus							

Poll #9: LSCI R-6

WORKGROUP Member	1	2	3	Abstain	Not Here	Polling	Charge

1) Chuck Gilbert	X					X	All
2) Marge Popp		X				X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough		X				X	All but C
6) Shawn Edmonds/Julie Jackson		X				X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall	X					X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby		X				X	All
14) Catherine Biscoe		X				X	All
Polling Totals:	**7**	**5**	**0**	**0**	**2**		
RESULT: Consensus							

Poll #10: LSCL R-7

WORKGROUP Member	1	2	3	Abstain	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough		X				X	All but C
6) Shawn Edmonds/Julie Jackson		X				X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall	X					X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby		X				X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**9**	**3**	**0**	**0**	**2**		
RESULT: Consensus							

Poll #11: LLU R-2

WORKGROUP Member	1	2	3	Abstain	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp		X				X	All
3) Elizabeth Irish	X					X	All

4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall	X					X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani		X				X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby		X				X	All
14) Catherine Biscoe			X			X	All
Polling Totals:	**8**	**3**	**1**	**0**	**2**		
RESULT: No Consensus **Majority-Minority Result: 1s = 8 and 2s = 3 | 3s = 1**							

Poll #12: LLU R-4

WORKGROUP Member	1	2	3	Abstain	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp		X				X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall	X					X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani		X				X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe			X			X	All
Polling Totals:	**9**	**2**	**1**	**0**	**2**		
RESULT: No Consensus **Majority-Minority Result: 1s = 9 and 2s = 2 | 3s = 1**							

Poll #13: LLU R-4 [second time]

WORKGROUP Member	1	2	3	Abstain	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp		X				X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All

5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall	X					X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe		X				X	All
Polling Totals:	**10**	**2**	**0**	**0**	**2**		
RESULT: Consensus							

Poll #14: The next meeting should have two 30-minute public comment periods.

WORKGROUP Member	1	2	3	Abstain	Not Here	Polling	Charge
1) Chuck Gilbert			X			X	All
2) Marge Popp			X			X	All
3) Elizabeth Irish			X			X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough			X			X	All but C
6) Shawn Edmonds/Julie Jackson			X			X	All but C
7) John Deuel			X			X	All
8) Kathryn Duvall			X			X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister			X			X	All
11) Mary Parmigiani			X			X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby			X			X	All
14) Catherine Biscoe			X			X	All
Polling Totals:	**1**	**0**	**11**	**0**	**2**		
RESULT: No Consensus							
Majority-Minority Result: 1s = 1 and 2s = 0 | 3s = 11							

Poll #15: The next meeting should have one 30-minute public comment period.

WORKGROUP Member	1	2	3	Abstain	Not Here	Polling	Charge
1) Chuck Gilbert		X				X	All
2) Marge Popp			X			X	All
3) Elizabeth Irish		X				X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough		X				X	All but C
6) Shawn Edmonds/Julie Jackson		X				X	All but C

7) John Deuel		X				X	All
8) Kathryn Duvall				X		X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby		X				X	All
14) Catherine Biscoe		X				X	All
Polling Totals:	**3**	**7**	**1**	**1**	**2**		
RESULT: No Consensus							
Majority-Minority Result: 1s = 3 and 2s = 7 | 3s = 1							

Poll #16: The next meeting should have one 30-minute public comment period.

WORKGROUP Member	1	2	3	Abstain	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall				X		X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani			X			X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe		X				X	All
Polling Totals:	**9**	**1**	**1**	**0**	**2**		
RESULT: No Consensus – But b/c it has the most support, this will be the selected option.							
Majority-Minority Result: 1s = 1 and 2s = 0 | 3s = 11							

Poll #17: We should re-open the public poll for roughly a week.

WORKGROUP Member	1	2	3	Abstain	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp		X				X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough		X				X	All but C
6) Shawn Edmonds/Julie Jackson		X				X	All but C
7) John Deuel	X					X	All

8) Kathryn Duvall	X					X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe		X				X	All
Polling Totals:	**8**	**4**	**0**	**0**	**2**		
RESULT: Consensus							

Meeting 11: Process Polls Raw Data

Poll #1`: LLU R-6

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp			X			X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers	X					X	All
5) Russ Knocke / Ginger Rough		X				X	All but C
6) Shawn Edmonds/Julie Jackson		X				X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani		X				X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe		X				X	All
Polling Totals:	**7**	**4**	**1**	**0**	**2**		
RESULT: No Consensus **Majority-Minority Result: 1s = 7 and 2s = 4 | 3s = 1**							

Poll #2: LLU R-7

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp			X			X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers	X					X	All
5) Russ Knocke / Ginger Rough		X				X	All but C
6) Shawn Edmonds/Julie Jackson		X				X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All

9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby		X				X	All
14) Catherine Biscoe		X				X	All
Polling Totals:	**7**	**4**	**1**	**0**	**2**		
RESULT: No Consensus **Majority-Minority Result: 1s = 7 and 2s = 4 | 3s = 1**							

Poll #3: LLU R-8

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp			X			X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers	X					X	All
5) Russ Knocke / Ginger Rough		X				X	All but C
6) Shawn Edmonds/Julie Jackson		X				X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**9**	**2**	**1**	**0**	**2**		
RESULT: No Consensus **Majority-Minority Result: 1s =9 and 2s = 2 | 3s = 1**							

Poll #4: LLU R-9

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp				X		X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers	X					X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All

13) Louisa Shelby	X					X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**11**	**0**	**0**	**1**	**2**		
RESULT: **Consensus**							

Poll #5: LLU R-11

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers	X					X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**12**	**0**	**0**	**0**	**2**		
RESULT: **Consensus**							

Poll #6: LLU R-12

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp				X		X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers	X					X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**11**	**0**	**0**	**1**	**2**		
RESULT: **Consensus**							

Poll #7: LLU R-13

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp				X		X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers	X					X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby		X				X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	10	**1**	**0**	**1**	**2**		
RESULT: **Consensus**							

Poll #8: CEO R-16: (Version as-is) (NEW) CEO R- Neighborhood concerns about the landfill need to be collected, tracked, and resolved in an organized reporting and appeals process as cross referenced in CUP R-4 and CUP R-17. The data and actions taken should be accessible by the public. An updated area of the website with a streamlined reporting process for odor, noise, air quality and other environmental health concern reporting is needed. Ideally a community member could click on the area of concern and check off boxes quickly to make a report. Phone numbers and emails should also be available for those who can more easily access these methods of communication. A link to the reporting area of the website on social media accounts would also be needed.

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers		X				X	All
5) Russ Knocke / Ginger Rough		X				X	All but C
6) Shawn Edmonds/Julie Jackson		X				X	All but C
7) John Deuel		X				X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister		X				X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**7**	**5**	**0**	**0**	**2**		
RESULT: **Consensus**							

Poll #9: CEO R-16: (Revision 1) Neighborhood concerns about the landfill need to be collected, tracked, and resolved in an organized reporting and appeals process as cross referenced in CUP R-4 and CUP R-17. The data and actions taken should be accessible by the public. An updated area of the website with a streamlined reporting process for odor, noise, air quality and other environmental health concern reporting is needed.

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert		X				X	All
2) Marge Popp		X				X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers		X				X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani		X				X	All
12) Ed Pitera			X			X	All
13) Louisa Shelby		X				X	All
14) Catherine Biscoe			X			X	All
Polling Totals:	**5**	**5**	**2**	**0**	**2**		
RESULT: No Consensus **Majority-Minority Result: 1s = 5 and 2s = 5 | 3s = 2**							

Poll #10: CEO R-16 (Revision 2) Neighborhood concerns about the landfill need to be collected, tracked, and resolved in an organized reporting and appeals process as cross referenced in CUP R-4 and CUP R-17. The data and actions taken should be accessible by the public. An updated area of the website with a streamlined reporting process for odor, noise, air quality and other environmental health concern reporting is needed. For example, a community member could click on the area of concern and check off boxes quickly to make a report. Phone numbers and emails should also be available for those who can more easily access these methods of communication. A link to the reporting area of the website on social media accounts would also be needed.

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers	X					X	All
5) Russ Knocke / Ginger Rough		X				X	All but C
6) Shawn Edmonds/Julie Jackson		X				X	All but C
7) John Deuel		X				X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All

14) Catherine Biscoe	X					X	All
Polling Totals:	**9**	**3**	**0**	**0**	**2**		
RESULT: Consensus							

Poll #11: CUP R-14 (Version as-is, with "2040 Initiative".) Evaluate whether acquiring buffer land by landfill-related entities is consistent with 2040 Initiative including the impact on housing, forestry, and agricultural land uses. Acquiring buffer land is an action specified in DEQ's Record of Decision from the DEQ Cleanup Program for the landfill. "Property purchases as buffer around the landfill." Is identified as one of the remedies for groundwater contamination.

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert		X				X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers	X					X	All
5) Russ Knocke / Ginger Rough			X			X	All but C
6) Shawn Edmonds/Julie Jackson			X			X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby		X				X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**8**	**2**	**2**	**0**	**2**		
RESULT: No Consensus **Majority-Minority Result: 1s = 8 and 2s = 2 | 3s = 2**							

Poll #12: CUP R-14 (Revision 1) Evaluate whether acquiring buffer land by landfill-related entities impacts 2040 Initiative including the impact on housing, forestry, and agricultural land uses. In addition, identifying options to disclose to the community who adjacent land owners are.

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers	X					X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera			X			X	All
13) Louisa Shelby		X				X	All

14) Catherine Biscoe			X			X	All
Polling Totals:	**9**	**1**	**2**	**0**	**2**		
RESULT: No Consensus **Majority-Minority Result: 1s = 9 and 2s = 1 | 3s = 2**							

Poll #13: LSCL F-16 (Revision 1) The addition of Cell 6 added approximately 13,400,000 cubic yards of airspace. The Landfill total capacity increased by approximately 9,000,000 cubic yards in 2003 with the addition of the West and East triangle areas for a total of approximately 35,500,000 cubic yards. Since 2004, reported remaining airspace has decreased gradually, while total permitted airspace has remained remaining somewhat constant. As of end 2021 approximately 44% of permitted capacity remained unused. [See also LSCL F-37]

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers	X					X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**12**	**0**	**0**	**0**	**2**		
RESULT: Consensus							

Poll #14: LSCL F-13 (Revision 1) One proven way to reduce a landfill's greenhouse gas emissions is to divert organic material. Landfill gas collection systems are another tool to lessen the greenhouse gas impact but do not remediate it. In 2019 the Oregon DEQ estimated that Coffin Butte Landfill's controls (engine/generators with backup flare) collected 57% (https://downloads.regulations.gov/EPA-R10-OAR-2019-0640-0011/content.pdf).

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert			X			X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish			X			X	All
4) Andrew Struthers		X				X	All
5) Russ Knocke / Ginger Rough			X			X	All but C
6) Shawn Edmonds/Julie Jackson			X			X	All but C
7) John Deuel			X			X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister		X				X	All

11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby		X				X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**4**	**3**	**5**	**0**	**2**		
RESULT: No Consensus **Majority-Minority Result: 1s = 4 and 2s = 3 | 3s = 5**							

Poll #15: LSCL F-13 (Revision 2) Republic Services provided data to the Oregon DEQ for inclusion in EPA's 2021 Greenhouse Gas report that estimated the Landfill's gas collection system had an efficiency of 91.2 percent. (Reference: https://ghgdata.epa.gov/ghgp/service/html/2021?id=1007054&et=undefined)

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp				X		X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers	X					X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani		X				X	All
12) Ed Pitera		X				X	All
13) Louisa Shelby		X				X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**8**	**3**	**0**	**1**	**2**		
RESULT: Consensus							

Poll #16: LSCL F-13 (Revision 3) One proven way to reduce a landfill's greenhouse gas emissions is to divert organic material. Landfill gas collection systems are another tool to lessen the greenhouse gas impact but do not remediate it. In 2019 the Oregon DEQ estimated that Coffin Butte Landfill's controls (engine/generators with backup flare) collected 57% (https://downloads.regulations.gov/EPA-R10-OAR-2019-0640-0011/content.pdf). Republic Services provided data to Oregon DEQ for inclusion in EPA's 2021 Greenhouse Gas report that estimated the Landfill's gas collection system had an efficiency of 91.2 percent. (Reference: https://ghgdata.epa.gov/ghgp/service/html/2021?id=1007054&et=undefined)

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert			X			X	All
2) Marge Popp				X		X	All
3) Elizabeth Irish			X			X	All
4) Andrew Struthers		X				X	All
5) Russ Knocke / Ginger Rough			X			X	All but C
6) Shawn Edmonds/Julie Jackson			X			X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All

9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**6**	**1**	**4**	**0**	**2**		
RESULT: No Consensus **Majority-Minority Result: 1s = 6 and 2s = 1 | 3s = 4**							

Poll #17: LSCL F-13 (Revision 4) One proven way to reduce a landfill's greenhouse gas emissions is to divert organic material. Landfill gas collection systems are another tool to lessen the greenhouse gas impact but do not remediate it. In 2019 the Oregon DEQ estimated that Coffin Butte Landfill's controls (engine/generators with backup flare) collected 57% (https://downloads.regulations.gov/EPA-R10-OAR-2019-0640-0011/content.pdf). Republic Services provided data to Oregon DEQ for inclusion in EPA's 2021 Greenhouse Gas report that estimated the Landfill's gas collection system had an efficiency of 91.2 percent. (Reference: https://ghgdata.epa.gov/ghgp/service/html/2021?id=1007054&et=undefined)

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers	X					X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby		X				X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**11**	**1**	**0**	**0**	**2**		
RESULT: Consensus							

Poll #18: LSCL F-40

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers	X					X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All

9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby					X	X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**11**	**0**	**0**	**0**	**3**		
RESULT: Consensus							

Poll #19: LSCL F-42 (Version as-is) The landfill has developed visually over time in accordance with site development plans. Coffin Butte Landfill has changed visually since it's designation as a regional landfill in 1974, growing in both height and size, and visual appearance. However, the overall landfill acreage has not changed significantly since 1983; it has filled in more of its footprint.

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp			X			X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera			X			X	All
13) Louisa Shelby					X	X	All
14) Catherine Biscoe		X				X	All
Polling Totals:	**7**	**1**	**2**	**0**	**4**		
RESULT: No Consensus **Majority-Minority Result: 1s = 7 and 2s = 1 | 3s = 2**							

Poll #20: LSCL F-42 (Revision 1) The landfill has developed visually over time in accordance with site development plans. Coffin Butte Landfill has changed visually since it's designation as a landfill in 1974, growing in both height and size, and visual appearance. However, the overall landfill acreage has not changed significantly since 1983; it has filled in more of its footprint.

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough			X			X	All but C
6) Shawn Edmonds/Julie Jackson			X			X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All

9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe		X				X	All
Polling Totals:	**8**	**1**	**2**	**0**	**3**		
RESULT: No Consensus **Majority-Minority Result: 1s = 8 and 2s = 1 | 3s = 2**							

Poll #21: LLU F-9A (Revision 1) Add to the end, "This is not a recommendation on how the Planning Commission and Board should interpret future applications. Restated, each body fully retains its flexibility in interpreting those terms in the context of the specific application before it."

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**11**	**0**	**0**	**0**	**3**		
RESULT: Consensus							

Poll #22: LLU F-9B (Revision 1) Add to the end, "This is not a recommendation on how the Planning Commission and Board should interpret future applications. Restated, each body fully retains its flexibility in interpreting those terms in the context of the specific application before it."

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All

11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**11**	**0**	**0**	**0**	**3**		
RESULT: Consensus							

Poll #23: LLU F-15 (Revision 1) Notes Regarding the 2002 MOU: 1) it does not mention how the MOU was intended to relate to land use decisions 2) it is unclear as to what LUCS are referred to and their impact e.g.: the 1996 LUCS referred to in the MOU has not been found, 3) a LUCS dated 12/18/00 has been found as a free standing document, 4) a 2000 Site Plan (Is the the last DEQ approve in 2000 the MOU refers to?) using a LUCS dated Feb 25 '22 was found i.e. an 8 year gap between LUCS issuance and use in an identified document. 4) the current Operating Permit was issued in 2019 but references a 12/18/00 LUCS i.e. 20 year gap

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert			X			X	All
2) Marge Popp				X		X	All
3) Elizabeth Irish			X			X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough			X			X	All but C
6) Shawn Edmonds/Julie Jackson			X			X	All but C
7) John Deuel		X				X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister		X				X	All
11) Mary Parmigiani		X				X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby		X				X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**2**	**4**	**4**	**1**	**3**		
RESULT: No Consensus **Majority-Minority Result: 1s = 2 and 2s = 4 | 3s = 4**							

Poll #24: LSCL F-15 (Version as-is) How does the 2002 Memorandum of Understanding (MOU) fit into the Workgroup considerations? The 2002 MOU clarifies authorization for landfill activities within the Landfill Zone and establishes a point in time at which the landfill was operating in compliance with state and local requirements.

• The MOU does not address whether the County's determination of "compliance with local requirements" includes compliance with all conditions of past land use approvals.

• The MOU indicates that, as of 11/5/2002, there were no known land use ordinance violations involving the landfill. The MOU does not describe the extent to which Benton County investigated the compliance status of any conditions of past land use approvals in preparing the MOU.

• The MOU did not negate or supersede conditions of past land use approvals.

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp				X		X	All

3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera			X			X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe			X			X	All
Polling Totals:	**8**	**0**	**2**	**1**	**3**		
RESULT: No Consensus **Majority-Minority Result: 1s = 8 and 2s = 0 | 3s = 2**							

Poll #25: LLU F-22 (Version as-is)

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp			X			X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani		X				X	All
12) Ed Pitera			X			X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe			X			X	All
Polling Totals:	**7**	**1**	**3**	**0**	**3**		
RESULT: No Consensus **Majority-Minority Result: 1s = 7 and 2s = 1 | 3s = 3**							

Poll #26: LLU F-22A (New Finding)

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert			X			X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish			X			X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough			X			X	All but C
6) Shawn Edmonds/Julie Jackson			X			X	All but C

7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister		X				X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby		X				X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**5**	**2**	**4**	**0**	**3**		
RESULT: No Consensus **Majority-Minority Result: 1s = 5 and 2s = 2 | 3s = 4**							

Poll #27: LLU F-23 (Version as-is)

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp			X			X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel		X				X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani		X				X	All
12) Ed Pitera			X			X	All
13) Louisa Shelby		X				X	All
14) Catherine Biscoe			X			X	All
Polling Totals:	**5**	**3**	**3**	**0**	**3**		
RESULT: No Consensus **Majority-Minority Result: 1s = 5 and 2s = 3 | 3s = 3**							

Poll #28: LLU F-23 (Revision 1) Initial language in LLU F-23, with addition of: ""Cell 6" is: 1) not mentioned in PC-83-7. 2) not show on applicant drawings of the landfill as late as 2011. 3) is shown on applicant drawings dated 2022. The portion of a drawing LS offered showing the 1983 "Existing Quarry": 1) places the quarry outside the "Approximate Solid Waste Disposal Boundary" and "Proposed Solid (illegible word) Disposal Boundary". 2) does not show a quarry extending into the area identified in 2020 as Cell 6. 3) does not show what use the drawing was intended for, no date drawn, etc. i.e. it cannot be validated. 4) shows a requirement for screening the landfill along Coffin Butte Road and Hwy 99 with about 3 dozen conifers. Regarding the 2002 MOU: 1) it does not mention how the MOU was intended to relate to land use decisions 2) is unclear as to what LUCS are referred to and their impact e.g.: the 1996 LUCS referred to in the MOU has not been found, 3) a LUCS dated 12/18/00 has been found as a free standing document, 4) a 2000 Site Plan (Is the the last DEQ approve in 2000 the MOU refers to?) using a LUCS dated Feb 25 '22 was found i.e. an 8 year gap between LUCS issuance and use in an identified document. 5) the current Operating Permit was issued in 2019 but references a 12/18/00 LUCS i.e. 20 year gap 6) it was written years before a "Cell 6" was defined in a landfill operator's drawing.

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert			X			X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish			X			X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough			X			X	All but C
6) Shawn Edmonds/Julie Jackson			X			X	All but C
7) John Deuel		X				X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister		X				X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**5**	**2**	**4**	**0**	**3**		
RESULT: No Consensus **Majority-Minority Result: 1s = 5 and 2s = 2 | 3s = 4**							

Poll #29: LLU F-23 (Version 2) Initial language in LLU F-23, with addition of, "However, no official county land use determination has been made on this point."

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp			X			X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough			X			X	All but C
6) Shawn Edmonds/Julie Jackson			X			X	All but C
7) John Deuel		X				X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera			X			X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe			X			X	All
Polling Totals:	**5**	**1**	**5**	**0**	**3**		
RESULT: No Consensus **Majority-Minority Result: 1s = 5 and 2s = 1 | 3s = 5**							

Poll #30: LLU F-25 A, B, C. Vote to eliminate findings LLU F-25 A, B, C.

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All

3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**11**	**0**	**0**	**0**	**3**		
RESULT: Consensus							

Poll #31: LLU F-25 D (Note: Changed to LLU F-25A)

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp				X		X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**10**	**0**	**0**	**1**	**3**		
RESULT: Consensus							

Poll #32: LLU F-25 E, F (Note: Changed to LLU F-25 B, C.)

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp				X		X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All

9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**10**	**0**	**0**	**1**	**3**		
RESULT: Consensus							

Poll #33: LLU F-26 (Revision 1) Oregon Department of State Lands (DSL) has regulatory authority for all wetlands that meet the definition of "jurisdictional wetlands." Benton County has additional regulatory authority for wetlands the County has identified as "significant" in a wetland inventory adopted pursuant to the Oregon Administrative Rule 660 Division 23 (Statewide Planning Goal 5 procedures). While wetlands are present in the vicinity of Coffin Butte Landfill, they have not yet been evaluated and determined to be "significant" in accordance with OAR 660.. The County has not conducted a comprehensive wetland inventory and analysis of significance since the 1980s. Until then, the County cannot regulate land uses in these wetlands. See LLU R-11.

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**11**	**0**	**0**	**0**	**3**		
RESULT: Consensus							

Poll #34: CUP F-2

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All

9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**11**	**0**	**0**	**0**	**3**		
RESULT: Consensus							

Poll #35: CUP F-3

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**11**	**0**	**0**	**0**	**3**		
RESULT: Consensus							

Poll #36: CUP F-10.5 Vote to convert to a recommendation. (Note: Moved to after CUP R-18.)

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe	X					X	All

Polling Totals:	**11**	**0**	**0**	**0**	**3**		
RESULT: Consensus							
Ex-Officio Totals:							

Poll #37: CUP F-12 (Revision 1) Benton County does not review reports and other submitted materials as required per conditions of approval. Examples include: copies of water quality and air quality permits, emergency plans, permit submittals, financial assurance statements, etc., and data produced from associated monitoring programs required of the applicant by the Oregon Department of Environmental Quality or other governmental agencies. See Table 5 in Appendix C4 of the CUP subcommittee report.

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**11**	**0**	**0**	**0**	**3**		
RESULT: Consensus							

Poll #38: CUP F-14.5 (Revision 1) Last sentences changed to, "The Workgroup's CUP Subcommittee and Legal Subcommittee have analyzed past land use documents and have reached different conclusions as to their effect. This has resulted in changes to what was authorized to occur at the landfill without notification or a public review process that would ensure public trust."

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All

14) Catherine Biscoe	X					X	All
Polling Totals:	**11**	**0**	**0**	**0**	**3**		
RESULT: Consensus							

Poll #39: CUP F-18 (Revision 1) The Subcommittee did not reach a consensus on the applicability and the authority of the 2002 Memorandum of Understanding and how it may affect Conditions of Approval in pre-2002 decisions. The resolution of this issue potentially impacts ten land-use matters, which is over half of the decisions, containing fifty-three Conditions of Approval.

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**11**	**0**	**0**	**0**	**3**		
RESULT: Consensus							

Poll #40: CUP F-25

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp				X		X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough		X				X	All but C
6) Shawn Edmonds/Julie Jackson		X				X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani		X				X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**7**	**3**	**0**	**1**	**3**		
RESULT: Consensus							

Poll #41: CUP F-26 (Revision 1) There are Valley Landfill, Inc. Closure Plan Reports / Financial Assurance documents dating from the mid 1990's identifying areas of the landfill that are closed to meet DEQ requirements. Financial Assurance amounts were reduced to reflect the closure. The landfill owner utilized existing financial assurance to meet DEQ closure requirements in the 1990s. For explanation of financial assurance see LLU F-3B.

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough		X				X	All but C
6) Shawn Edmonds/Julie Jackson		X				X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**9**	**2**	**0**	**0**	**3**		
RESULT: Consensus							
Ex-Officio Totals:							

Poll #42: CUP F-19 (Revision 1) Generally, DEQ has jurisdiction over many environmental impacts, and the County has jurisdiction over the land use impacts. The line between "environmental impact" and "land use" is not always clear. and may lead to conflicting perceptions of what is to be done. For example, as a remedy for groundwater contamination at the site, DEQ requires the purchase of land to limit the public's exposure to contaminated water (Record of Decision from the DEQ Cleanup Program), which may or may not adversely impact neighboring County approved land uses. In another situation, the County publicly agreed to limitations on the appearance and uses of the closed landfill (PC 83-07/L-83-07), but these are not reflected in Republic's current DEQ-required site closure plans. Republic prepares annual plans to verify there is sufficient financial assurance per DEQ requirements.

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All

12) Ed Pitera	X					X	All
13) Louisa Shelby		X				X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**10**	**1**	**0**	**0**	**3**		
RESULT: Consensus							

Poll #43: CUP F-27

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough		X				X	All but C
6) Shawn Edmonds/Julie Jackson		X				X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**9**	**2**	**0**	**0**	**3**		
RESULT: Consensus							

Poll #41: CUP F-29

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough		X				X	All but C
6) Shawn Edmonds/Julie Jackson		X				X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby		X				X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**8**	**3**	**0**	**0**	**3**		
RESULT: Consensus							

Poll #42: CUP F-30 Vote to eliminate item.

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**11**	**0**	**0**	**0**	**3**		
RESULT: Consensus							

Poll #43: CUP R-7a Add as new Recommendation CUP R-7a

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough			X			X	All but C
6) Shawn Edmonds/Julie Jackson			X			X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister		X				X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby		X				X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**7**	**2**	**2**	**0**	**3**		
RESULT: No Consensus **Majority-Minority Result: 1s = 7 and 2s = 2 | 3s = 2**							

Poll #44: Procedural Question: "Any member present who wants to change any informal polling from a 1 to a 2 or 3 based on the discussion today?

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All

3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**11**	**0**	**0**	**0**	**3**		
RESULT: Consensus							

Poll #45: Procedural Question: Vote to confirm all remaining informal polling to permanent polling (due to lack of time).

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**11**	**0**	**0**	**0**	**3**		
RESULT: Consensus							

Poll #46: Procedural question: In any findings and recommendations where someone voted a 2 in informal polling, would you vote to maintain a 2 in formal polling? (Due to lack of remaining time at meeting to discuss 2's.)

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough	X					X	All but C

6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**11**	**0**	**0**	**0**	**3**		
RESULT: **Consensus**							

Poll #47: Vote to confirm new material. History Document: (Option 3) Household well contamination and subsequent shut-down.

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**11**	**0**	**0**	**0**	**3**		
RESULT: **Consensus**							

Poll #48: Vote to confirm new material. History Document: Transfer in responsibility of solid waste from Health Department to Community Development Department.

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All

10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**11**	**0**	**0**	**0**	**3**		
RESULT: Consensus							

Poll #49: Vote to confirm new material. History Document: Email exchange between Vance Croney and Julie Jackson. Add footnotes that link to the full email exchange and Vance Croney's recent email. (Option 1)

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All
12) Ed Pitera	X					X	All
13) Louisa Shelby		X				X	All
14) Catherine Biscoe		X				X	All
Polling Totals:	**9**	**2**	**0**	**0**	**3**		
RESULT: Consensus							

Poll #50: Vote to confirm new material. History Document: New addition to text about email exchange between Vance Croney and Julie Jackson. Add language, "In response to a public records request…" (Option 2)

WORKGROUP Member	1	2	3	Present	Not Here	Polling	Charge
1) Chuck Gilbert	X					X	All
2) Marge Popp	X					X	All
3) Elizabeth Irish	X					X	All
4) Andrew Struthers					X	X	All
5) Russ Knocke / Ginger Rough	X					X	All but C
6) Shawn Edmonds/Julie Jackson	X					X	All but C
7) John Deuel	X					X	All
8) Kathryn Duvall					X	X	All
9) Christopher McMorran					X	X	All
10) Ryan McAlister	X					X	All
11) Mary Parmigiani	X					X	All

12) Ed Pitera	X					X	All
13) Louisa Shelby	X					X	All
14) Catherine Biscoe	X					X	All
Polling Totals:	**11**	**0**	**0**	**0**	**3**		
RESULT: **Consensus**							

Appendix B3: Rev Transcripts for M10 and M11 (Formal Polling Meetings)

All transcriptions provided were done by hand through https://www.rev.com/. They were not machine-generated.

Rev Transcript of BCTT 3-23-23 Meeting

Moderator: Or pop something in the chat that says you can hear us or can. So you won't be able to do that if you can't.

Speaker 1: Okay?

Moderator: Yes. Good

Speaker 1: Message that you can hear. Thank you so much. All right.

Moderator: Good afternoon everyone. It is March 23rd at 1:39 PM This is the final meeting of the work group scheduled today to look at all of the possible options available. I need an agenda. Do you have the agenda?

Speaker 1: I think you have one [inaudible 00:02:35].

Moderator: Thanks so much. All right, so let's review the agenda. It's up on the screen there and let's see if you can make that as big as possible to mine so people can look at it, but we'll do the normal agenda review, approve the meeting minutes from last time. Talk briefly about the public polling results. Then we'll have a public comment period, and then we'll start going over the informal polling that went out and was rolled up and we'll hit the threes first from that and then go on to any new issues. There will be a dinner break at 4:30 to 5:00. The board commissioners will be present to thank the work group and members of Republican participants. There'll be another extended comment period at 5:30, and then from 6:00 until we're done, we'll explore the findings and recommendations for someone [inaudible 00:03:51]. Look at the executive summary of history last call, and then the normal next steps for the meeting, which are also consistent with the work plan, which is the next agenda item, which I'll just cover now.

Between 3/27 and 3/31, there will be a process evaluation that's sent out and it'll be returned on 3/31 along with the member statements. The member statements include opportunities for members who have previously been on the work group or have previously been on a subcommittee to send in a member statement. Final report, the Word version will be next Tuesday, April 3, the report open house on the 4th. The copy table version will be published on the 11th and then a robust public comment feedback period on the whole report directed to the commissioner will start on April 11 and run through 5/23. That will be a simpler survey than getting your input on the findings and recommendations. All right, any subtractions to draft meeting nine minutes? Any member of the work group have any corrections or additions they'd like to make to those draft meeting minutes?

Hearing and seeing none they're deemed approved. With regard to the public survey, basically we had in rough numbers, 107 people answered some or all of the survey, 57% identified as coming from Corvallis, and the next highest number was other and followed by that Adair with 6% and Almuth with 7%, and OSU campus was six so that was the response. We collected some demographic data about how folks learned about the survey and primarily social media posts was

the biggest category there plus word of mouth at 27% social media and 31% word of mouth. Surveys asked about what preferred method of communication from the county and county emails was 55% followed by social media at 30, mailers 24, county website 20.

Then we went through each of the core recommendations, and as you will see, there is a split on these recommendations as to the answer to the question generally support or generally opposed. Because of the time there wasn't sufficient opportunity to run a running average, but just by looking at it as to all of the recommendations, there is roughly about 60% of folks generally support each of those recommendations and they went anywhere from 20 to 30, 35% generally oppose the recommendations and that's pretty consistent across all of the recommendations and findings. Members of the work group you have those survey findings there in front of you and they're there for your information. You should also have there in front of you the narrative comments that people provided and they're broken down by each of the five categories available to you. Any questions or comments from the work group members on the public polling with regard to the recommendations? Catherine?

Catherine: Yes. I'm wondering if on, so on the first page we talked about in the community or area of Benton County, do you live since the 12% other category is our second-largest category? Can you just give some examples of what other means for this case?

Moderator: Is Shannon around or staff? Did you sort that to see where the folks from other came?

Speaker 2: I don't think we have that information. Yeah. Sorry.

Moderator: Sorry Catherine.

Catherine: That's all right.

Moderator: Anything else on that?

Ed?

Speaker 3: Just some feedback this morning from folks. I, myself got the postcard yesterday and many people wanted to participate but they just could not do it so there was a timeliness question and we probably just need to think about that when we do the outreach part of the recommendations that whatever was set up for this time for this launch was much too short for people to receive something, digest it and take action.

Moderator: Greg, what did Corey have to say about that because I know some people got the postcards on Tuesday, which again doesn't mean that was sufficient time. I'm just trying to understand. As I recall, something happened with the printer or something that got...

Speaker 4: I don't know the details, have any more details, but yes, there was an issue with the [inaudible 00:09:57].

Speaker 5: We used a third party to mail those out. Their machine broke, which set them back a couple of days. I believe that they were put in the mail on Friday and landed in boxes beginning on Saturday. I don't know when USPS got them, and again, the notice provides dates for the remainder of the process and all of the opportunities to participate so obviously the first one was this public comment process. The next one will be for the open house on the 4th and then the larger

extended comment period to or directly is from April 11th through May 26th so all of those were listed on the card if you received them.
Yeah, we received Word. I think they were supposed to be mailed on Tuesday or Wednesday. We received word at the end of the day on Thursday that the machine had broken, the printing machine had broken. Obviously that was not acceptable so we said they need to go out tomorrow period. Fortunately they were able to get them out on Friday. That's what I know.

Moderator: All right, thank you for those updates. Let's move to public comment period. As is judiciary we first go to folks in the audience and then we'll go to people on Zoom. Just by show of hands how many people would like to testify, so I can give general sense of the numbers, 1, 2, 3. Three there and if you could raise your hand on the screen, you can stop sharing the imagery so I can see the screen better and it looks like we have 1, 2, 3, 4, 5, 6.
Okay, so let's start with the people in the audience. Doug Pollock was up first, so Doug, please. There's a seat right, right there. Perfect. Please introduce yourself and you have up to three minutes.

Doug: Thank you. Thank you very much. My name is Doug Pollock. I'm a neighbor of the Enso Creek Valley in Corvallis. This is an interesting process for me because I don't pay a lot of attention to what's going on. I gave a lot of input in the first couple year and a half of this controversy in depth emails and didn't get much response over and over and over again so I hear there was a survey, I guess maybe I saw an email a few days ago about it. I'm not sure. I hear your voting on a final report, which I guess has been through six revisions. All of this is just complete stuff that is not on my radar.
Most people in the community have a whole life with a whole lot of other things so I would urge people, especially commissioners, to not confuse this process with the normal process of public input and governance. SWAC DSAC should have been meeting this entire time to take away their responsibilities and have it go to this committee. These kinds of committees take on a life of their own and that's not to diminish your efforts, your volunteer hours, your efforts, but it's very different from the public interest and it's very different from the standard public process and it can be very intimidating for people. It's an exception to their normal routine. They don't normally even know about these things. They don't come to meetings like this. the fact that you got a hundred and some people on your survey is to me it's like there's thousands of people who would care about this if they really understood what's going on and how to give input. I think many of the neighbors feel like we've already given enormous amounts of input that really wasn't appreciated or accepted and I just want to give one example. First I was going to say I was biking by the landfill last night at 8:30 at night as I've done hundreds of times before. I smelled the smell coming off the dump on Highway 99, a strong smell and I thought about getting home and sending another report to DVQ to complain about it, but my last report about six weeks ago, I specifically asked for follow-up from DVQ as I've done in previous occasions, I've gotten nothing. As far as I'm concerned, there's no accountability on the part of DVQ. I would like to know if there was air monitoring ever done to know what chemicals are going in my body when I routinely breathe, start coming off the landfill.

I'd also like to point my letter to the editor on Tuesday. It was published at the exact time. I'm not sure how to submit that, but I just bring to attention to the public, the PFAS chemicals, which are almost certainly in the effluent from the landfill and are being essentially dumped in the [inaudible 00:14:40] River to the downstream drinking water communities. The issue I wanted to share most with you today is when I first got involved in this in July of 2019, a neighbor alerted me about this expansion of landfill. There was a little public notice I eventually found, and it said that Coffin Butte would be vacated not the road, it said Coffin Butte. It also said that the road would be rerouted and you read this notice and you go, oh, it's no big deal. They're closing part of the landfill. They're going to reroute the road.

I think that's part of the problem here. As many neighbors, if they were even aware of that notice, had no idea what was going on so my subsequent communication with the county staff, I just received a whole lot of pushback. They would not publish an amended notice to let people know that that was factually incorrect and that's kind of been the process I've experienced all along is my emails don't get answered. I brought this to the attention of commissioners way back, never get any answers. It's just been incredibly frustrating because these processes just seem designed to exclude the average citizen. I know I've exceeded my time, but thank you for your service and thanks for considering my input.

Moderator: Thank you, sir. Next up, whoever raised their hand second, come on down.

Speaker 1: Are you going Kevin?

Kevin: My name is Kevin Kanaha. I wholeheartedly want to thank all of the BCTT Work Group volunteers. My comments today are not directed at any of you, but I will be asking for your consideration

During the prior CUP within my comments to the planning commission, I stated the expansion cannot only be about the money. Unfortunately, it become more and more obvious it is only about the money. As I raised before why wasn't any due diligence completed prior to our commissioner signing the 2020 landfill franchise agreement. The 2020 landfill franchise agreement, it's big business. Big business that warranted one, a professional cost benefit analysis of hosting a regional landfill, a professional independent environmental impact study covering environmental impacts to date and the future environmental impacts of hosting a regional landfill. BCTT suggests this in the future. Third, the Sustainable Materials Management Plan, which BCTT also suggests in the future. In the future does not provide answers now. Please work group where appropriate please consider this during polling. After the prior CUP was withdrawn, I individually invited each of our commissioners to participate in public outreach with a small group. I felt we needed their help in opposing any landfill expansion. I can tell you all we received is pushback. Our Benton County commissioners, Benton County staff and Republic Services all want an expansion. Benton County doesn't need an expansion.

Don't the residents of Benton County deserve due diligence in the decision making process? I would argue we do. How can this process of considering expansion not include due diligence? It appears Benton County commissioners are only concerned about the money and due diligence may get in the way of

their discretionary cash flow. We're a group. We're appropriate. Please consider all of this in your polling. Please. Commissioners, Benton County residents deserve better. Do the due diligence before moving forward. Thank you.

Moderator: Thank you, sir. Next up [inaudible 00:19:42].

Becky: My name is Becky Merja. I'm a Benton County resident. I want to start by thanking all the volunteers for your time and efforts and seeing this process through to this extent and I want to share my concerns.

In an email dated February 24, 2023, I contacted Nichols, Emprivati and the commissioners. Mr. Nichols, I have serious concerns about the integrity and transparency of BCTT process. These concerns have been increasing with each citizen volunteer that is removed or resigns from the work group leaving intact Republic Services representation. My concerns were elevated another notch during your staff report at the Benton County Commissioner meeting February 21st when you stated that some really good conversations have been happening, many of those behind the scenes. I would like to know what you meant by that because it appears to deviate from the promise of an open public process and one table rule. At BCTT work group meeting February 23rd near the end of the meeting, Mr. Emprivati also mentioned the possibility of quick phone calls to resolve any remaining conflict. The polling process is suspect. How many of these behind the scenes conversations are to influence consensus on an issue that has and will forever impact this county and any community downstream? The future of Benton County is in the crosshairs and Republic Services has their finger on the trigger, signed me very concerned tax paying citizen.

I did not receive a response to that email. On February 12, 2023, I submitted a request for public records regarding communications surrounding the 2020 franchise and here's some information that you didn't get even though it was known to some of the people in this room. We now know that Benton County staff, County Council, and at least a couple of the current county commissioners have been in discussion with Republic Services since early 2019 about a plan to expand the landfill over and across Coffin Butte Road.

This plan has been in the works for at least five years. Public records also revealed that a number of the things that the BCTT work group was tasked with finding out were already extensively documented by county staff. Things like landfill capacity. February, 2019, a memo between county council and outside council for the county identifies good faith agreement to work on future landfill expansion/purchase additional property as one of the county's goals in contract negotiations with Republic. That brings us to today. Our community was promised an open, transparent process when all the while county staff Republic Services have been driving a calculated process designed to steer the outcome towards expansion. The work group members that were removed were the only members who opposed the expansion previously and the only one that was an actual landfill neighbor. I'm very disappointed in this process and I'm calling BS on it. Thank you.

Moderator: Thank you. Any other member of the public would like to speak?

Nancy: You guys. My name is Nancy Wickham. I used to be on the work group. I wasn't going to say anything, but on the occasion of the consideration of LU21047, the previous landfill expansion proposal that was proposed in July of 2021, one of

the local opponents of that who spoke at the planning commission meeting name was Cat Newsheller. We got news two days ago that Cat had died after a long battle with cancer. There was a lot of cancer in the neighborhood around the landfill and that was one of the issues that the Planning Commission identified as being a question that they would like to have answered before there was a decision on whether to increase the size of the landfill.
Landfills are not safe. That's becoming more and more clear. They don't ever discover new chemicals that are good chemicals. There are only worse chemicals and some of those chemicals are now being spread on our agricultural lands. There was even a recent CNN article about how people who live near landfills should have their blood tested for PFAS. Landfills are specifically called out as a danger for people who live nearby and no amount of money is going to bring Cat back and this is a question that really needs to be answered. It was if I had remained on the work group, I would've tried to bring it to the attention of the members. I was not in retrospect so it's really great to not be on the work group before because you guys worked really hard so thank you for that, but keep in mind that real people's lives may be at risk and this is an unanswered question. Thank you very much.

Moderator: Thank you very much. [inaudible 00:26:10] the public commissioner?

Nancy Wise: Hello, Nancy Wise, Benton County Commissioner. I just felt compelled to state that the commissioners were invited by the neighbors, a group of neighbors to come speak with them. All three of us commissioners did take them up on that offer. I did meet with the group for over three hours on one evening and I felt like it was a good conversation. I learned a lot and they had done a good job job of preparing extensive information and PowerPoints and I know that Commissioners Malone and Commissioners [inaudible 00:26:51] also met with them and viewed that material. Thank you.

Moderator: Thank you. Last call from anyone in the audience. All right, let's go to Zoom. Here is the order that you appear on my screen. Ken, Camille, Faye, Mark, Debbie, Kate, Catherine so you'll each have your three minutes. Ken, take it away.

Ken: Yes. Thank you very much. I would like to share my screen. Is that possible?

Moderator: It is on my... Try it and see if not [inaudible 00:27:37] coming up to make sure that can happen.

Ken: Okay.

Moderator: We see it.

Ken: Do you see the screen? Very good. Do you still see the screen?

Moderator: Yes, we can.

Ken: Okay, great. Thank you. Okay. Hello work group. My name is Ken Eckland and I'm a Benton County resident and chair of its Solid Waste Advisory Council. I'm here to call you to question why you are being asked to approve recommendations R6 and R7 from the Legal and Land Use subcommittee, which in essence are asking you to recommend to the Board of Commissioners that they should self-limit public input about the landfill from the Solid Waste Advisory Council.
Very quickly, let me just summarize SWAC's role trash is a dirty business. The public would like to be protected from it and they want their level of protection to rise at the speed of science. If there's a new better way to handle trash, then why aren't we doing it? But the county and the landfill don't move at the speed

of science. They move at the speed of legislation. SWAC was created basically to navigate the tension between those two speeds. That's why SWAC currently has no limits placed upon it because it's supposed to bring developments that concern the public to the county's attention because this kind of ground up feedback is where legislation begins in the first place.

Now here are R6 and R7. I've highlighted the actions they recommend, which are "the Board of Commissioners should more clearly define SWAC's role" and SWAC's involvement in reviewing a conditional use permit needs clarification. Work group members, I'm asking you to question the assumptions here, which are A, that SWAC's role is not clearly defined and that B, it's role, therefore needs definition. The subcommittee's own findings show otherwise, which is that SWAC assists the Board of Commissioners in implementing solid waste management and that the scope of its recommendations is not limited. There's no ambiguity here. There's no reason brought forward that this openness would be a problem. There's no example. SWAC's recommendation about the last conditional use permit was about a page and a half long. Does SWAC really have a filter problem?

Let's look at an earlier draft of these recommendations. This is from draft three and look, back then it was you, the work group who were recommending specific areas of consideration to SWAC. Note that back then you were not imposing limitations, but you've since been cut out of the process. Now you're being asked to approve a recommendation that the Board of Commissioners impose limitations on what SWAC can say to the board. You are being asked to endorse the creation of an echo chamber. I don't expect to have convinced you about the echo chamber bit in less than three minutes, but I hope you'll question what has happened R6 and R7, and what lies underneath this very unassuming legalese. I hope that you will question why it is that you, the work group, are being asked to recommend an action to the Board of Commissioners that they can freely take for themselves. Are you being asked to give the Board of Commissioners some political cover for restricting what they hear from the public? If you have questions about that, I would urge you not to approve. Don't sign your name to them if you are not sure. Thanks for your time and attention. I should make it clear that I'm talking to you as an individual, not for the Solid Waste Advisory Council. The council's ambassadors in the work group are Marge Pop and Chuck Gilbert. Thank you.

Moderator: Thank you and when you have time, can you stop sharing?

Ken: I'm trying.

Moderator: Yeah, take your time.

Ken: There we go.

Moderator: Thanks so much. Camille Hall, you're up.

PART 1 OF 10 ENDS [00:32:04]

Moderator: Camille Hall, you're up. Ms. Hall?

Camille: Yes, I'm here.

Moderator: Perfect.

Camille: Okay, here we go. As a concerned resident of Benton County that travels up Highway 99 regularly. I'm concerned about the rapid increase of landfill since Riverbend Landfill closed in McMinnville and I've been following the BCTT since

its beginning. And by the way, thank you all I know the hundreds of hours you've spent. What I have learned during this process is that the county gave up its legal leverage to negotiate with Republic Services when it signed that 10 year landfill franchise lease in 2020. We are all in this together, the public, Republic Services, and the county to figure out how to keep the landfill from encroaching on farmland, from driving away neighbors who bought their property when Coffin Butte was smaller, significantly smaller and slated for closure in about the year 2000.

So I was a little alarmed when I read the story in the Gazette Times this morning that there was a legal liability over the petition, which I as a Benton County resident have helped circulate. And let me read you the wording in the petition it says we need a plan, not a bigger landfill. By signing this position, we're telling the commissioners to oppose any expansion of Coffin Butte landfill before Benton County completes a thorough detailed waste management plan that focuses on future resilience and includes alternatives for decreasing and redistributing materials from the waste stream.

So there is no legal ramification for the county to have a position that opposes landfill expansion. They have legal restrictions regarding approval of a conditional use permit, but we as concerned residents want to hear the county be responsible for what goes into the dump and work hard with Republic Services through whatever leverage they can afford at this point, to pull things out of the waste stream, to increase the recycling markets, to do the things that we've taken time and effort to spell out in the solid waste materials Plan RFP that's due to be released. But anyway, thank you all. Work hard. We've got to stop this juggernaut, there's more to trash management than expanding the landfill. Thank you.

Moderator: Thank you very much. Next up.

Faye: Okay, can you hear me?

Moderator: Yes we can.

Faye: Okay. Fay Yoshihara, north Benton County resident. I want to acknowledge and thank the volunteers for their commitment and the tremendous hours put into the BCTT over the past nine months. I would like to comment on two topics, the community survey and PFAS. I'm glad 107 people, much smarter and more persistent than me, made it through the survey. I attempted to wade my way through the 80 plus questions in your survey, which was filled on a very short timeline. It went against everything I know about survey design and execution having worked in this field. In the end, I decided not to even respond because I did not consider this an honest attempt at community engagement. I know you framed it as "please answer the sections of greatest interests", but I could not even decide which to try to answer without a substantial time commitment.

Secondly, I'm concerned that issues around PFAS are not addressed in the report. Leachate is included in CUPR 13, but only its impact on water, not soil. In addition to PFAS-laced leachate making its way into the Willamette River, potentially PFAS-laced bio solids are being applied as a soil amendment at the Soap Creek branch, including where cattle currently graze and on the Carson homestead. This is where the Leticia Carson Legacy Project hopes to someday have an organic farm celebrating Leticia's legacy as a Oregon Black pioneer.

These are two amongst many concerns I have about the BTCC work group process and report. Whose responsibility is it to ensure impacted people's voices are heard? The process has become so inside baseball that I can't understand it despite having tried to follow the proceedings. Community engagement is when you meet people where they are, not where you are. I ask you to please consider the impacts on the many people who are unable to engage in your process as you pull on this report and its recommendations. Thank you.

Moderator: Thank you very much. So the order is Mark, Debbie, Katie. Mark, take it away.

Mark: Great. Thank you very much for your attention. Mark Henkels, a longtime resident of Benton County. I work in Monmouth, so I drive up 99 across Adair Village, up 99 regularly. I've always thought of the news but I never really was that educated about the landfill until I got involved with writing the history of the landfill as part of the Benton County talks trash process. So I wanted to provide, while I am able to submit things as a member statement, I feel like those are just going to become another part of the huge pile of paper. So I wanted to give a little bit of oral testimony to my perspective and concerns regarding this process. One thing I want to start by saying is as we wrote the history which was largely drafted by Marge Pop, myself, with a lot of input from Ginger who is really a great help in many ways.

One of the things that is really clear is while Republic's representative was as reasonable as you could ever expect, reaching consensus meant that we did not include things that we feel the public ought to know about. We did take very seriously the drive for consensus, but in the end when I look back on it, I realize consensus really means veto power. For specific areas I want to highlight that we would perhaps have done better if we had submitted a separate report rather than the consensus report of history we did.

Five points. One, history of fires and fire risk. We feel were significantly downplayed. It's hard to do justice to some of that stuff, but conversations with people that were fire officials locally, it's pretty clear that there's a greater danger there than was first apparent or that we included in the history.

Secondly, the significance for public services corporate decision making in increasing annual deposits that the landfill should have been developed more. In since it's the increased use of the land creates deposits in the landfill that are forcing the county to accept the south expansion, which created a greater incentive for Republic to negotiate for southward expansion and to incentivize it for the county board.

I really expanded on the physical transformation of the area as lands on its trucks and lights have really transformed the Coffin Butte area from an almost bucolic area that I once knew 30 years ago to really a full-fledged industrial zone. I go there different times a day, always the big trucks moving, litter sometimes from the trucks. But just the most important thing is as I drove down from Salem just yesterday, you can see that landfill from very far away over on Independence Road, which is not highway 99, but two miles to the east.

Two other broader concerns I want to race, one is while the immediate previous decision was not perhaps conducted properly and the public, and perhaps some officials, were not well-informed of the process or the basic information concerning the expansion negotiations and the proposal that was withdrawn last

year for expansion. Many of those who were involved did understand the nature of the issues and I think you can view this process as essentia redo of a decision that perhaps was valid to begin with. And finally, my last point, in the bigger picture, this process seems to ignore the core values of Benton County 2040 Thriving Communities initiative. There should be direct consideration of whether the expansion of landfill helps create the Benton County that we envision for 2040 and that has not come up anywhere. We don't have a committee regarding environment or quality of life. We have ones on economics and things like that. Thank you

Millie: Debbie Palmer?

Debbie: Can you hear me?

Moderator: Yes, now we can. Thank you.

Debbie: Okay. My name is Debbie Palmer. I am a Benton County resident and I have been following this work group and it's proceeding from the very beginning. First off, how many people are glad this process is almost over? Raise your hand. Okay, so my comments today are regarding the final document being prepared from all the work group and subcommittee members hard work.

The first comment has to do with history portion in the diagram on page 13 or rather on page 13 of draft five. I see it's now on page 20 of draft six, the blurb about the 2021 CUP neglects to mention its most controversial aspect. Right now it just says that Republic sought approval to place waste south of Coffin Butte Road, completely omitted is the fact that in order to do so, they also sought to close Coffin Butte road and cover it with garbage too. This was a huge issue and leaving that point out is a distortion of the historical record and a disservice the people reading this document in the future.

My second comment is actually a question. That question is, why is so much space in this document taken up with documenting the process of coming up with this document? Wouldn't it be far more useful for it to focus on the results of all that work, the history, the findings, the recommendations, and the appendices supporting the findings and recommendations? The process is not useful information except as a reference. The process is not what the document is supposed to be about. Other than a simple introduction, why not put all those details about the process at the very end in another appendix? It just seems to me that in its present state, this document is working pretty hard to try to justify itself that that is its priority rather than the actual results. This document is costing the county over $236,000. I sure hope in the end it is worth it. Thank you.

Moderator: Thank you very much. Katie Harris, you're up next.

Katie: Good afternoon. Thank you for your time and thank you very much to all the volunteers who've dedicated hundreds, if not thousands of hours to this process. I am Kate Harris.

Perhaps could we get everything else muted? I'm getting a feedback.

Moderator: So folks, it looks like Greg, you have your... Yeah, it says you're unmuted here on this screen. I think that's all we have Ms. Harris.

Katie: I'm Kate Harris, a North Benton County resident as a former Air Force pilot and evaluator with a civil engineering degree and a master's of public administration, a community board member and Adair Village rental property owner and a mother of three young children, I've spent years taking input from those under

my responsibility to ensure health, safety, and quality of life. Many times each year, and particularly in the winter months, we are affected at our house and while the children are attending school in Adair Village by an oppressive stench, not what is coming from the PRC but one that affects our daily living and activities coming from the landfill. It causes headaches, eye irritation, and throat burning, which limits our outdoor activities and often makes me concerned for the safety of the children at the school transiting between classroom buildings, during outdoor recess, and during sports practice.

In addition, the landfill leachate deposited daily at the Corvallis Wastewater treatment plant, which passes through the Municipal treatment System without additional treatment. The abnormal panel of toxins is released into the Willamette River mere miles prior to Adair Village's drinking water intake source. The Adair Village water treatment plant operates well within its required duties to treat river water prior to consumption. My grave concern is that many of the toxins deposited into the source water are not accounted for, treated, or even tested for at this point.

Both the air quality and water quality bring me concern for the safety of the tenants under our responsibility, my own children and their classmates and teachers, and the growing population of Adair Village. It is the charge of county government to ensure the health and safety of the Benton County residents to whom they are responsible and to ensure current and future livability of Benton County. I implore you as the Trash Talks work group to do everything in your power to ensure we account for all potential current and future impacts of our resident landfill prior to contemplating any future expansion.

Have you seen and studied results of local air quality tests? Residual environmental toxin tests? And have proof that the drinking water of Adair village does not contain PCB, PFAS, and other chemical toxins not normally tested for in municipal water sources? If not, we need to ensure that the entirety of the sustainable materials management plan is completed prior to any expansion approval to ensure the safety of all Benton County residents. Thank you again for all of your time and efforts. We appreciate the immense efforts that have gone into this process.

Moderator: Next up is Joe Crockett or Croquette. I apologize.

Joe: Okay, so I guess you can hear me?

Moderator: Yes sir.

Joe: No video though. So interestingly, if you were to take one day's accumulation of trash at the landfill, which is what, 10 hours of dropping trash? And you compress it into a 60 second time period, you would have six seconds of time where trash was coming from Benton County. The remainder 54 seconds, and if you want we can sit through this, the remainder 54 seconds is coming from outside of Benton County and that's amazing.

What's interesting too about that is that six seconds is costing Benton County so much headache and so much time, but we're getting so little benefit from it. And so the fear factors of oh, we're going to close the dump and it's going to cost you a fortune. The reality is they are making so much money on everybody else and very little on Benton County and why are we spending so much time is because Benton County is making a whole bunch of money from that six seconds of trash.

Anyway, it's just a perspective that I think is interesting to kind of think about is that so much of all of this headache that is going to live in Benton County forever and ever and ever is really only a small fraction of what Benton County is actually creating.
Thank you.

Moderator: Thank you sir. Thank you very much. Last call for public comment on Zoom. Last call from the audience. We might, of course we will have another public comment period, but last call for this moment in time. Catherine Stearns please.

Catherine: Okay, thank you. I'm not going to put video on because it tends to interrupt the technology. Anyways. My name is Catherine Stearns. I'm a North Benton County resident and I want to second just about everything everybody else has said prior to my speaking. I am opposed to the county moving forward on any expansion of the landfill at any level until there is an authentic citizen approved plan to manage solid waste. An authentic citizenry approved plan would include all the stakeholders, especially the neighbors who remain at risk for water, air, and ground pollution. For me, the county's motto "at your service" has come to me as "at Republic's Service" and not the citizens of the county. With all the perils risk and damages already identified and submitted over the past 18 months, how can you in good conscience proceed to consider anything less than a comprehensive and substantive future oriented plan?
This plan needs to include specifics on how the county will finally hold Republic services accountable for the damages that are ongoing. Instead of spending $80,000 on a process facilitator, why aren't we getting the state-of-the-art and world-class, 21st century strategies for all the municipalities using the landfill? Other communities with landfills are facing or have faced these same dilemmas. It seems to me the county staff are more diligent in preserving the funding stream than responsibly responding to the very real concerns of the citizens who pay their taxes. If the latest identification of PFAS being dumped into the Willamette River isn't enough to change your direction, then I invite you to go down to the water treatment outflow and take a long drink day after day just as those downstream have to. I'm not a scientist or a specialist, I'm a human being who wants the smarts of scientists and specialists to be integrated into any plan. This is all part of the changes needed to impact our climate concerns and seven generations henceforth. Thank you.

Moderator: Thank you very much. Last call. Anyone audience? Anyone on the computer? All right, this closes the first of the two public comment periods. Thank you very much. Next up on our agenda is to review tonight's polling plan. And Martin, if you could put up the 123 polling refresher.
All right, so this is direct out of the charter. It is the process that we have been using from the get go and just as I said, a refresher, I'm going to outline the key component parts and if you could scroll it up so that we're right here please.
So make sure you have your green cards in front of you with the number one on them, that means you fully support the proposed statement, the proposal as dated. You will vote a yellow card, which has the two on it, it indicates you agree with the proposal as stated, but prefer to have it modified in some matter to give it a one. Nonetheless, you'll support it even if your modifications aren't supported by the rest of the group because the proposal is worthy of general

support. When you vote a three indicates a refusal to support. So any person on any proposal where a three is voted, that will kill a consensus. So any one person can stop a consensus of that particular finding or recommendation by voting a three. If that's the case, we go into majority/minority voting.
So let's say there's a proposal and there's 14 polling members of the work group. Let's say three of them vote to three. We will try to see what we can do to reconcile those differences. But if at the end of the day it is eleven to three, with five people voting the one and six persons voting the two, it'll show that it was a majority/minority decision. The five ones will be noted, the six twos, and the X number of people that voted three. So the actual report itself will always show how many people voted one and how many people voted two and how many people in the three. Your individual votes will be in the appendix for each of these documents. But the rolled up version in the findings and recommendations by the report will be there. So people who are reading it know instantly how robust, if at all, a particular polling was. So that's that process. Let's now go, Greg, how many total findings and recommendations did we have?

Greg: Good question. I don't have that on my fingertips but I can find it.

Moderator: So while he is doing that, let me give you sort of an overview. So the place mat sized piece of paper that you have in front of you, this contains, if you look on the left-hand side is particular in the same order in the report. So SMMP finding number one, this shows on the first, oops.
Well I'm a little confused here, Greg. My document has ex-official members voting. I need polling.

Greg: There are two documents. One is...

Moderator: Okay, so there are apparently two documents. So what I need then is for you to please give me, those are all the ones that have threes on. I believe Millie we took up from that was put in front of us. From this one? Okay, we're good to go. Thank you very much. So in a nutshell, the document in front of you has all the

Millie: They don't have this one because we tried to print it and it sort of broke the printer and so we had to stop in order to print the agendas and other materials for you. So you don't have this massive document.

Moderator: So what one do you have?

Millie: I have the ex-official one,

Moderator: Yeah the ex-official one, which is helpful information, but not what I need to do this correctly in your favor. So we'll pivot here in a rally somehow. Catherine, you have your 10th up.

other catherine: I do. I just want to make a comment. Just in the course of, since we started this meeting, and I hope I'm not speaking out of line, but I am feeling very uncomfortable about the process of which we are being asked to embark on in this moment. We've received a tremendous amount of information to review just two days ago with a limited amount of time to do so. I would expect director, having served on a city council and planning commissions, that normally we would see five days, sometimes seven days worth of time to review. I'm concerned about how rushed this feels. And again, I'm only speaking for myself, but we are making major decisions here and how we move forward these findings and recommendations.

I'm just going to share that I feel a little uncomfortable about that. I will also share that unless it's in the other document, I only have the ex-official members, but I was unable to get through all of the polling in advance of this meeting just because of life and work constraints because of that shared timeline. I got through a large segment of it, but not all of it. But also, unless again, it's in the other document and not this ex-official version, I don't see the amount of hours that I put even into that monkey survey. I don't see that that was submitted and nor do I see any of my other fellow colleagues. I know we're missing some of the polling information and the responses back from those folks as well. So it's me just very concerned, and again, I'm just going to say it for the record that is processed goes wildly rushed and I'm concerned about when we rush processes as important as this, as it will relate to the future of Benton County. I just wanted to state that.

Moderator: Catherine.

Catherine: Yeah, I would agree with what Catherine said. I think it's just a lot to be reviewing, especially considering... I think all the community comment we heard today, I want to take that into consideration when we're looking at these and it feels hard to process all of that, everything that everyone said and take that into consideration for voting for this today.

Moderator: Okay, thank you Marge?

Marge: Yeah, I would second heartedly both comments, prior comments. I would go even a little bit further in that so many of these recommendations are so complex, particularly the ones coming out of the legal group. The ones coming out of the legal group are in lawyer talk. I don't speak that language. There was no attempt made to make any of those recommendations intelligible to someone like myself who has been engaged in another career throughout my life. And other aspects also, as I stated that this at the last meeting, it is been a silo process. Yes, I understand in my subcommittees the two that I am members of, I have a pretty good grasp on how I would feel about thousands, but I already spoke about that. The other subcommittees, I just don't think we've had any proper preparation for us to make the judgements that we're being asked to make.

Moderator: Okay. Yes, Liz?

Liz: I don't agree with any of the previous comments. I think we've all been at this for nine months. We've gone over things repeatedly. I don't think anything on the polling is incredibly different than what we've discussed earlier, other than a couple wording variations. And as far as the legal subcommittee was on that, I'm not an attorney and I was on that subcommittee. We worked very hard to make things as clear as possible. So there was an attempt. So I don't...
Right? I want to be clear.

Marge: Thank you.

Liz: And again, I said this at the last meeting, I think there's a lot of assertions being made to people trying to group things in as evil or bad or left out. But we all are part of the public. We've been here for

PART 2 OF 10 ENDS [01:04:04]

Speaker 6: But we all are part of the public. We've been here for nine months together, we're all human beings. We should talk about each other as if we are human

beings. I know that people call in and tell us how much they appreciate us and then they basically tell us we don't understand what we're doing right after that. And I think you all feel that, right? And I personally would like to wrap this up as with the commissioners, as with everybody else.

I would hope that we can rally, we can adjust on some few word changes that have been done to this draft, draft after draft, after draft. We're not changing everything every time. We're just making some adjustments. I say put our boots on, we roll our sleeves up and we power through this because we're not going to make everybody happy. That's not the world we live in, unfortunately. We were given a task by the board of commissioners to do the best we could to come up with findings and recommendations. And when I review this document and I look over it, I feel confident that you all did the best you could.

Moderator: So I have Chuck and then Louisa and then... Marge, you're up again.

Marge: Yup.

Moderator: And then Marge.

Chuck: I appreciate everybody's comments. It's just a matter of processes here. I am the ex-official members and then I worked late on this last night and I did, unfortunately, start with the number one with the SMP being the lead there. So I put a comment in there, but I'm not sure how our comments go forward here or going to be recalled because under the instructions, if it was a number two, we were supposed to rebut if you would or give ideas for expanding it. I'm not sure how that is going to be played out.

Moderator: So the instruction said if you voted a two or three, put in your alternative language and I have that alternative language. And when we get to a finding or recommendation, first we would be doing the threes. And then you will see that, everyone's comments on the screen and we would work that in real time. So if you could close this screen please. And I just picked SMMP F-1 so people can see what this looks like.

And Greg, I think we need Darren to hear this and so I don't know where... who's turn it is to watch him, but someone could find him and bring him up here. Where is he?

Group: We cannot read that.

I can't read that.

We can't read that.

Moderator: Yeah, appreciate you can't. No worries, about it in the sense that I'll give you the concept. So the way this will show up is SMMP F-1. So they're just in the same order as the report. Then the polling results, who voted one, two, and three. This shows 10 people voted a one, two people, excuse me, one person voted a two and no one voted a three. Because someone pulled a two, they dutifully said, "Here is the language that if accepted by my colleagues here, they would change their vote from a 2 to a 1." So all of that information is going to be on-screen. I will be the first, second and third person to acknowledge that not having it in front of you before that is a challenge, period. Okay, so you can close that screen please. So let me just give you an overview and maybe turn back onto the lights so I can see.

Group: You still have a-

Moderator: -And I know I got to go back tomorrow. Oh, she took her card down.

Speaker 6: Yeah, moment has passed.

Moderator: Moment has passed. So Louisa, did you have anything else?

Louisa: Well, I was going to say I'm a libra, so I agree with everyone.

Moderator: Could you speak up for me please?

Louisa: I agreed with most of what everyone was saying. I was going to say give Sam a chance to explain all this because it seems a little haphazard. We have some issues going on so we don't really have all the information in front of us. And if we're going to discuss the problems, if we have problems, we can always vote a three and say what we feel. I do feel like it's rushed also because there's a lot of information I didn't totally understand, but I'm hoping you're going to then be talking about that in the next six hours, hopefully. So I guess maybe just give the process a chance and see what's happening. But I also agree this is kind of rushed and I don't totally feel comfortable and understand everything like the legal stuff. I could tell it's much better than when I read it months ago, but still didn't totally understand everything which I put in my comments that we're going to talk about, so.

Moderator: All right, so let me just give you a little background surrounding this. So Greg, did you figure out how many we have?

Greg: Total findings and recommendations approximately 220.

Moderator: So of the 220 findings and recommendations that you have in front of you... let me write that down, no one voted a three on the SMMP findings. So we have a consensus on all of the SMMP findings that went forward. There are some twos and there will be a process to refine that. But as far as consensus, no consensus, there is a consensus in all the findings and recommendations for SMMP. On the landfill site life capacity, there are six findings, excuse me, four findings and two recommendations where at least one person voted a three.

So there are four findings and two recommendations where at least one person voted a three. In no case do the threes outweigh the ones and twos. So if you will, there will be a majority, mind if nothing changes as a result of trying to refine the threes and see what they could... So what we can do as a group to get them to a two or one, it would be a majority that is in the 13-1, 12-2 and at I think at worst, 11-3 range where the 11 all voted ones or twos and two or three people voted at four. On the land use, LLU, this is the baby. There are 20, I believe... let me count again, one. There are 20 total items where people voted a three. 10 of them are findings, 10 of them are recommendations.

On the CUP, there are 18 where at least one person voted a three. Of those, six are recommendations and 12 are findings. And on the community education outreach, there are two recommendations where someone voted in one. I will tell you I've been scanning this information just a little bit before you in the timing of it. The extent I could see, there are, of all those... So let me, add it up here, so 20, 30, 40. Of the 46 findings or recommendations where at least one person voted a one. The most common number is one person voting a one, I mean a three. I'm sorry, thank you, voting A three. That's to buy a V8.

And so there is by and large, with some exceptions, there is a robust majority minority for everything. Now that doesn't mean we're done. This process was always designed as we asked you, to see which where you voted a three and see if we can improve it. So Darren, what has been talked about since then, it was

expressed by 1, 2, 3 members that thought it's rushed. They don't have all the information. It is too important a decision to be rushed.
One cons, since we are the public, things haven't changed dramatically. They've just been refinements since it's going on and one person says, "Let's give the process a chance, although I think it's rushed." So I want to get you up to speed. I have no authority to make a call here on what to do or not do, but I want to give you all a chance to talk to Darren directly about this so we have a better sense of where we're at so I didn't inadvertently misquote you or Frazier... Marge.

Marge: I just want to ask. On the calendar it said informal polling.

Moderator: Yes.

Marge: It seems like it was very formal polling because on the basis of that polling now, we are going to give further looks at certain recommendations and findings. So in fact, I think that was a misnomer.

Moderator: Well I respectfully have a different point of view. It's informal in the sense that it's not binding on anyone. I said in last meeting and I can't remember what I said in the survey itself in the moment, that is designed to triage the agenda. And that is exactly what we are doing with this. We are looking at the informal results and saying people's preliminary or informal senses they have concerns about those particular findings and recommendations.
Therefore, we're going to take all of those first and see if we can reconcile them. After we get through the threes there's another list of twos. And then we would look at all of the twos and go over that list. And then when that's done, I will ask the folks, "Now that you've heard all this and do you have any last call... Are there any ones now that you would not vote one on as you did in the informal survey?" And we can poll again. So it is working as it is designed subject to and not to diminish the fact, that I got this stuff and you got this stuff relatively, simultaneously for a variety of reasons that Derek can explain. Louisa.

Louisa: Will there be a chance to have time to read through all the comments from the public since I didn't see that we had this before today?

Moderator: They were sent out last... This is not a justification. I'm not, "So therefore." Yeah, they already got sent out yesterday, late afternoon, early evening as I recall in an email.

Louisa: I Haven't been seeing it on anything.

Speaker 6: That's probably me.

Moderator: Let's assume you got it yesterday at... I'm making this up... six o'clock, doesn't mean he had time to do it. I'm not trying to imply that.

Marge: Okay,

Moderator: So Darren, thoughts the board from the board's perspective what they want to do?

Darren: Well, I'm hearing the comments. I guess I would say, I think the last time we met last Thursday, I felt really good about the progress that everyone made working through the issues and getting those down to, here are the things that we still think need to be included or here are the things we still think to be addressed. We did our best to get those into the report which you now have in front of you in a red line version. My understanding, of the informal polling was to give Sam a sense for where the remaining disagreements are so that today's work could be

addressing those final areas of disagreement and see what it would take to get them into areas of agreement.

You all have been working so hard on these things. I think, you what's in there, that's my sense. I can be totally wrong, but I think you know what's in there. Now it's really the time to see how you feel about that. And at some point we have to deliver that to the board anyway. If you feel like you really do need more time, it's okay. I think part of the reason that we've pushed is because some of you say you've had enough, you're done, you've already gone overtime, you don't want to go further overtime. But I think that's up to you to decide. We don't have an unlimited period of time... At some point we run a budget and we need to move forward in getting to the SMMP, which is the real work. But if you don't feel ready, I guess we have to respect that. Having said that, I don't think there's anything that we haven't seen touched, I felt, for the last seven months, but I could be wrong.

Moderator: So I have Katherine, Chuck and Catherine.

Katherine: So I'll just comment. It looks like [inaudible 01:20:23] you weren't here for the other conversation. Again, I just expressed my concern that the turnaround time. So yes, we've seen previous iterations of some of this information, but one of our public testimony, reference draft three versus draft six and there's a significant change within the language. It would be hard in my opinion, once we've heard all subcommittee, but I think there might be other subcommittees that could say, "I don't know where, while were working on our work, we would've had time to vet comfortably, some of the other recommendations." And I can, to the extent that we recognize the value of the folks that are on these subcommittees respect that work that's been done.

But just a perspective. Can any one of us on a subcommittee speak to some of the disputed discussions or disputed findings and recommendations of another subcommittee that we haven't sat in on that space, and in the approximate 36 hours we've had to review this? I again will just express my concern of we're making what could potentially be, not binding maybe, but very strong recommendations to the commission of which are we fully comfortable making those decisions? And if this was a planning commissioner of city council scenario or some of our other committee scenarios, are we confident that we can make those... fully understanding, the impacts of the recommendations we're making? Because in certain instances here, single word changes can change the meaning of these findings and recommendations.

Moderator: Thank you. Chuck, then Katherine [inaudible 01:21:59]

Chuck: Director, I appreciate the letter of January 13th in the sense that the final word would be ended here, but the wisdom of this group will be given to and forwarded to a professional staff that can carry it further when we get into the technical applications, everything and so forth. So just for us to end here without that relief, it would be some concern. But giving that direction where you'll have that, if you would want to speak on that?

Darren: Well it's really up to you if you feel ready or not ready. I can't say that you are or aren't. I guess to Kathy's point though, I think you've had this for a couple of weeks and you've weighed in last week a little bit. We refined it and now so you're seeing the version, the red line version of those refinements.

I don't think anything has substantively changed. You've actually been sort of honing it for the last couple of weeks. That doesn't mean that I think you're ready. My sense is you've had some opportunities to look at this. I'm hopeful that there aren't surprises in there. Any of the editing that's happened in the last week has been for either clarity or just readability, frankly. But it hasn't been substantive except for the things that you all put into the report last Thursday when you met.

So I'm hopeful that... actually not a lot to changed. But if you feel differently, we have to hear that and that's okay. I know you're getting close to the end of the process and starting to feel that pressure and that's totally understandable.

Moderator: Wait a second, I want to get the queue in order and I want to just clarify that. We had draft six, we worked draft six last week. We refined a lot of the issues and those changes were made. However, what is also true is several subcommittees added additional or new findings and recommendations since then. And they are noted in the report as all caps, 'NEW'. And I believe our track changed in a different color. They almost always are at the end of the particular section with few exceptions that they'll say, I'm making this up like 14, 14.5 and then 15, which means 14.5 was added in. So the queue is Katherine with a K, Marge, Katherine with the C.

Catherine: I don't know that I have a strong opinion about whether we extend for the sake of our own information today. But one of my big concerns is that... My perception of the whole reason why we're doing this process was an indirect goal was to rebuild some trust with the community. And I don't know that I, like a lot of other people in Benton County... I got the mailer yesterday when I came home from work and I know that's not anyone's fault.

I'm not trying to point fingers, but I think it doesn't send a great message to community members if we're saying we want to want to build trust and give people's input and then we give them essentially no time to fill out the survey. And I honestly feel like there's still huge gaps between the community members and where we are. A.

Nd I know we're, we're not all going to reach consensus and for some people this is an issue that touches them much closer than it does for some of us in the room because they live close to the landfill. But I'm really worried that that is taking a step backwards if we don't allow more time for community members to weigh in at this point before we make this final decision.

Moderator: Okay, Marge.

Marge: Well I think getting back to what Darren was saying, "You had time." Well the time I had... I mean first of all, I'm a resident. I am not having an eight-hour-a-day job or 12 hour-a-day job on this. And so as a human being who has something of another life besides this work group, over the last months I have been working on understanding the nature of the recommendations that the subcommittees that I serve on should be making. And that has been a full-time job for me to understand these issues as best I can and try to make the recommendation just on SMMP and history and community outreach. That's been a full-time job for me.

So now we come together and now I see what the legal group has done, the CUP. I just don't have the capacity to do the level of research and the level of

thought, to place the level of thought that I would like to have done in order to make a judgment on these things. I just don't have that capacity in a week or so. However, what I also don't think is that extending it for two days is going to help. An alternative that occurs to me is that we somehow say where we are at this point because we've done a lot of good stuff. I mean we have compiled a lot of information that we did not have before. And that we characterize what we've done as that, and not as, "Oh we have done this thing now. We're all in consensus with them. We all agree now." No we don't.

And I don't think the process did what it said it was going to do. I don't think it did what I hoped it would do, but it did something and it did something. Was it worth $250,000, I don't know. But it got us a little bit further down the road to understand... at least a lot of us, to understanding some of these issues.

Darren: Marge, would it take for you to feel like you're ready?

Marge: The level of effort that's required to really understand many of these recommendations... I mean you can say, "Oh that sounds good to me." Well, but then you don't really understand the legal ramifications. Oh, there's one sentence in here. And so now the county goes, "Okay, well this thing good to everybody.", but they didn't really understand. And that's my fear is that we are going to come up with a bunch of recommendations, that there are different levels of understanding among us and I'm not sure that that would be fair.

Moderator: Louisa.

Louisa: So I agree with Catherine. There wasn't enough time for the community to respond to the survey, but what was the purpose of the survey? Was it for us to look to make a decision about our voting or is it something just for the future, what if we did say yes to all the recommendations and they go out there? That doesn't mean for sure the county's going to even do them. I mean, I guess seeing what the plan would be for the people that are concerned, they need to know what would happen moving forward a little bit, might be comforting or something, maybe comfort. Help us feel like we're doing what we're supposed be doing.

Moderator: So let me just give you some, for what's worth, comments in no particular order. The whole Benton County tox trash process with a cross section of people from the community is in fact a public involvement initiative. The use of a task force or work group, a study group for issues that are complicated and contentious, this kind of approach is frequently used to bring people together to explore those issues.

It is not a traditional public involvement campaign, where the primary purpose is to educate people about what is going on and get their opinion as to options that might be available to the group. I believe that the overwhelming number of public comments that we've received in person and over the phone have gone to an issue that is not before this work group. And that issue is, to what extent if and when should we close Coffin Butte and or deny and expansion and all those related issues.

The charter for this particular work group is pristine in its clarity by saying, "That is not the purpose of this work group." That does not demean or diminish the members of the public who have come before us to say, "That is a very important issue to them." I am not trying to diminish that concern of theirs. I'm

simply saying, "It was not before us." So some of the requests, "Why didn't we study this and why we didn't study that?" It's because they were not in the scope of the charge.

Another thing. I will say that the sole purpose of the public survey that went out was to give you, the work group, the sense of what the public, who had a chance to take it, thought about your recommendations. It wasn't a poll or survey designed to tell the commissioners what the public thinks about the whole range of issues. When the full report is done and if it is done on the current timeframe, on the 11th of April, there will be a more traditional public involvement survey that goes out that does not ask to tell us what you all think about these recommendations, but ask more higher level policy ask questions.

I do not believe that survey, even then, is going to ask the questions that some people in the community seem to want answered. "Should we close the landfill? Should we deny the expansion of it?"

Both of those, neither of those, any of that stuff is not likely to be asked in that survey that goes out in April. The county as to all counties in Oregon have a land use process for that with its own outreach and own testimony first before the planning commission and any appeal goes to the board. So there has been a fly by of expectations of what some folks thought we were doing and what we were not doing. And that is in the charter and I think it's been clear from the chart, we are not opining on any expansion or the existence of Coffin Butte. So those are my in-the-moment responses. Yes sir.

Speaker 7: I agree with what you just said. I think that our charge was that. I think a lot of the comments-

PART 3 OF 10 ENDS [01:36:04]

Speaker 8: Our charge was that I think a lot of the comments we're hearing on the testimony and some that were in just the... I've not been able to look at all the public comments. Or in the survey, but some that I've glanced at, I relate to that. However, there were also some good public comments that were relevant directly to some of the points in our recommendations that we could address for that. It might be helpful to revisit the charge of each subcommittee. Because some of these, running through them last night, I'm wondering if some of them are exceeding or going beyond what that charge might be. But I have to be refreshed on the charge.

Moderator: And we can certainly do that. And we have the report up and ready to go. I will say, on the charge and the scope in the charter, several things have evolved over time based on the will of the work group. So for instance, the whole history piece was never part of the initial charge in the robust nature that it is. And it's there and it's good, it's helpful. And I understand Mark's comments, that he didn't think it went far enough in some areas. And that's why we're doing each work group member and subcommittee member can submit their own personal statements that go into the report. And in the executive summary, I'll be tying in the themes from those into that, so the reader can deal with them. But that was outside the scope of initial chart there.

In the past CUP conditions, that evolved over time. And it wasn't in the charge, but it was for the good of the neighbor, the community at large. And good, helpful information. So we did it and we got good information that we otherwise

have. So it's a long way of saying the argument of position to the extent it's that, well, it wasn't in the charge, therefore it shouldn't go anywhere. I really think the question should be reframed to, given where we are now and that we have a finding and recommendation, is it good and solid and worthwhile? And if it is, make it. And if it's not, do it, but do it on the merits as opposed to the policy argument. That's not in the charges. It is in the charge. No, it isn't. Yes, it is. Let's [inaudible 01:38:47] is it for the good of the broader Benton County community? And if it is, God's speed. If it's not, bye-bye.

So, Marge...

Marge: Well I'm not questioning any of what you just said. I'm just saying that I doubt my capability to be able to make a responsible judgment regarding some of these recommendations. And...

Moderator: I hear that.

Marge: I refuse to believe that I'm that much more stupid than everyone else.

Moderator: The thought never crossed my mind, that it's about stupidity.

Marge: So I just wonder if we could do something and instead of making this vote such an incredibly important part of this process. Like the vote is, okay, so now it's set in concrete, now we have that this recommendation is what everyone has agreed that Benton County should do.

Moderator: Liz.

Liz: I don't think any of us were supposed to be experts on landfills or legal language or past CUPs, or, or, or the trillions of things that then that have been put in front of us. That is an expectation none of us should carry because that is not something we can do. What we can do, is we can come together, we can lean on each other, we can work collaboratively, which we have done right? We've talked about it. We've done our best, we've extended the time, we've gone beyond what the commissioner's asked us to do. We've looked even deeper. And I think we've done a damn good job of it, honestly. And I think it's going to cost the county, the taxpayers, us, the very people who are mad that we're doing it a different way than they wanted us to do, more money if we don't finish the process properly.

So I understand the frustration, but I think you are reaching for something you're never going to achieve for this process, which is, I'm a landfill expert. 'Cause none of us are going to be landfill experts. We're going to be Marge, we're going to be Liz, we're going to be Chuck, we're going to be Catherine, and other Katherine. Right? And I think we need to at some point be able to step from this process and go on with our lives. And not extend this for a year, year and a half, two years.

Marge: Oh, in no way do I want, let me be clear. And I agree with exactly what you're saying. We are residents. We are not experts, but here we are being asked to make judgment as though we were.

Liz: No, there has to be. Do the best we can. That's what we're being asked to do. The best we can.

Marge: That is, I'm not sure that that is in the best interest of Benton County residents.

Speaker 8: I have been reassured by this group, especially in the last couple weeks by them coming together with the other subcommittees. Because it's given us insight for balance, although it's still a polling process. But would you give consideration if

one entity is not really clear on that, that they can abstain, as long as not everybody abstains. And you still have a majority.

Moderator: So a couple of thoughts. Well, I'm going to wait til I see other hands or cards. So, Ed.

Ed: We've both spent too much time and we all respect each other's time and the opinions. Could be tried maybe working through some examples of, I'm suggesting maybe put up the CUP thing, which not too many people are involved in. When we go through the process, the threes and twos and ones and maybe point out some other things. We have to just kind of get one model section down, see where the comfort level is with everybody at the end of one trial run. And I don't feel like a landfill expert, that's why I pay all these bills. So the public is here.

That's all I'm suggesting is we just try a model, a test run and see how the process works.

Moderator: So that was what I was going to suggest is that we take on... I don't want to jump the gun there, but I do think we need a ten minute stretch break and relaxation break. So we will be back promptly at 3:30.

Speaker 8: Restroom location.

Moderator: Restrooms are apparently out this door, to the left and then the immediate right down the hall. They're both on the left. They're unisex as I understand.

Speaker 8: And there's more down in the lobby.

Moderator: And more in the lobby. So go forth, relax for a few minutes. And we will stop the recording, or pause or whatever one does.

If you could give us a thumbs up, if you're hearing us, so we know that you're able to at least hear us. Thumbs up from anyone on the screen who can hear us. Thumbs down if you can hear us. Rotating thumbs. Any hints whatsoever?

Marge: Debbie says she can hear.

Moderator: Oh, Debbie, thank you Debbie. She can hear us. Okay. All right. So, what we're going to do, trial run here. Is we are going to look at LLU, which is past land use issues. The first recommendation where someone has polled a three, is LLU R6, LLU R6. And because there is... Well let's start with that one.

Liz: Sam.

Moderator: Yes.

Liz: You said LLU was land use, is that legal? I just want to make sure I'm looking at the right thing.

Moderator: Legal.

Liz: Yeah. Okay.

Moderator: I lied. What I want to do instead is CUP R6. CUP R6. Just seeing if you guys are paying attention.

Marge: Is three going to get any better.

Moderator: And so on this, it actually looks like R7. Okay, next page, CUP R7. CUP R7. Let's get it up on the screen here. This shows that... Uh oh.

Here it is. So this shows that eight people fully supported, they voted a one, they do not want to change it. This shows that two people, two polling members voted a two. Go to the three. That means if there's no movement from what we have now, there would A, not be a consensus. B, it would be a majority minority opinion, eight to two supporting the proposition. But just so you know, let's

assume as a result of this, one of the people that polled one changed their mind and downgraded it to a two. It would still be majority eight to two, but it would show seven people voted one, one person voted two. So in the actual work group report, and this is something that you consider to an extent it's important to you. Each recommendation will in fact show. It's not just going to say, consensus. Or, majority minority. People are going to be able to see how robust the consensus was.

So for instance, there's a big difference I would assume, in reaction the commissioners might have, if the polling was one person voted one. And seven people voted two. And whatever's left over voted three. They're going to go, well this wasn't very robust. Yes, it was a consensus, but we now know there's more to just this narrow conclusion of consensus. That's never been the intent of how we were going to write that up.

So the people that vote... And again you got this maybe as, whoever's driving this, it may be as big as it can be, but to the extent it could even be bigger on the screen for people. That would be great. So, the language proposed by threes, and it basically says legal subcommittees determined that these are not regulatory conditions. This recommendation should be removed. Legal subcommittee, determined these are not regulatory conditions. These should be removed.

This is where I asked the two people that voted three, what would it take in good faith, that if your colleagues agreed with you, you would move your three vote to a two or a one? And we'll open that up to whoever were the two people that voted the three.

Russ: That would be me, Sam.

Moderator: Yes sir.

Russ: And just confirming, again, we're talking about CUP R7, right?

Moderator: Yes.

Russ: Okay. So, my understanding legal committee, CUP subcommittees have differing opinions on this particular recommendation. Legal committee, as I understand it has fairly strong perspective on applicability going back to 83. For us to move from a three to a two, I'd like some sort of affirmative statement, this isn't the precise language, but something that says... I shouldn't say for me to move, I'm presuming you were another three. But that denotes disagreement between CUP subcommittee, legal subcommittees, legal committee has different perspective about applicability for maybe three going forward.

Moderator: All right, so let me try, and this is where we're going to need staff heavy involvement here, because he's looking into the legal stuff, Greg. So tracking this, I'm again not trying to put words in your mouth. The issue is perhaps keep it as it is, but then add a sentence that says, please note legal subcommittee F-X... We'll figure out what the number is. Concludes that they are not regulatory conditions.

Russ: Difference of opinion between two committees, legal subcommittee, yes. Mapping back to whatever number that is. I suggest it more as a preface rather than a, please note at the end. But I think with that, we could go from three to a two.

Moderator: Okay. So Greg, what would be the... And so this is where I need you, staff to be typing in the revisions that we're doing. Where it says realtime draft revision. That's where you would be track changing this proposal. And we'll open up the discussion and do all of this. So put in the preface that LLU F-X concludes that the site plan and narrative are not regulatory conditions. In front of that, go forward. This is just rough conceptual language. We're not fine tuning it.
So then here's the protocol. So you see how this goes. We have a proposal that would move people from a three to a two. Then I look to the ones here and say, does this addition of the sentence in and read there, would that impact your vote from a one to a two or a one to a three? So it's this iterative dance. Catherine, with the C.

Catherine: Yeah, thank you. So as a member of the CUP subcommittee that drafted these recommendations, I just have a couple comments. The 1983 land use decision was instrumental in how we moved forward as a county with [inaudible 01:54:25] landfill as original landfill. It also still has bearing on some of our operational conditions today, as I understand it. And that has been repeated in more than just our subcommittee conversations. My concern about what we are proposing is several.
Number one, the legal subcommittee as well as all the rest of the subcommittees are recommendation bodies. We're making recommendations to the commission. I would say that the CUP subcommittee could wander into the legal land use subcommittee territory and embed this type of... We disagree and we'd like to see this statement instead. But I see that's kind of undermining the process of the 1 2 3, whereas I'd be more inclined to leave that number three in place. Showing that there is a difference of opinion and leave the CUP recommendation as it was written. Because that's the committee that drafted this language.
I was not invited to the legal subcommittee to debate the [inaudible 01:55:24] of understanding, for example. Nor would I presume that it would be my position as a certain subcommittee member to put some sort of a statement in opposition to that member understanding. We put it in places that were relevant to our subcommittee work. So I feel like in part that this proposal to add this language is undermining the work of the subcommittee, to which we did have a few joint meetings, but they were very short noticed. And I don't know that at any of those times all of us were able to attend.
I feel like this is changing the process. I'm more inclined to just say leave the three there. Just making it a majority minority. And again, keeping in mind that the legal land use subcommittee has not been recognized in any place that I'm aware of as the legal authority to make that determination, which is why we put that recommendation in there. Is that someone would either been given that authority, not the experience of law, but the authority by the commission, should be making this determination. And not another subcommittee.

Moderator: We'll refine this process to make it work for this group. So I guess the first thing I want to ask is, is there anyone that would change their vote from a one to a two or three? And I just want you to put your name tents up. You don't need to argue your position. I just want to know if this addition changed anyone. And then we'll go to the reasons why people can vote.

The other thing I will tell you, while it doesn't show here, for the same reasons we talked about in the end, that ultimately there will be a staff report that is sent to the commissioners that does this crosswalk. So it will in fact say somewhere in here, like we did in some of the crosswalk documents we had at the last two meetings that says with regard to the regulatory nature of 8307... The legal subcommittee said, here's their finding. The past CUP said, here's their finding, well in this case, recommendation. So it will be side by side in the ultimate rollout. So that will be noticed, to be clear. So are there by just quick, put up, oh, I'm sorry. Liz.

Liz: That's okay. I just put it up while you were looking at it. I'm pretty sure our LLU F-22 findings is contradicting the CUP finding. Am I wrong on that?

Ed: No, you're right. That's right. You're right.

Russ: Well, so that's the cross reference point. It doesn't necessarily contradict it. This recommendation is saying determined, and the CUP F-22 from a legal, is saying, this subcommittee has concluded. Again to Catherine's point, our subcommittee is not the legal authority making the determination. [inaudible 01:58:40]

Liz: Gotcha. With that, could we then lead those in contradiction for the staff and board commissioners to read that for themselves and then make their decision?

Moderator: So I actually don't think it's a contradiction. These aren't mutually exclusive statements. I mean one is saying it's not regulatory. And the other says, it should be reviewed by someone. I think a challenge with this particular one happens to be, determined by whom? I mean what's the noun here that needs to be added? And I say that because A, it's just important to be clear. Secondly, none of these recommendations or findings are... They're just all recommendations as to finding in recommendations. So these aren't conclusions. A statement in any of these findings and recommendations is that you all thought X, that doesn't resolve the matter. Ed?

Ed: I'm glad you brought up for the legal committee one, because it is the opposite of this. And the legal committee went ahead and made the decision. We're just saying, clarify. But when I read through the legal committee stuff [inaudible 02:00:08] published, there was almost a fly by. And we may have gotten off on the wrong foot in saying, and it was great, your response, great, what you said, something enforceable versus I guess you said you hadn't determined that it wasn't enforceable. You just had determined that it wasn't a condition of approval. Okay, that's a nuance. That's the legalese part of it. And that gets at the heart of what a bunch of us have been concerned about.

Well, as Catherine said that the 83 documents are extremely important in defining the county's vision of what this landfill was going to be. You can say that vision is not valid because they weren't written as a condition of approval. But your comment threw me back to what we use as the source material. And what was given us by the county to review is actually the ordinance document, which just has the operative words, I guess are, findings. And not approvals. So, I'm thinking here, we could go through and say, yeah, you're absolutely right, legal committee. They're not conditions of approval, which is where we were focused at the time when we wrote this. Because that's the way we did the CUP review process. But gee, if you call them findings, then they are enforceable. And that's a whole different direction that you go in.

That instead of saying what people thought, what the landfill was going to look like in 1983 was not possible. It is possible if you view it as a determination. And that gets so much more complex that it's, hey, just don't touch this. Just have it float up to decision makers and have all the appropriate attorneys [inaudible 02:02:45] over it because it's well above our pay grade. You see where I'm getting at?

I mean we might have crafted the recommendation too narrowly, but instead of going back to the recommendation in changing it, which that's too late to do in this process. It may be something that Russ has, it's a point to this what Liz mentioned point, there's another side of this. And there's another finding. And that we should consider these findings in the light of determinations that need to be resolved at a higher level.

Because when we get to the legal side of it, you'll see a three from me because the way it's written, it says the county has determined something. And I'm not sure the county has. I'm sure the legal group has, but I'm not sure the county has. So we're going to have lots of nuances here.

All right. So I think I'm kind of where Russ is. We can put a modification in this, but we need to somehow connect the two of them. I don't know how to do this.

Moderator: Well, I mean the way to do it is what's on the screen here.

LLU F-22 includes that the site plans and narrative are not regulatory conditions. And then the statement from your subcommittee says blank, you should give me, hopefully you're giving us a noun here, determines that the site plan and narrative include da, da, da. Now that would accomplish some things for some people. So I have Louisa, and then Russ.

Louisa: I don't think we should put the legal part first. We should put that at the end. Something like, consider this or something, instead of putting that very first. Because that wasn't what the CUP committee recommended and that's more-

Moderator: I don't think that should be a problem. And it is a little bit of [inaudible 02:05:03]. But just switching it to the end.

Russ: Yeah, that's totally fine. I was just going to suggest, so one, Catherine, zero intent to try to undermine CUP committee work whatsoever. I was responding to the question, how do you move from a three to a two? I think I'm tracking with Ed a little bit. Perhaps it's, consider that CUP legal committees, I'm thinking of this as a preface sentence. Consider that CUP legal committees have differing perspectives, period. And then the recommendation still holds from the CUP committee determine if the site plan, blah, blah, blah.

Moderator: So is that a way that gets us forward? So it is a modification of this. I'm hearing Russ, the red text would say, don't cut it away, Greg, but just put in front of it. Just put please see LLU F-22 for contrary view. Or something like that. Is that what you're trying...

Russ: That's exactly, yeah. That would get us to to a two.

Moderator: So, if your colleagues accepted that, just the first words there, yeah just kind of highlight everything but the last words, Greg, the reverse of what you're doing. So would that change your polling from a three to a what?

Russ: A two.

Moderator: Okay. And that's for, who's the other two? I'm assuming it was Sean.

Sean: Yes, I'm a [inaudible 02:06:52]-

Moderator: And so you would move to a two. Does anyone, any of the people that voted one, now want to change their vote from a one because of the addition of please see LLU F-22, for a contrary view? Anyone want to change their vote from a one? See, now some people did not poll. So I will ask you if you did not poll, what is your poll now? So get your cards one, two, or three. And if you did not, if you're not part of these 10 people that polled. What is your poll now?

Marge: How do we know for sure you got our poll?

Moderator: Well, we got your poll...

Marge: Did you get my [inaudible 02:07:51].

Louisa: Everybody, whether or not you polled before, I don't have that document in front of me. Just make your little number reflect what your vote is right now.

Moderator: That's easier.

PART 4 OF 10 ENDS [02:08:04]

Moderator: Our vote is right now.

Marge: Yes.

Moderator: All right. So we have Catherine. We have Catherine Bisco. A 2, Sean, 2 Russ, 2. Liz 2.

Marge: I'm going to go with 2.

Moderator: Marge, a 2.

Marge: 2. I think they know what they're talking about.

Moderator: Everyone else, everyone else at the voting member. I just want voting members, not ex officio members. If you're ex officio, take down your deal. All right. Right. So we have 1, 2, 3, 4, 5 with Catherine with a C, voting a 2. Everyone else present is voting a 1, which is- We need to call off this for the record. So I'm sorry. Yeah.

Louisa: So I have six 1s. [crosstalk 02:09:19]

Moderator: We have to, sorry, you have to call Chuck, what's your vote? Marge? What's your vote? Tell you the tallies are correct.

Louisa: Okay. Chuck you're a 1.

Chuck: 1. [foreign language 02:09:28]

Louisa: Okay. Marge is a 2. Elizabeth is a 2. Ross is a 2. Sean is a 2. John is 1. Katherine with a K is 1. Mary is a 1. I have N as 1. Louisa as 1. Catherine with a C 2.

Moderator: Okay. So the final result then.

Louisa: Six 1s and five 2s.

Moderator: Okay. And so we have a consensus on a, with six 1s and five 2s. So that's an example of how out of this will work. Let's go on to same category, R12. R12.

Marge: Same category. You mean the...

Louisa: The CUP.

Moderator: Yeah, we're still on the CUP.

Louisa: On the Sub-committee category.

Moderator: So that's on the screen. We have, I will tell you this, I'm not sure how this fits in to our protocols, but just for information, Andrew Struthers is on the East coast in a pre-scheduled conference. He sent me an email last night. He, at that point in the informal poll, so it doesn't count for the formal poll voted. He had no 3s, he had one, 2. And Greg, I sent you an email. Did that get in here? One, 2. And the rest were ones again, it's an informational piece for what you're worth. I not heard for Kris Ryan has a groundbreaking ceremony. He'll be here in a bit. So that's just sort of the state of, I think. All right, so the person here, that one

person that voted a three said they would change their vote if burden is changed to impacts. So who is the spokesperson for that?

Catherine with ...: Guilty.

Moderator: Okay. So tell me what you think the difference is between the term burdens and impacts.

Chuck: Burdens has an obvious connotation. Impacts I think has a different combination impacts in my mind it's even more broad. Has applicability to not just environment. It has applicability to people, it has applicability to community, et cetera.

Moderator: Okay. All right. Catherine with the C.

Catherine with ...: Yeah, I actually think that we made this change. So I didn't evidently make it into this draft. Because I believe Ruston, we talk about that at one point.

Ruston: We did it just in the language. I reviewed it, thank you.

Catherine with ...: Yeah,

Ruston: Still saw it [crosstalk 02:12:39] .

Catherine with ...: Yep. I picked up on it as well. So evidently that change just did not occur. I don't have a personal objection to making that change at all.

Moderator: Does anyone have any objections to changing the word burdens and replacing it with the word impacts? Any objections? So that is the change. We'll need to see your cards again. One, two, or three live as a result of that change. So all members present are voting a 1. So we have a consensus of all 1. R19. Why isn't someone yelled out? Bingo yet. Bingo. Two. We have not enough numbers of been called. All right.

Chuck: Battleship.

Moderator: Yeah, battleship. All right. We have CUP19. This is new. Okay. It says "Do not use the existence of a LUCS as evidence or proof of compliance with DEQ requirements until additional information is available from DEQ on how to interpret their use of a LUCS". Three people voted a three. So the comments were a new finding we need to discuss. We haven't had time to vet this finding and I feel like we need more information about this. I couldn't support it with more information.

Louisa: Sam.

Moderator: Apparently Audrey. Apparently Audrey would like to participate. Oh, oh Audrey. Yes.

Audrey: Thank you. I as an ex officio voted a 2 here because I think the language is not accurate. We did provide information to the legal group that I think probably should have been provided to the CUP group as well. A land use compatibility statement should never be used as evidence of compliance with DEQ requirement. The land use compatibility statement is a document signed by the local government that verifies that the entity applying for a DEQ permit is located in an area zone appropriately for the proposed use by the local government. And that's in our regulations. So using a land use compatibility statement is evidence of compliance with DEQ requirements is not an accurate use of a land use compatibility statement.

Moderator: Okay. So first, what do you have in legal land about that? And then let's get back to this because this is interesting comment here. Does the legal folks have something on this?

Ruston: I don't think we have. Don't that subcommittee has a finding specifically to that point.

Moderator: But you do rely on the LUCS to stand for the proposition that Republic was in compliance as of that date, which then trickles into other issues.

Ruston: Yes. So that is finding... There's LLU F15, regarding the 2002 MOU, doesn't specifically reference the LUCS, but it says that the MOU, the 2002 memorandum of understanding does not address whether the county's determination of compliance with local requirements includes compliance with all conditions of past land use approval. So that's related but not directly to this point. I mean I will say from a staff perspective, I mean we would never use a LUCS as evidence of proof of compliance with the agency's requirements just for information. Also, from a staff perspective, I don't see a problem with that as a recommendation. Yeah, because you shouldn't do that and we wouldn't

Louisa: And there is more to that. It basically says that it can did not determine that that DEQ regulation of a particular environmental parameter is inadequate to protect. Right. It goes in DEQ is such as entity, right? We kind of stay in our lane and DEQ stays in theirs to a certain degree.

Moderator: Yes. Audrey?

Audrey: Am I reading the recommendation inaccurately? Because what I read CUP recommendation 19 to say is that go verify if the LUCS is evidence of proof of compliance with DEQ requirements.

Moderator: So this yeah is a confusing, maybe you can help me here. Because I thought the concern was don't use the LUCS, that it's almost that I, you know, just tell us what on your mind...

Ed: This is the answer that was requested. So that fulfills the needs to get this particular recommendation completed. That's the answer that's needed. That's the right, that would become binding. Okay? Because that's the definition we ask to get the definition of how they use it and they provide it. Where this comes in is the MOU that in on the legal committee there's a number of findings and recommendations that are built about an MOU from 2002. And one of the many supporting arguments they used to say everything's fine is that deluxe is evidence that things were in compliance at a point in time. Well, this just says you can't use that. So it just goes back to the argument when we get to a 3 under the legal side of things that, so we point out the LUCS is not inappropriate. I don't remember, I think I said it more gently. It is the MOU does not prove that. It does not prove that the landfill was in compliance. It's just not relevant at all because it wasn't constructed. What it uses as evidence that your in compliance wasn't intended to be used as evidence that you're in compliance. So really the authority is the DEQ, we don't use it that way. So we shouldn't be.

Moderator: Let's try to reconstruct this. And so Greg-

Marge: Inga.

Greg: Inga is driving this.

Moderator: [crosstalk00:02:20:38] I'm sorry.

Greg: It's all right.

Moderator: I'm doing my best here.

Greg: No worries.

Moderator: Inga, below where it says a polling version, strike that and put potential finding. And then Audrey give us at a pace that she can type the finding that you just articulated.

Audrey: If you have this, it's the comment in this.

Inga: Yeah, the comment's already there.

Moderator: So I'm just suggesting we move it through. Okay. So it's moving it down then to make that a finding.

Ed: And that recommendation that just goes away.

Moderator: Right? She's doing that. I mean LUCS was never evidence of proof of compliance with the DEQ requirement. It's the reverse DEQ needs LUCS to see if they're in local compliance, right?

Ed: That is correct. Understand, this statement on the way it is written, when you look at the legal side of it, it is written that it is evidence of compliance with DEQ.

Moderator: Right?

Ed: The opposite is used.

Moderator: Okay. If it's going away, it's going away. So R19 goes bye-bye. In its place, we have a finding, we'll poll on, this is a joint poll. The proposition is we remove CUP19 and replace it with finding X. We'll figure out where it goes in the sequence. 1, 2, or 3 surrounding that.

Audrey: Can you ask question?

Ed: Yes.

Audrey: So why does it turn into a finding that because it's already a communal thing?

Moderator: We don't need a recommendation to change something. It is the finding basically says this is the law or this is the procedure. And so the companion finding recommendation, if there was to be one, was follow the law, which of course we don't need today.

Audrey: But then there's just a gap to me. So then Ed saying in the past there was a problem with that. So how are we making sure that we don't need to make sure that doesn't ever happen again?

Moderator: No, I'll turn to Ed. Catherine actually has her hand up.

Catherine with ...: So tee up to my comment, which was, it would be helpful I think to add the context. So with regard to the 2002 MOU language regarding LUCS, DEQ has provided that because it really does tie directly to that document, which is being used as a document to suggest compliance of all things up until 2002 for all conditions and Mighty's decisions requirements pre-2002. And the language is, so the finding that we're drafting here is to really point to that language as it kind of being muddy or incorrect even perhaps. So if we can add to this finding not just what Audrey provided in her comments, but with regard to the 2002 MOU narrative or anybody else wants to make amendments to that, but I think it will be helpful to point to the reason why this was even added into the conversation.

Moderator: All right. Audrey, Ed?

Audrey: Were you first?

Ed: No, I think you were.

Audrey: I didn't read the MOU, so I'm not commenting at all on that. I'm just commenting on the ability of what Alan's compatibility statements are.

Moderator: Okay. So just to be clear, so no one's missing this conversation. The best I understand it is therefore a LUCS should not be used to as a statement that they

are in compliance. It is only limited to they are in an area zoned appropriately for the proposed use. Nothing more.

Audrey: I can get you exact legal language if you would like it, but that's the general purpose here.

Moderator: Well, don't we have the exact legal, the language on the screen now because that what's from the comment?

Ruston: I didn't copy it directly from 3 40 18, but that's the intent.

Moderator: Okay, Ed?

Ed: No, that's, she's clarified. You clarified it. That's the whole point.

Moderator: Okay, so it says, new. "See with regard to the 2002 MOU. Dot, dot, dot."

Audrey: Sorry, what?

Moderator: Please poll 1, 2, or 3 surrounding that change. So we have Sean and Russ voting at 2. All other members present are voting a 1. R 23. R 23, same category till I tell you later and or you correct me, whatever comes first.
Here we have 7, 2, and 1. It's a new recommendation. Future users review all then available source files for evaluating land use decisions. We do not solely rely on appendix A2 documentation. Whoever voted a 3 would like more information before to support this. And then we had two people that voted a 2, as is our protocol. We'll vote, we'll take the threes first and go. So whoever voted a three, what more, tell us more about what you need.

Louisa: I'm anything me, but I don't know. I don't remember what I voted.

Moderator: You can say you'd like to talk now. [crosstalk 02:27:33] You can just talk now. Even if it is that you're not a 3 or a 2 or a 9.

Louisa: I probably voted 3 because I know I voted 3s on some of these because I don't know what they were talking about.

Moderator: Okay, so this is corner...

Ed: The intent was to recognize that we didn't do a hundred percent job. We looked at what we could look at. We looked at what was available at that time. There may be other things that crop up as the search goes on is office gets emptied in another box of files show up. So instead of people just saying whatever happened as an appendix A2 is definitive, there's no more information, it's now, think that it's there, but look for anything else that might be available at that point in your time in the future. And use, say use A2 as a base. But look again to make sure you've got everything that could pertaining to the historical situation.

Moderator: Pardon?

Louisa: Whatever it says I guess?

Moderator: John,

John: So I need to understand too, I may have been a 2 or 3 with Louisa. I can't remember. What you're saying that is, then that A2 has a certain amount of information that we've gathered.

Ed: Yes.

John: When a CUP comes up again, you're saying don't just use that, use whatever Newman information is available as well.

Ed: Yes.

Marge: Okay, Good. Okay.

Moderator: So call the poll again on this is CUP rec 23. Please poll 1, 2, or 3. All group members present voting A 1. Have a consensus. R 24.

Catherine with ...: Can I just make-

Moderator: I'm sorry, Catherine, go!

Catherine with ...: -further amendment future users are encouraged to review. Might be helpful if it points a little bit.

Moderator: Yeah, that's a good catch. Future users are encouraged to review. All right. R 24. This one we have three 3s and this basically is a new one also from CUP. And the people that voted 3, "multiple new recommendations, none discussed or vetted... Would like to discuss further at meeting... Interested but need more information... Isn't this what the Planning Commission and SWAC are for? Could this be an advisory committee combined with ACs in the SMMP? Sounds expensive and if was only volunteers it would be hard to find people to not do this."

So let me give you a little background before the context is in. In my assessment. I made a recommendation to the board that, and they have subsequently accepted that, that says, one, the county should seek outside legal advice for the processing of the next republic expansion. CUP. They said yes to that. Second, I recommended that outside planning folk be hired to do the same thing. They have said yes to that.

The only question that had been talked about earlier was, when those people are selected to fill those roles should, for instance, a member of BCTT be on the interview panel for those two positions. That was my understanding of this. The second part of this, there's the first part of it, which is talking about only guidance for county staff. Again, what it's working, you recommend what you want, but that is what is being done already by the board in this regard, at least as it relates to the Landry stuff. The attorney, the county is in a different situation because he has ethical or she has or they have ethical responsibilities to the county under the attorney-client relationship. So Ed, fire away.

Ed: It's what you said that the comment in there about the resources should be independent or not dependent on county staff for administrative task, for iCal support. That's the kind of thing having Inga even, we spend time on weekends in holidays, to do these things. We shouldn't be asking the county staff to be extended to these other duties. Make sure that there's enough people, if there's enough work capacity to get it done without having to overburden in the county staff. That's all that was intended down there. Does that help explain it a little bit?

Marge: No.

Moderator: Okay. Any other questions or comments? Any other 3s speak that vote? 3?. Do you have something on this? Yeah,

Chuck: I think to move from a 3 to a 2 I'd just say rather than making it a singular public member, I'd just say make it plural to reflect diversity of opinion from this group.

Moderator: Okay. Seems like a friendly amendment go from one person to two. So a calling the poll, this will stand, but public members of BCTT will be the substitute there as opposed to that. Please poll 1, 2, or 3. We have all members voting 1. The people that are voting 2 are Russ, Sean, Louisa. There are no 3s. We have a consensus. All right. Those are all the R findings.

Let's take a pause here for a second and hopefully briefly go back to the process piece because it is also dinnertime. It will be in a few minutes. This is living

example of how this refinement process goes. I am suggesting that we continue this process as we have done it. I'll go through all the 3s at the recommendation level and then I'll go through all the 3s at the findings level unless we have to deal with the finding in a recommendation because they're paired up and bundle if you will. And then we'll see where we're at making this up. 7:15 and go forward. Staff. Do we know where dinner is? Is that set up and ready to go?

Greg: They're supposed to be dinner?

Marge: You were cooking weren't you Greg?

Moderator: We could have DoorDash? A group order on DoorDash. [inaudible 02:36:36] Ready?

Marge: Ready.

Moderator: So we'll be back promptly at 4:55. We got 30 minutes. 4:55.

Ed: And personally express their thanks. I appreciation to you. I think Sam and I have been going back and forth as liaisons every couple weeks to talk to the commission, tell them what you're doing, come back here and tell you what the board says. It's really nice to have our board commissioners with us this evening. This is the last meeting of this work group and they'd like to say a few notes of appreciation and then we have a little something for each of you. So Mr. Chair.

Pat Malone: All right, well, thank you. Oh, I'm Pat Malone, county commissioner and board chair this year. I really appreciate all of your efforts to get the work group to this finish line. And sorry about extending the deadline. I remember we said something about, oh, we'll have you home by Christmas. The project was bigger than initially anticipated and took more time and appreciate you folks being flexible and hanging in there and saying, yes, this is important and we will give you some of our precious time. So thank you for that. You've helped to develop much needed information that will serve Benton County well in the future. And you've also showed where we need to do more work. This isn't the complete end, but it's the end of this phase of the work group. And this project shows the importance of volunteers willing to step up and make Benton County a better place to live. So thank you.

Speaker 9: I too would like to give my sincere thanks to all of you for the incredible amount of time, intellectual ideas and contribution, skill you've brought to this process. But most of all, your dedication to putting together a product that will help us as commissioners and our staff as we move forward to make really big decisions about the future of the solid waste management process here. But I think it's going to not only affect Benton County, but it'll affect all of Western Oregon because we know that one thing we've learned in this process is that our Comp and Butte landfill, though we may think of it as ours, frankly is a...

PART 5 OF 10 ENDS [02:40:04]

Speaker 10: Our [inaudible 02:40:00] landfill, though we may think of it as ours, frankly, is a resource for half the state. It is critical to homeowners businesses, other accounting governments, and we need to figure out a better way to manage the resource for the future in a way that respects landowners and neighbors and that also respects all of our needs for waste management moving forward. We need to innovate, we need to do things differently and part of what you all have been doing is really kind of a retrospective look.

I am thrilled that there's a better history of all the decision making that's gone on in the past. Thank you to all of you who helped assemble that. I just can't thank you all enough for working in a way to try to put together some sort of a consensus approach about what we know and what we don't know, and being brave enough to say, okay, I don't agree with that, but here's why. Because that's going to make a huge difference as we as commissioners make decisions moving forward. Most of all, I want to say I'm very excited about taking the next step and putting together the Sustainable Materials Management Plan that you all have helped put together the outline for, because I think that's going to be essential to moving us into the future of waste management, here and across Western Oregon. So, thanks.

Speaker 11: I will say yes, what they said. Thank you all very much for your dedication and for your willingness. It just blows me away and just warms my heart how dedicated our community is, just all of you that are willing to give up such a massive amount of your time and your focus. It's not just the time to sit in the meeting, but it's the mental capacity of all the thinking and trying to make hard decisions. I just cannot tell you thank you enough for all of the time and energy that you have all put in.

As my other commissioners alluded to, this is just kind of the first step in the process and there's a lot more work to be done, but very glad that you all have helped us get the ball moving. Then, I get to be the one to say we have some plaques that we would like to hand out to all of you. At the end of the meeting when you are leaving, there are going to be gift bags that you can pick up on your way out. So, the three of us commissioners will each take a turn saying someone's name, and then our staff will present you with your plaque.

Speaker 12: So Nancy's already asked the question, how many commissioners does it take to hand out a plaque?

Catherine Biscoe.

Speaker 13: Hold your applause. Hold your applause.

Speaker 10: Next one up is John Deuel. We know you didn't do this for a plaque, so thank you.

Speaker 12: But it's a nice plaque.

Speaker 11: Kathryn Duvall.

Kathryn Duvall: Thank you.

Speaker 12: Shawn Edmonds.

Speaker 10: Brian Fuller.

Speaker 13: Can you get this to Brian?

Speaker 14: I'll take it for him.

Speaker 11: Joel Geier.

Speaker 12: Chuck Gilbert.

Chuck Gilbert: Thank you, sir.

Speaker 12: Thank you.

Speaker 10: Elizabeth Irish.

Speaker 11: Andrew Johnson.

Speaker 13: He is not here as well.

Speaker 15: Andrew's not here.

Speaker 12: Russ Knocke. I had help with the pronunciation.

Russ Knocke: You did great. Thank you.
Speaker 10: Brian May.
Speaker 11: Ryan McAlister.
Speaker 12: Christopher McMorran.
Speaker 13: Christopher is not here.
Speaker 12: Even sitting down, I'd be [inaudible 02:44:44].
Speaker 10: Audrey O'Brien.
Speaker 12: You get your own.
Speaker 11: Mary Parmigiani.
Speaker 12: [inaudible 02:45:07]
Speaker 10: Marge Popp.
Speaker 11: Ginger Richardson.
Speaker 11: Shane Sanderson.
Speaker 13: Shane is not here as well.
Speaker 10: Louisa Shelby.
Speaker 11: Andrew Struthers.
Speaker 17: He's also not here.
Speaker 12: [inaudible 02:45:33] Tisdale.
Speaker 13: [inaudible 02:45:33] is not here.
Speaker 10: Nancy Whitcomb. Now we will move to our subcommittee members.
Speaker 12: Bill Roman.
Speaker 18: [inaudible 02:45:59] I'll take it, I'm going to see him on Monday.
Speaker 10: Jeff Condit.
Speaker 10: Ken Eklund.
Speaker 19: Ken's online.
Speaker 13: Ken was online.
Speaker 19: Mark Hinkles.
Speaker 13: Mark Hinkles was with us earlier. Mark, are you still online?
Speaker 10: Jenny Plucker.
Speaker 11: Ian McNabb.
Speaker 12: [inaudible 02:46:44].
Speaker 13: [inaudible 02:46:44] meet the principal.
Speaker 10: Last on the list is Mark Yeager. I think we can now officially have our round of applause.
Speaker 20: [inaudible 02:47:02] remiss if we didn't also turn the applause back to the Board of Commissioners for their leadership. We wouldn't be here this evening if it wasn't for their recognition of this as one of the most important topics in our community and something that we've put off for a long time. It's overdue and really challenging us as a community and giving us the opportunity to address the solid waste in Benton County. So, here here.
Speaker 11: I would like to turn it back around to the staff, they have done an incredible amount of heavy lifting and sort of flying by the seat of your pants and figuring out this process just from scratch.
Speaker 13: So that's why I wear a jacket because [inaudible 02:47:55]. I wanted to just say what Nancy just said. The staff did a great job for this County in this process. I know I probably speak for everybody. They all were representing on the

subcommittees and put in a lot of good effort and were very responsive and [inaudible 02:48:13] to leadership. Thank you.
Thank you all very much, now back to work.

Speaker 21: All right, so let's go to community education and outreach. We have R2. So, recommendation two will get up on the screen.

Speaker 22: Do we have additional testimony or is there no one that has?

Speaker 21: Oh, thank you. The second public comment period. Good catch. Anyone in the room who would like to participate in our second public comment period? Okay. Anyone else in the room? All right, Kevin, come on up and then we will go to the audio, which we have three people. We have Ken Eklund, Joel Geier, Patricia Haggerty, Kristan Mitchell, Joe Robertson, and Pat Hare. Let me get your three minutes teed up and take it away, Kevin.

Kevin: Can we start now?

Speaker 21: Yes, sir.

Kevin: Again, I want to thank wholeheartedly the whole Benton County Trash Talks work group volunteers. There's been a lot of hours, I'm sure you're going to be relieved at the end. I spoke earlier today voicing my concern that for our Benton County Commissioners, an expansion is all about money. The dump income is discretionary funding. It's not like tax dollars that must be spent in designated ways. It's more like an allowance fund. I need to point out that after I spoke earlier today, Commissioner Nancy Wyse seemingly, to clarify my comment about how I individually invited each of the commissioners to participated in public outreach with a small group, I want to make it perfectly clear that each commissioner responded and each individual spent two and a half to three hours listening to our concerns. [inaudible 02:51:17] the group thought that they actually heard our concerns. Turns out it appears they only listened. What do I mean? Well that brings us to here today, many, many months later.
What our commissioners didn't hear was our plea for help. It seems that all the information was too much or we all wouldn't be here today. As I said earlier, none of us has seen any help, only pushback. There was a small dump of [inaudible 02:51:56] you purchased [inaudible 02:51:57] with an expansion. We, this group shared much of the information you've been pouring over for the past several months. Now you're making present recommendations. Couldn't our commissioners have started due diligence months ago? They had the information. I'm sorry to say. I'm seeing this process as a huge time suck for all involved. A big paycheck like maybe 250,000 for Sam's facilitating and little to no progress towards due diligence. Again, a landfill expansion is big business that requires due diligence. I've said it before and I'll continue to repeat.
Before any consideration of a landfill expansion, all of Benton County's residents deserve: One, a professional, independent cost benefit analysis of hosting a regional landfill. Two, a professional independent environmental impact study covering environmental impacts to date and the future environmental impacts of hosting a regional landfill. Yes, BC TT suggests one in the future. Three, a sustainable materials management plan, which BCT suggests in the future. Again, in the future does not provide answers for now. Benton County Commissioners appear to be kicking these three cans down the road.

Due diligence would be in the very best interest of all Benton County residents, not just that small group asking for help commissioners, it's long passed. Do stop kicking the cans, do the necessary due diligence for all of Benton County residents. Thank you.

Speaker 21: Thank you. Last call for any member of the audience physically present? All right, Ken Eklund, you're up.

Ken Eklund: Great. I'm going to share my screen again.

Speaker 21: We can see it.

Ken Eklund: Okay, great. Thank you. Hello again, work group, it's Ken Eklund, county resident. In your last meeting, there was a concerned raise about fearmongering. With that in mind, I have an example that seems to be fearmongering about the landfill that I feel the work group should address in the short time that remains. I'll just note that it's urgent that you act because the window of opportunity to clear this up closes when the work group passes last call. What you're looking at here is texts from the Coffin Butte Landfill website in a section about the proposed expansion. It says straight up that without approval of the CUP, there will be no outlet for the county's waste in the very near future. Is this true?

This text brings up some questions. First, doesn't the franchise agreement bind Republic Services to take Benton County's trash for the next 20 years? Isn't Republic Services obligated to be an outlet? Second, I'm on the landfill size subcommittee. It projected that there is 14 to 16 years of landfill life left. Now when you read very near future, do you think that means years or three to four years?

So third, the way it's presented here, the quarry cannot be available to begin accepting trash when the current cell is full. As a member of the landfill size subcommittee, I can assure you that Republic Services never put forward anything like this in subcommittee. The only question was how much of their quarry could be pre-excavated before the trash started to go in. Why is the landfill website telling the public the opposite? And why is it communicating that Republic is somehow helpless about what they can do with their own land?

Fourth, what service disruptions are these? What service disruptions is Republic anticipating if the landfill expansion is not approved? Why will they occur?

I'd like to ask someone on the work group to bring these questions up to Republic while they're at the table and amenable to presenting their side. So, those questions again, doesn't the franchise agreement bind Republic Services to take Benton County's trash for the next 20 years? Number two, isn't "very near future" misleading to the public when Republic's own actual projected landfill life is 15 years or more. Number three, doesn't Republic Services plan to begin accepting trash in the quarry area when the current cell is full, if a landfill expansion is not available? Then four, what service disruptions is Republic anticipating if the landfill expansion is not approved?

I'll put these questions in the chat, and I know my time is up, but just a reminder that you've all seen the results of this information right here in the work group. Members of the public have come before you fearful that the landfill was going to close in the very near future. I hope that one of you will address this matter, one or more of you will bring it forward on the public's behalf, add a clarifying finding and straighten out the record before the work group is done. Thank you.

Speaker 21: Thank you. Joel Geier's up next.

Joel Geier: Hello, work group members. My name's Joel Geier, resident of North Benton County and landfill neighbor. First of all, I'd like to thank all of you who volunteered to be part of this process for your sincere efforts. And I especially want to thank those of you who took the time to join the neighborhood tour and picnics, so you could find out what's going on and understand our neighborhood, and hopefully you enjoyed the pie. I do hope to have a chance to work with you in the near future when our community will, I hope, finally get to work on an update of the County's Sustainable Materials Management Plan. I remember there was a whole lot of enthusiasm within this group for really exploring our options on how to reduce waste and reliance on landfills. But this process has been not much more narrowly focused on landfills, [inaudible 02:59:05] more worrisome. It appears to be setting the stage for not just one, but multiple expansions.

Did you notice in one of the last recommendations that you voted on just before dinner, it referred to expansions in the plural. How did that "S" get in there and in whose interest is that? Thanks to a recent public records request by a community member who spoke earlier, we now know that some important information that is missing from the history section of the report that you really should have heard about at the start of this process, but you were informed of. She referred to a February 2019 memo between County Council and an outside attorney, which mentions purchase of additional property as one of the county's goals and upcoming negotiations with the public. Following up on that in October 2020, Republic mentioned to County Council they have many more acres that will hold waste, not just the lot south of Coffin Butte Road.

So, they have still more expansions in mind beyond the one we've all been expecting, and the county knows that. This is about setting the stage for landfill expansions on top of landfill expansions. During the neighborhood tour, a couple of us tried to point out how the current landfill is already creating blight. We've talked about how this has led to being properties being bought out and added to allow further sprawl of this massive operation. We like to talk about sustainability here in Benton County, but this is about as far from sustainable as you can get. I can't blame Republic, this is their business model. But our county shouldn't be complicit and neither should you. So, as you continue to vote on these topics, please bear in mind that you're not just being asked to set the table for a single expansion. This is about multiple continuing expansions. Thank you.

Speaker 21: Thank you. Patricia Haggerty?

Patricia, you appear to be muted. Oh, there we go. Thank you.

Patricia Hagger...: I guess my Bluetooth connection was gone. I won't turn on my video because my internet might fade away. I have tried to follow the Trash Talk process as a resident of North County and I have made some email comments. I have one brief comment after listening to the proceedings today, which was I'm really dismayed, and that's putting it mildly, that it was suggested that maybe over a hundred public comments were available to the Trash Talk committee members that were sent last night. With a meeting that was held less than 24 hours later, that doesn't give me any reassurance that any of our comments are really being taken seriously in this process.

It seems like the whole process is designed to just speed along to an end. I'm feeling that a lot is left out if there's not a honest assessment of all the feedback that's already been given as well as an reopening of the survey that many of us did not find out about until the last minute. I realize there are some additional public comment opportunities coming up, but it's hard to believe that at this end of the process that any of our comments are really going to be taken with the sincerity and opportunity for revision that maybe they deserve. Thank you.

Speaker 11: Thank you very much. Kristan Mitchell?

Kristan Mitchel...: Thank you very much and thank you for the opportunity to speak to you today. My name is Kristan Mitchell. I am the executive director and CEO of Oregon Refuse and Recycling Association, which is a trade association with [inaudible 03:03:44] recycling companies in the state of Oregon. [inaudible 03:03:52] I follow the Benton County Talks Trash project at some levels. I applaud the effort that you have made. It is a lot of effort to participate in these conversations and are important in the community [inaudible 03:04:07] and Republic Services as a member in Coffin Butte as well.

[Inaudible 03:04:14] Because that's the role that we play in our communities: to be good neighbors, to be community partners, to participate at the statewide level in the number of the landfill regulatory issues that arise there. In my 31 years at ORRA, Republic Services Coffin Butte has always been the kind of member that I can count on to get good advice back to questions that arise related to environmental concerns in these communities.

So, I applaud you and I applaud them and I know it's been a difficult process. I did read the article on the paper recently where the commissioners were asking that everything goes through these more established work groups snd I think that that's important from a governance standpoint. We need to know and be able to have robust and transparent conversations in this public process so everyone gets the same information to dictate what the best path forward is going to be. I think that that was a good approach from governance with your county commission, I think your process is a difficult one and I appreciate the opportunity to just step forward [inaudible 03:05:27]

Speaker 21: Thank you very much. Joe Robertson.

Joe Robertson: Hey, how you doing? Thanks for giving me the opportunity to speak today. As somebody who calls this place home, I'm happy to see this community process coming to a close. Additionally, what I'm looking forward to next is the county really stepping in and providing some direction. I think that's the voice that's really been missing in this equation. Instead, we've just heard lots from individuals who have made this a referendum on the landfill instead of actually moving us closer to a sustainable future. So, I'm looking forward to the next opportunities to just get involved and provide feedback. Thanks again for the opportunity.

Speaker 21: Thank you very much. Next up is Pat Hare.

Speaker 16: Yes, this is Pat Hare with the City of Adair Village. I was just calling in to talk and remind everyone that this is about a landfill expansion and it's a zone for a landfill. We definitely need to be thinking about our future in the fact of recycling and what we can do better. But at the same time, that's not the question right now. And Republic Services, they have been one of the leaders in

the country in what they do. I also wanted to address some things I've been hearing about property values. I can tell you that the comments about Adair Village property values, we have not seen any drop in property values, that has not been.

Then also in the regards to the leachate, we have our water intake for Corvallis and we have to test our water every day. Our water has not changed in any of the testing since the leachate has gone to Corvallis. I just wanted to say that those two rumors and what the real point of this conversation is about.

I also caution you, you talk about 14-15 years is a long time. It's not a long time to all those employed by Republic Service that live in our county. So, there's employment, not to mention if any costs go up at that landfill, we're going to start seeing that garbage in our backyards. It already happens. I deal with it as a city manager where people just throw their garbage bags in their backyard because they can't afford it. When you can't afford water, you stop paying for trash first. I just hope that the commissioners and the work group look at the bigger picture here on both sides to this. Because Republic Service has been a partner to us for a long time and they have been nothing but great in any instance to work with us and they've done a lot in all of our communities. I appreciate the time and you guys have a tough road ahead. But again, I hope you can focus on the landfill expansion and then we can get to work on looking at new and creative ways. Thank you for your time.

Speaker 21: Thank you very much. Next up is Mardi.

Mardi Bilsland: Hi, my name is Mardi Bilsland and I have lived in Corvallis all my life, for 70 years, and I have seen Coffin Butte go from a place you could swim in to being such a large landfill. We can see it from Independence Highway, now.

I live in Soap Creek Valley. We really enjoy it out here. However, about 20 years ago, over about four miles, we saw a glow in the sky and decided to go investigate what was going on. That glow was a fire in the landfill. When we got down to Coffin Butte Road, we stopped and looked at the landfill and the whole south side was basically on fire. It looked like a giant brain on fire. There was no fire trucks, there was no emergency vehicles, it was just letting it burn. If Coffin Butte Road had been closed or had been filled with trash, that fire would've gone across the road, up the hill, into the trees, and probably continued on through where houses are currently built and livable. I would caution ever the close of Coffin Butte Road for that one reason. I wish I had pictures I could share, but 20 years ago, it wasn't an issue.

The other thing I'd like to address is a questionnaire. I remember when it came out, we looked at it and was very complicated from a legal standpoint. I would have to agree with a couple of the responses today that in answering it, you didn't really understand the layman's view of what those questions were about. I question who the hundred people are that answered the questionnaire. Are they truly all residents of Benton County? Are they employed by Republic Service? Are they people that were going one direction or the other? They wanted to stop it, they wanted it to continue. So I really would take the questionnaire with a grain of salt. I don't at all feel comfortable where that's going.

With a person that lives with asthma, it hasn't gotten any better in the last 10 years living in Soap Creek Valley. Quite often, I have to go inside, the smell is so

bad here. We smell the landfill all the way to Independence Highway, sometimes, when we head towards Albany. We don't know what we are smelling, and if we can smell it, it can't be good. It's hard for anyone who enjoys the outdoors to have to continually be concerned about that. I thank you for your time and I thank everyone for participating in this problem. I hope that it's resolved to everyone's benefit and it won't impact Benton County for hundreds of years, and our children will have to bear the consequences. Thank you.

Speaker 21: Thank you very much. Joe Crockett?

Joe Crockett: Yep. Hello again. Hey, first off, I have to give everyone there a huge congratulations for making it through this far. This is quite the marathon meeting.

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Joe Crockett: ... thus far. This is quite the marathon meeting and you all deserve a pat on the back and thank you. And it's not over yet, so keep it up.

Anyway, the main thing I wanted to point out is that at some point there is not going to be the landfill, right? I mean that is a given fact. The landfill is going to close at some point in the future. And does that mean no one has trash to get rid of anymore? Recently we were in another state and we went by a landfill and we mentioned to our friends it's like, "Oh yeah, we're dealing with the landfill in our place."

"So how much does it cost for you to put your trash in the landfill here, the transfer station?" And they said, "Oh, nothing. It's part of our tax base." And so this idea that somehow, when the landfill closes, people are going to be having to throw trash out on the street, is a joke. Because, all across the country, everybody has trash service and they don't all have a landfill in their backyard. So the whole concept that, okay, if we get rid of the landfill, it's going to be so expensive, we're going to be throwing our trash into the street. Is that what happens in the rest of the United States? No. They take their trash out and it gets picked up, it goes to a transfer station and it goes into a landfill. There's going to be landfills and there's going to be transfer stations.

And one more comment. This morning, I drove to Salem this morning, and I was shocked at how many huge trucks, I would say 75, I'm guessing, but 75% of those trucks were all delivering trash to the landfill. So everybody else is doing what we're going to have to do in the future no matter what. We are going to be taking our trash to a transfer station and it's going to be sent somewhere else. That's the reality of trash in America. And I don't think that, how much does Newport pay to have their trash? Is it like hundreds of dollars a month? Like I said, our friends don't pay anything. It's part of their tax base.

Anyway, hang in there. I hope you make it a few more hours. Thank you very much for your efforts.

Moderator: Thank you very much. Last call for public comment. Last call. Thank you all very much.

The next topic up here, as I mentioned, the game plan is to deal with the recommendations first. And we are in community education and outreach. Finding R2 has eight people voting one on the survey, the informal poll, and one person voting three. It says, "The Board of Commissioners (Board) should consider changes to these notification recommendations based on the potential

impact of other CUP applications." We had one person voting the three and suggested that each year they did not understand this recommendation.
So, if the person who voted three can ask for clarification or tell us what they believe it says, and then if that's accurate, we're good to go. And if it's not, we'll provide more context. Anyone in the room want more information on this? All right, let's call the poll. So you vote one, two, or three, but informally as to this recommendation as written. All members present are voting A1. So that carries with the consensus.
Final is F15, recommendation 15. And for whatever reason I am not seeing. Ah, here it is on the back.

Louisa: R15.

Moderator: R15. Got it. All right. This is new. Applications CUPs should have a pre-application meeting. This is an eight, one, and one. Person that voted, polled a three rather, would like to discuss it at the meeting and a new finding. So, take it away. If you voted a three or two, what would you like to discuss?

Liz: So Sam, I think that was me, but this is more just clarification. I believe that this may have been addressed previously. I just want to confirm, it would be the county executing this type of communication campaign and it would be the county paying for said campaign?

Moderator: Greg. Oh, or Garrett?

Garrett: I don't know what the recommendation was.

Moderator: It's on the screen there.

Liz: It's postcards when there's a pre-application meeting. So it's more just clarifying, I think, not just for any application in the future, who's going to be responsible for doing.

Garrett: I don't know what the intent of the proponent was. Currently, there's two ways to have a preapplication conference. There's kind of an informal consultation free of charge or we have a more formal process that involves some note-taking and kind of formalizing that. And that fee typically lands on the applicant. So I don't know what the proponents are thinking but I see problems.

Louisa: Having been on that committee. I heard them, us, say that the county would be responsible for doing that.

Garrett: So I think from our perspective we're good either way. I just recommend clarifying that because the county could run it into a situation in the future where there is a dispute with an applicant.

Moderator: Liz,

Louisa: Are we talking about all because or specifically Republic Services?

Moderator: This would be applying to all CUPs.

Louisa: So we want the county to spend money on a campaign for every CUP that comes across the desk for the entire? That doesn't seem feasible.

Moderator: We have the two subcommittee members that were working on this and I didn't see who raised their hand first. So take it away. Either Mary or Louisa. Well,

Louisa: This was written in response to a legal subcommittee.

Mary: Yeah, it was written in response to something that came up last meeting. And I think that, well, I mean wrote this. So I think that I was discussing an informal meeting just to get people that were affected by the CUP more comfortable and to kind of bridge the gap between applicant.

Liz: But maybe we need to reference the,

Louisa: Could you guys speak up a little bit? We can't hear over here?

Liz: Sure. Maybe it was in response to a legal committee recommendation. And so maybe we should reference that recommendation in there and that would be more clear on that.

Moderator: So my sense of this is there is talk in the legal subcommittee about having some pre-application meetings and those are already in your code are they not?

Garrett: They're not required by the code except in certain circumstances and a conditional use permit is not one of those circumstances.

Moderator: So they're not required. Can the county, is the county's position that they can require one of an applicant?

Greg: It varies. I mean, yes, there's some discretion. The county in certain circumstances can require or suggest at the same time an applicant can ask for. But it's a conversation. It's not a mandatory pre-app.

Garrett: So if that discretion applies here, then teachers do comma as directed by county.

Moderator: So the real question, what I think I'm hearing is the real question. Who pays for this sort of thing? So let's call it straight out. Is there an application fee to file a CUP and what expansion and what does that include by way of services?

Garrett: So there's a fee for a conditional use permit that pays for the processing of the application, presentation of the planning commission and preparation of the staff report. That's for the permit. I think we're talking about a pre-application conference, which is a separate process outside of the application that typically comes with a modest fee that pays for a little bit of staff time and the preparation of some notes to memorialize the meeting. It's usually an inter-agency kind of a conversation that the applicant, the county, and any effected agencies. It's not the same as a public meeting or neighborhood meeting. So if that was the will of the subcommittee, I think we may want to use a different term to describe what it is that you want to accomplish.

Moderator: What Mary?

Mary: Yeah, I think I know this one, I think that we were describing a process where African legal community members have that privilege. What was the legal, I don't know, recommendation, I don't know which,

Garrett: LLUR-five.

Moderator: And while people are looking at that, my recollection of the conversation was, look at, there should be a pre-application meeting and you should notify the public about it for purposes of transparency. That was the major thrust of that because last week when this pre-app meeting came up, there was a realization that there wasn't a notification recommendation for that pre-op meeting. So it was plugged and played into that slot. Is that fair, Mary?

Garrett: Yeah.

Mary: Yes.

Garrett: So I think that's all. Well good. All I'm suggesting is comma, this is a discretionary thing for the county. You're going to do postcards, everybody in the county or are you going to do it in a quadrant or whatever? Just maybe it's comma at direction of the county.

Mary: I didn't talk about it. We had decided already.

Moderator: So if you're forming a language, I need you to speak up a little bit to make sure that A, I can hear it. And equally if not more importantly, the members on the Zoom can hear it and everyone else in the room. So where specifically would you put your comma?

Garrett: Therein, after, I mean you've got a sentence that's talking about all the different communications methods.

Moderator: It's as directed by the county.

Garrett: Correct. Because the county may decide one day they don't want do a website, they want to do something different. I think that's all well and good. It's just somebody needs to make a call.

John: Because you're just saying the type of communication. Yeah,

Garrett: Responsible for everything. Type it how you're going to communicate what you're going to do, what you're going to do.

John: But you're not questioning the need to do it though?

Garrett: Support the intent wholeheartedly. I'm just saying I can envision a scenario where this could be a problem without somebody saying this is how it's going to be.

Moderator: Okay, Liz?

Liz: Yeah, it's mentioned in the LLUR dash five by the as needed neighborhood meeting could require a neighborhood meeting before application is filed. So it's in that, that recommendation as well.

Moderator: Okay,

Garrett: Sam, that takes me from a three to a one.

Moderator: Okay. If we add the terms as directed by the county or as it is.

Garrett: Correct?

Moderator: I gave you two options.

Garrett: You did say four. I have three. So the or would be a two as directed by the county would be a one.

Moderator: Okay. Yes, John?

John: I would put another word in there as,

Moderator: Please,

John: As directed by the county or sounds like the county now can decide whether there should be that pre-application meeting or not. I think the subcommittee is saying, and I'm hearing from the community that they definitely need that connection with the process or with what's going on. And so I would say that maybe add the words the method of which is at the discretion of the county.

Moderator: Okay, so the first sentence, first sentence accomplishes that recommendation applicants of CUP should have a pre-application meeting with notifications, communities affected by the CUP. So it's really the last portion there. Yes. Louisa, what do you have?

Louisa: I don't think, I mean, what we were trying to say was, cause L five says we should have the pre-application meeting. We're just saying the community should be notified. So sorry, I'm not sure that says that clearly. So as long as it's something that's saying, I mean, I think that's good to say what county, and as we recommended by the county.

Garrett: You don't want to have somebody putting a flyer up in the Starbucks bathroom and say, well, we notified people. Right? Do you want to go, there needs to be some direction from the county. This is what we think you should do.

Mary: Well, okay, two things. I don't know that we need to be that prescriptive. The county already has methods for how they do this communication. I don't know that we need to put it in there. I also don't think this document's long enough without having it in two places. I think it should either be in community engagement or in the LLU archive. I think we could condense it. I don't think we need to have it twice.

Moderator: So the subtle distinction, which is that the recommendation to have it is in the legal. This really I think can be shortened to say that it should have, the application, see application of CUP, should pre-app application be with notification to the community as directed by the county. And I think that does it. And you have, does that work? Okay, so this is now edited to just be what's on the screen there in real time. If you could pull one, two, or three, that would be great.

All members of the workroom present are voting one. Okay. All right. Let's go to the landfill size and capacity. There's two recommendations there. Landfill size and capacity are six and seven, are six and seven. I'm not seeing six and seven here. Let's see. Are you guys seeing a six and seven here on my chart? I have,

John: Page 11, or nine here.

Moderator: Here. Is it nine?

John: Are we on legal?

Moderator: We are on landfill capacity. So L S C L. It should be according to this cheat sheet, an R six, which I have not seen. And it says an R seven, which I am not seeing on this document, so,

Garrett: I think we may have missed it.

Moderator: So if you could call up, what is, are there any recommendations on site life capacity that... We have a person voting a three.

John: Yeah.

Louisa: Yes.

John: What number is it?

Mary: So six has five people at one, one at two, and two at three, and seven has seven at one, zero at two, and one at three.

Moderator: So the problem is I don't have those printed out in front of me as it looks like the paper got jammed or something and some of these were missed.

Louisa: Up there that ooh, we shouldn't have sent that.

Garrett: Sam, if you want to go on to something else, one of us will work on getting those generated.

Moderator: Okay, there's that, all right. Now we're going to go to legal and land use. We will go to legal and land use and this will be a journey. Just so you know, their number is 1, 2, 4, 6, 7, 8, 9, 11, and 12. But everyone agreed with the font choice. Everyone voted one on the font choice, but the rest. So recommendation number one, which would be there. So there are two comments. The person that voted to three said, what is the significance of naming Republic Services as Allied Waste Services of Corvallis, para in quote, "Republic Services" when it is referred to simply as Republic Services in all other contexts. So Greg, you were

the staff's person on L L U. Was this the first time this was named? And as a result you were just doing a naming convention to call it Republic Services or?

Greg: It was, as I recall, this is using the language from the franchise agreement in which the franchise agreement is between Benson County and "Allied Waste Services of Corvallis," in parenthesis, for public services.

Moderator: Okay. The person voted three. Does that help answer the question? Yes, Marge?

Marge: Oh, I voted three.

Moderator: Yeah, please.

Marge: And I did want to know, but I still don't understand why in this case, as it made it, and that, why [inaudible 03:33:40] I guess you don't need it.

Greg: I don't know.

Moderator: Well, I mean what we should have, I mean, again, thinking out loud, this shouldn't be controversial. Someone signed the agreement and the names of whoever signed the agreement should be what appears in this deal. And so John,

John: Yeah, well I think the Republic Services probably shouldn't even be singled out if it's all franchise agreements. Maybe that could be a footnote. But I mean, I know that's the intent of this, our function here, and that's the franchise agreement most of concern here. But that would just,

Moderator: So the only possible distinction is in the charter it does talk about addressing the franchise agreement with Republic and the county. There is a reference to it there. This is the one, and this is in fact the one that is up for renewals being what is the current status you're in negotiating with Corvallis. Now that's completed. Then you go into a re-opener for lack of a better term with Benton County. And it's including what happened there. Plus takeaways from B-C-T-T.

John: That's fairly accurate, right, Julie? Yes.

Moderator: Okay. So that's what that is. So it should be made in reference to there, and is that, if that's the legal name that appears in the document, then that's what it should say.

Liz: And which recommendation is that? Which recommendation is,

Mary: LLUR one.

Liz: R one. okay.

Moderator: Yes.

Liz: The non-voting member has a suggested recommendation.

Julie: Why don't you add, the county should enable public input on all franchise agreements with Republic. Get rid of all the rest of it down to where the recommendations are. Any input received would be presented to the board. So you could get rid of the quotes completely. If the idea is to have the public involved in franchise agreements and discussions before Republican and county.

John: Well, I'll just respond to that and remind everybody that at the last meeting we talked about the intent of this is applicable to all future franchise agreements for the county. And so Sam graciously came up with the first sentence to be able to reinforce that intent and then the language bridges to the applicability based on the charter to the arrangement that we have.

Moderator: All right. So if we've nailed the name of the company that I believe takes care of them personally, does that take care of your concern, Marge? Yes?

Marge: Yes.

Moderator: Okay. Thank you. And then the person that voted it to said, having the public input on franchise agreements opens up a Pandora's box for Benton County. The Issue at hand is the landfill. So keep it specific to that line item. So the person who voted two, would you like to say anything? Yes, sir.

Speaker 23: Yeah, as I was reading this, I mean, it feels like if we're trying to draw a big box and say every single franchise agreement or every county process going forward, the burden on the county is going to be substantial. The issue at hand appears is the agreement with Republics. So why not just keep it that way?

Moderator: Okay. And there were two other people that voted two.

John: Yeah, I was one only because love to not be mentioned, that gave me two to one.

Moderator: Great. Thank you for sharing. A time and place where when we're option generating. No option is a bad one. All right. Well, I think we've done as much as we can with this. The first sentence, Connie should enable public input on all franchise agreements was because, overarching, there was an agreement early on that we wouldn't single out. However, in this particular case, that franchise agreement is specifically called out in the charter. So unless there's a motion for a change, I'm going to call the final poll on RRLLUR one as written.

John: As written.

Moderator: As written. So please vote one, two, or three as you have it on the screen. And this includes the track changes that are posed in there.

Liz: Tim, can I just make a brief remark.

Moderator: Please?

Liz: Which is that I am uncomfortable voting one on this or any of the other legal recommendations because I'm not sure I understand them and I don't want six months from now for people to say to me, but you agreed with this and I will just say that. And if you could maybe count differently, that would be fine. Otherwise, I have spoken my piece on it. I do have specific objections on a couple of Other ones.

Moderator: Okay. But,

Liz: That's my general objection.

Moderator: And I appreciate that. But on this one, are you voting a one, two, or three?

Liz: Okay. So if I have to vote, I will under protest, vote a one.

Moderator: Okay, you could vote a two. That would,

Liz: Oh, all right.

Moderator: That would more closely represent what I heard.

Liz: It would more closely represent my views.

Moderator: Thank you. Okay, so the people that are voting two, Marge, Liz, Russ, Sean, Ryan, Mary. Every other voting members are voting one. Six. So we have six voting two. And then how many one. So would that be then?

Julie: Also six.

Moderator: Six round of twos. How many ones would it be then?

Julie: Six.

Moderator: I thought we had 14 here.

Julie: Yeah, but two people are gone.

Moderator: Two people are gone. Okay. Six to six. There you have it. All right, let's move on to our friend R two.

Liz: Which LL?
Moderator: All these are LLU.
Liz: Can We go back to,
Moderator: If you're ready, did you get those two ready?
John: Landfill setting? Yeah. They're done.
Moderator: Okay, let's go back.
John: They're in there. They're just at the beginning instead of at the end.
Moderator: Okay. So just please call them up on the screen. And what we're calling up is L S C L R six and seven.
Liz: LLULSCLR six and seven.
Mary: Capacity. Page 11 existing.
Moderator: What capacity, L S C L, landfill size, capacity, longevity, R six. The proposal says the county should clarify when formal approval of cell six as a disposable area was granted. Two people voted three, saying it should be removed. The issue has already been addressed by the legal subcommittee and person who voted to suggest and communicate this with the county. Okay. As to the two, I think by definition, whatever the county does, by clarifying it will be communicated to the county. I'm sorry, I need to see the top of the screen for a second. So to me, the issue has already been addressed by the legal subcommittee. This sounds similar to the conversation we may have had earlier, where the legal subcommittee has concluded that's the case, but does the landfill site capacity like disagree?
John: Yes.
Moderator: With that finding?
John: Yes.
Moderator: Okay. Who, who's speaking on behalf of that committee?
Liz: Well,
Chuck: On the landfill, so,
Speaker 24: I mean, Chuck and I are on that committee. Do I go first?
Chuck: Well, I'm confused here because it says cell six as a disposal area. The county has a land use action. And if I understand it, O dot DQ.

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Ed: Standard, Pull got EQ permits to disposable sites. So why would this be an action of Benton County when it is an action of DQ under their permit process? That's what I'm confused about.
Moderator: Ginger?
Ginger: Yes. So this was one that Ian McNabb and I pushed back on noting that the legal subcommittee had already concluded, based on two documents in finding 22 when the quarry was at-
Ed: 23.
Ginger: 23, sorry, when the quarry was actually approved as a disposal area. But the other members of the subcommittee wanted this finding in there and or this recommendation in there. And Ian and I were unsuccessful in getting it removed.
Moderator: Okay.
Ginger: So, if you refer to LLU finding 23, that is where the legal subcommittee weighed in on the approval of Cell Six, which is the quarry at the disposal area. There was also, I believe, a county memo related to this LLU finding 23, as well.

Moderator: Okay. So I think this is another circumstance where we should consider doing the same treatment we did to the last one, which is adding a sentence after the word "granted" that LLU F23, you said?

Ginger: L in finding 23. Yes.

Moderator: Addresses this issue or what's the saying? What is the parallel language which we used last time and make that parallel?

Ed: Replace C, I think we did last time.

Moderator: So we didn't go with your damn well better C, than F?

Ed: No holding. No tow outs? Just, yeah.

Moderator: I don't think we should say-

Ginger: I don't think alternate is appropriate.

Moderator: Yeah. ACIT... For...

Mark: Conflicting.

Moderator: For conflicting finding.

Ginger: Yeah.

Mark: For finding.

Moderator: All right. Anything more than anyone would like to say on that before I call? Yes. Katherine with a K and then, Luisa.

Katherine: I think just to clear the point of clarity, maybe then an LLU F 23, the first sentence either should be taken out or changed. Because this reads like a recommendation than a finding.

John: Yeah.

Katherine: Just the verb. The verb "clarify".

Moderator: Mm-hmm.

Ginger: It's almost-

Moderator: So what's your specific suggestion?

John: Didn't you want to say something?

Speaker 25: So to clarify, much of the LLU's report is in the form of question and answer. So this was the question that was put to the committee was please clarify when formal approval was granted.

Katherine: Oh, okay.

Speaker 25: But that's, that's just background. Choose to change the wording that so it works for you that's worded that way.

Katherine: Maybe just regarding approval, formal approval of... Yeah, I don't know. Just maybe changing it a little bit.

Ginger: I would agree with changing, and clarifying in the legal finding just because we have clarified there and it feels confusing when we're referencing it. I think you could either remove that first sentence or you could say regarding when corporal approving of landfill cell six was granted as Katherine said, colon, I would use file, blah, blah, blah.

Moderator: So we need to have the specific language. And then Luisa, what are your suggestions here?

Luisa: Well, is it too late to ask why the... Wherever we are LSCO committee thought that the LLU 23, is that correct?

Moderator: So...

Ginger: Sam, I think maybe Mark would want to... Mark, do you want to address that? Because I think you were part of that group on the subcommittee to put this in there?

Mark: Which group were you talking about now?

Ginger: I think-

Moderator: Number seven.

Mark: Landfill subcommittee?

Ginger: Yeah. Yeah.

Mark: So, I think where the confusion is, so for the record, Mark Geer, member of the landfill capacity subcommittee, where the confusion is I don't believe that... And I was also on the C & P subcommittee. So where I think the confusion lies is that there isn't a specific land use action that formally approved Cell six as the disposal area.

When you look at the LLU 23, there's some mathematics that sort of implies that if you take the acreage of this and subtract the acreage from that, they must have meant that cell six was approved. I think that's what it says.

So on the CUP subcommittee, in trying to look at the past record of land use approvals, there wasn't anything that we were able to find specifically that addressed approval of Cell six or the quarry area as a disposal site. And I would also ask Ed and Katherine to weigh in on that because I think we had some discussions on the CUP subcommittee about this.

I don't know if that helps.

Ginger: No, I mean I knew there was... I just wanted you to explain it because I didn't want to speak for you and I know Ken is not here. So, I thought if you could maybe articulate where this finding came from-

Mark: Yeah. And I think Paul was involved in it, as well because that was part of that... Was the whole, just want to make sure that disposal area was formally approved as an area for disposal of waste. And it gets even more complicated with the MOU 2002.

Ginger: Oh we haven't even-

Mark: Not that the stuff... Not that the stuff is complicated.

Moderator: Luisa?

Luisa: So then if we're going to, it's still going to say the county should clarify but then it's see the other.... So then in the future something, these things that don't agree is that the legal person that where the county might hire the third party that you recommended, then they will look at that kind of stuff?

Moderator: Well, I mean there are several ways where this... Let me back up and say, respectfully, this was worked and worked and worked between these three companies and people who did the best job possible to do it.

I do not believe at this moment in time divine intervention is going to get everyone on the same page surrounding it. So, the best we can do is simply capture this issue that LLU F 23 basically puts forth the position that in fact was formally approved and they have their reasoning for it.

There is another school of thought and reasoning that says we cannot find the specific documents in the record that say we, Benton County, thereby bless and confer upon Cell six this status. We're not going to resolve it. So all we can do is

basically say there are two competing views, get in, get out, and be done because it's never going to come to pass. Ed?

Ed: Can we say BC LLU F 23 for additional information?

Moderator: And that would I think, fine. I mean because that's what it is.

Ed: Because we're done on the same side as that needs to be hauled. And when we get to LL UF 23.

Moderator: And when we get to LL COOL J, it'll be even a whole different thing. Does anyone know who LL COOL J is? I mean am I at all speaking to any of you here?
Gee.

John: The only thing, F, is to move it over to have the discussion in one place?

Moderator: Yes.

John: So the people can see the whole thing at one.

Speaker 25: The only does the sentence, I hate to drag this out guys. Does the sentence above it actually provide additional information? It's more saying we've got a perspective where it's not clear.
And I mean the way I read the F 23 is it isn't a differing perspective. And they're saying that they think it is clear. So I don't know. I guess what I'm saying is I don't know that additional works and I kind of thought finding was more appropriate than information.
But I also don't want to belabor this anymore than we have. So, I can see how "conflicting" might have been too much. I also don't know that additional's right.

Moderator: You can't read this-

Speaker 25: Different finding different perspective?

Luisa: Alternative information or alternative.

Moderator: Can we just say LLU F 23 provides information on this issue?

Speaker 25: That's fine.

Moderator: All right. Please poll one, two, or three surrounding that. So, the two...

Katherine: She's putting in upside down.

Moderator: Upside down two.

Katherine: But it's a protest.

Moderator: She's upside down two. Right on, sister. Right on. All right. The twos are Marge, Liz, Russ, Sean-

Katherine: I'm not-

Moderator: Katherine.

Katherine: I'm not a judge.

Moderator: You're a one. I lied.

Katherine: Russ is a two.

Moderator: So we have Marge, Russ, Sean. Catherine with a C and Louisa are twos. Everyone else present is voting a one. We have a consensus.
Next one is same category, R seven. R seven.

Katherine: Which category?

Moderator: We're in the same category.

Ginger: So B one.

Moderator: We were in another one not that long ago. All right. This is, I believe, one that...
One of the two Ken Ekland mentioned earlier. And this deals with SWACK and DSAC and other related issues.

The preliminary polling was one person voted a three on this and the language that person proposes. And I'm wondering what the distinction is.

John: That was me. It was just that it should be DSAC.

Moderator: Ah. Okay.

John: It's the only thing that changed.

Moderator: So the only thing that says that changed is, so is it actually, there's R six and R seven. So Ken, just Ken, could you flash that again? I didn't see it long enough to be able to read it.

So Ken had one of these and I think I saw him say it's no, it's R six that he was concerned about. And right now we're on R seven. Okay. So the only change here is we are substituting, you're proposing, that the word and acronym DSAC be substituted for SWAC?

John: Yeah.

Moderator: This. And can you give us a little background for those who haven't been on the paper?

John: The disposal site advisory council, many of the members of the Solid Waste Council are also members of disposal council. But they do have separate charters. ,And to me this particular recommendation would fall to the responsibility of the disposal site. These are all about the disposal site.

There is a lot of crossover. So it's not... I mean someone can suggest something better. I'm open to it, but that's my understanding of the role of Scott and ESAC. What do you think, Craig?

Speaker 25: Yeah, Daniel would know this like that.

John: I know he would.

Speaker 25: I follow your logic and I, yeah, it makes sense to me. But I'm curious why it doesn't say that already? So...

Luisa: Was that revision made or?

Speaker 25: I made the revision in that version right there.

Moderator: So what you see on the screen down, where it says real time is the suggestion. So John did as the homework asked, if you don't like the first one, what is the second one?

And so if we can see that it's the language just got highlighted here. The difference between DSAC and SWAC, here it is. Thank you.

Speaker 25: Yeah, just it surprised me that Daniel reviewed these. It surprises me that it would be wrong.

Moderator: Well, I will say I don't believe Daniel reviewed this. This happened, this happened in the last... Pretty much from last Thursday, John sent out a memo saying, calling all clear thinkers, comment on this.

Speaker 25: Oh, okay.

Moderator: And then it went through a series of back and forth emails. And I think didn't, you didn't land this until Monday.

John: Oh wait a minute. You're thinking of SMP stuff.

Moderator: Okay.

John: Do I have to run this thing now?

Moderator: Yeah, that would be my hope. That will be my hope because...

Speaker 25: Whatever, put up your numbers-

Moderator: Please take me now. Please take me now. So did you also did this one?

John: I just made, I just made it one-

Moderator: Well it's your fault. I'm blaming you for what? No, I'm kidding. Kidding.

John: No, I made a correction, that's why I was against it because it's not technically correct.

Moderator: Okay.

John: That it would be put on SWAC to do this.

Moderator: Okay.

John: And someone who wrote this can tell me Pip. I'm fine.

Moderator: Okay. So we had two people voting two. Those folks who would like to talk?

Mark: Yeah, I was one. And this one just us. For us it's a little awkward. It feels like we're telling the county one, maybe they didn't do everything in the past.
And two, we're sort of directing them almost on what the processes should be in the future. And we're probably unique in that perspective, but it just feels awkward.
We don't actually have an issue with the language. We just sort of feel uncomfortable with how it feels.

Moderator: Okay. Can you go back up to the top desk because I'm not finding this in mine right away.

Mark: Okay.

Moderator: Okay. Any other comments on this?

Ginger: John?

Moderator: Okay. John? Yeah, you talk now, John. John.

John: I think this was, and part of what's what DSAC has done in the past, they heard reports from Republic and it had most of this information. There may be a few new things in there.
This is just pretty much spelling out a little more of the directive for the responsibility of the council to receive this information, process it and make some kind of communication with it.

Speaker 25: Totally get the intent. It just feels a little awkward worse. So that's why it's associated with.

Moderator: All right? So, the proposal is basically if you can go down to, thank you Inga, the evidence is as proposed. It's basically a substitution using the term DSAC for SWAC. Give a dog a bone. This old man.
So please vote one, two, or three on that. So we have Russ and Sean voting at two and Luisa voting at two. All other members voting a one. Thank you. Next up is R four.

Ginger: Which section? LLU R four?

Moderator: Yes. LLU R four.

Ginger: LLU.

Moderator: Aye, yi, yi. LLU R four. Because we just did one and two. Right. So now we're moving to the LLUs.

Ginger: Okay.

Moderator: And we did one and two, remember, because we had to go back to it number to pick that up. So we're back to the LLU's.

Ginger: I don't think we need two? I don't have...

Moderator: Is it one in, I can't read this writing. Is it one and eight? What's that? So we did. Oh, we did? No that can't be because you have written number. So this says one and two on this cheat sheet here.
So we did one. This must be two. Yes. Okay. So LLU R two LLU R two. Six, one, two two's and one three. Three says lawyer talk. What is the statutory completeness review process? How can I vote on something that I know nothing about?

Ginger: Under protest.

Moderator: So, and then there's two twos. How and where this information will be described and communicated needs to be added for outreach and education use CEO subcommittee's recommendations.
So let's first, so Marge, you were the three and you're moving to two?

Marge: Yes.

Moderator: Thank you. So then the people that voted two are talking about whether this information will be described and communicated needs to be added. So this is... I should write a public description of...
What? Okay, so whoever the twos were, tell us what specific change you would make because it is saying the county should provide the public this information. Luisa?

Luisa: Well, I mean I did do this two days ago, so I'm not positive. But I think, I mean I don't know where the county... I mean, does the legal committee have a recommendation of how this would be done?
Because I don't know how the, or the county, how would they be giving this information to the public?

Moderator: So, it seems to me this would end up on your website. This would be like an FAQ or a statement that would go to the website with the steps of how you process a CUP application. And step X is completeness review and this would be the description of it.

Luisa: Well, so does anybody think that we need to have it specified where it would be given? Or I guess not if everyone is voting one, but it just seems like it should be more specific.

Moderator: Okay. So, I think if you guys can work on, for the CEO recommendations to add this as one of them. And it could be just a generic statement that says information that is generated by findings and recommendations in this report that's accepted by the county should go on a website.
And it's probably the solid waste website I'm assuming, right? I mean you already... It should go on the existing website. Catherine with a C.

Catherine: So this is about eight sentences too long to address. I think the completeness of an application, right, is that what we're actually talking about here is when an application is filed?

Moderator: Yes.

Catherine: Completing that application before it moves into the public hearing space, right?

Moderator: Yes.

Catherine: So, I would suggest, perhaps, to the benefit of all land use applications, just a simple one pager, maybe land use 101 coming from the county, a landing page that we can refer to as members of the public, or planning commission, or staff,

or community development department folks just saying here's where you find out what completeness of an application means and how it fits in the process. And then we bullet point the rest of the process. Just for simplicity's sake, this is something on about eight sentences too long.

I do support this idea because I think it's helpful to understand that completeness of application because not to any specific pointing to the public, but they don't always become complete and sometimes there's conversations by just the general public in that space.

So it seems beneficial. But I would say that this is something we could encourage the county to look at and put it in their purview to decide what is best in identifying what the completeness of review process et cetera is.

Moderator: So, the only complement that I'll make to that, while this may be eight sentences too long, some of these sentences at the end are very important. The one that says the information could clearly inform the public that any evidence or testimony submitted at the completeness stage is not part of the record.

And so that was designed specifically to give a heads up to the public and protect them to know that they just can't file their concern at the completeness stage and have that count as a legal matter for the record.

So, I think the overall content needs to be there. Whether or not it could be wordsmithed to be more appropriate is really for someone else to do. We're not going to do it in this meeting for the obvious reasons.

Luisa: Steve, can I add in, and I'm going to look to Greg just to be sure that I have this right. The completeness of an application is not generally a public event, it's a staff event.

And so what I think this paragraph is trying to say is that we should also have a way of notifying the public. So if they want to make comment on it, they could during that process. But the completeness is not determined by any opinions.

Moderator: It's not by a public opinion poll on all in favor of saying-

Luisa: So it's more than the process. It was almost like, but if people want to start kind of contributing during the application process, they could. So I think if this was the attempt of the legal committee to open it and appear to be, try to be more transparent during that process. So it's not just the process, it's making it more transparent and attentive.

Moderator: Okay. So, yes? Ed?

Ed: Yeah. My understanding of the process is there might be a notice of an application being considered to communicate to the community, to provide information while the process is still being considered before it's been viewed as complete.

And sometimes the information that goes into the county during that initial public discussion can change the perception of whether the application is complete or not. It might be simple.

Say if you look right, all the drawings and the applicant's application, everything looks fine. And the county might be willing to go to say, okay, the applicant application's complete.

But a neighbor might say, well wait a minute. You're taking out 50 trees. And yeah, it's only 50 out of 500, but it's 50 between your new construction and the neighborhood.

So you really need to add into the requirements for the applicant that they need a landscaping or buffering plan. And then that comes in, goes back, the county determines completeness. They say, well you don't...
Applicant, you need a buffering plan. Which wouldn't have been in that determination unless the county, unless the public knew about it and provided that information. Then when the county considers the application complete that there is a buffering plan in there, then people can go and look at now that buffering plans not good enough. And that's a whole different process.
So Katherine, shaking his head yes, that I got it about right?

Catherine: Yeah.

Ed: Catherine with a C and then Liz.

Catherine: Yeah, I was going to say, I'd be curious here Greg you're going to say, because there's a process for that, right? At some point I'm sure it goes to the planning commission or?

Speaker 25: Right, yeah. And as Liz was describing, that's what this recommendation tries to lay out is, it's not standard process for the completeness evaluation period to be a public engagement process. It's typically done by staff evaluating what's been submitted and determining if there's enough information there to move forward.
What this R two lays out is a potential way for that to be more of a publicly engaging process like Ed described with some understandings that Sam described about it's not part of the public review of the application itself. It's before that process starts.
So any comments you submit at that early stage don't count as testimony on the application itself. It's about whether it was complete or not.

Catherine: I worry about some of these recommendations that get overly prescriptive of what staff and how the county should be communicating down to the letter. I just think there's processes in place for a lot of these things already.
So I think wherever we can simplify it and make them shorter and as Katherine is pointing out, I think that would be great. We have an hour to do it. So...

Moderator: Liz?

Liz: I think I'd like to attempt to say something again, just to be clear because when we were talking about the shrubs in that scenario, it doesn't then go back to the county and the shrub qualification as part of the complete application process. It's just input from the public.
The complete application is the complete application process regardless of input. And that is not changed by input. It just gives the public an opportunity to be put on the record.
So we're not talking about changing any processes, we're just adding a level of transparency to the process is what this is trying to do.

Moderator: All right. So we're going to poll on this. Ed, do you have?

Ed: Yeah.

Moderator: Okay. So we're going to poll as is. One, two, or three? So we have Marge as a two, Mary as a two, and Luisa as a two. Catherine with a C is a three.
The rest of the members vote one. So we do not have a consensus. We have a majority minority. So Katherine just because the protocol. What would it take for you to move from a three to a two?

Katherine: I do not think this is clear. And I think we are missing a process that's established. The completeness process is the staff process.
Public engagement at this point doesn't go in the record. I think public engagement is important, but I think that, I'm not sure which. There's like three different directions this particular recommendation is leaning.

PART 8 OF 10 ENDS [04:16:04]

Katherine: ... three different directions this particular recommendation is leaning and I don't think it's conclusive. So I'm happy to have anybody clarify or we tease it out into a couple different recommendations, but the way it stands right now, we are not consistent. I don't think in what we're saying or certainly not adequately clear.

Moderator: Okay. So because of the time, we'll move on and we have our first majority minority and that's in the record. So let's move on to R-4.

Greg: LLU R-4?

Speaker 26: Yes.

Greg: Thank you.

Moderator: LLU R-4. So the person that voted is three [inaudible 04:16:53] and this is amazing. Accused a lawyer of talking. So Marge, this issue, I'm assuming, and Marge moves from a three to a two. Okay, next up.

Speaker 26: Pull on it.

Moderator: On which one?

Speaker 26: R-4.

Moderator: Yes. R-4. I thought I had a new one. Yeah. So R-4. Let's pull again. So we had Marge-

Speaker 26: At the two. Does anybody else vote a non one?

Moderator: Everyone, as I understand it, Catherine voted a three on L-42. So you're voting three on R-2 and R-4. Okay? And you're objection to see if we can fix it.

Katherine: Yep. So when it talks here about other information required by the county official, I'm just looking for clarification. My understanding is that other information would have to do with clarifying criteria requirements. I might be misinterpreting that. So I want to make sure that I understand that because we're asking for additional information, doesn't it have to go to the conditions that are possible that are related to criteria.

Moderator: So I'll let you speak directly to that. It is not adding additional criteria. It is adding information that would speak to or be probative of the existing criteria. So it's not new criteria.

Greg: Right. Yeah, that's exactly right that the criteria can be changed by this information requested by the planning official, but the planning official could identify information that is needed in order to adequately evaluate the review criteria.

Katherine: So perhaps it's that second or it's the third line almost to the bottom. Additional information required by the planning commission or I would say even requested. I think we're saying the same thing by the planning official does not become part of the applicable criteria. No, it isn't. So it kind of does. We're asking for more information to support criteria or compliance with criteria or meeting the criteria. It just seems like it's muddy language. So I'm just asking perhaps for it to be a little bit more clear. So the additional information required isn't really part of the criteria. I agree. But if we've asked for it to support seeking whether

something meets criteria, isn't that kind of part of the criteria? Do you hear what I'm saying?

Greg: Yes. Yeah, I do. But-

Speaker 26: Not-

Greg: The key, sorry, a key distinction that the subcommittee was trying to draw was you can't deny an application because the applicant failed to submit additional information that you asked them to submit. You can deny the application if they don't submit needed information and you're unable to apply to the review criteria with that. That's a very subtle distinction, but it's a very important distinction. You can't deny it from the basis that they fail to submit additional information. That's the key point. And yeah, if you have some better wording ideas, that's great, but we did work this over.

John: Sam, can I add something?

Moderator: Please.

John: So here's my understanding of this. We're wrestling with some really complicated [inaudible 04:21:00] stuff and that's normal. Other information deals with the completeness of the application, not the criteria. The criteria don't change. The criteria are what they are, but the application comes in at some level and the planning official has the discretion to say his or her opinion, "This application will be strengthened, it will be more complete if these things were added to it." That does not change the law. So you get the facts of the specific application and you've got the law. And what the applicant's trying to do is put an application in that meets the requirements of the law. The planning official can exercise some discretion in how they advise the applicant, but the planning official may not change the criteria by which the planning commission or commissioners are going to evaluate that.

Katherine: So to that comment, could we add at the end of that, let's see, additional information required by the planning official does not become part of the applicable criteria, but may contribute to the completeness of an application?

John: Yes, I think so. Anybody disagree? It's an important distinction and it actually gets back, I think the work out was before there's different points in time when information can be added. So the pre-application conference stage is before anything happens. That's the dialogue that I think you all want to happen. Completeness is a very technical review. Is there enough information by which this application can be evaluated against this criteria? And that's a technical stack determination, not a public input process. And then after that there's the actual application itself with the public hearing notice, all of that. And so I think our hearts are in the right place, but there's just some very technical legal things that are tripping us up in our [inaudible 04:23:08].

Moderator: Yes.

Louisa: I'm kind of with Marge on this one that this reads so legal. I wonder if we could just add something at the very beginning. This is regarding the completeness of an application or regarding... Just as an intro for... I feel like I jump right into this now. What is this even talking about?

Moderator: Okay, so add up right before BCC.

Katherine: When you say overall it's about the completeness of an application, is that what talking about or the process for completion of an application?

Greg: Well, it's kind of both. I mean, the reason this came up is because this section in code says that the planning official can require additional other information. So there is some ambiguity, some uncertainty about what is that other information. And yes, it's toward the end of making an application. So yes, you could say with regard to other information needed to make an application complete.

Katherine: Okay. I think that sounds good.

Moderator: And Greg, I just want to clarify, is it required or request? I mean, the planning official can request other information, they can't require it. In other words, the applicant... Darren here could say, "I want to know how many Xs are impacted by this." And the applicant could say, "Thank you for sharing. I don't think that's relevant to any existing criteria. I'm going to go in and judge my application without it."

Greg: Right. So 77.310 says other information "as required by the planning officials", but ultimately yes, the applicant can say, "Nope, we're done. We've submitted enough."

Moderator: Okay. Catherine?

Katherine: So two more questions. I hear this one and I'd like Heather's idea of putting that in there as regarding completeness of application because this section of code sounds like it is specifically that lane where I'm also hearing similar language is like if this application had been deemed complete, moved into the public hearing process, we had it before the planning commission as planning commissioners. So aside of the completeness space, as planning commissioners, we can also ask for additional information. Correct? Not required, but asked for. Correct? That's not a completeness of application conversation though, right? So I'm hearing it in two different lanes and perhaps this lane is specifically completeness of application. So I would support that amendment on the front end. But I do have another question. So on completeness of application, that is something that can be challenged for a legal court as well, right?

Moderator: Well, actually isn't it-

Katherine: So meaning, it was a staff thing, but it could actually come back later.

Moderator: That's the concern about mandamus, right? Jenny, please go on.

Jenny: I didn't understand the question.

Moderator: She was wondering if the objections to a completeness issue, do they go to Luba or?

Jenny: No. Completeness does not go to Luba. Completeness is a staff decision. It's not a final land use decision and that's how.

Katherine: Okay.

Moderator: So it'd be a mandamus. So what happens? There's another finding that talks about this. The planning official says, "Provide the number of cheeseburgers in the landfill." And Republic says, "Sorry, can't do that and deem my application complete." And then it just gets adjudicated on the facts that exist at that time.

Jenny: Exactly.

Moderator: Okay. If the county said, "We don't deem it complete," and then what are the applicant's rights to say, "We don't care. We want it to go forward."

Jenny: It is deemed complete. If the applicant says, "We're not going to submit anything further," the county is obligated to deem it complete with the information that already has been submitted.

Moderator: Okay. All right. So let's repoll based on the edits that are in purple there on the screen. One, two or three based on the edits that are on the screen. Catherine?
Katherine: I can't see that. I'm sorry.
Moderator: Okay.
Katherine: I don't know where that's remade. I'm just inclined to go with two because I think this is-
Moderator: Okay.
Katherine: ... not as clear as I'd like it ideally to be.
Moderator: Yeah. And so if it's not clear as you like it, it's really a two vote. And so I want to go back then to R-2 in that same mind. I wasn't hearing, and I'm not trying to keep [inaudible 04:28:23] anyone out to, but I want to make sure we're not having to fly by. I'm hearing you say there was too many concepts here that need to be cleared out and stress about, not that the concept, for instance, of providing the public description was bad. It's just that there was too much complication. Did I miss your-
Katherine: I'll just leave my at three for number two and then-
Moderator: I'm sorry, I can't hear you.
Katherine: I'm going to leave my number two recommendation response at three.
Moderator: I thought you had a three on two.
Katherine: I did.
Moderator: And so you're staying there. Got it. All right. Six. R-6. We had one three. I can surmise that this is an attempt to stifle substantive public comment and I imposed to this recommendation and the 222 Senator Public Services not want to be in a position if hearing direction of the county on issues relating to its code.
Greg: There's no issue with the intent. It's just an awkward place for us to be.
Moderator: Right. So I'm more concerned about the person that voted three to see what they have to say. So talk to us, Marge.
Marge: Which is I think that this is an attempt to stack up public comment and I don't agree with it and I think it should be removed. I think that the board of commissioners could do that themselves if they wanted to. I think this is providing a fig leave and I don't want to do that. And I looked at other counties specs websites and poked around a little bit in minutes that I could find and I could find really no indication in other counties that there was this level of attempt to restrict their business.
Moderator: Okay. Any other discussion? So your proposal to get you from a three is to remove it, just to make sure-
Marge: I'd get it out of here.
Moderator: That's what I'm saying, remove it.
Marge: Yeah.
Greg: Yeah.
Marge: Exactly.
Moderator: All right. Catherine, with the C?
Catherine: Yeah. I just have a question. I'm not totally sure what... I guess it seems like... I'm not really sure what this is saying, what's changing for SWAC here. Maybe I just need to read it a few more times, but.
Moderator: I'm with you. I can't understand it.
Katherine: Can someone explain it?

Catherine: Yeah, could someone explain it?
Moderator: Okay, Greg?
Katherine: Or give some background there.
Greg: Yeah. So this section in chapter 77 of the development code, the landfill site zone, that lays out a role for SWAC in reviewing a conditional use permit for a landfill expansion. That section of code says SWAC should review and make recommendations. The code does not specify what criteria those recommendations should be made on, or what considerations the recommendations should be based on. In the land use arena, we're used to and it's based on, criteria that are spelled out. And so from the subcommittee's perspective, it opens up potential liability issues, as well as just makes the process uncertain by not having criteria. So the planning commission has specific criteria that they're evaluating CBR, SWAC doesn't. And so that's where that recommendation is coming from for the county to, by code amendment, give criteria for SWAC's review of the board of commissioners
Moderator: Okay. John.
John: I have a question from Marge. How do you see this limiting public input?
Marge: Because I don't understand exactly what this is attempting. Well, I mean, tell me what this is attempting to do. It's attempting to shape what SWAC's response can be. It's attempting to say, okay, these are the criteria you must use and SWAC is, as I understand it, a state mandated body and it isn't a county mandated body. And the purpose of SWAC, the overall statement from the state is that SWAC is supposed to provide a conduit between county and residents, a way that residents can express their opinion. And if we have criteria that we have to operate under that are kind of arbitrary that other counties don't really do this, why do we have to? And if we did, the board of commissioners could just go ahead and do this. So why don't they just go ahead and do it?
John: Well, it's I'm just seeing this as a recommendation.
Marge: Okay.
John: But with what I hear you saying is you're seeing it as a dictate that SWAC would have to do these criteria. Maybe it could be put in the form of guidance.
Marge: Yes. Yeah. Yes.
John: That is here are among the criteria you should consider. I just remember being there having to vote on this and it would've been helpful to have some of that-
Speaker 26: Guidance.
John: Yeah. But I agree with you that it shouldn't be limited to that.
Moderator: All right. We have Catherine, with a C and Louisa.
Catherine: So thank you Marge for that context. So I hear both sides of this. Giving guidance can be assisting in this case. Let's just say we have a commission somewhere down the road later that wants to really implement some constraints on the role of the Solid Waste Advisory Committee. And that could turn around and not be a good... This could end up being not a good recommendation. But I would ask this question. So environmental concerns generally do not fall within the criteria of which we look at land use, not to the extent that we're hearing from this public. Are we willing to take the risk that because environmental concerns, which are occurring frequently in our public testimony, might not be heard because the

guidance that we give through this recommendation might constrain that feedback?

I'm really hesitant to limit. What about innovative ideas? If they don't follow within a certain criteria, we're not going to bring that through SWAC to the county commissioners? So I'm generally not in support of this, just as a holistic look at how advisory committees should ideally work, which is that open process. I think potentially, just common sense guidance should exist without this kind of recommendation. I would be hesitant to tie in any words to specific criteria though that might limit community conversations that we really do want to have coming from SWAC to the commission. Commissioners, excuse me.

Moderator: Louisa.

Louisa: So Marge, then in SWAC, kind of is it a check and a balance where you are giving the planning commission information and it's through the public, but SWAC's not making the decision, right?

Marge: Right.

Louisa: They're just-

Marge: Plus there's no decisions.

Louisa: Yeah. So to me, it doesn't seem like they should have criteria because you're just giving information and bringing information to them who have the criteria.

Moderator: Ed, then Liz. Just go to the sixth line up. Of course, the board of commissioners should more clearly define. We changed that to the board of commissioners should provide non-binding guidelines to SWAC for the review of projects.

Ed: We're catching up.

Moderator: So we're taking out more clearly defined. So you're not putting boundaries, you're just providing non-binding guidelines. Well, what was the intent of this? I mean, there's a core philosophical issue going on that I don't want to be lost in our exhaustion and wordsmithing at this hour. Was it the intent of the authors of this statement to say to SWAC, "We want you to opine on the criteria that's in the code and nothing but that criteria that's in the code, restate it because the SMMP is not currently in the code opining on whether or not this application should be granted or not granted, based upon what a future SMMP might say is not something we want you to talk about." Is that really as crass as what's going on?

Marge: Can I make a suggestion? Mark Yager is here. He's been on SWAC for decades. So can he make a statement? That would probably be the most knowledgeable person.

Moderator: I'm happy to have Mark talk, but I want first get the answer to my question, what is the intent the authors are trying to achieve? Because what Ed just did, if the intent was only talk about criteria, Ed's amendment says, "We can tell you that. But it's really just kind of a guideline. It's not binding. So you can talk about whatever you want." And that's what he is saying with that amendment. So I'm trying to see if that's just a friendly amendment to those that proposed it because that was always their intent just to be, hey guys, really focus in on the criteria because that's what's going to go to the planning commission, da da da da da. Or if there was something deeper than that, that was at the core. So Liz, were you on this or who was on this? So fire away.

Liz: I was on this. I'll [inaudible 04:39:52], you guys correct me if I'm wrong, but my impression was to clarify SWAC's position because it wasn't clearly outlined. And I would like to say as a planning commissioner who could only really look at the criteria in order to approve or not approve, right? We still get to hear testimony and we still get to hear. Just because our role is defined does not mean people can't tell us what they think about other subjects. Right? So I think that this was an attempt to just say, "This is where you are in the process and this is how it works." Am I wrong? Not to squelch or silence, that was never the intent.

Greg: That was not discussed, not the intent. I mean, this was in response to an element of the charge. This was directly from the charge. And the intent was to make SWAC's review process more like the planning commissions review process, where there are definable criteria, where people know what is being reviewed and considered and what a decision or recommendation in this case is made. That's-

Moderator: Well, that sounds more like what I was suggesting, that this is basically saying to SWAC, you opine consistent within the criteria. And I'm hearing you say, "No, we want you to focus on the criteria, but you're not limited." And those are two different conversations.

Liz: Well, even the funding commission isn't limited to listening, right? I mean, I think that that's the thing that I think, and I haven't been limited as a planning commissioner expressing my opinion relative, right? But I have to rule on certain criteria. So I think that there is this feeling that there's some conspiracy trying to quiet voices. I think what we're trying to do is to make everybody understand clearly what the process is because otherwise, it ends up over in left field and then we don't get anything done. Right? We can all have feelings about lots of things, but we can't make decisions based on those feelings. We have to sit within the criteria. And so we would like to help SWAC understand where they fit into that process.

Moderator: Okay. Let me get the work crew members first that have had their placards out and I promise not... Where'd they go? Oh, there. So I don't know who over here was who, so take it away. Corner.

Katherine: So my question really was, my understanding of SWAC was that it was not tied to an application or criteria, that it was an advisory committee dealing with solid waste. I'm curious, I would like to hear from Mark who has served for, is it 20 plus years on SWAC, as to what the understanding of SWAC's role is from a SWAC member. Because I don't feel like this is an application appropriate discussion because it feels like we're tailoring something to the application. I view this council or committee as something independent required, something that Benton County put in place for obvious reasons. And I can assume that a lot of things fall outside of criteria and I think they're important for the commission members to hear. So if it's possible just to tee up Mark-

Moderator: Mark is going to be able to speak with it after each member of the work group gets to speak first. Louisa.

Louisa: Well, so Marge then, if it's state mandated, does SWAC already have the guidelines and what does the state say? Is it really the county or place to say anything about that?

Marge: The state mandate is extremely open and it doesn't, yeah, look and Mark probably knows it. Probably can tell you the paragraph that-

Moderator: Chuck and then John and then Mark.

Chuck: Well, we talk about SWAC, there's also DSAC and they explicitly have two different things to look at that needs to be taken into criteria. I guess what triggers the problem here is the land use action by the applicant for a land use change for a O.BEQ permit for the landfill. And since SWAC is the public in the sense that have a platform for the public input, as well as Republic's also ex parte to these. So we're trying form an open platform, if you will, of the next land use or when a land use action comes, we can discuss and say this action has, if you will, and landfill, size capacity and longevity. That is hard now for SWAC to surmise unless the public is up and front prior to the land application to give that information. So that's just one of the problems. So, and Mark, now you can jump in.

Moderator: No, no. Sorry, Big John.

Big John: Just for clarification, I think VSAC is the state mandated group.

Moderator: It is.

Big John: Not SWAC.

Moderator: Not SWAC.

Big John: Correct. SWAC is advisory to the county, but it's not required by the state.

Chuck: All right. It's tested under ORS and stuff.

Moderator: What's the rule, Greg? Quickly, so-

Greg: So DSAC is state mandated. SWAC is a county creation.

Moderator: Okay.

Greg: And other counties have SWACs.

Moderator: Okay.

Greg: But not all counties.

Moderator: So, Mark. Hi.

Mark: Hi Sam.

Moderator: Couldn't see him. What have you been doing?

Mark: Just hanging out.

Moderator: Okay, good, good. Any thoughts around anything?

Mark: Yeah, I got a few. I got a few. But just clarifying, I have not served on SWAC for decades. I did serve on SWAC in the mid-90s to mid-2000s, but have been off SWAC until just recently. I am a member of SWAC now. That's great clarification. So DSAC is the state mandated body, Republic Services has a member as the landfill operator on DSAC, but SWAC does not have a member or Republic Services does not have membership on SWAC. So when this first came out, I reviewed it and commented on it and I did go back and listen to the discussion via the recording. And my sense of what was happening there was because the language in the code, just is fairly general, that the Solid Waste Advisory Council is to provide advice or advise on these conditions or applications.

It seemed to me, based on what I heard on the recording, and Greg you can help me with this or not, I think what the land legal issues subcommittee was talking about was in fact not asking SWAC to weigh in on the review criteria for conditional use permit. That was the purview of the planning commission. But they wanted to keep SWAC inside a very narrow lane to talk about solid waste

management issues only. And because I listened to the recording, I'm just verifying that. So it was not seeking direction to or providing direction to the board of commissioners to say SWAC should be looking at the review criteria that the planning commissioner is going to look at. But in fact, it's not to look or comment on those things, but should be looking at only solid waste management issues. So-

PART 9 OF 10 ENDS [04:48:04]

Ross: At only solid waste management issues. So, in a way, my perception was it was a means to try to limit what SWAC could consider in the process of reviewing a conditional use application.

Moderator: Okay. Greg, and then we're going to have to talk about what we're going to do next.

Greg: Thanks. I wanted to clarify
A few points, some of which had been clarified about SWAC, but also wanted to also clarify, I think what I heard, Catherine, your concern related to this being a recommendation to narrow SWAC's ability to hear from the public or weigh in on a variety of topics and I want to clarify or make sure that everybody understands this is specifically directed only to the question of a conditional use permit for expansion of a landfill. So, anything outside of that is not part of this recommendation. This is only talking about in the context of reviewing an application for expansion of a landfill conditional use permit application. The code is recommended to have more specificity. That's what is being proposed.

Moderator: Alright. So, thank you for all of that. I think under the category of "duh"; based on the feedback that we've had here, we should figure out how to go back and make this clearer than what it is because it's an important issue and I don't want there to be misunderstanding of what you are polling upon and then having misunderstanding of the people that read it. It needs to be clearer with some of these clarifications that were made. That being said, besides being in the room, here's where we're at. We have five more recommendations where someone voted a three. We have 28 more findings were someone voted a threes. Then, we haven't dealt with all the twos that came up that some may be in the areas we've already covered, but some may not be. So we got a fair amount of work to do. I'm going to turn to Darren and see your thoughts, suggestions. Maybe come up to the table and sit next to Chuck there because Chuck's our enforcer. And if you don't behave, Chuck is authorized to take you on, big guy.

Darren: Can I call on Mark? Because he has been on SWAC for decades.

Moderator: Yeah. That's right. A tag team.

Darren: [inaudible 04:51:32]. Well, I'm going to make eye contact with everybody at the table. See if anyone has a curfew besides Greg.

Chuck: I do.

Speaker 27: I do.

Darren: I think the board would really like this project to get to completion. And I think we've committed to the public to get to completion. I know that we have been hesitating a little bit at start of this meeting. I know this is a hard point in the process, so I'm just going to acknowledge that. But I really think we need to get homework done. So, how long will it take?

Moderator: You mean tonight?

Darren: Yeah.

Moderator: Well, let me see how many we've accomplished. We've accomplished 12 out of 46. So, we've done 12 out of 46. So, I would say sometime about 2:30 tomorrow morning is when ... I'm not trying to be funny-

Darren: Because there still is some cake left.

Moderator: I was going to bring that home with me. We've done basically a fourth of the threes.

Darren: Yeah.

Moderator: Okay? We have not attended to any of the twos.

Darren: Yeah. So we're not going to get there.

Moderator: We are not going to get there tonight unless there's double espresso drips that are put in everyone's arm and related sort of activity. It's just impossible.

Speaker 28: Everybody [inaudible 04:53:28]. I don't understand why you can't just leave it as is. So let the threes be threes and the twos be twos and [inaudible 04:53:35]-

Moderator: Well I don't know if you talked to them. I think that that is an option that you can consider. However, the challenge is that not everyone took the informal poll. They didn't have the time. So we don't have polling from all 14 polling members. The 220 issues. So we don't know. I don't know if the people who didn't have a chance to do the informal poll will identify other threes going forward or any other twos.

Usually these processes were designed after core to create common understandings, and we have not completed that process. When you look at what we have done so far in the first 12, with the exception of one recommendation, they all moved to a consensus. All the threes went away. So I'm concerned that one observation would be if we have the same success rate here, it's going to be a more robust set of agreements than if we don't. Because right now it appears if the practice of tonight holds out is that we will have much more of a consensus on more things than it appears. We just stick with the informal poll. That's just a statement of the facts. You all decide what you're going to do, but Marge had something.

Marge: Do we still get our goodie bag?

Speaker 29: Do they still get the goody bags? [inaudible 04:55:40].

Moderator: Yeah. Maybe yes. Maybe no. Kind of makes you wonder, Marge.

Marge: Thank you for [inaudible 04:55:48].

Darren: Yeah. [inaudible 04:55:48].

Marge: [inaudible 04:55:48], too.

Moderator: You get 25% of the goodie bag.

Darren: Well I think Sam is right. And then our job is to get some common understandings. If we're asking the board after all this work to flip a coin or do jump ball, I just really feel like we've not served the request to the board commissioners. I know that's asking for more but I honestly think we need to get to agreement and the number of things that I've gotten clarified and kind of helped every little bit of understanding even about the difference between SWAC and BSAC. It's all really important stuff and it matters.

And I think us getting it right lends to the credibility of the recommendations we lead the work partly undone. I just think, in its own form, it's a way of kicking the can down the road, which this community has done for 50 years. And I hate to

be the one that says we're not done yet but we're not done yet. I really believe that and I know that, at some point, my staff is going to be asked to react to something and we're going to do that without the benefit of as much clarity and as much agreement and as much clear direction from the community as we would like to have. So what are options?

Moderator: So let me lay out what I think might work to make it as efficient as possible. And this literally is first draft stuff. So if someone can type this up so people on the screen can see it, because we wanted to make sure everyone is on the same page.

Speaker 28: This one? This [inaudible 04:57:42]?

Moderator: Well so a new piece of paper or something that could be projected up to next steps in the process. All right.

Liz: Can I just say one thing? I think that we have learned a lot about in other's points of view and things. I think this has been an important exercise. But I think that saying that if we can get all ones and twos on these recommendations that we have achieved consensus on this issue is wrong.

Moderator: No. That, again, we haven't gone through it. If we can get it, great. But if we can't, we can't. And what we learned here is the threes from the informal poll were either misunderstandings or more information provided a change or a clarification or edit got everyone on the same page. It's more important that people have common understandings and if it's a common understanding by everyone in consensus or if it's a majority minority 13 to one, as long as there's a fidelity of understanding of what these issues are. So here's what this would look like. This defeats the question. You still have the question, but it looks like this. "Staff works with facilitator to create a crosswalk between A) the informal polling B) the public polling which integrates the comments both of the public and the work group members into a document that is more digestible."

Step two would be that gets sent out and we do an informal poll again, which we might consider just doing it. Is there anything you would vote a three on? Looking at all of these things, now that you see the changes, if there's anything you'd vote a three on. We could also do anything you voted two on, but that's less important than dealing with the concerns of the three. And that then informs the agenda like I did last time. We get that out to you in sufficient time that you actually have a chance to read all of that. Both the information that county sends out and the roll up results of the informal polling that informs the agenda and then we meet again to do it. The wildcard sub-issues inherent in that are do we reopen the public comment survey which was only designed to deal with the recommendations for your consideration.

It was never designed to be, "What do you think of Benton County's solid waste management issues and what should we do with the landfill and the environmental issues? So we can open that up again. You will see from the comments and the notes that it was, admittedly, too long and it was too focused on recommendations. Many of whom said were a lawyer alike in their approach. So we can do that. We can say to the public, "We get it and you're going to have a full opportunity to do everything. Comment on everything in a more broader base survey than vote on the recommendations." That's coming no matter what. We could still do our open house on the floor and open it up that schedule, then

open it up to the public and maybe get some more clarification and input there. But I think whatever we do, we need, it's fair to make sure that the public understands this process is not designed to determine whether or not an expansion CUP is granted or not, should be granted or not, and so on. That is not the purpose of BCTT. So they don't come and believe that they'll be able to influence that when it won't help with the BCTT process. It'll help with the other process that happened when they happen. This will take probably three to four weeks to do. In other words, it's going to take a week for staff to do their thing. Okay? You're going to need a week with it in order to do the informal poll. It will take three or four days to roll up those results and get them out to you at such a time that we would have our final meeting. So I think that is what that schedule would look like. Ross?

Ross: Is there an option for an alternative to the crosswalk that would just be part B of this? The 26 findings and however many recommendations that we just haven't gotten to yet with the threes? And just there's a separate meeting whenever it's scheduled. Additional polling community comment, very great. However, that's structured. So we just do another meeting to finish what we can't do tonight.

Moderator: [inaudible 05:04:12]. Yes, we could, and that's possible. But the reality is how many polling member surveys did we get? We Have 14 polling members. How many members polled? 11, was it? So we have three people that didn't have time to do it. We don't know what they're going to say.

Ross: You're the expert on the process. I am not. Where my concern kind of goes is chance of relitigating stuff we already addressed today, and so perhaps the crosswalk clears all that up. That's just where my concern goes.

Moderator: Well, I'm just trying to brainstorm and I, admittedly, for the last couple weeks I, like everyone who's been burning the candle at both ends, so somewhat brain-dead. We need to hear from the three people to make this be an effective process. And we can't just rely on electronic surveys. As I understand, the open meeting laws, you need to all do this in person overtly so we can take down your name. We can't do an email. "What do y'all think? One, two or three?" Yes. Liz then Marge.

Liz: I'm One of the three people and I have no threes. I've already reviewed and read this thing a million times. I've no threes.

Moderator: Okay. Okay. And Andrew's the other and he had no threes. He had one two. Katherine?

Catherine: I got through ... Oh, sorry.

Katherine: I'm the other. I apologize. I tried to do it this morning. It was halftime and this is my last meeting. I can't come to any future meetings so you don't need to worry about me.

Moderator: Well we are going to. We're going to care about you. We may not worry about you.

Katherine: I do think, though, I agree with what Ross said. That if you could just do a part B, I don't know. That seems like a good way to do it. But maybe keep the community survey open longer since we know a lot of people didn't get a chance to do that, yet.

Moderator: Okay. As long as I know what the threes are, that could work. Catherine with a C?

Speaker 29: I submitted mine so it time was on but I didn't get to the last sections.
Moderator: The last what?
Speaker 29: Last two sections. I've been through land use, get all way through the land use. Whatever. I wasn't able to finish by the timeline this morning.
Moderator: Okay. So if you could finish them.
Speaker 29: Can I reopen what I've already done?
Moderator: I don't know how ... Lauren, who's the survey monkey person in the room from staff?
Speaker 29: All the emails follow up like that.
Speaker 28: I think it can be it a second time. We'll just have to make sure that they're [inaudible 05:06:59].
Moderator: Okay. So if you can then give us that you had no threes, then we know we have the complete list of any potential threes and then we can do the polling on basically the twos and threes. We could limit it to the twos and threes, which takes out the ones if that is acceptable to everyone. And we'll have to have a formal motion at the end of the meeting that says you are voting one and everything else. If that is, in fact, your vote. You can obviously say no, but I just want to vote a two or three. So that helps.
Sam: Sam?
Moderator: Yes.
Sam: I can't vote. But to expedite, is it possible to get what we were going through? Because it was nice to see the comments because we're all primed and prepped. We all know what each other are thinking because I know all the [inaudible 05:07:54] and you have it all right here.
I'm not seeing a difficulty of getting through that quickly. I know what you're thinking. I know what you're thinking. Okay, I can figure this out. That seems to me you need the comments.
Moderator: [Inaudible 05:08:08].
Sam: I'm sorry. I'm sorry John. Yes.
Speaker 27: The thing that we wrote in, whatever...
Sam: Exactly.
Moderator: Yeah. So that is part of the role. Well it was up there a second ago, but that was part of the staff work that they have to do, first, is integrate the public polling both as to they generally support, generally oppose, plus their comments, plus your stuff, polling non-member stuff. That has to be integrated into a fashion that is more readily looked at. Then after we get Katherine's additional information, then we'll have a complete list of threes and twos and then perhaps the work that gets sent out is all the work we've done so far. Confirming all these tallies that we've done so far tonight. And then what's the hit list of the remaining recommendations and findings where someone voted of three and then two. And then that makes it more efficient.
Ross: And one more efficiency recommendation. I understand we got to keep the public comment periods of these things. I totally get it. Any food we might consume, it could be a working consumption. A working meal or whatever. Is that acceptable?
Moderator: You're pointing at me?
Greg: Not the facilitator.

Moderator: Yeah. The facilitator. I believe people-

Ross: It's precious 30 minutes. We could have knocked out a couple more presumably in that 30 minute window.

Moderator: Yeah. So the question, I'm not sure that, well, it doesn't matter. It is what it is at this point. The question is, do you want another round of extended public comment? So I want you to vote one, two, or three. Do you want another round of two? So the status quo is two half hour public comment periods. We're going to have a couple different polls. First is repeating-

Darren: Is that the meeting? At the next meeting?

Moderator: At the next meeting. So at the next meeting, I'll give you the three options. Option A is two one half hour public comment period. Option B is one half hour public comment period. And option C is going back to what we've done since the jump, which is basically one 15 minute public comment period. So we're going to vote three times and see how we go on as someone or we don't have a whiteboard, so please vote. First one is two half hour public comment periods like we did today. Please vote. One, two, or three. Everyone needs to poll. So we have one Ed saying we should have two. We have, what are you Russ? We have all threes. Catherine, you're not what?

Catherine: So we're on the one half an hour.

Crowd: No, two.

Catherine: Two? I already-

Moderator: Okay. Actually I didn't see you.

Catherine: That's okay. Here.

Moderator: Okay, that's helpful. Thank you. All right, next option is one half hour public comment period. One half hour public comment period. Chuck, Andrew, Paul. Okay. Chuck is a two. Mark is a three. Three twos in a row. Four twos in a row. Katherine?

Katherine: Well, I'm not going to be there.

Moderator: You're not going to be there. Katherine abstains. Three ones and two twos. Okay. Final poll. One 15 minute public comment period. So we have all ones to Mary who votes a three. Ed votes a one. Catherine of the C is a two. And Louisa is a one. So I believe the highest scoring is one 15 minute public comment period. Okay.

I will work with staff either after the meeting tonight or tomorrow morning or whatever it is to figure out a plan. But I still think to do it that in a way that gives as much time it deserves and you need to do it. The time in between the meetings will make the time at the meeting more efficient. So we give you more time in between the meetings to look at this and tee it up. It'll become more efficient. Next question.

Do we reopen the public poll on the, I'm making this up, A2 recommendations? One, two or three? Do we reopen the public poll to on the A2 recommendations and then the alternative you'll be able to choose from is that, actually, instead of that, they will still have the ability to do that extended public period, which is from the 11th to the end of May. So that's number two. So number one is we reopen the poll and they would be opining on the recommendations. So one, two, or three.

Speaker 28: Can you say that again? Because you're [inaudible 05:14:44].

Catherine: Yeah. Yeah.

Moderator: Okay. The public poll-

Ross: Presumably for like a week or something.

Speaker 28: Week to week I cannot [inaudible 05:14:52] you do the public. I don't understand.

Moderator: Okay, I'll try again. The public poll closed and as we learned, because of a press problem, people didn't get enough notice. Even if they had gotten it in a timely fashion, they wouldn't have had a bunch of time to go through 82 findings. So the question is, given where we're at and having another meeting, do we reopen that poll again? I'll say for a week or maybe it's 10 days depending on when we can get the notices out to people and tell them, "Hey, it's now open again. And that's going to be a challenge, because by the time you order these postcards, [inaudible 05:15:37] the expensive the postcards, you get them out, we're not getting it.

Speaker 28: Can we maybe not mail out a notification and just put something out in a newsletter or something?

Moderator: Yes, we can do everything

Speaker 28: [inaudible 05:15:50] big expense for the county to do again.

Moderator: I understand.

Speaker 28: And we're already extending [inaudible 05:15:55].

Moderator: Okay. So let's figure out. We'll do it in an appropriate way. But the question is, do we reopen the public poll that deals with recommendations only? Roughly speaking, it'll be a week to 10 days of openness and there'll be notice that isn't a mailing, again, because of the cost. So one, two, or three? Chuck?

Chuck: Is the poll the same criteria that you used before? Because-

Moderator: The poll is only on the recommendations. Do you generally support or generally oppose?

Chuck: Okay.

Moderator: Each of the recommendations. So Chuck is a one. Marge is a three. Liz is a one. Two twos from the Republic Boys. John is a one. Everyone else is a one. Catherine? And Catherine's a two. So we will reopen the public poll and it's always Marge. You're a two, aren't you?

Marge: Yeah.

Moderator: Yeah, she's a two. Okay. So we will reopen the public poll. VF press releases or website. Email blast and all that sort of stuff and get that out there. See if there's any other process question that we need your input on before. Under the category of "Duh", I don't think there's any chance. I don't think there's any chance that we'll be able to have another meeting beyond this. Please, Lord, take us now. So this has to be the last meeting and it means that we'll know more once we get the results, but we won't have a ceremony again. I'll save some time. There'll be less public comment period. So that'll save us time. But I want to make it clear that we're going until we're done. We just got to go until we're done with it. You saw the pace today. We basically did 12 out of 46 at the pace we did. We'll go back and figure out what that was as an indicator. Last call, Louisa.

Louisa: Well this is back to the poll. So you know this social media posts were 27% of how people found out, so I don't know how the county did that. [inaudible 05:18:48] but that seems like what we should do most. And then the email.

Moderator: Yeah. Yep. Ed?

Ed: I think there's also a word of mouth.

Darren: Yeah. Oh yeah [inaudible 05:19:01].

Ed: That was almost the same number.

Moderator: Yeah.

Ed: That is incumbent on all of us to ...

Moderator: Hey, leave your plaque here, John. Wait. Leave your plaques here. Leave your plaques here.

John: I'm going to get my bag, too.

Moderator: No, you're not. All right. Go for it. Do good. Avoid evil. Thank you very much.

Katherine: [inaudible 05:19:23] happy to say. I'll see you all.

Crowd: [inaudible 05:19:34].

PART 10 OF 10 ENDS [05:19:34]

Rev Transcript of BCTT 4-3-23 Meeting

Speaker 1: We should be on. Can the people on Zoom hear us? Somebody could give a thumbs up or.

Speaker 2: Actually just take out [inaudible 00:16:00].

Andrew: This is Andrew. I can hear you all.

Speaker 1: Okay, thank you Andrew.

Speaker 2: Because it's not sediments, it's soil. [inaudible 00:16:09] isn't clear. All right, thank you.

Sam: All right, here we go. It is April 3rd at 1:41 PM. This is meeting 11 of the Benton County Talks Trash work group. My name is Sam [inaudible 00:16:32], the facilitator. We have taken roll by around the room and checking folks out on the screen. As Darren mentioned, there are light snacks over towards the entrance if anyone wants to pick up some nourishment. The agenda review is pretty straightforward. It's much like we did last time. And we will approve the draft meeting 10 minutes, update the public point results on the recommendations. We'll have a comment period at 15 minutes, and then we'll review tonight's polling plan to focus on findings and recommendations for someone who voted at three and any new items, have our usual dinner break and explore findings and recommendations where anyone voted at two. And we'll have a break in between that. And then we'll do last call, any changes from the informal polling. And the ones, and then we'll go into the executive summary and history and then we'll talk about next steps going forward. So any additional subtractions or corrections to the draft M 10 meeting minutes, any additional subtractions or corrections to M 10 meeting minutes. Steering and seeing none will deem them approved. We sent out the updated public poll, public polling results on the recommendations on Friday if, as I recall, and they are for you to review. And they also appear on the worksheets and they are updated from what we had previously. So you see the results that occurred as of our March 23rd meeting and then the results that are cumulative through the 31st and going forward. So those are there for concern and review and I think just wanted to call that out [inaudible 00:19:00] at this point, unless anyone has any questions or comments on that. Let's move into public comment period. Is there anyone in the room that would like to make a public comment? You could just raise your hand. Anyone in the room for public comment. Hearing and seeing none. Those on appearing virtually, if you'd be so kind as to raise your hand under the reaction staff so I can know how many people we have in the queue. Looks like we have one. Ken Hecklin, you're up.

Ken: Great. Thank you. Can everyone hear me?

Sam: I can, but I can check on the back of the room, Ken, in just a second. Folks, can you guys thumbs up? You can hear? Yes. You're getting thumbs up. Take it away please.

Ken: Okay, so I have some screen sharing to do, but that seems to be disabled.

Sam: Let's see if we can undisable you here in a second.

Ken: Okay, thanks.

Sam: You're good to go Ken, on this end it appears.

Ken: Okay. Very good. Yes.

Sam: No, did you you laugh? Yeah, hey Sharon.

Ken: There. Can you all see that?

Sam: We can. Thank you.

Ken: Okay, great. Hello again work group. It's Ken Hecklin, Benton County resident. I'll be as brief as I can. Could you please go to the bottom of page 32 and locate finding number 13 for the landfill size subcommittee? It's the bottom of page 32. And at top of page 33, you'll see that the two Republic Services members are going to vote three on this finding unless a sentence is added to it. And I've highlighted the sentence here. They're not being totally honest with you here. Not being totally forthcoming, I should say. Yes, they did add this sentence to the subcommittee report at the very last minute I might add, but they didn't provide the data that they mentioned to the subcommittee. We inquired about it and were told it's publicly available, "which is a little non-transparent."
So it has not been vetted. So the sentence is unsupported by any evidence. Nothing was given to any subcommittee members except the sentence. We had nothing to examine. No way to verify this sentence. Note that the EPA estimate in the finding, the 57% figure did come with supporting documentation provided to the subcommittee. Oops. Since no supporting evidence has been presented for examination by the subcommittee or by you, I don't think the work group should add this sentence to its evidence-based findings. Your informal polling is already holding to that outcome. So I'm supporting the direction the majority you are already going in. Republic Services can file a minority report to explain their side. So again, do not add the proposed sentence. The subcommittee has not vetted it. Evaluate the text for finding 13 without it. Thank you.

Sam: Thank you. And any other member on Zoom that would like to make a public comment? Last call. Seeing no one on the screen and no one in the room. We'll close public comment period. Oh, is there someone or is it?

Speaker 1: More comments. Hello?

Ken: Can you [inaudible 00:23:35]?

Speaker 1: Vicki, I believe you want to testify? If you would like to testify, you can turn off your microphone and begin when you're ready. Also, you can turn on your video as well. Okay. We can see you. Can you turn off your microphone please?

Ken: Turn on your microphone.

Speaker 1: Turn on your microphone.

Vicki: Okay.

Speaker 1: Perfect. Thank you.

Vicki: Okay. Good afternoon. My name is Vicki Drew Weiner. First I want to thank all the neighbors, committee members, county employees, and others involved in tackling this important issue. Looking through the vast amount of documentation that has been gathered, I'm impressed with the effort made. And these times I think we need to work together to deal with things that impact us all on a personal local level. My husband and I have been residents of the Sub Creek Valley for 33 years. Last year when Republic Services submitted their conditional use permit application, we joined with other neighbors concerned by many aspects of the proposal and hoped that having a facilitator and work group dedicated to examining the issues we would be productive. Perhaps I placed a

little too much faith in the process. And it wasn't until a recent survey came out that I started really examining the website and information presented there.
I have already written an email to voice my concerns about the survey and related issues and sent it yesterday. So perhaps you've already had a chance to see it. However, I did want to make a few more comments about this process. First, I want to remind you that there are more people impacted by the landfill and its current and future activities than just a group of disgruntled neighbors crying, not in my backyard. The issue of solid waste management, whether it is household, industrial, hazardous, medical, or recycled waste, is a worldwide concern. On some levels it is very complex and expensive. Yet the long-term benefits of dealing with these issues sooner rather than later can make a huge difference in our neighborhood, our state, our world. In that vein, I notice you've included a statement honoring the Kalapuya tribe and the acknowledgement of there having been here long before the settlers came to this area.
I believe that many native spiritual values honor the earth, the plants and animals, the seasons and other elements of this beautiful world that we share and consider them sacred. You cannot find documentation suggesting any input from the nearby tribes into this process and would really have appreciated seeing some. Perhaps it's not too late. Thank you for this opportunity to speak.

Ken: Thank you very much. Last call for anyone online. Since I can't see the chat box, if you could give me thumbs up or raise your hand by going to the reaction icon on the bottom of your screen. That'll be a cleaner queue that you want to be in the queue.
Hearing none. Thank you. Public comment is closed. All right, so here's sort of a high level overview of where we're at in this process. If we were to go and manage all of the remaining threes in recommendations and findings and then also deal with the twos in recommendations and findings, there would be 120 specific findings or recommendations to discuss. Of those 120, 38 of them be they findings or recommendations, have at least one in three in. The proposed approach is to start with the recommendations in essence, where we left off last at our last meeting. There are 10 recommendations with remaining threes that we haven't discussed. Then my proposal is we would go to the 28 findings, or at least one member voted a three. And then depending on where we're at in the agenda, we can look at the recommendations where at least one person voted a two.
There are 45 of those and there are 37 findings where at least one person voted a two. So I'm proposing that for these recommendations, we literally spend no more than seven minutes per recommendation to get through them. And if we need more time, because we're making, we will take it. But really we are looking at a five to 10 minute per topic agenda item. And so this really is about essential edits because you have the ability, if the essence is there and you support it, you can devote a two or one. If essence is not there, you're free to vote a three. And obviously any one three precludes a consensus recommendation, just as we discussed last time. Any additions or suggestions with regard to that process of how we're going to go through and triage these comments. And then of course we will end with the history piece and the executive summary piece. Yes, Marsha?

Marsha: Just a question, how are we going to handle the history document?

Ken: The history document will be put on the screen and there were three major changes. No, I don't call them major. There were three changes that were put up there. We'll put them up and discuss them one at a time.

Marsha: Is that after the recommendation?

Ken: Yes, yes.

Speaker 3: Just a thought, maybe help with the group. Just like you take a trip and a hundred miles to your destination, maybe on occasion you remind us how many more miles we have to go to keep that seven minute clock moving.

Ken: Yeah. And last call. Yes sir?

Speaker 4: If you have a three, is that finding just get lost or removed from the report?

Ken: No, it'll show up. There's 14 polling members and as long as there's one three there, but there's a majority of one and twos, it shows up as a majority minority finding. So if you have a three on a finding or recommendation and either way it's going to show what the votes and tallies were for each of these findings and recommendations. So if there's going to be a possibility of majority and minority approving and also a possibility that a majority minority vote is disapproving the finding and recommendation. So everything gets captured.

Speaker 4: Including the verbiage?

Ken: Excuse me?

Speaker 4: Including the verbiage, the narrative.

Ken: Well the whole narrative of the finding and the recommendation is all we're voting on. When you speak to verbiage, are you referring to somebody else?

Speaker 4: No. If somebody is asking for a change.

Ken: Yes.

Speaker 4: And to get from a three to something else, will that request that ask be shown?

Ken: That is the hope given the way the polling document is to put it in what we voted on and what we didn't vote on. So it'll be in that summary document like the ones we did last time.

Speaker 4: Okay.

Ken: All right. So there are no remaining threes on the SMMP. And then we have Louisa joining us on your phone and we have Liz Ivers joining us. There are no remaining threes on landfill size, capacity, life. So we're now going to land use and looking at that and we'll put it up on the screen. So the first one is recommendation two, LLUR2, LLUR2.

PART 1 OF 13 ENDS [00:33:04]

Speaker 5: [inaudible 00:33:02].

Sam: And on that, and someone, can you get that on the screen, please? It's page 81 of your [inaudible 00:33:27].

Greg: In the meantime, there's a question in the chat from Louisa about should polling members have their cameras on during [inaudible 00:33:36]?

Sam: It would be helpful if you did, Louisa, but if that's inconvenient, as long as you can please come on for the actual polling so we know if you're voting one, two or, three. That would be helpful.

Speaker 6: [inaudible 00:33:53].

Sam: All right. So, we have one person on this. We have one person polling in one, two twos, and nine ones. So, the person who polled the three indicated it was lawyer

talk. What is statutory completeness review process? How can I vote something I know nothing about? And the twos were how and where this information will be described and communicated needs to be added. And for community outreach and education, use CEO subcommittees for recommendation, which is community education and outreach recommendation. So, let's deal with the LLU R2. Who would like to comment on that as the basis for their three, and what can we do to make it cleaner? And someone's going to be having to watch, because we have two members on-

Speaker 7: I can ... I'll watch that.

Sam: ... video and Louisa. Yes?

Speaker 7: Didn't we vote on this one in the last meeting?

Sam: We voted on ...

Speaker 7: [inaudible 00:35:31].

Marge: Yeah. [inaudible 00:35:40].

Sam: Oh, this is the ... All right, that's the one three. I see what this coding system is saying. We did vote on it and we had one person vote in a three. Any last call on that? Whoever voted a three or two on that, any second thoughts or third thoughts? Hearing and seeing none, we'll move on. That's done. R6 is next. These will be all in the LLU series.

Female: [inaudible 00:36:20].

Sam: And here, we had one three and two twos. So, the three said I can surmise that this is an attempt to stifle substantive public comment and I oppose to this recommendation.

Speaker 7: Did [inaudible 00:36:49] R4 has a three.

Sam: What R? Give me just a second. I ...

Speaker 7: Oh, sorry. I apologize. Sorry.

Sam: It did initially. All right, so whoever voted a three, what would be helpful to you such that you would consider with changes it to be acceptable? So, who voted the three? Who would like to-

Marge: I probably did, and I stand by it. I would need a lawyer who is [inaudible 00:37:34] to advise me and take my ... to [inaudible 00:37:45] anything else [inaudible 00:37:47]. I'm willing to vote present on that. I'm willing to vote present on that one.

Sam: Okay. Well, if you're a three, you're a three, Marge. I'm not trying to-

Marge: I'm not going to say that. I'm not going to do that.

Sam: You're going to say you're present. Okay. Would you consider that ... We have abstain, not here. Or you just want to say present?

Marge: Present.

Sam: Okay, so for that one, Marge has present and [inaudible 00:38:20]. Well, then take away the three from that. The people that voted two, and this was republic saying you didn't want to be in a position to give direction. So ...

Speaker 8: [inaudible 00:38:38].

Sam: Yep, so you're fine with it as it is?

Speaker 8: Yep.

Sam: All right. So that takes care of R6.

Marge: Not R6. Okay, sorry. Are we on R6? I thought we ... Okay. On R6, I do not vote present. I vote three, and I vote three for the reason that ... And [inaudible

00:39:03] for the same reasons, but I think an attempt [inaudible 00:39:09]. But can [inaudible 00:39:12] present an entire work group with a much more recent and comprehensive [inaudible 00:39:20] that now.

Sam: Okay.

Marge: Incurring [inaudible 00:39:26].

Sam: All right, so R6 then formally-

Marge: [inaudible 00:39:31].

Sam: ... polls as nine ones, two twos, and one three. So it passes by a majority minority vote. Just that nine, two, and one. Now we're on R7 and this is also ... This is an eight, two, one vote. And same comment. Again, I surmise it's an attempt to stifle substantive public comment. I oppose to this recommendation.

Marge: Yeah. [inaudible 00:40:07].

Sam: Same as that. Okay. And the people that voted twos ...

Speaker 8: Same.

Sam: Same reason. Unless there's any other discussion or changes of people's prior polling, this will go forward as eight, two, and one.

Greg: Sam.

Sam: Yes?

Greg: Sorry. We have a clarification on LLU R6, the previous one we talked about. We had a draft revision I'm guessing from the previous meeting where there was some wording changes proposed, and I just want to clarify that we weren't polling on the wording changes. We're polling on the original drafted recommendations.

Sam: Okay. So, there were changes.

Greg: I think we have question marks in there. I think we never finished polling on that.

Sam: Okay. So, the LLU R6, there were potential changes made at the last meeting and if you can ... You will see them on the screen as striking the words more clearly defined and instead provide non-binding guidance, the guidelines for SWAC's role as far as articulating the scope and manner. So that was designed ... So, right now we have the initial polling nine, two, and one. Does that change anyone's polling? We have Marge as a there, two republic pollers as a two, and the main folks as a nine. Nine of you. Hearing and seeing none.

Speaker 9: Just to clarify, then, we're adopting that proposed changed language?

Sam: Yes, we're ... So, real-time draft revisions for 323.

Speaker 9: [inaudible 00:42:17]. Thank you.

Sam: That would be the language. Okay? All right. Let's look at R8. R8, we have a three. Three indicated no effort made to inform regarding the implications. I as a Benton County resident am not a member of the legal committee and not intimately acquainted with either of these code sections in chapter 53. The two is from republic, the usual comment they just made. Marge, I'm assuming this is your three and-

Marge: [inaudible 00:43:21].

Sam: ... are you sticking with the three? So, Marge is sticking with the there. Republic's saying you'll stay with the two.

Speaker 7: Yeah, but there's only one two [inaudible 00:43:30].

Sam: There should be two twos.

Greg: I think somehow, nine ... Category one should be eight. I'm not sure.

Sam: Okay.
Greg: Should be two.
Sam: Well, there's actually 11 people that are polling.
Greg: Yeah, I was just looking at R7. So it could be [inaudible 00:43:50].
Sam: So, we will ... It's not going to make a difference, but put two twos in twos, under the two category for that.
Greg: Yeah.
Sam: Yeah, just ... Louisa?
Louisa: Hi. Yes, I was just wondering if Marge quickly could say what wording she might want changed.
Marge: I do not want wording changed. I want it removed.
Louisa: Okay.
Sam: All right. R9. The [inaudible 00:44:38] poll, the three indicated that what does this mean in layperson's language?
Marge: On this one, I will go to two, because it certainly sounds to me like that would be harmless. So, maybe I'm wrong, but I go to a two on that.
Sam: Okay.
Marge: But in general on all of these, there was no attempt made to communicate with a lay audience. Okay, maybe an attempt was made. You failed. [inaudible 00:45:13] that attempt.
Speaker 10: I think at some point, you can only do so much to dumb down the language before it becomes ineffective and becomes a liability. So with respect to that, that's a very difficult thing to say. There was a huge attempt made to be plainspoken as much as possible.
Marge: I agree, and I think what you said makes so much sense. And so therefore, I think that what should have happened was that there should have been a community [inaudible 00:45:44] on the legal group, and there wasn't.
Speaker 10: And everybody could have volunteered. It was open to everybody.
Marge: Well, a lawyer?
Speaker 10: No, it was open to everybody. Anybody could volunteer on that. [inaudible 00:45:58] just like the others, right? You know, if we did. I mean, that's the crux of it, right? Nobody did. Nobody tuned into our meetings. Nobody else signed up for it. And now everybody's mad because they're not happy with the language [inaudible 00:46:09].
Marge: I'm [inaudible 00:46:10]. Not everybody.
Speaker 10: Well, I don't know. I think that there's been a lot of insinuation about the legal committee, but I didn't see anybody there. And that's where I'll leave it.
Sam: Yeah, I think it's time to move on to the issue. I also remind folks that the county approved part of my contract amendment to include Jenny Lucker to be there to do her best job of translating, that she wasn't an advocate or representing anyone.
Speaker 10: Yep.
Marge: But she was not an advocate. And-
Sam: Marge.
Marge: ... perhaps she did do her best to un-legalize, but it was not ... In my opinion, not [inaudible 00:47:01].

Sam: I think that opinion has been stated and the rebuttal has been stated, and we're not going to be polling on that any further. So, we have nine ones and two twos. Are there any ... I'm going to assume we have one, two, three, four, five ... We have 10 members present. All right. Any members present want to change their polling? We have nine ones and two twos. Who was the other two on this?

Speaker 10: You mean the other two non-votes?

Sam: Yeah, the [inaudible 00:47:59]

Speaker 10: I was one of the non-votes initially, so I'll vote a one on that.

Sam: Okay. So we have nine, one, and a zero, and we need to take the poll on these. I just realized, because the meeting minutes will be ... [inaudible 00:48:12] please speak up if I'm missing something. Help me with this. Which ones do we not have official polls on for the members?

Greg: Well, LRU R2. We haven't done any polling sheets yet.

Sam: We need to do the polling sheets.

Greg: All right.

Sam: What I'm suggesting [inaudible 00:48:39]. Give me the first one, please.

Speaker 11: Sorry, can I just interrupt? You said there's nine ones and one two, so there's only 10 votes? And that's for 10 polls?

Sam: Okay, we're-

Greg: We're going to do-

Sam: Hold that. We're going back to this. We're going back to R2, and if you have ... Can you [inaudible 00:48:58].

Speaker 7: R6. We had ... R2 was polled on in the previous meeting.

Sam: Okay, so we're on R6 is the first one, and take your cards, please. One, two, or three. We have this [inaudible 00:49:10].

Speaker 7: Source ... Yeah.

Sam: All right.

Speaker 7: [inaudible 00:49:34].

Sam: Yes. Okay. So, let's start off with the people present. Chuck, Liz are ones. Marge is a three. Russ?

Russ: Can you come back to me in one second? Or am I the last one?

Sam: No.

Russ: I'm just not a fast reader today I guess, I'm sorry.

Sam: Not a problem. Skip over. We have John, Ryan, ones. Mary Parmigiana, two. We had Ed a one and Catherine with a C, a two. And we have Russ a two. Russ and Sean are a two.

Speaker 7: Okay. And [inaudible 00:50:22].

Sam: And then on ... Louisa is a one. She made her own card. Wow. That is very impressive. Andrew? Are you on?

Andrew: I just don't have a green card. It's a one.

Sam: It's a one. Andrew's voting one. Thank you, Andrew. I mean, you're pretty well shown up here, Andrew, by Louisa who color coded hers. Wow. Okay. So what's the final tally, then?

Speaker 7: The final tally is ...

Greg: Sorry, what were you two? [inaudible 00:51:06].

Marge: Which one are we voting on? R6?

Greg: R6.

Marge: Okay.
Speaker 7: I got seven ones, four twos, and one three.
Sam: Okay, and that's correct. All right. What's next?
Speaker 12: Sam, did you take my three? I don't have a three.
Sam: You have a three.
Speaker 12: Yeah, just to keep things moving.
Sam: That's [inaudible 00:51:34].
Speaker 9: Marge is not [inaudible 00:51:45], so ...
Sam: Surprised we gave you any cards at all, John.
John: I know. I know.
Sam: This is amazing. All right, what's next?
Greg: R7.
Sam: R7. This was previously on the informal polling an eight, a two, and a one. We have Chuck is a one. Liz is a one. Marge is a three. John is a one. Ryan's a one. Mary is a one, Ed's a one, and Catherine's a two. And Sean is a one.
Speaker 7: No, Sean's a two.
Sam: Sean is a two and his twin is a two. Russ and Sean [inaudible 00:53:00].
Speaker 7: [inaudible 00:53:01] folks on two.
Sam: And Zoom. Louisa is a two. Andrew is a one.
Speaker 7: All right, we're at seven, four, one again for that one.
Sam: Seven, four, one. [inaudible 00:53:21]. All right, next up.
Speaker 7: R8.
Sam: R8. All right. Cards up for R8. You have to show it on the screen. [inaudible 00:53:53].
Greg: Yeah. Scrolling through it.
Sam: So, Chuck, Liz, one. Marge, three. Russ and Sean are two. We have the rest are ones, so it's John, Ryan, Mary, Ed, Catherine.
Speaker 7: Folks on Zoom again.
Sam: Zoom? Andrew, one. Louisa? One. All right. R9.
Speaker 7: [inaudible 00:54:50].
Speaker 12: We're voting on not the draft revision.
Sam: We're doing it on the real-time draft revision, four, three.
Speaker 12: Revision.
Sam: And the result of that was nine to two, but I didn't get the names of that. So, we have Chuck, Liz. Marge, where are you on this one? So, present.
Marge: Right.
Sam: Marge is present on this. And we have everyone else voting one. Louisa, Andrew?
Louisa: Sorry, I got lost. I thought ... Okay, we're on R9 that's on the screen?
Sam: Yes. Uh-huh. And they both vote one, Andrew and Louisa. Thank you. All right, we should be caught up now. So, R11. LLU R11. In the informal polling, we had eight ones, zero twos, and three threes. One person who polled the three indicated it was a new finding. We haven't had time to discuss or abet. Would like to hear more about the impacts and ramifications of the work group. And another three indicated brand-new finding. Haven't had a chance. Other one said does this mean we are acknowledging that there are wetlands in the landfill area? It's painfully obvious that wetlands comprise of a large percentage of E.E.

Wilson. So, who was suggesting the addition of this R11 compliance? How did this come up? Does anyone ... Yes, Greg.

Greg: So, I can speak to that. At the previous meeting, I think it was the crosswalk meeting, there was discussion about wetlands and that we needed a finding or recommendation around ensuring that the garden estates lands is involved or notified somehow. So, I took that discussion, created this draft by means of a recommendation [inaudible 00:57:32] or [inaudible 00:57:33] consideration based on that discussion.

Sam: Okay. Any other further discussion? Can we poll, please? One, two, or three on that.

Marge: Are we acknowledging then that there are wetlands in the landfill area?

Female: [inaudible 00:57:57].

Greg: This recommendation doesn't say there are wetlands, but there are wetlands in [inaudible 00:58:07], for sure. We have mapping showing wetlands. The issue that came up was a discussion about whether there are wetlands that have been identified and protected by Benton County as significant wetlands, and that's a subset of all wetlands. [inaudible 00:58:25] very small subset. So in the absence of having county established protection for wetlands in the vicinity already existing, the discussion was [inaudible 00:58:37] ensure the department [inaudible 00:58:38] is involved or notified. But [inaudible 00:58:46]. Since they have jurisdiction over all land.

Sam: So, Ryan.

Ryan: Quick, just to clarify then, so we're really ... Greg, it's kind of broadening the scope of what a wetland is defined ... I mean, broadening the look for wetlands versus what is significant within Benton County, but now it's like looking at DSL as well. Looking at it from a statewide ...

Greg: It's ensuring that DSL is polled into [inaudible 00:59:13]. It's our practice. It would be anyway [inaudible 00:59:16].

Ryan: Right. Perfect.

Sam: To make it clear that if there are wetlands, that DSL needs to be involved. So, this [inaudible 00:59:26]. All right. One, twos, or threes, please.

Marge: Well, as we said [inaudible 00:59:32].

Sam: So, everyone in the room is voting one. Let's go to Louisa and Andrew. Louisa's a one and Andrew's a one.

Speaker 7: Twelve ones.

Sam: Twelve ones?

Male: Twelve, zero, zero.

Sam: Twelve, zero, zero. Okay. R12. We have one three and that's based on the why was the recommendation to state matters in clear and explicit terms not applied to the LL recommendations themselves? So, I believe we had that discussion on another matter. Yes?

Speaker 13: Just [inaudible 01:00:48] after the vote, [inaudible 01:00:48] renumber or reletter the findings in the real [inaudible 01:00:52] edition. Because on mine, it looks like they picked up at [inaudible 01:00:56]. D. The letters. What am I trying to say? The letters on mine say F, G, H, I, J.

Sam: For L12?

Speaker 13: Yes.

Sam: That's-

Speaker 13: Oh, no, I'm on 13. Sorry. Never mind. I'm one ahead of you. I moved too [inaudible 01:01:13].

Sam: Well, aren't we just advanced?

Speaker 13: I'm easier to get through.

Sam: I can see that. All right. So with that said, we will take a poll on R12. There were no changes in real-time from R12, so one, twos, or threes. Marge? Everyone in the room is voting one, with Marge present. Louisa and Andrew? One and one.

Speaker 7: What about Russ? Or Sean. [inaudible 01:02:03].

Sam: Sean's voting one. Sean is trying to help Russ put up a one, and ...

Russ: Some early wake-up call [inaudible 01:02:12].

Sam: Thank you. All right.

Russ: [inaudible 01:02:15].

Sam: What do we have?

Speaker 7: Eleven, zero, zero, and one present.

Sam: Okay. R13. So we have one one. I give up. What is legal mandamus option?

Marge: Yeah, so present.

Sam: So, basically it's a shorthand term that means you're asking the court to force somebody to do something. So, let's take the poll on that. 10 voted one in the informal. One person voted a three. Marge, are you present for this?

Marge: Yeah.

Sam: Marge is present. Everyone else in the room is voting one. Louisa and Andrew is a two. Okay. R13. Any questions, discussion? Yeah, so-

Speaker 7: Which one? [inaudible 01:04:12].

Sam: I gave the advice. I defined mandamus. I was on the wrong one. The mandamus doesn't apply to R12. It applies to R13. So, the poll we are taking now-

Speaker 7: Oh.

Sam: ... should be on R13.

Speaker 7: What was the poll we just did? [inaudible 01:04:30].

Sam: R12.

Speaker 7: I thought that was R13. [inaudible 01:04:33]. We went ahead.

Sam: We went ahead.

Speaker 7: We did 12 and 13.

Sam: Okay. My bad. All right. We're now moving to [inaudible 01:04:43] paper to shuffle here. So now we're on CUP R14. CUP R14. [inaudible 01:04:52] put there. All right. So we have eight ones, one two, and two threes. The three's indicating county just doesn't have majority to regulate transactions between private landowners, remove recommendation, and that's repeated. So, [inaudible 01:05:28]. All right, who are the twos? I mean, threes? So, tell us a little bit about this please.

Russ: Notion that county could somehow interfere and attempt to regulate to private parties doing some formal transaction as purchase of land. Don't believe the county has that authority.

PART 2 OF 13 ENDS [01:06:04]

Ross: I don't believe the county has that authority.

Sam: Well, this says "Evaluate whether acquiring the land is consistent with the vision..." Acquiring buffer land's actions specified to DEQ. All right. Ed and Catherine?

Ed: I don't think the intent was to interfere with anybody's private transactions. The intent was to find out what the extent of the area is that's associated with the landfill, just to give an impression of how the extent of the resources, the community resources that are tied up in the landfill being present. [inaudible 01:07:02] no intent to interfere with any kind of private transaction, but it's really getting the information that's in the public record, tax record that says this property is owned by somebody that's associated with the landfill owner operator. So that's just part of the overall impact of the operation on the community,

Sam: Right, Catherine?

Catherine: Yep. I support what Ed is saying, and I agree that that's what we were leaning with this. I think it really was encouraging the county to no intended interference with private party transactions. But the county does have the responsibility to forecasting zoning and zoning usages of land. When we combine that with Vision 2040, that's that long term planning part, and I think that's really where we were leaning with this recommendation.

Sam: Is there anything that could be modified that to-

Ross: If we could go back to what Ed said a second ago about transparency on land purchases? Yeah, we could. It's just that, that's not how we interpret the proposed language.

Sam: So, what specific language-

Ross: Ed, you want to try again? What'd you say?

Catherine: Is there a better word than evaluate? Because evaluate is about as open-ended as we came to-

Sam: [inaudible 01:08:29].

Catherine: ... a conclusion on, leaving this to the county to evaluate not this body necessarily.

Ed: So Jeff had brought this up a long time ago and saying not interfering with private transactions and that's what we tried to craft around. So, quite frankly, struggling for short words to change this.

Ross: Sam, I'm willing to try, but I'd like a couple minutes to think on it if it's possible. Could we come back to this one?

Sam: Okay. I'm trying to make a note here. I'll put it down there. [inaudible 01:09:13]. Serves as our cheat sheet reminder. All right. For community education outreach, there are none of them are threes, but there is a [inaudible 01:09:22] so-

Catherine: Sam?

Sam: Yes?

Speaker 14: Just [inaudible 01:09:26], there is no Vision 2040. We changed that to 2040 Initiative.

Speaker 15: [inaudible 01:09:37].

Speaker 14: That's way more important, like on the level, but there just changed vision to 2040 Initiative. There is no Vision 2040 there. [inaudible 01:09:45].

Sam: Sorry. [inaudible 01:09:46].

Speaker 14: No, no, no, that's fine. Your issue is much bigger on a [inaudible 01:09:50].
Speaker 16: I got a question from Louisa.
Sam: Louisa?
Louisa: Isn't there a vision 2030? Is that what they wanted to use?
Speaker 17: Think the city of [inaudible 01:10:05].
Louisa: What's the county's vision. What thingy?
Speaker 14: I think [inaudible 01:10:11] the 2040 Initiative, the is city is a magical [inaudible 01:10:16].
Sam: Okay. So we'll use the proper term, which I understand to be the 2040 Initiative?
Speaker 14: Yeah.
Sam: Okay. So we need to make a note to find and replace anywhere in the document, 2040 Initiative versus Vision 2040.
All right. So community education outreach, CEOR 16 as I understand it is new, so [inaudible 01:10:59]. I'll take a minute to allow you to update that and read that. Any discussion, or request for clarification on this new proposal? Hearing none. Let's poll one, two, three-
Ross: And [inaudible 01:11:48]. I'm sorry. Just to me it feels like the last two, three sentences are just unnecessary. It's phone number, it is sort of getting into the tactical suggestions of what should be done. Couldn't this be a little bit tighter and cleaner, saying neighborhood deserves to have this information, county, republic members, the work group, get together and figure it out?
Sam: Well, I think for all of these, these are recommendations from the work group to the county. The commissioners are going to consider it, I suspect for something like this, say to staff, "We like the concept. How would you implement that? What would that look like?" And then they would put forth a policy to do that. Is that a fair statement, Darren?
Speaker 14: Yes.
Ross: I just, I have a feeling somebody could click on something that the [inaudible 01:12:53], it's just that technologies will evolve. Capacities for transparency and communication will evolve.
Sam: Any other? So what I'm looking for, just use this as a good example, is specific suggestions to edit the words on the piece of paper. So it sounds like you would like to-
Ross: Straight. Beginning with 'ideally.'
Sam: Okay. All right. So first, we'll pull on that section as is with 'ideally' in there. And so is ideally in there?
Ross: Yeah.
Sam: Okay. So poll one, two, or three with those last three sentences in, and then the second poll will be with them out.
Speaker 18: [inaudible 01:14:00].
Sam: Okay? I promise you're going to... [inaudible 01:14:03] Chuck?
Speaker 14: I'm sorry, what was the question again?
Sam: It is exactly how wonderful it says the facilitation.
Speaker 14: Yeah. Sorry, sorry.
Sam: Alternatively, as we're voting on R-16 with those three sentences in. So we have, Chuck, Liz, Marge?
Marge: I'm trying to figure out where the changes is. It's like a whole new language.

Sam: It's a whole language. It says CER-16, draft six, text.
Marge: Yeah. R-16. So all like... Okay, so [inaudible 01:14:44]-
Speaker 14: CEO.
Marge: Develop a [inaudible 01:14:47]-
Speaker 15: This is [inaudible 01:14:47]. It's the vision, very last one in the whole document. It's [inaudible 01:14:55]-
Speaker 14: [inaudible 01:14:55].
Speaker 15: Probably be the last. Yeah, the last all the way to the bottom, okay. Through that.
Sam: Okay. So I'll call up on and off.. Louise, did you have a question or clarification about this poll?
Louisa: Well, I'm just would... I wrote this and I'm fine with everything being off there from 'ideally.' I think just as long as the message is out there of what the [inaudible 01:15:22] is we're recommending, that's fine. So whatever you guys think.
Sam: Okay, well we're polling. In mid-poll on it with those three sentences in there. So we have Chuck, Liz, Mark. Voting number one, Republic. Ross, and Sean voting in two. We have John in two, Ryan in two. We have Mary, Ed and Catherine vote in one. Louisa as a one, and Andrews a two.
Speaker 17: [inaudible 01:16:06] 750.
Sam: Now, let's take the poll with it out. We're removing the last three sentences-
Catherine: Sam, before you-
Sam: ... with ideally phone number [inaudible 01:16:23] link.
Catherine: Before you do this poll, could I make a comment on this piece?
Sam: Yeah.
Catherine: So I would like to make a friendly amendment to this and just say, for example, a community member could click on et cetera. Why? A couple things. I feel like the value in this coming from this subcommittee who supported this language in the first place, but I also feel like those that have worked in this subcommittee have a sense of what might be helpful as an example of what might work. It's not a hard recommendation that this is what should be done as much as it is, here's an idea of what, through our experience on the subcommittee, we thought might fit this thing. So I do support the language here. Obviously, we can do it without it, but in the implementation phase of things, it might be beneficial for however we put this into action, that we have ideas coming directly from the subcommittee who've worked on this topic specifically.
Sam: Okay, so we're in the middle of this poll. We'll come back and pick up that poll in a minute. So we are polling on without those three sentences. Chuck? So Chuck is two, Liz is one. Marge?
Marge: Okay. I'm going to follow this up. [inaudible 01:17:51].
Sam: So, Marge is a two. We have Ross and Sean. We have Ross and Sean voting one, and we have John and Ryan voting one. We have Mary as a two. We have Ed and Catherine as a three. And Louisa and Andrew, who both twos. So, because we have some threes, the one that potentially is most promising or could be promising, we'll come back to it, is the initial poll that we're putting. Instead of identifying a community member in between right before that language 'ideally a community member,' we should say, we were [inaudible 01:18:48] to add

[inaudible 01:18:48] enough where needed, 'for example, comma, a community member could... " Catherine, did I nail that?

Catherine: I think that's worked for us with some of our recommendations. We felt it was just a helpful nudge coming from our perspective on our subcommittee.

Sam: Right. So, it's basically the first poll with the language that's new, but prefacing after the word 'needed' and before the word 'ideally, for example,' and then string out the language. One, two to three is on there.

Okay. We have Chuck, Liz, Marge, voting one. We have Ross and Sean, and John voting to two. We have Ryan, we have Mary, we have Ed and Catherine voting to one, Louisa one and Andrew one. We'll check the math, I believe that one has the most robust finding and absent something to the contrary, will propose that. So what do we have for these [inaudible 01:20:12] fairness comparison.

Speaker 19: 930.

Sam: And the one before that was-

Speaker 19: Before that one was 552.

Sam: Okay. And the one before that?

Speaker 19: 750.

Sam: Okay. So the 930 is the most robust test that the consensus, that you all agree with. All right. Are you ready to go back, Ross to-

Ross: No, I'm getting closer. Thank you.

Sam: Okay. All right. This is sort of, not sort of, this is the last call on any recommendations under... in the report. Any other recommendations you would like us to talk about. Otherwise, I'm basically suggesting, asking you, does your informal poll still stand? So you took an informal poll on the remaining recommendations. SMMP LSCL, what have you. Has anyone heard anything in the last two days, the two meetings that would propel them to poll differently than they have? Yes, Ed?

Ed: There was things I heard quite frankly from the television and all podcast that made me think of polling differently on some of the LSCL recommendations. And if you give me a second, I can give you the number. I send it out very late this morning, so apologize for that.

Sam: Is it a finding or a recommendation? Because I'm dealing with recommendations now.

Ed: This is a finding. I'm sorry. [inaudible 01:22:20].

Sam: No problem.

Speaker 14: Ed, you did have findings CUP R-7 I believe is [inaudible 01:22:25] submitted-

Ed: It's upon [inaudible 01:22:26], yeah.

Speaker 14: ... R changes too.

Ed: Yeah, it was the second page.

Sam: And did you have a three on that?

Ed: It's not a three.

Sam: Okay. So I'm only-

Ed: Actually, it's a three. I'm sorry.

Sam: No, don't be.

Ed: Confusing myself.

Sam: I'm confusing myself.

Ed: So, we're on the [inaudible 01:22:46].

Sam: So let me reframe the questions to make sure everyone is on the same page. What we have done is go through each of the recommendations where someone in an informal poll, polled a three or a two. The twos are coming up. I'm just finding out if there are any remaining threes on any of the recommendations. So this is the last call on recommendations that you polled a three, which means that when you took the informal poll, you voted a a one or two. You're not changing anything here. We have no additional threes. Yes, Ed?

Ed: No, I agree with that. No more threes on the [inaudible 01:23:45].

Sam: Okay.

Ed: But maybe actually put the... I would change it to a three on [inaudible 01:23:56]. I'm struggling with something here. [inaudible 01:23:59].

Sam: [inaudible 01:23:59] about it. Yeah.

Ed: In looking at a bunch of the findings and just in two of the recommendations, I think there's a bit of a flyby going on. We've gotten in very specific language about whether something means this or it means that, is it enforceable, is it not enforceable? Whether it's a condition of approval, whether it's a finding. And when you step back, that's all the, at least on the CUP small group side was, all the structuring was just to get the consideration out that... Can I just read it because I finally got [inaudible 01:24:51] words? Is that okay?

Sam: I just want to know if... I'm just trying to clean up any remaining three. So your new one is R-7. [inaudible 01:25:06] sent in this morning. That is added a two. You wrote a two on that, [inaudible 01:25:15] that you would've accepted R-7 the way it is, but you wanted to clarify?

Ed: What I asked for is, find some way to insert something before R-7.

Sam: [inaudible 01:25:28].

Ed: Copy the finding at LLU F-22, I thought this needed something for explanation. We could add it to both of these, the R-7 or the LLU F-22.

Sam: Okay. So, we will deal with the findings in a minute. I am really just trying to keep us focused just on the recommendations to know if there's anything else that needs to be-

Ed: And this would go with the CUP R-7.

Sam: LLU?

Ed: No, CUP R-7.

Sam: So Cup R-7 goes with what finding?

Ed: This is proposed inserting it before the... This heading doesn't make sense. It says insert both CUP findings at CUP R-7 and legal findings at LLU F22 and that can't be right. Why don't we skip it and I'll find out what I should have said.

Sam: [inaudible 01:26:41].

Ed: Okay.

Sam: So, hearing nothing to the contrary, I am confirming that there are no members of the work group who are present, who are going to vote a three that hasn't already voted a three? You understand? In other words, the informal pollings where you voted one or two has not changed. Is that correct?
So, please put your tent up so I can actually see that is the case. Okay. John, Ed, you're agreeing with... You have added in this hanging chat here, which we're going to get to, there's no other three that you haven't already voted on [inaudible 01:27:50]?

Ed: [inaudible 01:27:51].

Sam: Okay. Now, let's see if we can... Ross?

Ross: Yep. Thanks for the indulgence [inaudible 01:28:03].

Sam: R-14 is-

Ross: So, what if we were to, in the first sentence, keep the margin intact, but where it just is consistent with just impacts and whatever we're calling it, Initiative 24 or whatever, including housing, forestry, agricultural land uses whatever, in lieu of anything else that, just simply this sentence, which I believe gives to what I think I heard Ed say. So, 'In addition, identifying options to disclose to the community who the adjacent land owners are.'

I felt like I heard Ed say the core of what they're driving at is transparency around polling still. Can you repeat that?

Sam: Sure.

Ross: In addition, identifying options to disclose to the community who adjacent landowners are.

Speaker 15: I'd just tag on the end of the-

Ross: That's correct.

Sam: Okay. So we have a proposal on R-14. It previously was eight ones, one, two and two threes. Republic is suggesting that the addition of the sentence, 'in addition, identifying options to disclose to the community who adjacent land landowners are.' Let's poll one, two, or three as edited.

Catherine: And that is just an addition, correct? We will not be changing any of the rest of the-

Sam: It is as you see it on the screen with the new word initiative versus vision.

Ross: I [inaudible 01:30:24], I'd actually suggested making 'in addition to' second sentence leading the 'acquiring buffering land' and then the [inaudible 01:30:32] property purchases.

Sam: Okay. Just highlight that. Don't delete it. That's your proposal?

Ross: That was my suggestion, yes.

Sam: Okay. All right.

Ross: I had also said impacts rather than this consistent [inaudible 01:30:49] one from the first time.[inaudible 01:30:50].

Sam: Okay. So the first poll, could we have it on the screen now? Greg or whoever is you doing this? You are, Daniel?

Daniel: Yeah.

Sam: Yeah. So make sure when we have these polls that we have to have the language that we're polling on. So this is going to be a multiple section polling, right? So for right here, this real time revision, this is the republic amendment to what was out there, we're going to poll on it. Then we're going to have something below it in text that shows the second poll, right? Yeah. Great. I just want to make sure my brain is working.

So we'll poll on what's on the screen, because it's on the screen. One, two or three as edited on the screen in front of you. One, two or three.

Catherine: Sam, could you read it, because it's to read that.

Sam: Daniel, would you read it because you wrote it?

Daniel: Evaluate whether acquiring buffer land by landfill-related entities impacts 2040 Initiative, including the impact on housing, forestry and agricultural land uses. In

addition, identifying options to disclose to the community who adjacent landowner are.

Sam: Okay. One, two, or three on that and depending on the results of this, we'll go back to the original language as well. I'm just confused over when you say public land or landowners, general landowners are public records at the county, unless it's a shell company. I'm not sure what you were implying there.

Ross: Well, I was trying to respond to what I heard Ed say, but I felt like Ed was talking about, I think he mentioned LLCs.

Ed: You're correct. Sometimes developers use a myriad of-

Sam: There's something wrong with that. That's just... this is [inaudible 01:33:11]-

Ed: Could be correct. I'm not saying that at all, but if the spirit of this is to try to bring some clarity to that for the community, we're saying, "Okay, we are comfortable with that. We see that. Please, I appreciate your [inaudible 01:33:25].

Sam: Okay. One, two, or three. So we have Chuck, Liz, Marge Ross, Sean, John, Ryan, Mark voting one, Catherine and Ed voting three. Louisa is a two. Andrew is a one. So we have we have a majority minority with two voting three. Let's now take it without it, Daniel. So the next poll will be on this language without it.

Catherine: So, Sam, do you mean the language as originally presented?

Sam: Yeah. So without these changes, so he's teeing it up here so you can all see it.

Catherine: Would it be possible to also comment on this language?

Sam: Okay, just a second. I'm trying to make sure this has fidelity before.

Speaker 14: This is just the original version.

Sam: It just happens to span a page is what you're saying? Okay. All right. So this is the original version that appears above without any suggested changes. So we're asking you to vote one, two, or three on that. Would you mind reading that record, Daniel?

Daniel: Sure. "Evaluate whether acquiring buffer land by landfill-related entities is consistent with Vision 2040," which I'm not sure if we're... I guess we're changing to 2040 Initiative, 'including...' Sorry, I'll piggyback. "Evaluate whether acquiring buffer land by landfill-related entities is consistent with 2040 Initiative, including the impact on housing, forestry and agricultural land uses. Acquiring buffer land is an action specified in DEQ's record of decision from the DEQ cleanup program for the landfill. Property purchases as buffer around the landfills is identified as one of the remedies for groundwater contamination."

Sam: Okay. One, two, or three please.

Catherine: And Sam, am I able to make that clarification comment before we poll here?

Sam: Go ahead.

Catherine: Okay. So I just want to restate that I appreciate the addition of the transparency statement. I think that only helps this, but I don't know that it really aligns with where this recommendation originally kind of came from, which really was to ask the county to look at. You know, it's our community development process, it's our zoning process, it's our planning process, and that's why [inaudible 01:36:41] the 24th Initiative. Thank you, [inaudible 01:36:42].

It is also, I think the word consistent is the word that we intended to have here, and it really is for the county to look at after looking at 50 years of these documents, what are the long-term planning implications of the impact of the

landfill on housing, forest and agricultural land uses? And it's just a measure of what would be appropriate planning.
The second statement really attempts to try to add to the DEQ requirements of those buffer lands so that there's an acknowledgement in that space. I don't know that our intent really was leaning into transparency of land ownership and it was definitely not leaning into the space of interfering with land in private land transactions. So, I would say that perhaps we've gotten a little outside of the scope of what was really intended with this recommendation.

Sam: So what would?

Catherine: I think that coming from our subcommittee and there are... Jeff is here in this space also with us, but Ed and I and Mark [inaudible 01:37:55], not with us presently today. So, this is still the intent, what we were looking at, which is really the counting. We'd like you to look at the planning and vocations of this as it relates to all of these other factors, including the DEQ requirement of buffer lands for the landfill. If we would like to add the second or the addition that Ross had recommended, that's a nice add to this, but it's a little bit outside of the scope of this original intent.

Sam: Okay. I'm trying to operationalize this into a poll. Are you making any suggestions to the language that appears under real time draft revision 43 it has no numbers next to it?

Catherine: So, I am not. I was just hoping to help clarify the intent of this recommendation, why we made it, and the scope of what it really was involving.

Sam: Great. So, let's go. One, two, or three on this.

Speaker 14: On which one, Sam? The [inaudible 01:38:55].

Sam: There's only one on the screen.

Speaker 14: [inaudible 01:38:58] Original?

Speaker 18: [inaudible 01:38:59] Original.

Sam: It's [inaudible 01:39:00] the original, but it's been copy and pasted here.

Speaker 14: Down there. Thank you.

PART 3 OF 13 ENDS [01:39:04]

Sam: ... the original but it's been copied and pasted here.

Speaker 20: Down there. Thank you.

Speaker 21: They only changed it in the 2040 edition.

Sam: Yeah. All right, [inaudible 01:39:10] is a two. Liz and Marge are ones. Russ and Sean are threes. We have John, Ryan, Mary, Ed and Catherine as ones. Louisa. So, Andrew is a one, and Louisa is a two.

Speaker 22: Two, eight, two, two.

Speaker X: [inaudible 01:39:34] to see how robust the two are, side by side.

Sam: So, the first, which is the Republic amendment, has the moral robust. It has nine, one and two, versus eight, two and two. Let's see. This is a first. Let me figure out what to do with this. So, they're going to give me twos either way. [inaudible 01:40:23] two twos either way. We'll put both in. One below the other, so everyone can see and people can make their own mind up, what that means. All right, absent the issues that Ed is going to raise ... it is 3:00. Let's take a 10 minute ... 3:05, let's take a 10-minute break, to 3:15.
10 second warning, folks. 10 second warning. Here we go, folks. Order in court. Here ye, hear ye. Order in court. Here ye, here ye. Welcome everyone. Thank

you for coming back promptly. So, next up is finding where there is any member voted a three. Finding where there are any threes. According to my tally sheet, there are no SMMP findings where anyone voted a three for the landfill sizing, capacity and life, we have four findings where at least one person voted a three. So, we are on LSCL. LSCLF13. LSCLF13.

Speaker X: Sam, say that again.

Sam: I'd be happy to. LSCLF13. LSCLF13. And we had 10 ones, one two, and two threes. So, are these two Republic threes because you would like to add a sentence to it? If I'm reading this correctly?

Speaker X: [inaudible 01:44:12] adjustment. The 57% stat snuck its way back in, somehow. The suggestion that a proof was submitted [inaudible 01:44:22] it makes reference to a 2021 EPA GHD report. Talks about efficiency of 91.2% and then I think there was a comment during the public comments earlier, that suggested that it wasn't available. We've got the URL right here. It's a long one, but we [inaudible 01:44:43] somebody wanted to put it on the screens. It is very much on EPA's website.

Daniel: And these reports have been reviewed for other purposes and cited by the subcommittee meeting, as well with the GHD reports. So ...

Speaker X: So, the sentence we're suggesting, in lieu of 57% is, Republic providing data EPA per inclusion of the '21 GHD report. Estimated landfill gas collection system at an efficiency of 91.2%

Sam: And that would be helpful, Ginger, to have the URL. To email the URL to Greg and Daniel. I want to make sure they're listening in just a second.

GInger: Put it in the chat [inaudible 01:45:35]

Sam: Put it in the chat, and then we can add that chat to the screen, so you have a citation. And then the person who voted a two indicated, does collection system refer to monitoring, collection and treatment, or just monitoring the landfill gas? Perhaps Benton County can obtain more recent gas monitoring collection and treatment results from the [inaudible 01:46:01] each year. So, anyone present voted the two with the suggestion about getting a more recent gas monitor and information from DEQ?

Audrey?

Audrey: Yeah, that was my comment, because Oregon, in October 2021, passed the Environmental Quality Commissioner Doctor ruled regulated length of gas emissions, and some of the preliminary reports are starting to come in. So, I'm wondering why we're referencing EPA, when we have a state requirement also. Just recommending that in the future, if you want to ... Maybe it's part of this MMP effort, try looking at the Oregon regulations, not necessarily the EPA regulations.

Daniel: I think that's a good suggestion.

Sam: Okay, so I want to clarify between the finding and the recommendation. Right now, we're in findings, but if this needs a companion recommendation that talks about DEQ versus EPA, we're going to have to deal with that after we get through this finding. Have we been able to plug in ... Oh yes, you have. Okay. You plugged in the URL for that, and Ginger, is there a specific place that you would know to, if we opened up that link, we could see the-

GInger: Yes. So, if you open up 11, and then go down to nearest the bottom of the court, you will see a subtitle aux called Methane Generation and Emissions Values. And then the first one item under that is, Estimated Gas Collection Efficiency HH30.912365 [inaudible 01:48:18]

Sam: Let's open it up first. Just in case [inaudible 01:48:22] writing down that number.

Speaker X: [inaudible 01:48:26]

Sam: Have we tried to open this link?

Speaker X: I opened the link now, sorry, where?

Speaker X: Scroll almost to the bottom.

GInger: So, scroll almost to the bottom and you will see a subhead that says Methane Generation and Emissions Values. Yep.

Speaker X: Yep. There it is. There it is.

Sam: Where are you seeing this?

GInger: Right under the gray subhead that is highlighted. First line, Estimated Gas Collection Efficiency, HH391.2365

Sam: Approximately.

GInger: Approximately. Roughly.

Sam: Roughly.

GInger: Best guess.

Daniel: A question about that.

Sam: Sure.

Daniel: Okay, so how come I hear reports of flaring?

Speaker X: Flaring is an economy practice that-

Daniel: But it seems to me that, that would counter 91% efficiency, if there are reports of flaring happening.

Speaker X: No. Flaring is part [inaudible 01:50:12] once gas is [inaudible 01:50:14]. Flaring is a tool for [inaudible 01:50:19].

Daniel: John, I just want to say thank you for that, because the only thing I could find was the other ones, [inaudible 01:50:34] in Roosevelt, they were up in 90% too, and I couldn't figure out why [inaudible 01:50:40] was at 50%, so I appreciate you clarifying that.

Sam: Okay, any other discussion? So, the first poll will be on the highlighted section, where Daniel's cursor is. Looks like you need to make an edit there. I'm not sure ...

Daniel: This is the revised language that was proposed. The center of the screen.

Sam: And you have 91.2, so it can't be the same.

Daniel: We're suggestion 57% needs to go away. Now, we did not suggest specific edits.

Speaker X: So, just leave the sentence starting at 2019?

Daniel: Well, the additional sentence is in reference to 2021, so ...

Sam: So, does the 2019 one say 57%?

Daniel: I don't know the answer to that, Sam. I'd have to check that. I'm happy to check.

Speaker X: I think there's two different reports about our call from the subcommittee discussion.

Sam: And so that's what I'm trying to say. This isn't a replacement, it's two different years. So ...

Speaker X: It is two different years. What I don't know is if it's apples and apples.

Daniel: Right. And the subcommittees, [inaudible 01:52:19]

Sam: While you're checking, while we will put it here, who's driving this one? Daniel or Greg? Greg? So below that, add a box that's going to be for a recommendation. A potential recommendation, we'll figure out what the number is in a minute, but it's LSCLR-X, for now.
Audrey, this is where you come into play. You had a proposal that, when looking at this kind of data, that you should look at the DEQ's data, is that in lieu of EPA or both? You have both EPA and DEQ, or just DEQ, by way of a recommendation? When looking at the gas collection system operation efficiency.

Audrey: I don't know the purpose behind the EPA data. The DEQ data is to be used eventually, to look at collection and control. Because the regulations require first, collect information on what's there and then second, look at where control is going to be needed. So, the first part is the emissions estimates, then collection and control. That's what I was thinking, that if the county is trying to look at how to reduce climate change impacts, you would look at the Oregon requirements that might require reductions.

Sam: Okay, so could you form up a reasonable recommendation that captures that thought?

Audrey: Okay. But again, I don't know enough about what the EPA data is-

Sam: Right, you would just be [inaudible 01:54:41] into the DEQ data.

Audrey: Yes. [inaudible 01:54:46] do it like right now?

Speaker X: He gave me like 10 minutes.

Speaker X: [inaudible 01:54:54] 17.

Audrey: I don't know how this compares, but we have the report on our webpage, and both Brian and I just found it. For 2021, the total metric tons of CO2 equivalent reported for [inaudible 01:55:11] was 58,625. I don't know if that's useful for what this finding is talking about.

Speaker X: In fact, so given that, it might be helpful just to make this a finding that ... let's see ...

Audrey: So, I guess the finding, I would say the finding would be in Oregon DEQ adopted regulations in 2021, that require recording, eventually collection and control, being those gases. The recommendation might be, do a comparison between what EPA requires and the DEQ requires to identify the [inaudible 01:56:05] County recommendations.

Speaker X: So, let's back up to the findings and nail that, so Greg can pick a line to type in.

Daniel: Sorry, Greg.

Speaker X: So, finding [inaudible 01:56:17]

Audrey: DEQ adopted DEQ regulations. Oregon adopted regulations for greenhouse gas reporting in 2021, under their air quality permit program. The first requirement is to calculate emissions and then, in the future, collection and control will be identified. If you want, as a finding, you could say 2021 emissions are reported at 58,625 metric tons, CO2 equivalent. Or are you going to say something [inaudible 01:57:08] terrified? Oh, there's data from ... the reporting is from 2010 to 2021. So, you can do a comparison over time.

Speaker X: [inaudible 01:57:22] kick it to them so they can drop it [inaudible 01:57:24]

Audrey: Oh. That's like so brilliant.

Speaker X: That's one in a row for us.

Daniel: Sam, we cannot nail down that 57%.

Speaker X: It wasn't our number. It didn't come from our representatives on the subcommittee meeting, and I know Daniel was looking as well, because he worked on that subcommittee. We can't find a link for it.

Daniel: We went to the citation that as referenced in the subcommittee document. There wasn't like a link to the actual source document. I can't find the 57% number on there.

Speaker X: And then I think the recommendation is just find the ... compare DEQ versus EPA, and identify what the county wants to recommend.

Daniel: Compare and consider.

Speaker X: That it?

Daniel: Yeah.

Sam: All right, so let's go back up to the finding that it has two sentences. The first, I'll call the 57% efficiency percentage, which is 219. 2019 to the EPA. The second is Republic to EPA for 2021. So, I feel like we need to take these sentences one at a time here, otherwise, we're going to be doing multiple combinations. The first poll I'm going to ask about is the first sentence.

Daniel: The original?

Sam: The first sentence of the original. Okay. First sentence of the original, one, two, or three?

Daniel: The original on 57%

Sam: The sentence that you see on the screen, yes, [inaudible 01:59:55] 57%. We have Chuck, a three, Liz, a three, Marge, a one, Republic ... Russ and Sean are both threes. John, where are you, buddy? John is a three, Ryan's a two, Mary and Catherine are ones.

Daniel: What do we have on that?

Sam: Oh yes, Louisa and Andrew.

Speaker X: Sorry. What? Is it the original one or the added stuff?

Sam: It's first sentence of the original one that's in yellow, on the screen.

Speaker X: Okay.

Sam: Andrew is a two, as is Louisa. And total, please?

Speaker X: 435.

Sam: 435. Okay. Put that in there for a placeholder. Let's do number two. Highlight number two, which is the ... highlighting, please, the sentence below it.

Speaker X: This is Republic Services [inaudible 02:01:26]?

Sam: You have it right below where you have yellow now.

Speaker X: This is obvious [inaudible 02:01:30]

Sam: Oh, that's a ... I get it. So yes, the second sentence.

Speaker X: This?

Sam: Yeah. You're going to have to copy that and paste it below, in a row.

Speaker X: So, this is a zone [inaudible 02:01:47]

Sam: That's it. Yes.

Speaker X: Sam, to verify, this is just on that sentence?

Sam: Let me get it stabilized on the screen and documented, and then we will see how this looks, to make sure we get it. So, this is just the second sentence. Just the language in yellow. Republic Services provided data for EPA, for inclusion in 2021, dot, dot, dot, dot, dot. One, two or three? We have Chuck, one, Liz, one.

Marge is present. We have Mary and Ed voting twos. Everyone else in the room is voting ... Catherine, your vote, please? One.

Catherine: Lost my computer, so I'm a little lost.

Sam: Louisa?

Louisa: So, are we voting that this is the only sentence for the whole finding or this is added to it?

Sam: It is a standalone sentence, as it is. Louisa is two, Andrew is one. We waste a polling [inaudible 02:03:17].

Daniel: [inaudible 02:03:18]. 5830 with one present.

Sam: [inaudible 02:03:29]. Okay. So that passes. Does anyone have the desire to vote on the combination of both of those together?

Daniel: Yes.

Sam: Okay. So now, do another vote, please, that has both sentences together. So, it'd be copying that first whole thing. So, this is both together. One, two or three. Both, together. Both statements together. The 2019 at 57 plus the 221 at 91.2. So, we have Chuck and Liz are three, Marge is present. We have Russ and Sean at a three. The rest of the members in the room are ones, and Lisa ... is a one, and Andrew is a two.

Daniel: Marge, you voted present-

Daniel: Present. She's voting present.

Daniel: Six, one, four, with one present.

Sam: Okay, so ...

Daniel: [inaudible 02:05:38] and then both.

Sam: Okay. So, we're going to put all three in there, one below the other, in the final report, and show these tallies. First one, which was ...

Daniel: Sam?

Sam: I'm sorry, [inaudible 02:06:03] I want to say this, and then I promise to get to you. So right now, as I'm understanding [inaudible 02:06:07], the first one, which was 57% at four, three and five. The second one, which was the 91.2% was eight, three and zero, and the combination was six, one, four. Yes, Liz?

Liz: I would be okay with having the 57% in there for 2019, if we could cite where they got that from, but I don't feel comfortable putting percentages and years as if [inaudible 02:06:37] with that, when we don't have [inaudible 02:06:39]

Sam: Okay.

Speaker X: That's our primary concern. I can't even explain what it is.

Sam: Okay, so we have to put in [inaudible 02:06:49]. Hi. We've put in a footnote, here in the notes on here, that it's a function of getting a citation for the 57%. Louisa?

Louisa: To me, it just seems like there is two different things, do we really even need this? But, I don't know. That's just my thought. I think that if we had the citation, that would be helpful too. It's like a weird finding and not, I don't know what the purpose of it is, totally. But, that's me.

Sam: I see Ken is on the line, and I know it's a burden, Ken, but if maybe during the dinner break, if you can find the 50 percentile number, 57% efficiency in a citation, and maybe email that to Daniel, and then I can come back and look at this, first thing after dinner. So, we should keep that out as something to come back to.

All right, F16. So LSCLF16. So, we have one person voting the three, NK. The formal county approval of cell six has not been identified or confirmed. It is not accurate. Who would like to say something about that? Yes, Ed?

Ed: This is the one I'm going to suggest alternate language for.

Sam: Okay.

Ed: You can go through what's here, but at some point, I'd like to get to that.

Sam: Were you the three on this?

Ed: No, I wasn't the three. I was the two.

Speaker X: I was not the three.

Sam: Did you have a comment though?

Speaker X: No. Thank you. I'll control my head movements for now.

Sam: No, it's your name tag. It's your name tag.

Speaker X: Oh, my name tag.

Sam: That's what I was keying in on. All right, so we don't have the person [inaudible 02:09:40]

Speaker X: No, I'm sorry. I thought you heard me. I said ...

Sam: You were the one that voted a three?

Speaker X: And some language suggestions.

Sam: Okay. Let's just start ... Catherine, I suspect whoever is up to bat here, we're going to need several things we're going to pull on, here. So we can get that copy and pasted in here so we can start with ... so Ed, you had a suggestion first, so please, what would be your friendly amendment to add?

Ed: It involves both finding 16 and finding F37. [inaudible 02:10:30] they have different [inaudible 02:10:31]. What I'm trying to do is make it clear for what the capacity, longevities are, and also the status of the CUP, and also the progress that [inaudible 02:10:58] is making and put it all in one spot, instead of spreading 20 findings apart. May I try to read this?

Sam: Go.

Daniel: Yeah, [inaudible 02:11:16]

Ed: Yes. Yeah. Prior to 2003, the airspace capacity was 13,100,000 cubic yards. This increased 69%, to 22,100,000 cubic yards in 2003, when the economy approved the addition of the west [inaudible 02:11:39] for disposal. [inaudible 02:11:43] on the county, the proposed cell six would add 13,400,000 cubic yards of airspace, for a total of 35,500,000 of disposal capacity. A 170% increase with [inaudible 02:12:03] landfill space-

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Ed: ... 170% increase in permitted landfill space since 2003. The expected landfill longevity is two to three years [inaudible 02:12:11] 2025 without cell six being constructed, and 14 to 16 years, 2037 to 2040, if cell six is approved and operational in 2025. Valley Landfills anticipates it will no longer be able to place waste in cell five by mid-year 2025. That excavation of the footprint of cell six within the current rock quarry is scheduled to begin in spring of 2023 with completion in spring 2025. I don't think I'd really add anything except the percentage increase. Everything else was just taking two places and putting in one. And what I was reacting to was the TV spot last Thursday and this podcast where I really couldn't tell whether cell six had already been approved. And I just was very confused and it doesn't say cell six has been approved in either one of

these spots. It opens the question. So I'm just trying to get clear what's in the report. I don't really care about the correcting a podcast or TV spot, but I just had to get my head around what are we really talking about.

Sam: So there's a couple things and, Greg, you'll be the spokesperson for this. I believe there is a finding and/or a recommendation wherein the legal subcommittee believes that cell six, was approved, is that correct?

Speaker 23: There is a finding for that.

Ed: I understand that one. But we don't have the LSCL person here anymore, at least the lead public member. But that's what they ended up with is questioning whether there was the formal county approval of cell six as a disposal area has not been identified or confirmed. That was in, I think, 16. When the public members of [inaudible 02:14:39] to look at this same question of cell six, we disagree with the legal committee also.

Sam: So does this language here that's in yellow now on the screen, which is what you were reading, it doesn't say anything about the approval or disapproval. It is really, I'm tracking this, a place to give the dates and numbers and predictions of how all this would play out regardless if it's been approved or disapproved. Is that fair?

Ed: Correct. And put it in one spot.

Sam: And then where were the other spots that you, if you will, borrowed from that would no longer then, I'm assuming, be necessary?

Ed: There aren't any. It's just finding 16 in LSCL and finding LSCL F-37.

Sam: 37 and 16, right.

Speaker 24: Isn't R-6 applicable too?

Sam: Well, we're still in the findings. We'd have to go back to R-6. So if the work group approves the language...

Speaker 24: Can I go back that?

Speaker 23: I'm just showing F-37. [inaudible 02:16:29] Sorry. This is F-37 that Ed just mentioned.

Sam: We would not need this one if this new proposal was placed there. Is that what you're suggesting, Ed?

Ed: Yes.

Speaker 25: Sam, can you go back to the proposal for a second?

Sam: Go to what?

Speaker 24: Can we give everybody 34 seconds, sir?

Sam: Oh, absolutely.

Ed: [inaudible 02:17:07], this was sent out this morning quite late. So if you do have email access, you can see it on your computer.

Speaker 25: I was just trying to digest it in the amount of time.

Sam: On the surface it does seem that F-37 has been subsumed into our F-16 here, so let's go back to that. There it is. So your proposal then, this is a substitute for the language above it here.

Ed: Yes. Substitute and inclusion.

Speaker 23: Can I make a quick comment?

Sam: Please.

Speaker 23: I think just for clarity of what the subcommittee had talked about, this came up, this issue of how to include various concepts into different findings

recommendations. This one specifically I believe had the duality of calling out the change in airspace versus what is the actual timeline for the landfill expected to be. And I believe the subcommittee was weary about crunching them together so that important details weren't lost, which is why the two were separate and within their own sections. One being about the longevity of the landfill, one being about details about change in landfill capacity. So just for history of what the subcommittee talked about so that information wasn't lost.

Sam: So this comment isn't for or against any of this. On the surface, my reaction is that people are going to ask the questions that this answers, that this particular newly proposed finding answers. So there's an advantage of having, when the question comes up, well, when is the current one going to close? When is the quarry going to open? So you start filling in. How much time do we have? Restate it. Do we need an expansion based on when these things are happening or not? And so the idea of having things in one place has advantages as well. My thoughts. Ginger?

Speaker 25: I understand the context of things being in one place and I think that is a really, really valid suggestion. However, as Daniel just alluded to a moment ago, the landfill and site life subcommittee spent an extraordinary amount of time looking at this issue of permanent versus actual airspace. And out of respect to the subcommittee's discussions, we separated those for very, very specific reasons. You have to keep in mind that we've been looking at data that goes back 20, 30 years and we've been looking at modern day reporting. So prior to 2003, the only thing that was reported was in the early two thousands talk about remaining airspace.

The more recent documents talk about total airspace, which includes both remaining and what has already been filled or used. So when we try to combine numbers and data that takes into account something that happened in the nineties and the early two thousands with the way the recent reporting requirements are, it gives an incorrect not apples to apples comparison. And so that's why it's problematic to combine the numbers in this way because it's not reflective of how airspace was reported and the changing requirements over the years, which is why it's subcommittee would have delved into this issue really worked to separate those two concepts.

Sam: Any other comments on this? So let's go back up to the original F... Yes?

Speaker 26: Can I stand?

Sam: Yes.

Speaker 26: I know I'm not a voting member but what about moving F-37 closer to F-16? Because they are related. Was there a reason F-37 is so far away?

Speaker 24: So I think for purposes of just plowing through, I think that drove us off entirely about which number we're at for tonight. But for a final report...

Sam: Well, let's take the one. Let's keep them separate for this first round. So we're on F-16. We had 10 ones, 2 twos and 1 three. The person who had voted three is not speaking to that three.

Speaker 24: That's not true. I said I would. Remember I said I had suggested edits as well.

Sam: So you're the three on that. So what is your suggested edit to this one?

Speaker 24: Striking what would be the third sentence, the formal county approval of cell six's disposal. It's not been identified or confirmed. Suggested language is the

county should clarify when formal approval of cell six as a disposal area was granted. LLUF-23 provides more information.

Sam: Slow down a little bit, Russ, so you can catch up.

Speaker 24: I'll start at the top. So suggesting deleting the third sentence that begins, the formal county approval of cell six as a disposal area, and replacing it with, the county should clarify when formal approval of cell six as a disposal area was granted. LLUF-23 provides more information on this matter. Which that language tracks with R-6.

Sam: So we got to pick up the pace here, folks. And I think I'll poll on... Marge?

Speaker 27: I thought you were done with this. I have a comment right after you were done with.

Sam: This on this polling? Because I'm going to poll on this next. So we're going to poll on, if you get highlighted yellow where your cursor is, that is what we are polling on. So really, the change here is from removing the Benton County approval of six as a disposal has not been identified or confirmed to the county should clarify when formal approval as. This is recognizing that we have conflicting subcommittee reports. We have the legal subcommittee saying it was, we have the CUP subcommittee saying the records don't show. Correct?

Ed: Yeah. And here we go with the bias again, the LLU position gets put in there but the CUP position doesn't get put in there. So it really gets pretty frustrating to [inaudible 02:26:14]

Sam: That's an easy fix by adding the CUP concomitant finding and recommendation.

Ed: And the comments that we've made to LLUF because we were very direct in saying that there is no record of a six in that location. If you go back to the drawing the LLU-

Sam: We don't need to argue it. I just want to say would it help if we put in your specific CUP findings and recommendations on this issue?

Ed: That and the critique that we made of LLUF-23.

Sam: So let's put language in here that says that. And so I would put, Greg, where it says LLU F, put see LLU F-23, and then we'll string site the rest of these. So see LLU. No, you would have it, you would have the word see before LLU and ed do you happen to have that handy?

Ed: I'll have to dig that out.

Sam: And CUPX and then and detailed rebuttal.

Speaker 28: Sam, could I also suggest-

Sam: Please.

Speaker 28: ... that we use the word whether, not when, which is an assumption that that approval has been made and I just know that when we look at the maps that were provided in some of the language historical documents that we reviewed, that was inconclusive and that's part of the challenges. We were not able to find when. The question still remains whether, and I think that's the question we're asking. Not a matter of when.

Sam: We'll see if we can get there here. But I think we have dealt with this issue and have a disagreement between two subcommittees on whether and, if so, when did this thing happen. We don't need to bring it up again and again in subsequent findings. This particular finding is really speaking to capacity. And so I'm wondering if we are again trying to re-litigate this issue of really just

providing numbers and capacity issues by adding in this same issue that we already know is a dispute. So restating why do we have to have anything in there about the stuff that struck or proposed? We already know it's in dispute. Right? This is adding nothing new. Correct?

Speaker 28: I'm fine with that, but we were adding something new and that changed the narrative of this.

Sam: Well, I'm suggesting both go out.

Speaker 28: I'm personally fine with that.

Sam: Can you republic live with that? That we've already had this-

Speaker 24: Say it again, please.

Sam: The issue of whether-

Speaker 24: Just the edits. I'm sorry.

Sam: Pardon me?

Speaker 24: Your suggested edits, can you [inaudible 02:29:54]?

Sam: The suggested edits would be removing all this language. Greg, can you just... All that would be removed. We're not saying anything about whether or not it was approved or disapproved and whether they should look at it or not. We've already covered that.

Speaker 24: What about the preceding sentence? It's got the strike through.

Sam: Gone.

Speaker 24: Could we just call that up so we can look at it holistically real fast please?

Speaker 23: Call what up?

Sam: Just the two black sentences. Let me drive. The two sentences that are in black text is a standalone proponent.

Speaker 23: [inaudible 02:31:14].

Sam: We're just talking about numbers here and dates. I'm going to poll on that. One, two or three on the stuff that's in yellow. Chuck, one. Liz, one. Marge, one. Ross, one. Sean, one.

Speaker 28: Let me just clarify, I don't again have my computer and I can't see. So what you've basically left is what Ed proposed and he's stricken the last there that's helpful but it's still-

Sam: No, this is nothing of Ed's.

Speaker 23: There's no consolidation.

Speaker 28: I stepped out then. I apologize.

Sam: So there's no consolidation at this point. We're taking the naked finding about capacity. So Ed and Catherine, your poll please. All members in the room vote one. Luisa and Andrew? One. One. There was a possible friendly amendment. Ed, how would this work with you? As I understand it, F-37 was moved closer up, maybe becomes F-17. Would that help with that process?

Ed: Sure. We're just trying to communicate to the public, and having it one after the other would be the [inaudible 02:33:06] thing that helps.

Sam: So is there any opposition, and we won't do this in real time now so as to not impact our polling and what have you. But is there any opposition to making the current F-37 F-17? Any opposition to that? Marge?

Speaker 27: Oh, no. I want to say something when we're done.

Sam: That's right. So show F-37.

Speaker 23: [inaudible 02:33:51].

Speaker 28: So this would just move to a different location?

Sam: Yeah. And we're not changing the substance of it, we're just moving it up so the reader can track it more readily. Seeing no opposition to that, we'll move that offline without a poll because it doesn't affect substance. Marge, you're up.

Speaker 27: I have received the citation for the 57%.

Sam: Let's go back to that.

Speaker 27: So it's from a document called Oregon Amended State Plan to Implement Admissions Guidelines from Municipal Solid Waste Landfills. It's dated August 1st, 2019 and I'm referred to page six. And there it says [inaudible 02:34:44]. Sorry, just lost my voice. Page seven, sorry. In a table under gas collection control, it says 57% collective, 98% destruction. I have emailed to Daniel this document, so he is much more [inaudible 02:35:12] at typing stuff than me.

Sam: Daniel, why don't we get that and tee that up for us. I'm trying to see what we would do with that.

Speaker 23: [inaudible 02:36:06]

Speaker 27: I got it from Ken Apple. So he's online if you want to-

Sam: Thanks, Ken. So then the question becomes, is there a way to drop that link to this document in a place consistent with this... I think we took three polls on this.

Speaker 24: So there's a link at the top of the document. It doesn't go to a web page, it goes like a direct download. So you click the link and it automatically downloads the PDF, which could be included if it's needed, but it's not a web page.

Sam: What I'm trying to get at is to capture the source of the 57% issue. And it also talks about 98% destruction. Do we know what that means, Audrey? Do you know the difference between collection and destruction in EPA land?

Speaker 26: So collection of gas is how you... When you have a landfill, it's a got a liner. Waste is put into it and then you try to figure out where the gas is coming from. So when you're trying to collect the gas, you're trying to figure out ways to have piping and systems in place that will identify how much gas is coming out of that landfill. So the 50% collection is making an estimate that the tubing, and somebody correct me on the technology piece of it, is that the way the vents and the piping across the top of the landfill is collecting gas. So 57% is estimated to be collected and then when it goes through the flare, that's where the 98% destruction comes in.

Sam: And so does this mean that only 2% is being used to run the generators?

Speaker 26: I do not know the answer to that because I don't know how the system's set up there.

Speaker 29: First time we've seen the reports are I simply don't know where this data came from. But in theory, the answer should be no to that.

Speaker 30: It should reference it in the report. I would hope they reference where they got the data in the report somewhere.

Speaker 26: It's also saying it's the engines and the generators with the backup flare. So the 98% destruction is probably a combination of the engines and the generators and the backup flare.

Sam: So we need to put a citation to this document wherever 57% shows.

Speaker 30: Can you do a footnote?

Sam: The footnotes in this document are clunky for reproduction purposes. So I'm thinking we need to put it in the actual document itself.

Speaker 30: [inaudible 02:39:22].

Sam: Russ, and then Chuck.

Speaker 29: I think the language around 57% refers back to EPA. It'd be worth double checking that. And if that's correct, then I'd suggest it's updated to [inaudible 02:39:34]

Sam: We're going to make one of these things at a time so we don't give them nervous breakdowns, which involve workers comp stress claims. One thing leads to another. So hopefully someone will share the screen when you're ready to show when.

Speaker 23: We'll do that. Everyone's on the edge their seat.

Sam: I'm on the edge of a coma.

Speaker 23: Almost there.

Sam: My suggestion is wherever the 57% efficiency factor... But it's actually not efficiency. It said collection. So it's collection a synonym for efficiency? So we need to correct this statement then. So the actual document said 57% collection, did it not?

Speaker 23: It did.

Sam: So I think we need to make it consistent with what the document says. Absent information to the contrary, we should be quoting the document.

Speaker 27: Doesn't this though verify 57% in the report? Because it's the gas collection system that we're talking about.

Sam: So the distinction that I believe that we're playing with here is, initially it talked about 57% efficiency. That 57% above it, it talks about collection, not efficiency. And I'm wondering if there's a distinction between-

Speaker 27: Are you looking at the red text?

Sam: I don't have it in front of me now. It was on the screen previously.

Speaker 27: Because what it says is landfill gas collection systems are another tool to lessen the greenhouse gas impact but do not remediate it. In 2019, the EPA estimated that Coffin Butte's Landfill's gas collection system operates at 57% efficiency. So don't these numbers say that 57% is correct? Would not that not be efficiency?

Sam: I'm asking the question. So we need to see the document again that was sent in to see what it says before we can make changes, if any, to what's on the screen.

Speaker 27: Collect 57%.

Sam: That's what I'm focusing on. I don't see the word efficiency on this document. I'm asking what that means. Is there a difference between collected, destruction and efficiency? And so I'm just trying to make [inaudible 02:44:02]

Speaker 27: You're a lawyer, Sam.

Sam: I only play one on TV now. And it's the very, very short YouTube TikTok video kinds of things. And I'm certainly not an engineer. I don't see the word efficiency here. That's why I'm bringing that up.

Speaker 27: So maybe we could add that also that maybe we could change it. Coffin Butte Landfill's gas collection system collects 57%.

Sam: I'm just trying to make it accurate. Chuck?

Speaker 31: I agree that one report doesn't mean it's redundancy. That report is 2019. So if you really want to figure this out completely, you got to look at apples to apples, oranges to oranges with both...

PART 5 OF 13 ENDS [02:45:04]

Sam: ... with both reports and gas situation. So, if you-

Audrey: Why is this [inaudible 02:45:12].

Sam: If one stands at 2019 is one thing and the other one stands at another thing that's fine, but to compare the two, saying they're the same, is being I think-

Audrey: Okay, but that's what we're trying to do. We're trying to establish how it's [inaudible 02:45:29]. And I think Republic's number 97, 99% refers to destruction, not to Escalade.

Speaker 32: If I may, I think what we're trying to say is we don't know that we're going to get apples to apples today, because we haven't even seen the report on 57% or where the data came from.

Audrey: Okay.

Speaker 32: I like the suggestion as just referring to it as it's worded on the document, "collection".

Audrey: Got it.

Speaker 32: In a broader sense, efficiency is the totality of the system versus the well that's just collecting the gas.

Audrey: So when they say 57% collected.

Speaker 32: We can live with 57% collected and I just for clarification again restated, make it known, it's a DE-

Audrey: DEQ [inaudible 02:46:12].

Speaker 32: DEQ report. Yes, versus EPA. So there [inaudible 02:46:19]-

Audrey: Or [inaudible 02:46:19].

Sam: Okay. So look at, I'll let you finish typing.

Speaker 33: Louisa [inaudible 02:46:25].

Sam: Okay, I promise to get Louisa in a minute. So the language that has been added. Oregon DEQ estimated... No, it's not Oregon DEQ that estimated 57%.

Audrey: No, it was recorded from DEQ to the EPA.

Sam: Why did we have EPA previously?

Marge: It's a terminal. I know [inaudible 02:46:50]-

Audrey: Well we had to report as-

Speaker 32: Okay. One at a time folks, I'm sorry.

Audrey: I'm sorry.

Sam: Raise your hands, so please tell me what does that say?

Speaker 34: Okay, well the 57% I believe was the DEQ report to the EPA.

Speaker 32: Is that correct?

Speaker 34: [inaudible 02:47:06], yes.

Speaker 32: Okay.

Sam: So can we take this language, Oregon DEQ estimated that the landfill control engine generator backup flare collected 57% in the citation? Can we add that sentence to all the other votes here that have 57% in it, because if we're changing it in one place, we should change it in all three, and then the question becomes, is that going to change anyone's vote? So I think we have to add it in all places. So the stuff that you have in yellow needs to be copied and pasted in the one below it.

And then that one where the cursor is now. Now, does the addition of the yellow language change anyone's polling from before? [inaudible 02:48:35] stream is being covered by that so I can't see beyond that. Audrey?

Audrey: Before you take a poll, I'm wondering if there's another if that... So Russ or somebody, correct me if I'm wrong, but I think you provided data to DEQ, not to EPA.

Marge: Okay. Submitted to-

Audrey: Submitted 2021.

Marge: ... US EPA by Oregon Department of Environmental Quality.

Speaker 32: I see your point. I think yes we can tighten that up, but it is an EPA website that is the source.

Marge: Okay.

Speaker 32: So to stay federal authorities, perhaps.

Audrey: So it got provided to DEQ which then uploaded it to EPA, is that correct? Or was it-

Speaker 34: Looks like it was transmitted with the letter.

Speaker 32: Yes, I believe that that's accurate.

Speaker 34: [inaudible 02:49:48].

Sam: Okay, so someone just-

Speaker 32: Not that.

Sam: Okay. So you're editing the sentence below it here.

Audrey: Yeah.

Sam: To say Republic Services provided data to Oregon DEQ for inclusion in EPA's 2021 greenhouse gas. Everyone seems to agree that that's accurate. So we need to make that same change wherever that appears.
You bothered doing that, Louisa, thank you for your patience, your comment or suggestion.

Loiusa: Well, it just seems like since it's controversial could we have a third party like the consultant who's going to be looking at things evaluate this and come up with the most accurate and updated information?

Sam: So that, you mean for the SMMP?

Loiusa: Yeah.

Sam: Because the SMMP is probably looking at a site life. Dana, you have anything in the SMMP work scope for the consultant or consultants that are doing that to reaffirm site life?

Dana: Let me check. site life, or are you talking about site life or emissions?

Audrey: Yeah, what's [inaudible 02:51:34]?

Sam: Oh, I'm sorry. You are correct. Emissions. So confirm emissions.

Dana: Let me double check.

Sam: Okay. There was a comment here?

Speaker 33: No, I think we did, but I'm glad Dana's checking.

Speaker 32: I think so, too.

Sam: Okay.

Speaker 33: And that would address what Louisa's suggesting, because that's degradation.

Sam: Right, right. If that's already there, then we can do that. So my presenting question here is the addition of these two clarifications. Does it change anyone's polling? So we added the citation and clarified the language about collection from the 2019 submittal and then we made it clear that what Republic Services provided the Oregon DEQ is what happened in the 2021. Does that change

anyone's vote? Is there anyone who was a three who is now going to change their vote to a two?

Speaker 32: I'll do that.

Sam: Okay. We'll have to re-poll then. So new piece of paper.

Audrey: Which one are we going to vote on?

Sam: We are going to poll on what do you see on the screen here, which I'm trying to figure out what number this is. What finding a recommendation is this?

Audrey: LSCF-13.

Sam: F-13. So we have three polls on F-13. We are going to take them in the order they appear on the screen. So it's-

Marge: Poll on what we just said?

Sam: It is on this. Okay, then we're going to do this, then we're going to do this. We have three polls that were all going into the report. So we need to poll again on the addition of this language.

Marge: In addition to the language that clarifies the 2019 EPA. I mean, I...

Sam: Yes. That's what that is doing on this one.

Marge: That's number two. I can't see it.

Sam: Marge Pop, come on down. The price is right.

Speaker 33: The differences between those three points would be helpful to explain.

Marge: Yeah, what's the difference in how that's saying what the difference is?

Sam: The first one, if you're writing them, you're explaining them.

Speaker 33: You're writing them. And I think the first one only talks about the 57%. The second one only talks about the 91% and the third on-

Sam: Is the combo.

Speaker 33: ... does both.

Marge: The third one is the combo.

Sam: Right.

Marge: Okay. I mean can't we vote on that?

Sam: [inaudible 02:54:45]. We're voting on the combo.

Speaker 33: There we go.

Speaker 34: Thank you, Marge.

Sam: Okay. Voting on the combo. So call it, it's the combo, it's number three. We'll see if that prevails. All right. Every member in the room votes. One, Lisa? Two, Andrew?

Speaker 34: Andrew's not showing anyone.

Sam: Andrew? Andrew?

Speaker 32: He went out to some bar. His vote is lost.

Speaker 33: [inaudible 02:55:19].

Sam: All right, so I'm going to make the proposal that that is the only one we are going forward with in the report. All the rest of those polls are now mooted, muted, mooted and scooted by that document. All right-

Loiusa: [inaudible 02:55:42] a full vote.

Speaker 34: Could someone show their preferences one more time, apologies.

Sam: Everyone voted one in the room.

Speaker 34: Everyone voted one, okay. Thank you.

Audrey: We all voted one?

Sam: All right.

Speaker 35: So Sam, again I'll just ask clarifying because it's off the screen a little bit, I think, but it's still part of the city. So we are including the references to the documents, however in this last, the third version that combines them, right?

Sam: Yes. All the references are included in what we just voted on. Is that correct, gentlemen?

Speaker 33: Yes.

Sam: Okay. All right, so look it. We were on a roll to this last one here which really took up a whole lot of time; useful, helpful, I'm glad we got it resolved. But we have 26 more findings-

Speaker 32: Oh, my Lord.

Sam: ... where at least one person has voted a three. So I am asking you to think carefully about these issues. We will do our best. But we really got in and get out. And so in order to entice you to do that, we'll feed you. And so if you can please be back promptly at 5:00, we're going to take... Just to make this a little more fun, we're going to take five findings at the same time and try to get consensus.

Speaker 32: I'm not... [inaudible 02:57:18] great.

Marge: Yeah. Hey, Sam?

Sam: Yes.

Marge: We proposed to do a working lunch last time, are you going to hold us to that?

Sam: Yeah, yeah. Let's do what you want.

Speaker 33: That makes sense.

Sam: Get your lunch, come back. So 15 minutes.

Speaker 32: 50 Miles to Graceland.

Sam: Welcome back, everyone. It is 4:53. We're going to kick off where left off. And I just have to brag about my fitness watch after I had my meal. I got back up to get dessert and it flashed, "Great, nice exercising." Really, that's a great watch. I mean, I'd pay extra for that. It complimented me for moving, little it didn't know that it was towards the dessert.

All right, F-40. So we are still at LSCL, LSCL F-40. We have 11 persons voting one and one person voting a three. So that appears to be roughly what was page 43. And so if the person who voted a three is here, can they care to share how... what the thought process is and what it would take in good faith for them to move to a two, we'd love to hear it.

Okay, no suggestions for twos. So let's go to polling on this. So this is LSCL F-40, one, two or three, please. Kevin? Katherine?

Katherine: [inaudible 02:59:38] one.

Sam: Martin, Ed?

Ed: I'm just looking at it, so a sitemap attached to the 2002 MOU. I just never seen a sitemap like that. So, I'll have to do a two.

Sam: Okay. So everyone present is voting a one. Ed is voting a two. Louisa and Andrew. Andrew's voting a one. Louisa? Louisa? She may have stepped away for a second, so. She-

Speaker 34: Isn't here?

Sam: ... yeah, not here for this particular-

Speaker 35: Sam, would it be possible to link that sitemap to that...?

Sam: Well, is there a sitemap? The sitemap attached to the 2002 MOU restricted fill, is it. So, Dana this is your subcommittee, what say you about this sitemap attached to an MOU?

Dana: I going to provide a link to the 2002 MOU on that if it's helpful.

Sam: Okay. We can add that to the... and it's moving to a one if that's the case. All right. Let's move on to F-42. F-42.

Speaker 35: So 11 and one and one we added.

Speaker 34: I got 11 and zero [inaudible 03:01:27].

Sam: [inaudible 03:01:28].

Speaker 34: Oh, sorry, yeah.

Sam: It's two and one. Louisa, do you happen to be back yet? All right. All right, LSCF and there was one, three.

Ed: That would've been mine.

Sam: Okay, so what can we do here to improve this, Ed?

Ed: Just use the replacement language.

Sam: Okay. So the difference there is?

Ed: The difference would be the replacement language between the quotes. "The landfill was developed, has developed since 1974. It has grown in both height and size and changed individual appearance. Although still within the Landfill Zone designation in 1983, the actual footprint of the landfill cells has increased as more wastes are brought to the site." This is just to try to make it easier to read.

Sam: So Daniel you were staff on this and a member. Do you see any substantive differences here?

Daniel: I think the main difference in the later renditions of this finding was that first sentence. "That the landfill had developed visually over time in accordance with site development plans." But I think the newer version is missing a reference to the development being planned as opposed to just growing. I think that was the main thing that I'm noticing off of that.

Sam: Dana, was there a reason you didn't appreciate the language in accordance with site development plan?

Dana: No. Again, I was looking at it for easier reading and trying to strip back some of the trigger words. So that's putting that back in? Is that right? It should have been done that way, so there's no reason to object to it.

Sam: Okay.

Dana: That's a reasonable presumption.

Sam: Yeah. So what could... Are you typing up on this one or...?

Speaker 32: I'm just dragging it in.

Sam: Drag it in.

Speaker 32: Drag in the changes right now, yeah.

Sam: Okay.

Speaker 32: And then I'll invite Ginger, if you have any problems with that. I believe, if I remember correctly, you brought up the... You had made some concrete-

Ginger: Yes, so Ian and I sat upon the subcommittee and what we are conveying and what we agreed as a subcommittee is that yes, obviously the landfill has developed since the 1970s, nobody's arguing that. However, the footprint of the landfill since the 1980s, the area of which we were allowed to dispose of waste

has not changed. We have filled in that footprint by opening cells and putting waste around those cells. But the boundary is what we're referring to here. So it's not accurate to say that the footprint has increased. The footprint, the acreage, the area designated for waste disposal has mortally remained the same, which is why we use the language that we do.

And that was language that was the consensus of the landfill site life subcommittee which does include members of the community who are perhaps not the [inaudible 03:05:56] of a UCP, so I think this is another one of those cases where you have a subcommittee that spends a lot of time working on these recommendations, working on these findings, wording them in such a way that we could, as a subcommittee agree on that.

And so I do think there is a certain level of deference and respect that should be accorded to the subcommittee when we have people who work really, really hard, not just Ian and myself. But Ken and Chuck and Mark Nader and Paul Linfield, all work together to come up with the language.

Sam: Okay. All right. So, I'm going to poll on the existing language of L-

Speaker 33: Audrey had a [inaudible 03:06:43].

Sam: Yes, Audrey.

Audrey: Ed.

Sam: Oh, Ed.

Ed: Yeah, there's one thing I should also point out in here is the reference to regional landfill. That still a contested item. Within the context of 1974, regional was three counties. In subsequent years it moved into a designation of a DEQ designation of regional and those don't necessarily mix. So I had to remove that whole issue of regional.

Sam: Okay.

Speaker 35: Can I just ask a quick question-

Speaker 32: If it walks like a duck and quacks a duck, it's a duck, no matter what time it is, okay? I respect what you're saying but I agree with that we've spent a lot of time trying to come up with nuances, but the general consensus of the committee and Ian, there was a lot of effort going into this. So I do respect this stuff so I understand where you're coming from. We might just say that the person has a Dixie Mason Line with [inaudible 03:08:06] in that it probably should stand as such.

Sam: Okay. I'm going to take the poll because we're going to have to speed up the pace of these. People have an opportunity to be heard, but we can't belabor it. So I'm taking a poll on the language that is in this red color as is. And the informal poll was 12 ones, zero twos and one three. So let's take the poll again. So we have Chuck and Liz voting one. Marge is voting a three.

Marge: You take that regional, this goes to one.

Sam: Okay.

Speaker 33: As opposed to a DEQ? [inaudible 03:08:58]-

Sam: One at a time. I need to call on people so I can track, because I'm doing several things at the same time. So, yes.

Speaker 32: Apologies, voting on this language in red, just to [inaudible 03:09:10]?

Sam: Yes.

Speaker 32: Thank you.

Sam: Russ and Sean are ones. John is a one. Ryan's a one. Mary's a one. Ed's a three. Katherine's a two. What do you...?

Speaker 33: One letter, it has grown.

Katherine: Uh, yeah.

Speaker 33: Sorry.

Katherine: I'm all about a good grammar.

Sam: Okay, so who would change their... So Marge indicated she would change if we move the word "region", I mean she would change her vote to a one. Would that change anyone else's vote, up or down? What would that do to yours?

Ed: I'd go to a two.

Sam: Okay. I guess what I'm trying to understand about this is, Audrey is Coffin Butte a regional landfill?

Audrey: Yes.

Ed: It is.

Sam: Yeah. So what's-

Ed: A key definition.

Audrey: Can I speak to that?

Sam: Okay, one at a time. Ed, finish.

Ed: Under DEQ definition, it currently is, it probably was under DEQ definition. I just don't know when those rules, that definition came into place. But by tonnage, by '83 or '84, it probably was under above the 75,000 tons per year. The issue is community expectations. In '74 when this started, it was not a regional landfill in the context that region is used now. It did not service three states.

Sam: Okay. So it's not the regional landfill that's the problem. It's the date in 1974. We realize it is a regional landfill now, right?

Ed: That's a piece of it, yes. But it's the context again, of community expectations. What was agreed to at one point in time is the one we got.

Sam: Okay. [inaudible 03:11:27]. Wait, wait. Okay, just a second. Louisa, I didn't get your poll on this and same for Andrew, how did you poll on this? Louisa's still away. Andrew? So both of them are absent for this. Marge is up next with her comment.

Marge: [inaudible 03:11:51] is A, it's a loaded term. And it hasn't always been original landfill. It was designated as a regional landfill for a short time with something called the Chemetheda Agreement. But then that faded away. And so, I think that we should not muddy the water here by calling it a regional landfill in 1974 because it changed information shortly thereafter. So I think that we should just say its designation as a landfill in 1975.

Sam: Yeah, I think-

Marge: So, one for me.

Sam: Okay. I need to see this so I can do it. So if we take out the word "regional", you would go from a-

Marge: Three to a one.

Sam: Three to a one. You would go from a three to a two, as I recall.

Ed: I could go with one.

Sam: You would go with one?

Ed: Yeah. We need to move on.

Sam: Okay, does anyone... So the proposal is we move the word "regional". So it will say, "Is designated as a landfill in 1974." Correct? Going once, twice, so let's update them, the poll there. So we're taking out the word, in this last poll that we just polled on we're taking out-

Speaker 32: Louisa is online now.

Sam: Yes, thank you. One at a time. And that is the poll and Louisa, what is your vote on... Can someone highlight for her what it is, which one of those rows we're voting on so she can see? That's what we're voting on, a one, two or three. A one.

Loiusa: Just [inaudible 03:13:53].

Sam: [inaudible 03:13:54].

Loiusa: Correct.

Sam: Okay. So that gets us through... Uh, left... okay, pardon me?

Speaker 33: Are we-

Speaker 34: Are we supposed to read over, yeah?

Audrey: Are we going to vote?

Sam: I thought we did. I mean I just called an [inaudible 03:14:13]. Everyone else said they were going to stay the same.

Speaker 32: No, sorry. I was under the impression we were going to re-vote. No, I-

Sam: Okay, let's re-vote. Okay, so one, two or three, we're removing the word "region", okay? [inaudible 03:14:32], please. All right, let's try. Chuck? One, two, okay. We have Chuck, Liz, Margery voting one. We have Russ and Sean voting the three. We have everyone voting one, Katherine is a two. So we have Ed, Mary, Ryan and John voting one. I'll get you, Katherine, after I finish the polling. Louisa? One, two or three on this. And she's a one.

Loiusa: [inaudible 03:15:08].

Sam: Andrew? Apparently is absent for the moment. Okay, Katherine and then Daniel and folks, we have got to hit the pedal to the metal here.

Speaker 35: So two comments: I'm just hoping that... So my two really was based on the site development plans and if there's a way to reference that or link that, that's just an ask of staff. I think because I'm not sure what that means and I know that the 1983 site development plan was a conversation in our subcommittee at length on numerous instances.

I do support the removal of "regional landfill" and I'll just make the statement as this. This is a finding. I don't believe that in 1974 we would be able to conclude that Coffin Butte Landfill was a regional landfill by record in a matter of what we've identified as [inaudible 03:15:59].

Sam: Okay. Daniel?

Daniel: Just a quick procedural ask. For folks that are recoding the polling, if you could put your card in the metal slot and leave it in there until the polling is wrapped up, even after Sam calls your name, just so we don't have to go back and ask people what their vote was. But we do that [inaudible 03:16:20] at the end of the table, thank you.

Sam: Thank you. All right. So just to get us focused on the remaining three that we have. We have 24 findings where at least one person has voted a three. On most of those, it's one person who has voted a three. I'm suggesting that two things: one, we're going to get through all those threes, come hell or high water. And I

don't think we're going to get to the recommendations and findings where there are twos. It's going to be a function of how long it takes us to get through these threes on the findings.

So we'll stop and we are now at Planned Use LLU F-9A. LLU F-9A.

Marge: [inaudible 03:17:58].

Sam: Just a second. I'm trying to find it, too.

Marge: 9A.

Sam: F-9A.

PART 6 OF 13 ENDS [03:18:04]

Sam: I'm trying to find it, too.

Speaker 36: F-9-A.

Sam: F-9-A. This is saying no contemporary historical factual records seemed to have been reviewed. This appears to be the current county staff's impressions and recollections of what others were thinking. This finding is extremely hard to support.

Speaker 37: That goes for 9-B and C.

Sam: Pardon me?

Speaker 37: That goes for 9-B and C. You could say the same thing.

Sam: Mm-hmm. Greg, can you give us a history, or not necessarily a history, but how staff went about teasing these for consideration [inaudible 03:19:01] this committee.

Greg: Sure, just one second. Navigate there. Daniel is now driving the one on the screen. There you go. [inaudible 03:19:12] we switched but I will still be available to discuss. Okay, so this is a description of practice within the community development department over the last 20-25 years. It's not based on a systematic analysis, it's based on my experience as the planning official for most of that time and as the senior planner for the rest of that time, in the practice that has existed during that time. There's no scientific analysis, by any stretch, of how those terms have been applied but it's what that practice [inaudible 03:20:24]. This is not intended to say this is how things should be at all, [inaudible 03:20:31] this is how those terms are venued.

Sam: The operative sentence here, the operative sentence is, "Staff reports that have passed the UP applications, a planning official or commission scoreboard has considered these factors in determining the character of the area and its extent." It's a list of the things that you are reporting. Those folks have looked to, it's not a recommendation that those are the factors. Yet, you have above it it's unique teach application differing by a particular effect it would have. Liz?

Liz: I would just like to add that everybody on the legal committee added to this and looked over it, and counciled it. I don't understand this appears to be current county staff's impression and recollection of what others were thinking. I don't know what you guys did on your subcommittee but I'm hoping it's the same thing we did on our subcommittees which is we actually talked about everything. Again, I hope people quit implying that there's some shadow character pulling all the strings here. Our legal subcommittee really did talk about everything and worked really hard on this. It wasn't some conspiracy for staff to just come up with some findings. I would just like to say that and I would like the community to make an effort to keep your comments polite and give people credit on their

committees. Quit thinking that some evil demon is undermining everything that we've come up with. That would be my-

Sam: All right, any other comments on this? Yes?

Todd: I wonder if with the concerns of that factual records if it could be a reference to past planning commission reviews with an example or something. I would take your word of the folks that have just spoken for the legal committee that they discussed that they discussed that, that they brought up times when these were the conditions or these were the things that were considered for the term seriously interfere. Would that satisfy that? I don't know.

Sam: Ed?

Ed: Todd, are you thinking one example or-

Todd: Well, it obviously-

Ed: Could you point to a real case?

Todd: Yeah, I mean, there'd be records that would say what was considered in terms of serious [inaudible 03:23:36]. They usually cite something, right, or the rejection of or the consideration of impacts on adjacent property. With that-

Ed: If you could just come up with one or two examples for each of the next three things, that would be fine. Then we'd go to [inaudible 03:23:57].

Todd: We're not going to be able to do that today but-

Sam: Yeah. I guess I'm trying to understand what is the fear here because there was a fear initially put forward that this work group would put together recommendations that define these terms. That is not what this is doing. This is saying, from a historical perspective, staff reports that these are the things that people have looked at in the past. Coming up with, yeah, it's just not going to happen in the next 24 hours where people can find citations in this case or that case, or what have you. I'm suggesting you're going to vote on this without the addition of specific LLU, XLUY, that sort. It is not going to happen. It's also making it clear that it's a function of the facts of each application. One last comment and we're going to go to polling on this. I have Marge's hand up.

Marge: Oh, I was just going to comment that one fear is if you define these too narrow and things change over time, as they do, then you handcuff any planning commissions in the future. Those terms were ambiguous because they were meant to be.

Sam: Right. I'll suggest to you that saying things like, "Staff reports that passed has considered these factors," there are particular attributes of a geographic setting including existing operations in the vicinity, those kinds of things, are not [inaudible 03:26:02]-

Marge: Right. Okay, can you say what is the difference between 9-A and 9-B. What is the significant-

Sam: Two different terms. As I'm reading this, 9-A is involving seriously interfere and 9-B is the area-

Todd: Character of the area.

Sam: All right, let's poll on F-9-A. Pardon me? Katherine?

Katherine: Yep. I just wonder, I really appreciate what Greg shared. I think that helped frame 9-A, B- and C as in this, and I'm quoting because I don't think I've got it all right, but not being a systematic analysis based on experience of the senior planner, rather how these terms have been used over time because I read this

finding as a little more assertive than that and maybe framing these three together through that lens that this is historically how we've looked at these might avoid the perception of any pre-determined legal positioning down the road but might also acknowledge the fact that this is, kind of, historically, what we've looked at. What you said was helpful to that.

Greg: [inaudible 03:27:34].

Sam: What specific edit would you suggest be added?

Katherine: I would suggest the senior planner who had that experience recommend that edit but what you said, Greg, it was generally helpful in framing what we're trying to say here rather than what might be interpreted as what is being said here. I don't know if you'd go back to that place in the recording or just make a note to add those or Greg draft up a, in the next ten minutes, an add on. I don't know that [inaudible 03:28:09] effortlessly or appropriately.

Sam: It says right now, "Staff reports that in past applications has considered factors such as." I don't know how-

Katherine: I think maybe the, so what I wrote is, "This is not intended to say this is how it should be but rather how these terms have been used over time." That leaves an ambiguity still in place while we make these findings, which findings can be, again, selective in this phase. It was just helpful that, in Greg's experience as that senior planner, this is historically how it's done. I don't think we lead well with that in these statements and it leaves that space of, like the comment that Mark made about it, in making sure that we secure that each application is specific to these particular interpretations.

Greg: If I could offer, explain the-

Katherine: Yes.

Sam: Go in.

Greg: The reason these are 9-A, B, C, and D, or however many there are, is they're couched under F-9 and F-9 is some of that language that you were talking about. I don't know if you've fully addressed this, what you're looking for but particularly the last couple sentences of F-9.

Sam: Yeah, so look, that are highlighted there. "They are not recommendations in how the planning commission and board should interpret future applications. We state that each body fully retains its flexibility in interpreting those terms in the context of specific applications before it."

Katherine: Would it be helpful, then, just to add, "Please see F-9," above or, "The context of 9-A," and then also put a similar, kind if, redirect because that was off my screen and it's not highlighted in red so I didn't take that in 9-A when I was reading it.

Sam: Let's read this, we've got to get a solution to this.

Greg: I think it much depends on formatting. The way this was originally [inaudible 03:30:26] put everything into tables with intervening cells. 9 was the header, 9-A was a subset below that, so it was very clear. I think we can do a reference to it or in the final document, final report, we look at it, the formatting [inaudible 03:30:45] F-9 is the main paragraph and the paragraph below it indented is 9-A. I think that, structurally, makes clear the relationship.

Sam: Ed?

Ed: I can live from a three to a one just with that last part, "They are not recommendations on the planning commissioning," et cetera. You can either

embed that in the next three sections or you put under 9, have a 9-A, B, and a C which is just a longer process. Either way works for me. It's just the idea that this isn't definitive. To be definitive, to me, it needs the data.

Sam: All right, we're going to take the word, the last two sentences of the introductory paragraph, "They are not recommendations on how," and restate it, "Each body fully retains," plop them at the end of F-9-A, B, and C so it's pristine in its clarity. We're going to pull on that. Ready?

Katherine: Is this still from earlier because I'd like to [inaudible 03:32:07] half [inaudible 03:32:09].

Sam: This is, we're going to start over on this polling and we are going to do 9-A, B, and C simultaneously because we're making the same addition of those last two sentences in the introductory piece to add them below.

Greg: I'm recommending we do the last three sentences because I think, grammatically, it makes [inaudible 03:32:51].

Sam: Why not have three. Hawk crying in the night, we'll have three. Which ones are they?

Greg: In response to a request by the board commissioner, the following [inaudible 03:33:10].

Sam: No, look at-

Greg: [inaudible 03:33:15].

Sam: I don't know how much clearer the stuff above it can be. It says, "The response to the [inaudible 03:33:30], the following four findings provide historical information particularly over the past 25 years how the decision makers have interpreted it. They are not recommendations on how." Are you saying this is all going to be just indented [inaudible 03:33:49] A, B, and C?

Greg: Under 9. Well, originally that's how it was structured. The final format of the document [inaudible 03:33:58].

Sam: Well, that's up to them. How they want to.

Greg: Daniel is showing the last two sentences added to one of the-

Daniel: The last two sentences added to 9-A.

Sam: Okay, we'll take 9-A first. I want you to please vote one, two, or three on that which is on the screen, which is the text as it existed before with the addition of two sentences. "This is not a recommendation on how the planning commission and board should interpret future applications," restated, "Each body fully retains its flexibility interpreting those terms and the context of specific applications before it." One, two, or three, please. When you guys are talking on the sideline, I can't track what I'm saying and seeing on the screen. I'm sorry for being a little frustrated right now. One, two, or three, please. Marge?

Marge: I'm going to vote with Ed down there.

Sam: Yeah, he's voting a one.

Marge: He's a one? Okay.

Sam: Everyone in the room is voting one. Luisa? One, one. Andrew? Okay, the same addition is being made to F-9-B. Any change? Is anyone going to vote different then they did on F-9-1? We'll call it out, so it's F-9-B. Everyone is voting. Chuck, are you voting a one, two, or three on this? One. Everyone in the room is voting one, as is Luisa. All right-

Speaker 36: Luisa voted one? Okay.

Sam: Yeah, Luisa voted one. F-15. We had nine, okay, Ed is this yours I'm assuming?

Ed: Yes. The only thing I can come up with for a replacement is deletion.

Sam: What are you doing with this proposal? You are removing things? What?

Ed: I was removing the entire section.

Sam: Okay. Now, in the CUP sections, you have made these points there, correct?

Ed: Yes, in different situations. Once you do one of them, you're doing them all. To speed up, I'm not sure it [inaudible 03:37:41] to totally delete something like this because it appears that some people would support it, so if we take them as a group and just treat this as a competing minority, whatever it is, finding, probably four of these things, that might speed things along. Let me go see how many other places they are. It's in 15, it's in 23, it's in, that's the only two I can see right now.

Sam: This is the MOU you're referring to.

Ed: Yep. It's really contesting the basis of the MOU.

Sam: Okay, and I'm trying to remember, is there not something in the CUP section that contests the basis of the MOU?

Ed: I don't think we did because we weren't reviewing the MOU. That wasn't the [inaudible 03:39:04] use decision. That's one of the points. This MOU is not a land use decision.

Sam: I don't think anyone disagrees with that, that's not a land use decision.

Ed: This is really going at the logic that's showing in this F-15. To prove your points, make one point and propose language is the exact opposite.

Sam: Okay. F-15 as written, it's the text in this red color. We have informal polling. Nine 1's, zero 2's, one 3. We will formally poll on it and then we'll do a formal poll for the language that's below it. You know where we're at, we're on this. Okay, one, two, or three? Marge?

Marge: Oh, present.

Sam: Present.

Marge: [inaudible 03:40:19].

Sam: Marge is present. Everyone is voting one, Ed is voting a three. Katherine is voting a three. Luisa is a one. Andrew is not present. All right, let's now move to the alternative language here, which is the language below. If someone can highlight that in yellow. It's the quote language proposed by the threes. Will someone please highlight, in yellow, the language proposed by the three? Okay. The question on that is one, two, or three. Chuck is a three, Liz is a three, Marge is present. Russ and Sean are threes. John and Ryan and Mary are twos. Ed and Katherine are ones. Luisa is a two. We'll put both those poll side by side so people can see.

Greg: You referred earlier to is this addressing the CUP finding and recommendation, I don't know if CUP-R-10 is what you were thinking of.

Sam: What does CUP-R-10 say?

Greg: It says, "Determining authority of 2002 MOU as it related to pre-2002 conditions of approval and broadly communicating the applicability of the 2002 MOU to publish and manage community expectations." In that poll, nine had a two.

Sam: Okay. That's in there. This is the arguments that would underline and speak to the opposite. F-15. No, that's what we did. F-22.

Katherine: It's the second time, I think that these, especially this one, there's enough importance to give us just a moment to comment and I would like to do that on this MOU considering how much time we've given [inaudible 03:43:15] when we get into other discussions here, the 2002 MOU language, not just the assertions of what it represents, really is conflicting when it comes to how it related to all pre-2002 [inaudible 03:43:28] decisions. I think it's important that, so Mark Edgar is not voting under this group, but we've spent a tremendous amount of time voting back and forth on this and, with respect to the subcommittee CUP which didn't have direction to evaluate this, we found that there were inconsistencies with the statement of the MOU, the context where the MOU arrived in this space, and whether or not it actually had validity to state at all any conditions of approval [inaudible 03:44:01] up until 2002.
Quite, in fact, if you went to the next day after that MOU, one could already [inaudible 03:44:07] it's still out of compliance and space. I don't know how to capture that outside of what's said here, but I do think it's important to respect the work of this CUP work group sub-subcommittee. There was an extensive amount of time put into the evaluation of this MOU as it related to [inaudible 03:44:25] decision history.

Sam: Hopefully this will help on this one and others, everyone gets to do a member statement, so the issues like this that are important to memorialize, that is an additional opportunity to these oral comments that you have the ability to do. Anything else on that, Katherine?

Katherine: No, thank you.

Sam: All right, F-22. This is a nine to one formal poll. Let's see, here. This doesn't have page numbers on it.

Speaker 36: [inaudible 03:45:08] a new insert.

Sam: This is a new insert?

Speaker 36: Yeah. [inaudible 03:45:08].

Sam: All right, what is going on here? This is-

Speaker 36: There was a comment from [inaudible 03:45:42].

Sam: Yeah, there were two sessions on this [inaudible 03:45:46].

Speaker 36: Oh, I thought that was answered today but it's double sided, so that one and the other one.

Sam: Oh.

Speaker 36: That one [inaudible 03:45:59].

Sam: Language from today-

Speaker 36: Yeah.

Sam: Do they have that on their computers to see or not?

Speaker 37: They received an email with with a standalone file for that one.

Sam: Okay, do you remember when and from whom so they can pull it up?

Speaker 37: Yeah, it's also on the meeting 11 webpage if that's more easily accessible, but it was from me around 1:00PM that you all received an email with the latest revisions to a few individual findings and recommendations. This one was from Matt Patera that we got around noon.

Sam: Okay. Is this what is showing on the screen?

Speaker 37: No.

Sam: Can we get what I am supposed to be facilitating on the screen for people to see and read?

Speaker 37: We're working on it.

Sam: Ed, why don't you start with your background on this piece?

Ed: This is where, I think, looking at the document as a whole, there's a line by where we're getting into the very, very nitty gritty and big definitions and you can argue each item and being fully supportive of it, and respecting the argument the way its framed, the problem is it's the wrong argument to be having. In these cases, it's determining whether or not it's any conditions of approval are enforceable or are they bindings in document, or are they the expressions of, or the documentation that was provided and support both an ordinance.

It really doesn't make any difference. You can argue each one to death, but what I'm trying to get here with this proposal is to put in an additional finding that puts it all in perspective. Respecting everybody's individual team efforts to go through things in very excruciating detail, it's just going to back up and say, "Well, I live here. What does this all mean?" This is trying to put the history in context, so you can reach all the findings from the law department, or legal group, but you have to put it in context and that's what this paragraph is supposed to do.

Sam: To make sure I'm tracking this, you are not suggesting we put in the language, "I believe this question needs more review," you're suggesting that we add the language that begins in 19-83, "The county [inaudible 03:49:29] expectations."

Ed: I'm suggesting that just be a separate finding in both the CUP side and in the legal side so that people, as they approach these issues, have some context because when you get to the CUP side of it, we asked for a closer review of BC-83 and there were objections, there were three category, or three vote on most of those times we've done it. I'm just trying to find a way to get rid of all of the three votes by just putting in this paragraph at a new finding in two locations. [inaudible 03:50:20] the findings and recommendations that are in there, in the report right now, are so narrow, they can be true, but they're so narrow, they may be good for a court case, but they're not good for explaining anything to anybody.

Sam: Okay, just so we can get the number in the polling correct, it is LLU F-22 would remain the same and then we would put in an F-22-A, which would include the language in-

PART 7 OF 13 ENDS [03:51:04]

Sam: ... A, which would include the language in 1983 all the way down to the last line, which is closure of the landfill facility. Correct?

Darren: Yes.

Sam: Okay. So, I'm going to give people an opportunity to read, and I'm assuming that that would take your one.

Darren: Take my three to a one.

Sam: To a one, and so everyone is agreeing in the informal polling that F-22 is groovy, to coin a phrase. This would be the addition of F-22a, which is the language on the screen. So I'll give everyone a chance to review that. All right, so everyone appreciate what we're pulling on? We're pulling on, what's a new finding? It's

LLU F-22a, new finding. LLU F-22a. It is the language that is now in purple on your screen. One, two, or three. Yes?

Darren: I screwed up. In the public, next to the last line, should be the landfill owner operator. I sent you the wrong brief. That wasn't part of this.

Sam: We'll call it landfill operator.

Darren: Yeah, overall operator, however you want to use it.

Sam: That's fine.

Darren: You can use it as owner operator.

Ed: Okay. We have Chuck and Liz voting to three. Marge is?

Marge: I'm going to go with the CUP guys.

Ed: One?

Marge: You guys are one?

Ed: Yeah. And we've got Russ and Sean at three, we have John at a one. Ryan added two, Mary, Ed, Catherine as a one and Louisa has a two. Andrew, you back with us buddy? Apparently not.

Katherine: Five, two, four, with one absent.

Sam: Okay. Five, two, four, one absent. All right. F-22, F-23.

Katherine: There's some written language for F-22.

Sam: Got it.

Katherine: [inaudible 03:54:18].

Sam: F-22 remains as is, is correct. Is that inherent in your last vote? So your vote, because everyone agreed on that and it changed his vote from three to a one. So this poll to be clear, was on F-22 plus F-22a.

Katherine: I was on [inaudible 03:54:41].

Ed: What I heard Ed say was if that if F-22a was added, that he would switch.

Sam: Right. [inaudible 03:54:52]. We had a first poll on. Well, okay, so Ed, you would be going back to a three now, because your motion on the additional language did not pass.

Ed: Correct.

Sam: Okay, so we're just going to do it so there's no potential uncertainty here. We're now voting on F-22, no revision, just the language on the screen. F-22 with no revision. Can you show us that please? So, we have Chuck and Liz will be the one. Marge is a three. We have Rush, Sean, John, Ryan, one. Mary two, and Catherine and Ed a three. Louisa is a one. Now we're voting on F-22. We'll do that again, and F-22a. I'm not sure you need to read all of that one. We don't need to read all of F-22a. Okay, F-23. So, what are the similarities between this and some of the comments you were making earlier? Is this ones that are kind of related?

Ed: Yeah, the inclusion of that language about that was submitted this morning, that would've made this a one also. Because it puts it in perspective. Without that language it has to stay, from my perspective, it stays as a three, because looking at the record of PCE-837 doesn't mention as cell six. It's not shown on the drawings we were provided. It doesn't show up on a drawing until 2022. Admittedly, there was a gap between 2011 when it wasn't there in 2022. So it could have shown up in that 10 years. The bigger problems are the drawing places, the quality outside the approximate solid waste disposal boundary that was defined in that drawing. It is also outside the proposed solid waste disposal boundary. And then it goes on, it doesn't show the quarry as it is in the context

of six, and then it just didn't have any way to validate where the drawing came from. It was all cut off.

Sam: Okay, so we're going to first pull on the language that says draft six texts. Clarify when formal approval. So can that be highlighted please? And that's there, and then we will pull on. So are you saying, your language Ed, is it substitution or in addition?

Ed: It would be in addition.

Sam: It would be in addition to it. So, your three on the first one is because it doesn't include this additional language?

Ed: It provides no perspective.

Sam: Okay. All right. So we're going to pull one, two, or three on the existing language, which is in yellow on the screen.

Marge: I'm going to vote with the CUP people. And this just illustrates why I'm voting present on so many of these. Listen to how much controversy there is on some issues that some people have taken a great deal of time to research. So, I'll wait until I see their votes.

Sam: So we have Chuck and Liz voting a one, Russ and Sean voting a one. John voting a two. Ryan voting a one, Mary a two, Ed and Catherine a three. But if my understanding is, your threes would not be three, they would be ones if the next proposal passes, correct?

Ed: Yes.

Katherine: And Louisa is a two.

Sam: Louisa is a two.

Katherine: Andrew?

Sam: Is Andrew present? No.

Katherine: I understand. May I just clarify that we're not in full disagreement necessarily, but we are not able to conclude in the records that we have been provided including, still the issue with the 2002 MOU is inconclusive for the work that we have spent on this. The A-307, the site plan narrative, which is utilized as in favor of a previous finding, but then utilized not in favor in, now another finding. There's just a lot of inconsistencies that we can't conclude the same findings, and that's where this is at rather than being adversarial, it's just not something that we could come to conclusion with the records that we were tasked with doing.

Sam: No. All right, so we're going to propose on the addition of the language that begins, "Cell six is." That is what we are pulling on. So can please take out the... Yeah, I'm not sure what [inaudible 04:02:29].

Marge: He's just going to add that, right?

Sam: Yeah. Okay. Good. All right. So one, two three on this> We have Chuck and Liz voting threes, Marge voting in one. We have Russ and Sean three, we have John and Ryan twos we have Mary, Ed and Catherine a one, and Louisa A one. So what's the tally, please?

Katherine: Five, three, four and one absent.

Sam: Okay, five ones you're saying?

Katherine: Five ones.

Sam: So that is a seven to four majority minority opinion in favor of including it.

Ed: Sam, I know you want to move on, but I have a possible suggestion which is, how would people feel about adding a sentence to the end of the original draft six

finding on this, just to the effect of, "However no official determination has been issued by the county on this matter," or something to that effect. We just say a single sentence that adds that. It sounds like [inaudible 04:04:06].

Sam: I need to see the initial poll on this. The one underneath the page there.

Katherine: I think the original there says.

Sam: So the original poll, we have three people voting three on the original language. Would that make a difference to anyone that voted at a three? Would the addition of Greg's language that the county has not made in official determination change anyone's poll from a three to a two, from a two to a one?

Katherine: And that's an add, not a replace?

Sam: It would be adding a sentence. So, well that blue color isn't going to work here for his ability.

Katherine: That helps.

Ed: It's not a good color.

Katherine: Because what that does is mitigates both viewpoints in saying that the county has not taken an official position on this particular topic, which is, the 83 decision is an important set of documents, as is the MOU. So having that neutralizer, if you will, in between these two opposing viewpoints on what the record and the findings show might get us closer to that consensus.

Sam: Okay, we're going to have to take a third poll, which is fine. So this is going to be initial language, plus the addition of, "However, no official county land use determination," as we made on this point and then to see if that changes anyone's poll.

Katherine: So Sam, just to clarify, this will include the original language, Greg's additional phrase or statement, and Ed's proposed language as well?

Sam: That would be a combination poll, which we haven't done. We'd have to do that next year, after this. So we'd have all three laying out. All right, so what we are just voting on, so this blue is distracting me here from, what is the blue?

Ed: The blue is just our color coding for what has majority minority outcomes. So I'll get rid of it now, but that's color coding.

Sam: Okay. Yeah, I think it's a lighter blue. It's a lighter blue is what's throwing me off.

Ed: The light blue is here.

Sam: I couldn't see it.

Ed: Minority.

Sam: Okay. All right, so can you highlight in yellow please what we are pulling on? It's clarify when, formal approval through the end of what's already highlighted in yellow. That is what we are pulling on. Okay. One, two or three surrounding that?

Katherine: Clarifying, that statement does actually say, has been interpreted by Benton County. It's very forthcoming that it represents a Benton County position.

Ed: Yeah, so the nuance here, this is not a perfect solution at all, but the nuance is no official county land use determination this point. So the [inaudible 04:08:02] we use is not a land use decision. It's a county determination, but it's not a land use decision. So I kind of split, put things in and say, "Yeah, you folks are absolutely right." The county is not officially setting interpreted whether PC-8307 approved the quarry for land.

Katherine: And to clarify, so the county is asserting also that the 2002 MOU is in fact confirming compliance up until 2002, then. Is that an official statement?

Ed: The county has not stated that. The land use subcommittee has arrived at that conclusion. Again, it's not an official determination, it's just the subcommittee's conclusion.

Sam: So that's the proposal on the table. We have Chuck, Liz, Marge, looks like you're voting a three. We've got Ross and Sean, three, we have John a two, Ryan one, Maria one, Ed and Catherine are voting three. And Elizabeth, excuse me, Louisa is voting one. So what we have on that. Louisa's voting one, Catherine's voting three.

Katherine: Five, one, five.

Sam: We have five, one, five. So that passes, a majority of six to five. All right.

Darren: [inaudible 04:09:51].

Sam: Yes.

Katherine: [inaudible 04:09:55].

Sam: Okay, so we're going to list all of them, so people can see the vote and know why. Let me just do quick time check here to kind of come up with a budget of time. We have 19 to go in an hour and a half, so 90 minutes, 19, about five minutes a thing. If we have to go over, we have to go over. All right, F-25 looks like A, B, and C are perhaps linked.

Marge: Can I ask who voted C on this?

Sam: Well, it's the person that said not relevant. It is not a work part, product of the work group.

Ed: Pardon me. I get to do that again.

Sam: So this is your three?

Ed: And you can handle three, 25-A, B and C, D, E and F all at once.

Sam: Okay.

Ed: Actually it might be... Well, let's see how it works out that way. This starts off with a petition is circulating, C is the petition sponsors, C is petition sponsors. Okay, let's just stop right there. Those three, they come across as almost attacks on the people that came up with the petition. It's something that happened basically after the work group. I don't think it's part of the charter to critique public petitions. A lot of the explanation, if you just remove the references to the petition and just say what the statements are, try to get it down to a decision, and not poke fun or mention the public participation side of it. I just don't recommend it. That takes care of A, B and C. Just try to eliminate the references to the petition sponsors. You can do it by getting rid of the three of them, because they're outside the scope of the work group, or you can include them by making them softer and not attack like.

Katherine: Sam, could you comment on your perspective as to whether or not this is a work product in the work group?

Sam: Well, it's the work product. The question is, is it in the scope of the work group? There have been, we've had plenty of situations where things have gotten into the work group report that weren't initially contemplated as part of the work group's scope. This particular issue came up, and I think there's a recording in the land use... I mean, the legal subcommittee where this was vetted, and I'm trying to reconstruct that conversation.

The petition was called to my attention by one or more members of this particular work group. The best I can recall in the moment, I looked at that and said, "I'm not sure the commissioners can do this, even if they wanted to and it was good policy." I asked Jenny Lucker to look into the issue one way or the other and said, "What are the ramifications of this particular petition?" She wrote a memo, which I turned into. It was like a normal memo. I turned it into findings and recommendations based on the back and forth dialogue between one of the petition sponsors and the board of commissioners. The board of commissioners have since sent a memo out that Darren, or somebody over here that's more familiar with that can comment on about this. Can you speak to that, Darren or what was said or done?

Darren: So, the board is aware of the petition and has taken a position on what it can and can't do in relation to the petition, and some of the implications of it, so I would suggest that because the board is already aware of this issue and it has taken a somewhat askance view on it, the board doesn't really need it to make these findings, they're [inaudible 04:16:35] at this. So unless there's heartburn, I would suggest this may not be time to raise it, since there was already some action in relation to it.

Sam: The additional piece I'll add to that was someone at the land use, excuse me, the legal subcommittee said, asking about this, why I raised this. It's because I was concerned about a belief in the community that this petition would be able to accomplish on its face what they were asking to do. And if it was not going to be legally possible for them to do it, I wanted them to be alerted to the fact that this tactic, this approach, this petition, while accomplishing other reasons of alerting the commissioners to this, the concerns about having an expansion, doing it in this way may not be possible, and to try to get out ahead of the issues that would come up if this landed after the work group came. After the work group left, that this would've already been researched and people could react to it whatever way they wanted to. Marge?

Marge: Okay, first of all, thank you Ed for noticing this and for making the comments that you did. And I agree with Ed, that I think it's inappropriate to have this in here. I think it does attack... Okay, I won't say attack, but it ventures into the territory of people in the community being able to express their views. I think Darren's suggestion is terrific. We just take it out, and I want to just say one thing is that the Board of Commissioners did issue a statement regarding this and the first sentence reads, "The Benton County Board of Commissioners is aware that advocates are circulating a petition asking the board to delay its consideration of any land use action at Coffin Butte landfill until the county has completed an SMMP."

The petition actually says, "We are telling the board of commissioners to oppose any expansion in the Coffin Butte landfill before Benton County completes a SMMP." And the board of commissioners would have discretion to do that. They could say, "We don't have enough information, so therefore we deny this." They could say that. That's it. We're in there with this question, so that's all I have to say about it.

Sam: So two things, just making the record clear. What this says is not what that [inaudible 04:20:05].

Marge: What the statement from the commissioner said?

Sam: What this document in front of me says is different than what the Board of Commissioner said. They did not accurately, in my mind, summarize what the petition was asking to do.

Marge: I agree with that.

Sam: Pardon me? I couldn't hear you.

Marge: I agree with you.

Sam: Yeah, but this document does reflect what the petitioners are asking to do, and so that is an important [inaudible 04:20:46].

Marge: I still think Darren's solution is the best. We just take it out of here, because it doesn't belong in here. It's just inappropriate.

Sam: Okay. Anyone else want to comment on this before you take a poll?

Katherine: Okay. I guess I'm troubled by this, because really I have not heard about this petition except a few here and theres, so I also thought that this work group was leaning towards consensus, which would mean that we really would've had to have conversations on expansion of landfill leanings or inclinations, or public opinions in any number of our subcommittees. I definitely agree with Darren's recommendation that really, we're beyond this point. I'm uncomfortable in that we've really dove into a space that could be interpreted as intending to influence a land use application that we anticipate will occur. It just doesn't feel like it belongs in this space well, and unless we are going to take other public sentiments and while this one may be more organized through a petition, there certainly have been a lot of advocates for expansion. Unless we are going to take those with the same kinds of consideration and really step into, gosh, we're forming opinions or making recommendations and findings on expansion related topics. I'd also recommend that we just take Darren's recommendation and just remove these from this document.

Sam: Okay. So final thing I'll say [inaudible 04:22:40]. Final thing I'll say, and I'll ask Louisa to talk is that this is not about expansion or not expansion. This is simply a legal question about to what extent, if any, can the county legally do with the petition is asking it to do or not. It's nothing about, it has nothing to do with the merits or demerits of it. It's simply what the process is going to look like. I'll end there, Louisa?

Louisa Shelby: Well, I think that my thoughts, feelings were that we probably don't need it, but if there was more information on why we did do need it, I wasn't convinced on that. But if there was more information on that, I don't see why we need it, I guess.

Sam: Okay. Let's take a poll. Is there a specific proposal that someone is making on 25 A, B and C?

Marge: I propose we eliminate it.

Sam: There's a proposal on the table that we'll pool on, which is on, we eliminate 25-A, 25-B, and 25-C. We have that written down...

PART 8 OF 13 ENDS [04:24:04]

Sam: 25B and 25C. You got that written down. Joe.

Speaker 38: [inaudible 04:24:06] they're eliminated.

Sam: The proposal is to eliminate draft findings F25 A, B, and C. All right. We have all members present, voting the one to eliminate. Louisa? Okay. F25 passes unanimously. We're eliminating 25A, B, and C. F25 D.

Ed: This again the three, I have in there, and quite frankly, it was late at night and I think I had my coffee column to column going too far. This should've been one.

Sam: Okay. Let's take a formal poll on 25D with the language added that is in blue. 25D, with the language added in blue. Yes, Marge?

Marge: Okay, didn't we just make a proposal to delete it?

Ed: No.

Sam: No, he changed his vote from a three to a one.

Marge: Based on what?

Sam: It was something to do with coffee.

Marge: [inaudible 04:25:44].

Speaker 38: So, is the one in blue [inaudible 04:25:47] or not?

Ed: The line in blue is [inaudible 04:25:51].

Sam: He screwed up.

Speaker 38: Oh, the line in blue is a link.

Marge: [inaudible 04:25:52]. Oh, okay.

John: We all agree, Ed screwed up.

Sam: All right. One, two or three please? Polling on F25 D. Chuck? One. Liz, one. Marge?

Marge: I'm not ... Oh, okay. Present for now.

Sam: Present. Everyone present in the room is voting a one. Louisa is voting a one. [inaudible 04:26:37].

Speaker 38: [inaudible 04:26:38].

Sam: Marge, you'll remain present unless you tell me different.

Marge: I know.

Sam: 25E.

Catherine: [inaudible 04:27:00]. 25E.

Ed: 25E?

Catherine: Yeah, [inaudible 04:27:05].

Ed: Oh. Yeah, D, E, and F I perpetuated by mistake.

Catherine: [inaudible 04:27:13].

Speaker 39: What kind of coffee was it, Ed?

Ed: I think there was some brandy in that coffee or something. It's the only logical [inaudible 04:27:25].

Sam: All right, so we're voting simultaneously on F25 E and F, under the Patera principle. Marge, one, two or three?

Marge: Present.

Sam: Present. Everyone in the room is voting one. Louisa is voting one. So, those two. F26. So, this is new. One person voted a three. Can be seen with the naked eye. There are significant wetlands in the Wilson Wildlife area. So, I think the big concern here is this language that says, "No significant wetlands are identified in the vicinity on the county's adopted inventory." That's the distinction, Greg-

Greg: Right.

Sam: ... you are making. It's yes, there are wetlands, but they're not identified on the county's inventory. So I think that could be made read clearer, because a couple

people have been hung up by this. It almost should say, "While wetlands exist in the vicinity of Coffin Butte Landfill, they have not been formally identified in the county's adopted inventory." Isn't that what you're trying to come across and say? Or whoever [inaudible 04:29:46].

Marge: Can we discuss this also relative to the earlier wetlands mentioned?

Sam: Yeah.

Marge: It's [inaudible 04:29:53] in the recommendation.

Speaker 38: [inaudible 04:29:58]. Yeah.

Sam: So Greg, is that language change accurate? I think the part that's confusing is because it leads with, "No significant wetlands identified in the vicinity," people stop listening at that point because they know there are. And so, I'm suggesting someone edit this in real time, who's ever up on this. Instead of saying, "No significant wetlands are identified," I would say, "While wetlands are identified in the vicinity of Coffin Butte Landfill, they do not currently appear on the county's adopted inventory."

Marge: And that should be changed.

Sam: Okay, that would be a recommendation. We're dealing with a finding at this point.

Greg: Sam, I just feel like the word "appear" implies that maybe that's an error. It's not an error. It's the adopted inventory. But I agree with what you're trying to say, absolutely, that they have not been... There are wetlands in the vicinity. They have not been listed on the county's adopted.

Sam: Okay, well, put the right verb in there that you want to put in. I'm just trying to [inaudible 04:31:26].

Greg: [inaudible 04:31:26] inventory.

Sam: So, what is the word that we have up here on this?

Greg: I think [inaudible 04:31:28].

Sam: Not been listed on the county's inventory. All right. Now, you wanted to talk about the relationship to something, so go.

Marge: Yeah, but actually, are you acknowledging that there are significant wetlands and that they just simply are not-

Sam: Please listen to Marge.

Marge: Are you acknowledging that-

Greg: Yes.

Marge: ... there are significant wetlands, they just have not been identified within the county?

Greg: So they're as significant as we as lay people think of it. And yes, I agree in that regard. And then they're as significant as statewide planning who apply and lays out a process for determining whether a wetland is "significant." And those wetlands in that area have not been inventoried, have not been evaluated.

Marge: They have not been inventoried.

Greg: Or evaluated in terms of the Goal 5 definition of significant.

Marge: Oh, okay.

Greg: So, I agree there are. I would call them in a layperson's language "significant wetlands", but by Goal 5's definition, they have [inaudible 04:32:53]-

Marge: They have not been evaluated.

Greg: ... been evaluated and determined to be.

Marge: Okay, so that is really different than that there are none based on that jurisdictional meaning. That's a very different statement. They have not been evaluated.
Greg: Sure.
Sam: That's why I'm making the change-
Marge: Can we say that? [inaudible 04:33:13].
Greg: That, he's working on.
Sam: That's why I put up here, "While wetlands are..." It's not, "While wetlands are identified in the vicinity," because you're using ...
Marge: It's obvious there are wetlands. There are-
Greg: You can just say "present". Wetlands are present.
Sam: Wetlands are present. So, while wetlands are present in the vicinity of Coffin Butte landfill, they have not been listed on the county's adopted-
Marge: [inaudible 04:33:41].
Greg: Yeah. They have not been-
Marge: Evaluated.
Greg: ... evaluated.
Catherine: And identified.
Greg: And determined to be significant.
Speaker 38: Isn't it a [inaudible 04:33:53]?
Marge: And no determination has been made regarding their.
Catherine: [inaudible 04:34:01] say it.
Sam: So, keep working on it.
Greg: Yeah. I'm [inaudible 04:34:06].
Sam: While we have three people talking. So, come up with what language you think is best and then we'll see if the work group thinks it's best. So what is accurate from that perspective, and then we'll see if the work group agrees with you.
Catherine: So Greg, could you comment or [inaudible 04:34:22] whichever all of your [inaudible 04:34:23] over there, could somebody comment on what is that process to evaluate, identify or determine significant wetlands as it relates to Oregon's land use goal number five?
Greg: It's a comprehensive land amendment process. It's a typically extensive, region-wide evaluation and assessment of first identifying wetlands and then rating them on a variety of factors to determine whether they rise to the level of significance as is defined in the state-wide [inaudible 04:34:58].
Catherine: And is that consultant work to Benton County only, or would that ... we partners with adjacent counties also?
Greg: Well, typically it's on a county basis.
Catherine: Okay.
Greg: Or a county and a city [inaudible 04:35:11].
Sam: So, this language has to be fixed here. Let's get it narrowed. Majority, are you content with the language that's on the screen here?
Greg: It's repetitious from what we said in the previous sentence.
Speaker 38: How about in accordance with state land use-
Sam: [inaudible 04:36:22]. Put a period on it?
Speaker 38: Seemed like the words are interpreting two different [inaudible 04:36:33]. Significant in size versus significance. [inaudible 04:36:33].

Greg: So [inaudible 04:36:33] your suggestion?

Speaker 38: [inaudible 04:36:33] not been evaluated and determined to be significant in accordance with state land use [inaudible 04:36:33]. Or in accordance with state policy on [inaudible 04:36:53]. I think that it [inaudible 04:36:53].

Greg: So right there [inaudible 04:36:53].

Marge: I just want to say again that I think the significant thing here is that they have not even been evaluated. And so we can't judge what policy [inaudible 04:37:07] that. We can only say that we have not done the evaluation.

Sam: Tom. We need for you guys to come up for the language, then I'll facilitate the rest of the conversation here.

Greg: How about that?

Speaker 38: Should the 19 be review? It really didn't include those wetlands at all, because I would've thought the entire county's wetlands would have been ...

Greg: Yeah. I don't know the inventory process that went on at that time. Probably not [inaudible 04:37:53] limited result. The key thing ... So, there's two points to this finding, I think. One is that yes, there are wetlands in the area and they have not yet been identified and determined to be significant on the county [inaudible 04:38:17].

Sam: Right. And that's the missing word is yet. Not yet.

Greg: And because of that fact, the county cannot regulate it at this point. [inaudible 04:38:27] the county cannot regulate.

Sam: So we have to add the word "yet" in there. So, they have not been evaluated. Not yet been evaluated and determined. Then you can have the sentence you have now. Conduct comprehensive [inaudible 04:38:49] analysis, then you can then put until then, they cannot be regulated. Cannot be. That's fine. Okay? So, comments before we move to polling on the clarified language that shows there are wetlands, they haven't yet been evaluated. Until they are, they can't be regulated by the county. The state can still do their thing. Correct?

Catherine: Yes.

Greg: Correct.

Sam: All right. One, two, or three, please. Chuck is a one. Liz is a one. Marge is a one. Everybody is a one. Louisa is a one. Great.

Speaker 38: LLUs are done.

Speaker 39: Now we can go out to Chicago.

Sam: All right, let's take a five-minute stretch break and come back and get the CUP findings. [inaudible 04:40:24]. Twelve more to go. [inaudible 04:40:30].

Speaker 38: We can do it. We can do it. [inaudible 04:40:41].

Sam: All right. Next up, our friend the CP. F2. CUP F2.

Male: [inaudible 04:40:57].

Sam: All right. So, you can get it on the screen when you guys are ready. So, in informal polling we had nine ones, one two, and a three. Propose three says Benton County is not monitored compliance with XXX. Who is the proponent of the three here so you can translate the XXX for us? [inaudible 04:42:19] present? Who had the suggestion about ... I'm just trying to understand what the suggestion is. Anyone? I'm looking at a two said does it strictly pertain to the landfill or in all cases projects that have conditions of approval across the board? Clarification would be helpful. So, CUP subcommittee folks, why don't we deal

with the clarification first? The statement on its face is pretty clear. Benton County has not and does not actively monitor compliance with many conditions or approval, nor does it proactively act to enforce compliance. And so the question is, does this pertain to the landfill or in all cases projects that have conditions of approval across the board?

Ed: We were told it pertained to everything.

Sam: Yep, that was my recollection of that statement. But conditions of approval only exist when there's a CUP. Is that correct?

Greg: Most land use. Most land use approvals of any time have conditions of approval.

Sam: Okay. [inaudible 04:44:08]. All right, let's take a poll as written on CUP F2. Louisa? All members voting one. Let's move on to our friend, F3. Then county relies on complaints to initiate actions to enforce conditions of approval. The person that voted a three wanted to say Benton Country relies on complaints as a way to prioritize the initiation of actions to enforce conditions of approval for the landfill. Would the person present with that suggestion care to enlighten us? Help? [inaudible 04:45:08]. No one present. Let's vote as written. Benton County relies on complaints to initiate actions to enforce conditions of approval. One, two, three. Every member is voting one, including Louisa. All right. F10.5. The three person ... It was informal polling was six ones, four twos and one three. The person voted three wants to change the word recommendation on a finding. Benton County ...

Speaker 38: Right.

Sam: Is the person with a three there? I'm missing the word recommendation here where finding would be preferred.

Greg: No, it's not a word. It's that it should be a recommendation instead of a finding.

Speaker 38: It should be CPR.

Sam: Oh, oh, oh, oh, oh, oh, oh. That clearly is a recommendation, it seems to me, not a finding. Let's go on and talk about the twos here. Haven't had time to discuss [inaudible 04:46:52] recommendation saying it seems like we're [inaudible 04:46:56]. All right. So, the proposal is CUP F10.5, little i, little c, sub one, 37 hike is being converted to a recommendation that is as close as possible to where this would fit in the recommendations, unless anyone has a specific spot right now.

Greg: I would point out there is a somewhat similar recommendation in the legal land use section. I don't think they're necessarily in [inaudible 04:47:46] but they do cover similar territory.

Sam: Well, I suppose taking the time to reconcile the two, let's add it as a CUP recommendation. Ed, Catherine, do you have any specific suggestion where you might like it?

Catherine: Could look while we move on to the next thing, but I agree with it moving to a recommendation by effect and wondering how it ended up here, because I remember the discussions here. But ...

Sam: Yeah. Well, it could have just been transposition of the document. So, we're changing it. CUP F10.5 to CUPRX.

Catherine: Something.

Sam: X, and we'll figure out where it is. One, two, or three, please. Marge?

Marge: [inaudible 04:48:36].

Sam: Okay. All members present including Louisa on the Zoom are voting one, and we're moving it to a recommendation. All right. [inaudible 04:48:52]. F12. It seems like a similar recommendation to the person who voted three in one of the most recent ones. It's XXX name of specific ...

Ed: Can I kind of respond to both of them?

Sam: Yeah, go.

Ed: I read it as we should have done this. We should have had specifics, and we did. They're in the appendix. So, we went document by document and there's a list of 39 instances that we used to come up with these kinds of findings and recommendations. So, our homework was done. [inaudible 04:49:54] take a quick look or you're [inaudible 04:49:57] having too much paper.

Sam: So, [inaudible 04:50:06]-

John: See, that might've been me that I ... It was a while ago, but I think I may have done that because it seemed like a blanket statement. That's why I might've put that. So, what Ed just said makes sense to me.

Sam: So you feel now that you're retiring like confessing now? Is that [inaudible 04:50:23]?

John: Yeah, I want to get it all out.

Ed: [inaudible 04:50:27].

Sam: All right, so I'm going to make a facilitator suggestion here on this F12 that after the word "other government agencies", put see comma appendix X, whatever that's going to be. Are you [inaudible 04:50:50] Greg?

Greg: Yeah.

Ed: So it's the table numbers on that piece of paper so you can get the right reference table [inaudible 04:50:57].

Sam: So it's appendix something, table five.

Ed: Yeah.

Sam: Okay, so we'll have to have that filled in. And then make that same change to the one that John first confession. Going to cover all his sins, so where was that? That must've been ...

Ed: Was it F3 or 2 or something?

Sam: No. It wasn't 10, I don't think.

John: F2.

Sam: F2?

Ed: Yes.

Sam: Yeah? Okay.

Ed: And that was [inaudible 04:51:53].

Catherine: So I can poll on that one.

Sam: F12. So with that ...

Ed: [inaudible 04:51:58] I guess mine. CUP 12.

Sam: All right, we're going to pull on CUP F12 with the inclusion of the cross-link to the appendix and the table number. All members present including Louisa are voting a one on F12. Next up is F14.5. F14.5. So we have two twos here.

Greg: Sam, can I ask a quick question? On the last one, did you need to re [inaudible 04:52:55] two or should we just add the appendix?

Sam: We're adding that on. No one's opposing that.

Greg: Okay. I'll do that now.

Sam: All right. So, this is new. Two people voted three.

Speaker 40: Yeah, Sam, we could get to a one, removal of the last two sentence. [inaudible 04:53:16] opinion based.

Sam: And those last two sentence are this has resulted in a sense that the rules of the game have changed without notification or that what was authorized to occur at the landfill was altered without a public review process. This says undermine public trust. So ...

Catherine: [inaudible 04:53:41].

Sam: So, as I understand it, Ed and Catherine, your motivation for the last two sentences was simply more of a communication piece that things that were done back in 1983, they got superseded if you will by the 1992 Supreme Court case. Correct?

Ed: Well, that was only one of them. It was just three [inaudible 04:54:28] identified. The Supreme Court case was one of them. But it's [inaudible 04:54:41] can be that ... Something goes through a public process, has a lot of attention and gets agreed to, and then everybody goes their separate ways and then something happens. So the folks that went away don't necessarily get the information that things have changed and superseded or deleted. And that's I think [inaudible 04:55:23] is probably something that sounds a little bit underhanded, and that's not what the intent was. It [inaudible 04:55:35] something in ... changes over time that had not necessarily been noticed in public [inaudible 04:55:50] undermine public thought. Of course I could see where some of these words would be troublesome now.

Speaker 40: If I may, Ed, is there any consideration here to maybe working that into your member statement? I presume you're going to do one?

Ed: Oh yeah, it's going to be in there anyway. Yeah.

Speaker 41: Or the part of the education piece. Right? Because it's-

Ed: Part of what?

Speaker 41: Part of the education piece because really, this is just a communication issue. This isn't really anybody knowingly being distrustful.

Ed: Oh, no. No.

Speaker 41: It sounds like a communication piece issue. And I think it need to just either push it to the education portion or soften that whole thing, because it does sound a little bit like ...

Catherine: So would it be okay to eliminate the rules of the game, then have it state, "This has resulted in ..." Oh. A sense that the rules of the game. So, let's amend this. This says resulted in changes. Okay, so [inaudible 04:57:01]. Sorry, guys. Especially the [inaudible 04:57:03].

PART 9 OF 13 ENDS [04:57:04]

Katherine: Blue on pink is hard. Sorry guys, especially [inaudible 04:57:05] This has resulted in changes with notifications that what was authorized to occur at the landfill was altered without public review process. I think that's safe to say in testimony that the records that we have reviewed, but that's not an opinion, that can be a finding. I think we could eliminate the "in a sense that the rules of the game have changed" and just compress that sentence. I'm not necessarily, I think that this will support the communications space, but I don't know that I... Knowing how

we came to the conclusions of this finding, I'd be hesitant to just eliminate the statement.

Sam: So what is the specific sentence you're proposing in lieu of the sentence that begins "this has resulted"?

Katherine: So this has resulted in changes, I think it's supposed to be without notifications. Hang on. Sam, it's not my fault. This has resulted in, so strike "in a sense that the rules of the game" and state, "This has resulted in changes without notifications of what was authorized to occur at the landfill without a public review process." I think we've been strike also the "has altered." So it's really condensing the sentiment of there's been a series of changes and there is no record of notifications or public, and there are raising concerns or rising concerns intermittently throughout the record and certainly at present point. So this would just support any, if we were to leave this, which would be my preference, having reviewed the documents that came to this finding, this would support any similar outreach and engagement type recommendation.

Ed: In the court that this has undermined public trust is kind of like based on, what do we have at four and a half, six hours of public testimony? Probably 90% of it has been, I don't believe you. [inaudible 04:59:26]

Russ: So that's totally there the I don't believe you. But I don't know that we can say 51% majority of undermining public trust. [inaudible 04:59:35] if there's any measurement of that. So I think if we can just drop the "public trust" and work a little bit more on Catherine's proposed languages, language changes, we probably get the other thing. I don't know. You guys may know. I personally don't know if there were notifications before, maybe people just missed them, or I don't have that information. And so this sort of reads as if definitively there were not notifications.

Katherine: So if I can just comment on this space too. In observing the last few meetings where we are trying to come to some consensus on this, what's very evident to me is that because we worked, I would say, for most part successfully in our subcommittees, in this particular case, no one has the benefit of the breadth of the work that has gone in from our specific subcommittee, and that's true for any of the other subcommittees. I would just say that based on this work, we have been asked to give deference to each of the subcommittee members and their recommendations that this stay in place. I'm good with that amendment. I think we're okay with dropping "this is undermine public trust," meaning it doesn't necessarily need to be in the finding. It's evident but I will say that the public notification process and the engagement with the community and notifications of changes including ones that are bullet pointed here are not in the record. And that's what this is really about is a set of findings and recommendations to address.

Russ: That makes sense.

Sam: Okay. So I think the key is, and maybe this has been doing it here on the screen, we're removing the words "this has undermined public trust." The proposal is this has resulted, that's the back lady that's killing me, and changes without notification of, I would say, surrounding what was authorized to occur at the landfill without a public review process. So I think we're getting there, and that statement is true but changes happen with that. There would never be a public

review process that we're talking with the U.S. Supreme Court comes down and overrule something that didn't proceed a public review process in the sense of community involvement in a board hearing and what have you. I think what your people are trying to get across is when there are meaningful changes, let people know and tell them why, right? I mean things change. Let them know and tell them why. And depending on what is the motivating factor, there may be a public review process, there may not be, and it's a function of what it is. So I would think just taking them one at a time.

Katherine: So is your statement to the phrase "a public review process," are we better to look at that as a public engagement process?

Russ: Communication.

Sam: All right.

Speaker 44: Communication education.

Sam: Yeah. What I'm hearing-

Daniel: [inaudible 05:02:59]

Sam: Okay. What I'm hearing everyone say is that look at when the county takes an action, it creates an expectation. When a subsequent action either motivated by the county or external the county happens, that changes an expectation. Notification of that should be made. And when there is already established opportunity for a public review, that be part of it, right? That's what you're trying to say here. So I think it's without a public review process, if one is available.

Katherine: Are you recommending a significant change to this language, because this language does support what you're saying? I don't know how I would rephrase this, how much time I want to spend wordsmithing it. I think we're saying the same thing. If we want to spend time nuancing it, I think we can. It is about communications. It is about public review also where appropriate. It is about public engagement generally.

Sam: Okay. But I was just trying to tee off what other people were saying about changing into notification to do it. So let's vote on it as it is on the screen here.

Katherine: Sam, you might have a public notification process.

Sam: Pardon me?

Katherine: A public notification process. Is that must get word?

Russ: I think that's stronger. I think it captures kind of both sides of this coin.

Speaker 44: Louisa's trying to tell you something.

Sam: It is. Why don't we just let Louisa tell us orally because the screen flashes in the chat too quickly for us to read unfortunately?

Louisa: You might be doing just what I was going to say. I just don't think we should take the public trust part out, but the undermined word needs to be changed. So it sounds like you're now doing what I wanted to say maybe. Definitely acknowledge that the public trust part.

Sam: To ensure public trust, you can frame it positively.

Russ: That works.

Sam: This has resulted in changes without notification what was authorized to occur at the landfill... Well, we didn't-

Katherine: Without a public notification process to ensure public trust.

Sam: Okay, put that in. So I guess what I'm saying is this is stating it in the negative, and I'm hearing other people around the table saying, wanting to state in the

positive to make the same point and it is. When there are changes that are made, the public needs to be notified and have an opportunity to be heard when appropriate in order to propose public trust.

Louisa: Except is that a recommendation though?

Sam: Well, it would be. Okay. So on this one, I'm currently brain-dead. So someone who wants to make some change, otherwise, we're going to vote on it as it's on the screen.

Katherine: So Sam, that seems to lean more towards recommendations future. It does take out the past review of this subcommittee where we came to the conclusion. So it becomes more present tense in that recommendation, which is okay, but I don't know that I want to erase that historically where we looked this is what we found. And I don't know that it's enough to bring it to a whole nother finding as much as we could capture it here.

Sam: It's on suggesting that unless someone has a different language, we vote on it as it is on the screen.

Louisa: It doesn't really make sense though totally so.

Sam: How would you have it make sense Louisa?

Louisa: Well, can...

Katherine: [inaudible 05:08:28]

Louisa: Could we just say it weakened public trust or something like that? I'm trying to look for a synonym.

Sam: Under this new formulation, you wouldn't need a synonym because that word is gone. It would be a process to ensure public trust. This has resulted in changes at to what was authorized to occur at the landfill without notification or a public review process that would ensure public trust.

Katherine: This was...

Sam: All right. Let's go with if you can highlight that last sentence there.

Daniel: Yeah, I'll put it on together.

Sam: Okay. All right. What's the whole thing? We're pulling on all that. And that is F14-5, F-14-5, one, two, and three. Marge, all members present voting one, including Louisa on Zoom. Thank you. F-18.

Katherine: Oh Sam, can I interject just briefly? So the moving of the finding 10.5 would fit very nicely in recommendation 18.5 slot. It comes right after recommendations that have to do with similar assignment.

Sam: So you would put it right after 18, would become 18.5.

Katherine: Correct. So right between 18 and 19.

Sam: Thanks, Marge. All right. Our friend, F-18.

Russ: Yeah, to go from three to a one and drop last sentence beginning about 10. It's just we couldn't read consensus period.

Ed: Yeah, because it's already addressed by the legal subcommittee? Is that...

Russ: Well, it's a perspective that others don't share and so it sort of reinforces that we couldn't reach consensus, so why is it needed? We've got a sentence that says we couldn't reach consensus, say period after decisions and what's poll? And that would takes to one.

Ed: Well, the way we get at that is we took the number of cases that we had up until the 2002 date and said well, all of these are decided or governed by the MOU now as opposed to the individual case. So that's how we got to the 10 land use

matters and we had reviewed about 20 and the conditions of approval were just what's associated with it. So it was just more just fact-based.

Russ: Listen, I'm not challenging your math. I'm just saying there are people that disagree with the assessment about what's applicable, what's not, and we're among that group. And so in spirit, trying to reach consensus quickly, this is our suggestion. I mean, I'd fully respect this, that's your perspective and totally get you guys put countless hours, thankless time into it. Perhaps that could also go in your member statement.

Sam: Okay. So just to be clear, everyone agrees to the first sentence.

Katherine: So Sam, I'd just like to say that I think that that second sentence is our finding.

Sam: Okay. I promise to get there, all right. The first sentence everyone agrees to. So all the second sentence is doing that says depending on how you rule if you will on the 2002 MOU, it has a potential of impacting 10 land use matters and 53 Conditions of Approval. So Russ, you're not disagreeing on the second sentence. I mean that is the math. It's not saying that, and I think it is as a matter of fact true that if you interpret the 2002 MOU differently than the legal subcommittee did, then that is the impact.

Russ: Then let's say that. Let's say if interpretations are different than LLU number, whatever, then that's the impact.

Sam: Okay. So perhaps the... Threading the needle here is keep the first sentence as it is. The resolution of this issue potentially impacts, and then about 10 land use matters. This is awkward, matters decisions over half the decision. I'm not sure what that's trying to say or is it affects 10 land use matters, which is over half of the decisions and 35 Conditions of Approval. Is that the fact of the accurate statement as for Catherine?

Katherine: So I apologize, I thought you were finished when I interjected earlier, but I guess my point is this, the legal land use subcommittee has their platform to express their interpretation of this. I believe that between these two committees, we were reviewed at different set of documents that lead us to perhaps different conclusions. And we don't have the luxury of coming to consensus with all of those materials in front of us. This is the CUP finding. I do not think that we need to acknowledge another subcommittee's findings in our own conclusion. And I do support generally where you're leaning in that rephrase a little bit, but to me, especially the folks that is public, our Benton County commissioners, any members of our community that are going to be looking at this document later, going to come to that conclusion about how many land use decisions were impacted potentially here. And it seems important that we just capture it as a matter of a CUP finding irrespective of the disagreement about that MOU and the impacts of it.

Sam: That's exactly what this proposed language is doing is just rephrasing it. So no one's arguing against that. I think Russ said he was open to this treatment of it. So you would build beginning to a place that you could say yes, the resolution of this issue potentially impacts 10 land use matters, which is over half of the decisions containing 35 Conditions of Approval.

Russ: Can we do one small tweak between issue of potentially just say like comma, well a subject of debate, comma.

Katherine: We've already stated we have not reached a consensus on this.

Sam: That's the first sentence. Everyone has agreed that the first sentence is okay. The resolution potentially impacts them. That's the true statement. We doesn't say which way. It just is saying the point that I understood the CUP subcommittee trying to get across is the resolution of that MOU affects a whole lot of things, over half of the decisions which are 35 Conditions of Approval. So what was your suggestion, Russ?

Russ: You're correct, Sam. It doesn't specify how it impacts.

Sam: Yeah, it's your holiness. I'm bask in your brilliance and glory. You are correct, again. Thank you for enlighten me as to the way the truth and the life. Was that basically what you just said?

Russ: A little generous.

Sam: All right. One, two, or three as put on the screen. Mark one, two, or three on this. Everyone's voting one. That's what I heard, Russ.

Russ: That gets us to the end.

Sam: You'll agree? Is that what I'm hearing? Yeah, we'll wait after this. Okay we are on, are we at 19 now? Our friend 19. Is this a republic three that's suggesting a two or potentially one?

Russ: It is Sam, but I'm sorry, I need a quick second. Can you jump to the next example?

Sam: Excuse me.

Russ: Can we jump to the next one? Come back to that. Just kick it out of order from home.

Sam: [inaudible 05:19:39] our cheat sheet here so we know. That was 25. And so those three basically said I haven't had time to vet or review is the person who voted a three because they didn't have time at least as of the informal polling to vet or review here and ask.

Russ: Yeah, we can go in poll set.

Sam: All right. Are we on F-25, right?

Russ: That's correct.

Sam: All right. F-25, one, two, or three mark.

Katherine: Present.

Russ: Present.

Sam: Every member is voting one. We have Mary, Russ, and Sean voting two. You want me to go on 26th or are you ready to hop on that?

Russ: I'm not yet. I'm still...

Sam: F-26, new. Okay, so this is basically the same comment twice. So this must be a republic comment. That's going to be to three. So would you like to speak to that?

Speaker 42: Yeah, so I'll take the next one. The concern with finding 26 is that it leads the impression that we reduced our closure fund in the 1990s and does not address the bigger picture of how closure and post-closure funds work and what has subsequently happened over the last 30 years. So yes, on its phase, F-26 is accurate. However, when we closed a cell, we shipped money from the closure fund to the post-closure fund, because the cells closed so the money is not reflected in that area anymore.

So what actually happened in this situation is that the closure amounts were reduced in the closure fund but they were increased in the post-closure fund. In

addition, we update both the insurance and the amounts in the closure fund and the post-closure fund every single year. And those amounts are sent to DEQ and then subsequently approved by DEQ. So as a result the post-closure and the closure fund have in fact increased significantly from the 1990s. And now sit at 16.2 million for the closure fund and five point something million. I have it here for the post-closure fund, and I feel like this finding as written does not reflect the bigger picture of how post-closure and closure funds work. Closure funds go up every time we build a cell. Post-closure funds go up every time we closed a cell.

Sam: Okay, Audrey, listening to that, your comments on the general procedure.

Speaker 43: Well, this one and the one that Russ is working on, I mean if you want clarification, the clarification is that I mean the one Russ is working on, it's not funding that's necessarily given to DEQ if the landfill owner or operator can't afford to its money set aside for the landfill owner or operator to use if they have to do a worst case closure and then also to ensure they can close and maintain in post-closure a landfill.

So that's one suggestion for the one Russ is working on. And then for this one, you could add some clarification along the lines of what Ginger is just talking about, but I mean this is actually factual. I think the concern is that overall the thoughts about financial assurance are not really clear in site closure plan. So I'm not sure how to address it. Maybe it's adding a sentence that says something along the lines of every year as cells are closed or opened, the financial assurance adjusts to operate, close, maintain in post-closure. And if ever corrective action is needed, make sure there's funding for all of that. I don't know. That was a big long statement.

Speaker 45: That's what we needed, one sentence. Daniel, got it.

Daniel: Okay. I missed after, if ever...

Speaker 43: Well, what you could say is every year a landfill owner or operator has to identify the money needed to operate, close, maintain in post-closure, or if there's ever corrective action, have money set aside to handle all of that. The owner-operators responsible for making sure everything about the landfill can be accomplished with sufficient funding.

Katherine: So if I could comment on that.

Sam: Okay, let's capture it before we comment on, because I'm not sure [inaudible 05:27:00]

Katherine: The comment on specific to capturing it, that is not our finding. So what I would suggest is that we, I'd like what Ginger said and I think that this is a far greater topic that requires more than just a single statement that we did not find in our review. So it wouldn't fit in a CUP finding, but that we put a link to explain the greater context of closure and post-closure requirements, and we allow, whether it's Ginger or the republic team to develop an appendix, either statement or set up, whatever. Whatever you said would be great because most people do not understand post-closure, closure, or any of those requirements of financial assurances. Certainly outside of this group would likely to find you. So I am not comfortable with this being a finding. We did not conclude this, but I do think that pointing folks to more context to this is really important as we navigate this topic publicly moving forward.

Sam: Okay. So either way we still have to capture that concept so we don't lose it before we get to where it goes or doesn't go or anywhere in between. So Daniel, where are you other than putting in ellipses?

Daniel: Yes. All right my favorite, favorite technique. Two versions going furnaces every year. The cells are opened, closed or opened. The financial assurance adjusts to operate, close, maintain in post-closure, and if ever corrective action is needed, ensure ... I didn't get the rest of that. The alternative option was every year landfill owner-operator has to identify the money needed to... The landfill owner-operator I think needs to ensure... I'm not sure. I couldn't capture everything.

Sam: Well, and now she's being...

Speaker 43: Oh, Ed was first.

Sam: We'll come back to that Ed.

Ed: Yeah. What Catherine is suggesting is separating the concept because they're once fact based. And when you get to the every year part, I was trying explain the process and they should be separate. And as you pointed out to go to an appendix, where that came from was a review of DEQ files. When you start going through this, you see letters from a bank. What is a letter from a bank doing in this file? And it's approving the transfer out of the financial assurance fund to pay for the cost of closing a portion of the landfill in 1994 maybe. It was just a recognition that that money can come out and it was reduced because...

PART 10 OF 13 ENDS [05:30:04]

Ed: ... and it was reduced because the landfill owner at the time said, "I've closed a portion of it. The EQ agreed." The bank said, "Okay, you satisfied it. Here's your money." I think it was like a million four, or something like that. That's all I was trying to convey, that this goes back and forth. It was just a simple finding. So I can give you the paperwork if you want it, but I don't have it in that-

Katherine: I don't think anybody's questioning the validity of this particular statement and finding. I'm just pointing out that because it ends with, "These amounts were reduced in the 1990s," it can lead, and it does leave in my opinion the impression that the funds have been reduced and stayed reduced, because we don't reflect the fact that they're updated every year per requirements with DEQ. So every year, as Audrey just said, we are required to identify the money needed to be solvent in the closure and the post-closure fine.

Ed: And that's where Catherine's suggestion of putting it that explanation somewhere. Put something in. The amounts are adjusted every year. Please see such and such for an explanation, just kind of-

Sam: Timeout. Okay, there's three actual conversations going on at the same time. All right, but before I try to wrap this up and put forth a suggestion that I think could work, I saw Liz's hand up, and then John's hand up.

Liz: I think it's completely fair for us to add to your findings. I think we've been adding and expanding on people's findings or doing links. I think it's okay. It doesn't disrupt your overall message, so I disagree with that point, Catherine. I think we can clarify a little bit more. We understand what your point is, but I do agree that it leaves us hanging, looking like maybe the funds were spent and never replaced. I don't think that that was your intention. So I think we can update a little bit-

Katherine: It's just an indicator of what documents we were tasked with reviewing. It's not a matter of whether or not it fits here. It's literally, these are the findings of which we were tasked to review.

Liz: But you guys did the same thing to our findings too, right? We reviewed what we did and found our findings and you-

Ed: Oh, you did it first.

Liz: I'm not saying it's tit for tat. I'm just saying this is part of the process. This is what we've been doing, is finding compromises. Right? Allow us to have compromise.

Katherine: This is not a finding from within our review of documents, and that's the challenge.

Sam: Okay.

Ginger: So Catherine, just for clarification, are you saying-

Sam: Wait. Ginger, it's not your turn.

Ginger: I have one question. It really speaks to what Catherine's talking about here. Are you saying that you did not see or have the ability to review any closure or post closure reports for financial assurances from sometime in the 1990 throughout 2000 to 2010 into 2020? Because that's 30 years more of documents that could have been reviewed.

Katherine: So I'm saying that this is the conclusion of our group with the documents of which we reviewed. Some of the documents came on Wednesday before the Thursday when we started this process. I think it's very appropriate for us to link to another set of, really the broad scope of what you're talking about, because it's an important part of your narrative to explain to the public what are concerns that we're hearing are landing in this space.

If we can use this finding, here's the finding that we've included based on our assigned work on the documents that we were given over 50 years, which do not include what is now being proposed to be added. It's not a finding. This is everybody else's interpretation. But I think this is the perfect opportunity to take that finding and point to something that we could never capture in this finding, which is all of the nuances and all of the details that you are talking about, because it's an important answer to the question of closure and post closure, which continues to show up.

It's not just in this finding. So I don't have an issue with us pointing to that space, and in building a broader set of context and documents. I do have an issue with us placing it as a finding when in fact our subcommittee did not conclude that finding. This is just a finding. So using it as a tool. Right?

Sam: Okay. John?

John: How about landfill closure requirements are complicated or something? Or something. "See appendix," whatever. I'm kind of trying to get in the middle here. I'm okay with this language if it was somehow condensed. But I'm also understanding, I'm trying to compromise over here. So let's lead to a appendix that really has the full explanation of how landfill closure happens, and what are the... all the different way the money goes and all the details. So if someone really wanted to find out how that works, they could. But say it here, because it's important here. Okay?

Sam: The problem with that is I'm understanding that there is no explanation in the appendix anywhere of what there's any. We would have to create that, right?

Katherine: So even what Ginger said was super helpful. Is that not something that could be drafted for this purpose? That would be-

Ed: Yes, we're all about public education. Yes.

Katherine: I mean it would be far greater than anything you could land here, and a greater context or a greater explanation of closure and post closure processes is provided here. Is very appropriate in this. That's not a finding statement. That's leading people to other information and understanding of this process.

Sam: So let me try to help. I promise to get you, Audrey. What I was trying to do, because that didn't work because of the passion apparently surrounding this, is simply get Audrey to finish her sections that Daniel didn't catch up with. That does not mean that they would be added to that finding.

It simply was a process technique to figure out what could work. Then the next question is, where does it work and put into it. Second macro point, because this has come up and I wish I had done this sooner, is that at this point, these findings and recommendations are of the work group. They're not of the legal subcommittee, the CUP subcommittee, the LLU subcommittee. They are what you as a team are putting together.

I'm hearing no one say that whatever we give out by way of findings, that they'd be accurate and tell a full and balanced story. The only issue is, how do we go about doing that? So my plan, which I hope you give me some indulgence on, is to first get Audrey to write down what she believes the process and procedures are. It just happens to be on this piece of paper, because that's what we have on the screen. It doesn't tip our hands to inclusion or exclusion. Get that nailed, and then we can proceed and see how to go. So, Audrey.

Audrey: Daniel, are you ready?

Sam: Okay. And do this at half speed.

Audrey: It's a suggestion starting over. I suggest saying something along the lines of closure in the 1990s met DEQ closure requirements utilizing the financial assurance available to the landfill owner.

Sam: Okay, slow down a little bit, because he can't type as quickly as you can talk. Met DEQ closure requirements.

Audrey: Utilizing financial assurance that the landowner had. That's the bank statement you saw. I think the next piece is to say ongoing construction, operation, maintenance of the landfill has to meet DEQ requirements and maintain financial assurance. For explanation on financial assurance, see appendix. What do you think?

Sam: Okay, just take this one at a time. My first question is, is there anything in the appendix that we're likely referring to? Because I'm not seeing anything.

Ed: Yeah, it's like when you're referring to appendix, actually, there's nothing in the appendix.

Liz: There isn't an LLU2.

John: LLU3 finding 3B has a brief explanation of what these funds are going for.

Sam: Okay. So you would have to, instead of saying "See the appendix," you would say-

Liz: LLUF3.

Sam: ... "You would put the specific finding," which is then linked to an appendix for other purposes. I'm just trying to-

Ed: Just there's even more, because Brian addressed this issue back October ish. So in the appendix for the CUP, there's an appendix that goes through all of that.

Sam: Okay. So let's just-

Ed: I just can't find it fast enough in the paper copy, but I'm going to find it.

Sam: Okay, so we're going to put, "For explanation of financial syringes is see LLUF..." is that 30 B or 3B?

John: 3B.

Sam: "3B, and..." Then we'll do it.

John: Well, I mean, it'll take a while.

Sam: Yeah, and we'll put "Dot, dot dot, see Ed. Go see Ed. Go see Ed. Go see Ed."

Katherine: Yeah. Three sentences isn't very good.

Sam: All right Catherine, while he's looking, one of the points I heard you say, and I'm trying to make sure I heard it correctly is, you believe it's important to keep this... Financial amounts were reduced to reflect closure, because that's all you found in the documents. That's what you found in the documents. Ginger asked you a question. Were all the documents up to the present reviewed? Does that lead to a different finding or a different result?

Katherine: Well, so we're not making a finding on a presumption that there's documents we couldn't or did not review. Our subcommittee was a very different in that it was to review compliance of past land use decision conditions of approval generally. That's what we did. We didn't choose to interpret them. We didn't choose to... I mean we looked far, and deep, and wide, and I think you can speak to that. The amount of work that Ed in particular did in working with DEQ to go through and look at documents, there is no way for us to conclude solidly that we've looked at every document, because we wouldn't necessarily even know where to ask for every document.

But what is important about this subcommittee is that we weren't coming up with proposals, or ideas, or recommendations. We were literally looking at the publicly made available record of the land use process. This was just a simple finding that we came to. It isn't really a debate issue, and I think it's really useful for us to point to further resources on closure and post closure. It's literally the finding that we came to a conclusion of.

Sam: So the pushback you're getting... and my job is to try to get you together as much as possible, is that this statement on its face doesn't say... Which may help, may not. "Based on the records the CUP subcommittee reviewed, we believe this statement is true."

Katherine: Mm-hmm.

Sam: If you have other records, or DEQ has other records, that come to a different conclusion on this, then I think if you cite them like we used the citation to solve other findings and recommendations earlier, that is something we should consider. But it's the absence of the statement. On the face, the statement says, "Period." What I'm hearing is, based on the records you reviewed, this is accurate. It doesn't mean the opposite is inaccurate.

Katherine: This is all true. But as we were discussing, I forget which topic and subtopics we had that Greg was helping us with. In our introductory statements on all of our findings and recommendations, they're based on the review of the documents that we were provided. So unless we're going to make that statement because

we feel it's important for every one of our findings, because it is in fact the overarching statement and the task of this work group, it seems redundant to place it here specifically for a reason that I think we can point to the other materials to support this particular set of findings. This is all we were able to conclude.

Sam: Okay. Ginger?

Ginger: I would suggest that in the interest of not being... keeping all of these hardworking people here all night, we pull on this as is and following Catherine's suggestion, we can address this, and that person come up with additional citations.

Sam: Okay. What will be put in yellow is whoever is driving. Yeah, this is what's in yellow. It is the original statement, plus Audrey suggested two sentences. Ed, did you have time to find the CUP appendix so we can make that complete?

Ed: No. I'm three quarters bring dead.

Sam: Well you're more alive than me.

Ed: Yeah. I think we're making it too complex. Everything that Ginger said, these reports, there's other things that weren't part of the review, this was just part of what came out of the DEQ portion of it. Brian Fuller in October laid out the financial assurance thing. Then it goes up and down. It probably happens. We need to look at the numbers that closely.

In the discussion back in October about closure of... There was one [inaudible 05:46:05] that had closed cells on it. We talked about white men. I think it starts getting too key. I'd stop it at... there's addition. Stop it before you add the... Fine, closure in the 1990s and currently meet requirements for financial assurance. If you're trying to assure people that things... that there's financial assurance, then you can say something like that. We didn't review it for whether it's adequate. What we did review says it's inadequate, because it doesn't cover reclamations. It only covers reading DEQ's requirements, which are not the land uses that the comment required.

You see what it opens up when you keep hearing it back? That's what we're just trying to say, "Okay, this happened. I can see where you could be worried about it, because somebody would say, "Well what's happening now?" You've addressed it partially in the LLU.

Sam: F3B.

Ed: If you even just refer to LUFF3B in comp appendix, whatever I find. I think that's it. You're just going too far.

Audrey: Sam? Sam, can I make one modification based on what Ed just said? Take out the second last sentence.

Katherine: The "Starting with the closure"?

Audrey: Starting with "Ongoing." Because the closure was done. Your document said it meant DEQ's requirements, but just take out that.

Katherine: So that's an incomplete... What's that sentence starting with closure going to say then? Oh, there it is. Nevermind.

Sam: So hit Control Z and let's see it back what it was, because it's not making sense at this point.

Audrey: That makes sense. Well you could, to make it make sense, you could say the landfill owner utilized existing financial assurance to close to meet with DEQ requirements. That's what I was trying to say.

Sam: So what...

Audrey: And then take out that "Ongoing construction" thing, because that's where Ed said it went too far.

John: Is that what you said?

Audrey: Yeah, to meet DEQ closure requirements. Because what Ed's trying to say is it doesn't necessarily meet land use requirements, but it met DEQ requirements. Then take out the next sentence and... Except yes, yeah. There.

Sam: Okay.

Audrey: Is that better?

Sam: Catherine?

Katherine: Yep. Yes. Thank you, Audrey. I'm just... So when I see this for explanation of financial assurance, because again this is the opportunity to take somebody looking at this to the next space. So LLUF38 and the CUP appendix, will that include some of the narrative of what Ginger was sharing? Because I do think that really captured it really well. Put it together in a nice package with the bow on it. That might help support LLUF38 and the CUP appendix. Will we include that as well? I mean I guess that's an ask.

Sam: I don't know what is in the CUP appendix or LLUF3B. So-

Speaker 46: We were unable to find the appendix, but LLUF3B had a three paragraph general description of what closure, post closure and site maintenance, how that relates to financial assurance costs. So it's pretty general and pretty...

Ed: [inaudible 05:50:47] Luisa's poling. There's another question. Luisa, the poll is, does the facilitator look like George Clooney? We're saying he's voting-

Speaker 47: I just have to leave for a sec. That's my vote.

Ed: All right.

Katherine: That's it. That's it. Right.

Ed: You go, guys.

Speaker 49: What are we waiting for?

Sam: The poll.

Liz: I'm kind of just enjoying Luisa's number one up there. The whole green thing on them all.

Audrey: Well, if it's just getting to 100% on anything-

Katherine: I like the way she's thinking!

Liz: Me too.

Sam: Okay, we just have to move on. I'm going to suggest that you give staff license, that if there is a specific CUP appendix, that it'd be cited and put in there. We don't have to... because are anyone in the room going to go to that appendix tonight and look at it to make sure? No. So let's poll one, two or three on the language recognizing that staff has authority to fill in the appendix. So we have Chuck, Liz, Marge as ones. Russ and Sean as twos. We have John, Ryan, Mark, and Catherine as one.

Katherine: Wait, no. Wait. Yes.

Sam: As a one. Luisa as a one. Ed, what are you voting?

Ed: One.

Sam: One. Okay.
Ed: Thank you, Luisa. Sam, whenever you're ready we'll go back to it.
Sam: Thank you. Let's go back, find F19.
Audrey: So close.
Sam: Are you trading votes over here, or what are you doing?
Audrey: We're super into it, so I don't know.
Sam: All right. We're at F19. Republic?
Speaker 48: Yeah, originally three. Could go to a two, potentially one. It took a little bit. I appreciate the indulgence just to look at in the real time draft provisions. Basically, everything after for example, there's a lot there. A lot of it is sort of DEQ purview. We just needed a little bit of time to think that through.
Our issue is really just with the last line. In the interest of expediency, I think we found some language that we believe would move us to the left here. So the proposed language in lieu of the last sentence beginning "With the current proposed plan" would be "Republic prepares annual plans to verify there is sufficient financial assurance per DEQ requirements." Happy to read it again.
Sam: Go ahead and read it again to make sure we got it.
Speaker 48: Republic prepares annual plans to verify there is sufficient financial assurance per DEQ requirements.
Sam: Okay. Let us pull on the modified version of F19, which includes striking the previous last sentence and adding a new one. One, two, or three. All members present are voting a one, with Louisa voting a two. F26. F27.
Speaker 48: Yeah, that one was also me, and maybe I was drinking some of Ed's wine. Feel like it's unfair to be... I realized, it's a finding, it seems a little unfair to be calling something out 20 years ago. But in the interest of getting this done, we can move from a three to a two.
Sam: Okay, we'll need to poll on CUP F 27.
Ed: Does anybody want the background information?
Sam: No.
Audrey: No.
Sam: Apparently not would be my sense of room.
Speaker 49: What a facilitator.
Sam: Okay, we have-
Katherine: Oh, wait.
Ginger: 27 and 26.
Katherine: 27, right? We're talking 27?
Sam: Yeah.
Katherine: So our task was to review the compliance of the record of the application decisions approval. Calling out something 20 years ago was part of our charge.
Speaker 48: I'm aware of that.
Katherine: So with respect to that space and trusting and stating with assurance that Ed has done his homework in this space, and I don't know if even those of us on the subcommittee have the same depth of knowledge, and certainly not this work group not having had the opportunity to review what we have had.
Sam: Catherine, you're about ready to win this one.
Ed: Yeah, you know it's all your head.
Sam: At an old trial, a judge once told me when you're winning, stop talking. So now-

Katherine: I just want to make sure that we're not making a statement that 20 years ago, compliance issues were not part of this task. They were.

Sam: It's being voted on literally as it is on the screen here.

Katherine: Excellent.

Sam: Everyone is voting. Well Catherine, you haven't voted yet.

Katherine: Me, and myself and I.

Sam: Okay, so everyone is voting in one, including Luisa with Russ and Sean voting two. F29.

Speaker 48: Yeah, so on that one, we were... It's kind of the spirit of the same thing. I get it. You guys were reviewing one particular document. There's been updates to include most recently in 2020 DEQ. So again, just taken out a context, a little unfair. But in spirit of getting done, we will move to a two.

Sam: Okay, let's poll on CUP F29 as written. So we have everyone voting one with three twos. We have the twos being Luisa, Russ and Sean.

Ed: Actually, that's a good story for the rental operator.

Sam: Good.

Katherine: Ed, also, this was a space... And so Russ, I know we had this conversation just in the interest of addressing potential concerns preemptively. On this particular finding was some sort feedback about hazardous materials that might be required to go to [inaudible 05:59:46] that wouldn't normally be part of our acceptance policy, but might fall under other authorities. We were talking specifically about the contaminated waste and soils that these replace.

Speaker 48: We did. I love to talk hazardous waste, but I think I'll get death stares this late.

Katherine: The only reason I bring it up is you were going to come back with that.

Speaker 48: You are correct. Would everybody like a paragraph written summary to tie that off, versus elaborating now? Or do you want me to go there?

Sam: A paragraph summary on what?

Speaker 48: On hazardous waste. She's correct that we talked about hazardous waste, and it was two, three meetings ago. There was on the homework assignment saying that you gave me at that meeting, that was one of them. The conversation never came back around to it. Catherine's not incorrect. We did say that we would talk about it. I'm just saying how about I submit a paragraph or two.

Katherine: A paragraph sounds great.

Speaker 48: Thank you.

Sam: You're submitting that for purposes of putting it where?

Speaker 48: It doesn't matter to me if it goes anywhere other than your email inbox, because we committed to responding. I don't care if it goes in [inaudible 06:00:56].

Sam: It's going to go in the email because this thing's getting out to the people that do making it pretty later. Somehow, I have F20 on my list, but I'm not seeing-

Liz: It's 30.

John: 30.

Sam: It's a typo. F30.

John: Those are the records that were available for review on the two days that I looked at them. So yeah, the other title reports are submitted quarterly. I just couldn't grab paper copies or electronic copies at the plant.

Sam: So I'm still trying to find it on my list here. F30? So is that what...

Ed: The wording problem is... I'm sure they're available because they've been submitted in DEQ's files. That section of the files was not available the day that I was reviewing.

Speaker 48: So point of just frustration. Had I known that, I'd have figured out a way to get them to you. I mean, again, it feels like a little unfair that there's a knock as if we are somehow-

Ed: It's not a knock.

Speaker 48: That's how it reads. A year or two from now, somebody new comes to county staff and reads it-

Ed: But we have to-

Speaker 48: Then that's how it's going to read. And so again, it falls in the category of unfair in my opinion.

Sam: So could we add, "Republic is willing to provide them"?

Speaker 48: Sure.

Sam: To that language.

Liz: My father's waiting to park.

Audrey: I sent him to Inga.

Sam: So that was the other-

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Catherine: ... I sent them to Inge.

Sam: That was the other thing that I was following up with. Ed, you had sent an email last ... I'm making this up, Wednesday, asking if those files arrived. You sent all of those files to Inge-

Catherine: Yeah, twice.

Sam: ... by what mechanism?

Catherine: The FTP site, and through a public records request we made them available.

Sam: You did that roughly when?

Catherine: December or January.

Sam: No, this is stuff ... There's two things going on here.

Catherine: Okay. Maybe I'm not understanding you.

Sam: There's two sets of DEQ records. The one that I'm referring to is ... Ed went down to Eugene and looked at a bunch of things that someone was going to copy or electronically put together and send to Inge so they are uploaded to the website for cross-referencing.

Ed: Right, and those are partially received. Some of the older ones haven't been scanned yet. These were, if anything-

Catherine: These were not what you looked at.

Ed: Right.

Catherine: These were not what you looked at, because I got our stormwater staff to send me the last few quarterly reports. I uploaded it on the FTP site to Inge, and we also put it in the public records request on DEQ's website. The air permit is available on our website already, and the reports for the air permit are on the website.

Ed: Can we just get rid of this? It's causing too much [inaudible 06:04:52]

Sam: Okay, so the motion is to ax F-30. Any disagreement? I hear no disagreement-

Catherine: I'm feeling uncomfortable that I caused-

Ed: No, it's just that [inaudible 06:05:07] we'll fix it.

Sam: All right, so-
Audrey: [inaudible 06:05:11]
Sam: No ... Well, yes.
Audrey: I'm sorry.
Sam: No, don't be sorry. [inaudible 06:05:21] we vote F-30. I was just getting too exhausted.
Daniel: The removal of F-30.
Catherine: Yes.
Sam: F30, begone. This is the proposal ... Louisa, what was your vote, please? Everyone voted 1, including Louisa. Thank you [inaudible 06:05:40] all right. Let me just take a second here ... We have dealt with any findings and any recommendations where someone has voted in the preliminary poll a 3 and resolved them. Apparently, we have one left, and what is this now ... CUP-
Audrey: I believe Ed was going to work on some edits and we were going to circle back to that one.
Sam: Okay. Ed, you were supposed to work on some edits on CUP R-7?
Ed: [inaudible 06:06:28]
Daniel: Do you promise this is the last one?
Sam: No. We have a couple other quick things ... We have to do the history piece, we have to do the executive summary, and I have to do a ... Let me do that while Ed's looking for that.
Daniel: LSCL [inaudible 06:06:48]
Sam: LSCL-
Daniel: [inaudible 06:06:48]
Audrey: No, we did that one.
Speaker 50: We did that one.
Audrey: We agreed.
Sam: Let's look at our polling to see if they have it.
Audrey: We voted. [inaudible 06:07:29]
Sam: Okay. [inaudible 06:07:29] get some polls out here, some new polls [inaudible 06:07:29] question one. Is there any member present that wants to change any informal polling, meaning where you voted a 1 on findings, to something that's a 2 or 3 based on what you heard today? Is there any person here that, now that they've heard all the 2s and all the 3s, wants to change their mind on any informal polling? I'm seeing no one. Just to make the record pristine in its clarity, to the extent we did not cover a recommendation or finding because there was a 3 or a 2, you are converting your informal polling on all other issues to permanent polling because nothing has changed? I need affirmative yeses from everyone. Jack?
Speaker 52: That's fine.
Sam: Yes.
Speaker 52: Yes.
Sam: Liz, yes. Marge, yes. Russ, Sean, yes?
Speaker 53: Yes.
Sam: Ryan, yes. Mary, yes. Ed, Catherine, and Louisa ... Okay. While Ed is working on that, we need-
Ed: I think I have it.

Sam: You have it?

Ed: Yeah. It's the same one we added before. In 1983, the one that Catherine gave you the ... where to insert it. It just goes in the ... It goes in R7, and it goes in the legal findings. I guess you put it in the legal findings already. It goes at R-7 [inaudible 06:09:28]

Sam: Let's just make sure everyone's on the same page. CUP R-7 is what's at issue.

Ed: Yes.

Sam: That is, "Determine if the site narrative included in the applicant submittals," dah dah dah, "are regulatory conditions the landfill is required to follow." We have had an informal poll on that ... We have not had a formal poll on that.

Speaker 50: Yeah, we did.

Speaker 53: We did last time.

Speaker 50: We did last time. That's why [inaudible 06:10:11] in purple.

Speaker 53: [inaudible 06:10:11]

Ed: Down below.

Sam: Okay. What is your proposal, Ed?

Ed: It was that ... That wording right there inserted as ... Is that already inserted?

Sam: It's inserted in another one.

Ed: Okay. That would come into the CUP finding, also.

Sam: Okay. The proposal is that you would ... What section are you in? Whoever's driving-

Daniel: I'm just taking this into CUP R7, the language proposed by 3s, I'm typing this in ... I'll probably make it a new row if it's going to be a new vote or a finding.

Sam: Yes, it is going to be a new ... because he's suggesting it go in-

Ed: [inaudible 06:11:09]

Sam: ... at the location you're about to tell me, Ed.

Ed: It would go at R-7.1.

Daniel: Do you want it in the recommendation or a finding?

Ed: I think we had it as a finding.

Sam: It is a finding.

Audrey: [inaudible 06:11:45]

Sam: Until you get to where you need to be, Daniel, that you can capture it ... I can't track as the screen is moving.

Daniel: I'll just try to make it a new CUP finding row, is that the idea? We can add this new language and poll on it?

Sam: I thought Ed wants to have that-

Ed: [inaudible 06:12:03] closely coupled?

Sam: I thought Ed wants to have that CUP finding added to the legal subcommittee findings.

Ed: I thought we already did that?

Sam: Where did you copy that language from?

Daniel: Ed sent an email with that language, so I copied it from that email and pasted it into this row for our reference purposes.

Sam: We already voted on this language once tonight already, correct?

Daniel: I thought we did. We talked about putting it in two locations.

Sam: Right, so we have-

Ed: [inaudible 06:12:47]

Sam: We have it in one location, and that is ... What is this? I can't see-

Daniel: Sorry. This is just the language that he sent that we're still looking at. I haven't added it anywhere else besides the notes for R7, because that was the request.

Audrey: Can we just [inaudible 06:13:04] reference to it that this particular ... the added language from earlier, rather than copying the entire language and adding it again?

Sam: That's the mechanical piece. Just really trying to make it clear, are you suggesting that this language be added as a finding in the legal section?

Ed: Yes.

Sam: Okay. This language needs to be copied or referenced, however you want to do it, and then placed in an LLU finding.

Ed: [inaudible 06:13:47] LLU F-22.

Sam: It goes in LLU F-22.

Daniel: All right. This is the language that already appears in LLU F-22 from earlier. We made a row and polled on this language specifically. I made a note to add a new finding LLU F-22a, so we polled on that [inaudible 06:14:19]

Sam: It is already in an LLU, so then the question becomes ... Are you asking it to be included in CUP R-7?

Ed: Yes.

Daniel: In CUP R-7?

Sam: As well. Both places.

Daniel: So added to the existing Recommendation 7 language for a new finding, for a new recommendation? That's the question.

Ed: It makes no difference. Whatever you would like. Whatever is easiest-

Sam: We'll do the same format that we did here, which is ... Is this an addition to or a separate finding?

Daniel: We polled to add an additional finding called F-22a.

Sam: Put it as an additional finding in the CUP language. We have to come up with a location.

Daniel: [inaudible 06:15:19]

Ed: That would be CUP R-7. It's to help explain R-7.

Daniel: So it is a recommendation, not a finding?

Ed: That's correct. [inaudible 06:15:45] acknowledging the discrepancies.

Daniel: Yeah, I [inaudible 06:15:49] the notes that we added [inaudible 06:15:52] so I'm just going to add a new row ... Well, this is 22 instead of 22a.

Sam: Note we haven't polled on it yet. All right. The proposal is ... We're adding a new recommendation to CUP F-22a ... Well, it's not F-22. It would be R whatever.

Audrey: [inaudible 06:16:52]

Sam: Okay. 1, 2 or 3 on that? Chuck, Liz, Marge are 1s, Russ and Sean are 3s, John is a 1, Ryan's a 2, Mary, Ed, Catherine are 1, and Louisa is a 2. All right, so that includes ... Just, again, to state the obvious, we are not going to have time to go through the 2s. All the findings and recommendations that we haven't already discussed where people voted a 2, we are not going to be able to attend to those, so I am proposing for your consideration that on our hit list here, any recommendations where at least one person voted a 2 and any findings where at least one person voted a 2 that you will maintain the same voting you did in your

informal polling, because we did not discuss them, so they have to stand as they are.

Chuck, do you agree? Liz agrees. Marge agrees. Russ, Sean agrees, John agrees, Ryan agrees, Mary and Ed and Catherine and Louisa agree those informal polls now become the final poll, with a big note that we did not have time to discuss them [inaudible 06:19:02] we have to make that real clear in the body of the report that we overtly polled to convert informal polling to final polling because we did not have time to [inaudible 06:19:19] accordingly.

All right. The history document ... If someone could put that up on the screen, please? As I mentioned [inaudible 06:20:01] email that Darren put forward a bunch of track changes before the last meeting. Those have since been quote-unquote accepted in track change language, and then there were three sections that garnered additional interest after that. [inaudible 06:20:29] it should be in track changes, the first of those three ... Oh, wait a minute. Look at that. I want to see that picture. What's going on here? We have two stars in the making. They paid the advertising fee, $29.95, to get their picture in there? That got snuck in.

Speaker 50: [inaudible 06:21:03] that's not in my copy.

Sam: Pardon me?

Speaker 50: That's not in the copy I'm looking at.

Sam: Yeah, I just saw it for the first time just now, too. We'll go back-

Speaker 50: [inaudible 06:21:19] incorrect.

Sam: A picture of you is incorrect?

Audrey: Are we voting on that?

Speaker 50: Yeah. There's a picture in there that was not in the document that we constructed.

Sam: Okay. Let's take them one at a time. I won't miss that. Let's take these three things, and then we'll have to look at the photos that were entered.

Speaker 50: [inaudible 06:21:40]

Sam: All right. This was the subject of email communications over ... I'll say starting on Thursday or Friday and through the weekend. There are ... Option one is the language in green, "A household well in sediments west of the landfill on the former Helms home site received sufficient contamination from the landfill site that the well had to be decommissioned under DEQ supervision." Option number two ... I'm going to get to you in a second, Marge, I promise. I know you had a subsequent conversation. Option two in striking the word "in sediments." "A household well west of the landfill on the former Helms site was decommissioned under DEQ supervision." It's my understanding that Marge and Audrey talked about this at a break or something. Did you come up with a third option, and does someone have that so we can type the magic words in there?

Audrey: Yeah. If you take out-

Daniel: [inaudible 06:23:25]

Audrey: ... add back in "received sufficient contamination from the landfill site" and "was decommissioned."

Sam: Okay. Let's find a place to put this in so we have it clearly typed in.

Speaker 50: You could just remove "in sediments" and "sufficient" I think were fine, right, Audrey?

Sam: There's two options. One-

Audrey: And was decommissioned. Just take out the sediments, because it's not sediments, and the rest was just [inaudible 06:24:04]

Daniel: All right. This is in strikethrough format, because there was [inaudible 06:24:08]

Audrey: Yeah, sorry. I did it in an email.

Sam: Okay, so highlight this in yellow so we know.

Daniel: You want me to highlight the whole thing?

Sam: Yeah, so we can see what options ... Well, not that part, because ... just the new sentences. Nothing else got changed.

Daniel: Okay.

Sam: Please highlight the words "a household" through "under DEQ supervision." That is the proposal that Audrey and Marge talked about at the break, so we'll start with that proposal.

Speaker 50: Can you repeat that sentence, please?

Sam: "A household well west of the landfill, on the former Helms home site, received sufficient contamination-"

Speaker 50: No. Take sufficient out. She didn't want sufficient.

Audrey: No, but I did take it out, because ... The idea is that there was [inaudible 06:25:24] landfill entered the aquifer and may have impacted the adjacent wells, and the wells were decommissioned. That's what happened. People were concerned that I was trying to make it sound better than it really was. I don't care if you leave sufficient.

Sam: What is the most ... not about feelings, what's the most accurate statement that you believe-

Catherine: [inaudible 06:25:52] aquifer and the adjacent well.

Sam: Catherine, I can't hear you-

Audrey: I don't want to edit it that much, because somebody else spent time on it. I think "A household well west of the landfill on the former Helms home site received sufficient contamination from the landfill site and was decommissioned under DEQ supervision" is-

Sam: Is accurate?

Audrey: It's accurate enough.

Sam: Okay. We've thought about this so long ... This has been the subject of ... You had some concerns about the word sufficient. What do you, Audrey, believe is the most accurate-

Audrey: I don't have the record of decision in front of me, and I don't want to edit it too much.

Sam: You want to keep the word sufficient in it?

Audrey: That's fine.

Sam: Okay. We're going to vote 1, 2 or 3 on that sentence as it is written. All members voting 1, including Louisa. All right.

Daniel: Can I delete the first option, then?

Sam: Delete the first two options, please. All right. Let's go to whatever the second highlight [inaudible 06:27:26]

Speaker 50: The second thing is to add the transfer of responsibility of solid waste management from Health Department to Community Development Department,

and you added it on page ... I'm sorry, I don't have a page number here, but you added it after a [inaudible 06:27:55] oh, you've got that? Okay.

Sam: Yeah.

Speaker 50: I'm fine with that, adding it right there.

Sam: Okay, so again, part of the offline meeting, not the formal meeting, but that BCTT email was copied on all this back-and-forth ... I think it started on Friday, does that make sense? Thursday or Friday-

Catherine: Thursday or Friday-

Sam: ... and went to yesterday. All right. It reads, "The Benton County Commissioners chose to transfer responsibility for solid waste management from the Health Department to the Community Development Department, effective July 1, 2019, as negotiations over the 2020 franchise agreement were underway." Any further discussion? Please poll 1, 2, or 3 on that statement. All members voting 1, including Louisa on screen.

Right, then. That should be ... The one right below it is the third and final one, as I recall. "In an email exchange with Republic Services representative Julie Jackson on October 14th, 2020, county counsel Vance Croney sought to clarify how the expansion across Coffin Butte Road would affect the lifespan of the landfill and also noted that Republic Services 'has many acres of EFU-zoned land that certainly can be used for additional cells but would require rezoning,'" and then a footnote would be that the County Talks Trash, or wherever Croney placed that ... Marge is going to help me with this. I'm going to say there's like eight back-and-forth emails over the course of this day in question.

Speaker 50: I just want to say that I have not seen ... Tonight is the first time I've seen this wording.

Sam: This is what Mark Henckels suggested in the compromise that he and Ginger agreed with. This is a quote from Mark Henckels.

Speaker 50: I object to it.

Sam: Okay.

Speaker 50: I have alternate wording. The reason that I object to it is that it mischaracterizes what happens here, that Vance Croney says ... "sought to clarify how the expansion across Coffin Butte Road ... " That's an opinion. That is not a fact. The way I would state it is it was noted in an email exchange uncovered during a public records request. This is another thing I have a problem with. It had to be uncovered in a public records request. The county and Republic Services never came forward and said, "We have been actively discussing the possibility of multiple expansions south of Coffin Butte Road." That was never acknowledged in the workgroup process, and I think had that been acknowledged six, nine months ago, whenever this started, discussions would have been different. I think that's a serious issue.

How I would say it is, given that it's 8:00 or 8:30 or something, "It was noted in an email exchange uncovered during a public records request that County Counsel Vance Croney discussed expansions south of Coffin Butte Road with Republic Services representative Julie Jackson on October 14th, 2020. They discussed how such expansions might affect the lifespan of the landfill and noted that Republic Services 'has many acres of EFU-zoned land that certainly can be

used for additional cells, but would require rezoning.'" Is everybody okay with that? It's 8:34.

Sam: I'm sure not everyone is okay with that is my sense. Ginger?

Ginger: I would just propose that we go with the language that is in there, since we've had multiple individuals agree to this compromise language and, as Sam previously hinted about 12 different email exchanges ... It was actually provided by Mark Henckels, who was one of the lead authors, along with Marge, of this subcommittee document. I agreed to it. The other members of the subcommittee agreed to it. Vance agreed that it was accurate. I see no reason to change it into something lengthier at this eleventh hour as we approach 9:00 PM.

Sam: For clarification, I did not hear an affirmative agreement or disagreement from Louisa or Mary on this point. That's the only correction that I would make to what Ginger said. They may have agreed-

Speaker 51: I sent you guys an email. I sent out an email at 5:00 yesterday.

Sam: Okay. Was it agreeing with this language or disagreeing with this language?

Speaker 51: It was agreeing with it. I actually liked Joel's suggestion of it being more broad rather than naming people's names, but someone would have to write that, so I said, then, "Mark's version is fine."

Sam: Okay. Before we poll on something here, the question is, what are the footnotes? You can do this without footnotes or you can do it with footnotes, and if we're doing it with footnotes, then I think it's the full email exchange between Vance Croney and Julie Jackson plus Vance Croney's explanation of his issues with [inaudible 06:34:49] the record so that people can make their own determination as to what was said.

I'll first ... just a quick ... taking a pause. How many people would like those emails attached or referenced as footnotes? Just raise your hand if you think they should be attached. We have enough people that ... I'm going to ask you, whoever's driving this, to put, "Add footnotes that link to the full email exchange and Vance Croney's email of X date ... " I'm going to say this was Thursday or Friday or something, and the staff has authority to go in and fix that, but it's not the ... There's two versions of the email exchange between Vance and Julie. One has like four-

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Sam: ... One has like four back and forths and the other roughly has eight, and so I'm suggesting the full one because that has everything in it, then you can all decide.

Marge: Including the dates and times?

Sam: Oh yeah, it's that thing, it's a PDF right now that has like eight different-

Marge: Well, I think it should be back on this [inaudible 06:36:24].

Sam: All right.

Speaker 54: Sam, could you clarify what's the intent of this particular statement? Is it about extending the life of the landfill? Is it about additional lands that could be expanded upon? Mark brings up some good points, that we're not betting, and I would just say if it was 3:00 today, we'd be looking at it differently versus, gosh, it's 8:30 and in the interest of time for that aspect, I think it's fair to acknowledge her concerns. It sounds like, are we overlooking the perspectives that she has, which is obviously a broader whatever, a broader relationship with this? I don't

know what we're aiming at here, why do we have this statement in here? That's my question. Is it about a public records request? Is it about conversations between the county and republic services that may or may not have been made publicly?

Sam: I'll let Marge speak for herself, obviously.

Marge: It's mainly about a conversation between republic services and county council [inaudible 06:37:33]. That was not revealed [inaudible 06:37:39], that was revealed through a public records request, and that particular aspect was something that would've been interesting within this [inaudible 06:37:53] process, but it was not revealed by either the county or republic services that this level of communications took place, and so that's why we felt that it was valuable to put it in here. Now what I want to say is that I want to withdraw the objections that I made, because I hate it when people at the last minute bring up something and it hasn't been ... And Ginger has assured me that this is something that we all agreed upon, so I should have, if I was going to change the wording, I should've done it at that point rather than now.

I do think it's important that we do acknowledge that there was some communication between the county and republic services that could have been important, especially to the [inaudible 06:39:01] subcommittee, that was not made public. That's all I'll say, all I have to say.

Sam: The poll is on the language as it appears on the screen, with the footnote to add the information that it notifies. Chuck?

Chuck: How can one vote on this when you have access to the information? I don't know if it's critical mass or not, so I'm trying to stay here, or what intent is or what the support is or what the [inaudible 06:39:45] here is.

Speaker 56: I agree, and I thought Marge just withdrew it.

Sam: No, she withdrew her objection to change the language here. If I'm understanding her correctly, she is supporting what's in green on the screen, she did not withdraw it.

Marge: Yes, and as Sam described, exactly what would be going in the footnotes.

Sam: Last call.

Liz: Are we suggesting that there is something improper about this conversation?

Sam: Okay, so the backstory here, the best I can do it at this hour with everyone around, is that a former member of the work group suggested that this language be added, and it went through sub-E 'cause the sub-E group was doing the history section. I heard it initially as two prongs, one, as Marge just said, that this information was not shared by the county or republic until Becky Mursia, as I recall, did a public records request, got a cache of emails, and found this email exchange on October 14th, 2020. The concern expressed was that should've been disclosed sooner, because there was information in that public records response that included information that would've been helpful to the site life and capacity committee.

The second reason it was included is to deal with the assertion that, is this one expansion that is going to be happening or is it really the first of a series of expansions that would be happening? That was the background story, the best I can summarize at this moment.

Liz: Whether republic wants to do one expansion or multiple expansions, that's still not what we're supposed to do here at this interview, right?

Sam: This charter clearly says we are not opining on the merits of any future CUB expansions.

Liz: I'm confused as to why this has any effect on the work we're doing here.

Speaker 55: Well, [inaudible 06:42:49].

Sam: This is the history, this is in the history document.

Speaker 55: The history, okay.

Chuck: So is this relevant to the history? That's what I'm going by, is it relevant to the history of landfill? That's what the question is.

Liz: Thank you for the clarification.

Sam: We're going to poll on this-

Ed: [inaudible 06:43:11] Question.

Sam: Okay, just a second, I have Louisa and then Ed.

Louisa: Just to comment on the questions, this is under the title "current political and social contexts of Coffin Butte landfill", so that is probably where the history writers, they felt it was part of information needing to be added because of the political and social content.

Sam: In fairness and full disclosure, they did not suggest a specific place for it, I took facilitator privilege and added it there 'cause that's where I thought it best fit if it was being moved. All right, so Chuck?

Chuck: Who has received the public document, and has it been clear to the body or anybody?

Sam: I'm trying to ... Can you guys find that document? I sent it-

Liz: Probably under the subcommittee.

Sam: I sent it in subcommittee as a copy to BCTT.

Liz: Yeah, it's probably under the subcommittee, I would guess.

Sam: And so I'm going to say, if anyone can help me remember, that went on a Thursday or Friday, that document, and we can put it up on the screen and you can see it.

Liz: Well, we did refer to the subcommittee in the document.

Chuck: I saw that [inaudible 06:45:23],

Speaker 56: Can that document be emailed soon?

Sam: It is a PDF of about eight email exchanges.

Speaker 55: I've got it here, [inaudible 06:45:49].

Sam: Can you keep going, scrolling down? This is the big one, I'm just trying to think. When you start at the top, it should be about eight exchanges, one, two, [inaudible 06:46:19] that has to be it.

Speaker 55: Yeah, this is it.

Sam: This is it, okay. Why don't you start and let people read it?

Speaker 55: You can start at the bottom and go up, I think there's [inaudible 06:46:34]-

Liz: It can't just be added.

Speaker 55: But are we reading it for the purpose of changing the document?

Liz: Yeah, I think we're-

Sam: No.

Liz: ... Deferring to the subcommittee on this one.

Speaker 55: I thought we were just going to put it in the footnotes [inaudible 06:46:48]-

Sam: Well, that was on the table, Chuck asked ... He hasn't seen it, and there was a request, as I understand, to look at this, correct?

Chuck: Yeah, just make sure it did exist. I'm sorry, I didn't see it.

Sam: It does in fact exist.

Liz: Is that enough for you, Chuck, that you can see it on the ...

Chuck: Yeah.

Liz: All right.

Sam: All right, so let's close that, and then there's one more and it's Vance's email in response to the sub-E email chain, where he puts his perspective on that conversation.

Speaker 56: This was on Friday?

Sam: Thursday or Friday.

Speaker 54: Sam, did we finish the vote on the email chain with Vance and Julie? We got like most-

Sam: We're not there yet, I haven't even called the question yet. All right, so that has to be on the screen, please, as to what we're voting on. That's Vance's email, "As a co-author of the email in question, Mark's revisions below more accurately reflect the brief conversations between myself and Julie Jackson than the original proposal. Thanks, Vance." That will be added to that chain. Now I need to see the history document with the language that we were polling on, so you can take a poll on history revision number three. All right, one, two, or three for what you see on the screen from in-email exchange, all the way staff to concurrent day. Chuck, Liz, and Marge are one, Russ, Sean is one, Catherine is a two, Ed [inaudible 06:48:52] had a comment, I forgot, I apologize. Go ahead, talk.

Ed: The problem I'm having with this is anything that goes in this document gets presumably reviewed by BCTT, and I get that from listening to the podcast and the news show that Greg participated in, where he references landfill life and then ECT, how we did it. Quite frankly, I don't want to be associated with this letter. I think acknowledging that it exists is fine, and saying something, "BCTT has not reviewed this material," or just stop there, "BCTT has not reviewed this material."

Liz: The subcommittee has.

Sam: Excuse me, Liz?

Liz: The subcommittee has reviewed it, right?

Sam: Yes.

Ed: Which subcommittee?

Sam: Sub-E.

Liz: That's what he said, the subcommittee reviewed it.

Ed: As of when they got the public records request?

Sam: The public records request was responded to, member or members of the community went through those documents and pulled out the conversations on this particular day, October 14th, summarized them into the PDF that we had on the screen about a minute and a half ago, and they were all reviewed by subcommittee E.

Ed: Where I'm uncomfortable with this, this defines as an expansion that was added, expansion beyond cell six is being contemplated on lands that are not within the

current footprint, and that is just a very different message than everything else in this document.

Sam: When you say "not on the current footprint", this email exchange talks about an expansion or expansions, depending on how you want to read it, south of Coffin Butte road, and makes a distinction between property currently zoned for a landfill and EFU property, for which it would require rezoning.

Speaker 54: Are those BFU zoned lands additional from the land zone of the landfill?

Sam: Pardon me?

Speaker 54: Are there two statements here, as in, are the EFU zoned lands that certainly can be used for additional cells, is that one and the same of the proposed expansion across Coffin Butte Road on the south side of the current landfill properties?

Sam: We don't know what the proposed expansion is going to be, and so if the proposed expansion only includes lands that are currently zoned for landfill use, you would proceed under a conditional use permit with conditions of approval or denial. If it includes lands that are currently zoned EFU, you would first have to rezone that land to landfill, correct, before you could go through the CUP on that property.

Speaker 55: [inaudible 06:52:56].

Sam: All right, I'm just responding to that question.

Speaker 54: Can I just respectfully ask again, what is the message that we are sending by including this in this document as a work group? I am not clear on that question, which is why I'm asking. Like there's many numbers of ways for this to be interpreted, including the fact that it came from a public records request process. I'm just not sure where to land this, I don't know where it fits, is the question, maybe.

Sam: Marge?

Marge: I can respond to where I think it fits. Is this information that came to light in a public records request within the last month or two? I personally feel like it's important that we have that in our records somewhere, and to me, the logical place to put it is in the history document. This is part of the history of the landfill and of our process, I believe. I just think that it's important that it's known that these conversations took place, and I'm sorry that this was not revealed before, because it's an important piece of information if the county and republic services have for two years already been discussing in detail, I can't say how much detail, but in concept, conceptually discussing not just an expansion to the landfill zone area south of Coffin Butte, but even further expansions on and on.

This is not the way it had been portrayed to a lot of people, this is not the situation as it was portrayed, and I think it's an important part of the history that that occurred.

Speaker 54: That's helpful clarification, and is that part of the narrative that should be included here, to connect it to the history piece?

Sam: Right now we're voting on this, and if we'd like to do another vote that includes something more, we can do that, but I need to take them sequentially so the record showed what you voted on, and it eventually will end somewhere. What we have right now is everyone voting a one, Ed, you're voting a-

Ed: One.

Sam: A one?

Ed: Yes.

Sam: Catherine is voting a two, and Louisa is voting a two. If anyone wants to make a motion to add a concept or sentence to this, this would be the time and place to do so.

Chuck: I'll make a motion, just preface this statement with, "In response to a public information request, an email exchange, blah blah blah blah blah," that goes through the rest of it, but just putting those few words at the beginning.

Sam: Can I affirm the amendment, "public records request"-

Chuck: "Public records request".

Sam: ... I think more accurately reflects what that is.

Chuck: Or you could even put, "In response to a citizen's public records request ..."

Sam: "In response to a resident's," not citizen, "A resident's public records request," I'm sure that person is a citizen, but the proper term I believe is to call folks residents.

Speaker 56: We use "community members" typically in that, but-

Sam: "To a community member's public records request ..."

Speaker 55: Do you want to reference the date of the request?

Sam: If we have it. At this point, I think we're going to poll on-

Chuck: It would say, after Croney, "council, Vance ..."

Speaker 54: "Was found".

Chuck: "Was found".

Speaker 54: Or discovered-

Chuck: After Croney, "Was found, which clarifies how the expansion across ..." and then finish off.

Sam: [inaudible 06:58:30] I'm not tracking, and so let's get it on the screen here.

Speaker 56: I'm sorry, I'm not tracking either. What are you asking to do?

Speaker 54: After Vance Croney, it's comma ... Well, maybe not comma, but, "Was found seeking to clarify how the expansion ..." so that the action part, through the public records request, this was found.

Sam: I'm not sure, Vance Croney was found seeking to clarify?

Speaker 54: Maybe it should go, "An email exchange was found," in like [inaudible 06:59:08]-

Speaker 55: I don't think we should change it much more.

Sam: Let's be clear about this, the language that said-

Speaker 55: [inaudible 06:59:22].

Sam: ... "In response to a community record ..."

Speaker 54: It's not grammatically correct without something like "was found" or some sort of connecting to those sets of emails, like something's missing.

Chuck: "was found, which clarifies".

Sam: It's not two sets of emails, it's one set of emails that went back and forth.

Speaker 54: "An email exchange was found" or a similar phrase.

Chuck: Discovered?

Speaker 54: Discovered?

Sam: Okay, so, "In response to a community member's public record request, an email exchange was found between republic services representative ..."

Louisa: And after the 2020, "and county".

Sam: It would be, "Between Julie Jackson and county council, Vance Croney, on ..." the date is that. Okay? "In response to a community member's public records

request, an email exchange was found between republic services representative Julie Jackson and county council Vance Croney on October 14th, 2020, and where county council sought to clarify how the expansion across Coffin Butte Road would affect the lifespan of the landfill, and also noted that republic services has ..." See two ons there, whoever's typing, "Vance Croney on on", take out one of them, and then does that work for whoever's making this proposal?

Chuck: Yes.

Sam: Okay, so let's now poll on option two, one, two, or three on option two. Louisa? All members vote one, so is it the work group's option to use this option two as the language, and the prior vote becomes nullified, given the fact that we have a consensus? What are you doing, Russ, with your card there?

Russ: That's a great question, Sam.

Sam: Okay, keep me posted if there's a great answer.

Speaker 56: [inaudible 07:02:14] option one?

Sam: Just hold on here, Russ is at one with his duality right now.

Russ: Fine.

Sam: Okay, and two republic folks voted one, so everyone voted one. All right, that concludes the history piece. Don't be standing in here now, we've got a little bit more, we're getting close.

Liz: I need to get the bloodflow moving back in my seat.

Sam: That's another worker's comp claim. All right, the executive summary, did anyone have any comments or concerns about the executive summary?

Russ: Quite frankly, I didn't get a chance to go through it [inaudible 07:03:05].

Chuck: I read it, it was great.

Speaker 56: [inaudible 07:03:10].

Sam: I'm hearing no, and no one's voting a three on any section of the executive summary, is that fair? I need some form of communication.

Liz: Yes, yes.

Sam: Grunt in my general direction, do anything, wave, if you do a wave, that's fine too. All right, now we can go to the agenda, please, a few wrap-up things and we'll be done. We can go to next steps.

Speaker 56: I have a question though.

Sam: Yes, sir.

Speaker 56: Chuck, you sent something out today that was pretty long about the intro into the sustainable material management plan, was that anything?

Chuck: Well, [inaudible 07:04:12] in our subcommittee we were starting with a committee executive summary, and there was some confusion if we were going to have that or not, and then we had one and then voted down to the initial survey. Since the sustainable [inaudible 07:04:35] now, if you will, and the pinnacle is within the sustainability, I was wondering if that needs wrote up on top there, just to give the readers an occurrence that what is a [inaudible 07:04:53] economy, what is a [inaudible 07:04:55]-

Speaker 56: Right, yeah, no, I read it. Right now it's really not a matter for this group to decide.

Chuck: No.

Speaker 56: Okay, good.

Sam: You're not making a proposal that that language be added.

Chuck: Not now.

Sam: Okay, [inaudible 07:05:10] thank you for your good judgment, [inaudible 07:05:23]. I'd bring a knife to it, but I digress. All right, next steps, so what's the final editing process? The report, which would include some changes to the executive summary, is going to include in the executive summary and in the report and in the attachment, the public survey, your informal polling will be added, the final polling that we did at our last meeting and this meeting will be added. Member statements are due this Friday at noon. You will receive tomorrow a process evaluation on SurveyMonkey, the results of that will be included. We'll update the webpage and add links the best we can, and there may be one last run using a program called Grammarly, but not on any of the findings and recommendations, just to do any grammar checks.

There will be no changes to the history or findings and recommendations. Is that okay with you, that those things be added? Everyone is nodding affirmatively. We hope to get that-

PART 13 OF 13 ENDS [07:06:59]

Appendix C: Subcommittee Reports

1. Sustainable Materials Management Plan (SMMP)
2. Landfill Size/Capacity/Longevity
3. Legal Issues & Land Use Review
4. Past Land Use Application Conditions
5. Community Education & Outreach

Note that Subcommittee reports may differ in places from the Findings and Recommendations of the BCTT Workgroup as shown in the main body of this report. The Subcommittee reports reflect the work of each Subcommittee as it was submitted to the BCTT Workgroup. The Workgroup discussed and, in many instances, revised findings and recommendations with the goal of achieving a consensus.

Appendix C1: Subcommittee Reports: Sustainable Materials Management Plan (SMMP)

Key Findings

SMMP F-1: Many Sustainable Materials Management Plans (SMMPs) and related Request For Proposals (RFP)s have been formulated, executed, and are in use in Oregon and beyond.

SMMP F-2: The charges of the SMMP Subcommittee are intimately related to and should be embodied when scoping the necessary tasks to start a Long-Term Sustainable Materials Management Plan process.

SMMP F-3: Contracting-out processes often include a Technical Advisory Committee (TAC), which vet technical information in the RFP, and a Community Advisory Committee (CAC), which review the RFP from the community perspective. Institutions of higher learning, including Oregon State University has a large population of faculty, faculty emeriti, staff and students that are subject matter experts in many of the technical areas that the SMMP will address.

SMMP F-4: The overall length of the project can be heavily impacted and defined by the level of public interaction/engagement included in the project. The consultant

may help define the scope of public engagement, including engagement in rural areas of the

county and in communities outside the county.

SMMP F-5: There are aspects of the work to be performed that are technical in nature or lend themselves toward extensive research, that the consultant may conduct at the same time as public engagement. In order to expedite the process, certain procedural elements can be done concurrently. The timeline can generally be defined throughout the process.

SMMP F-6 – The SMMP aims to reduce the full lifecycle impacts of materials management practices in Benton County and where other jurisdictions' practices overlap with Benton County. Addressing only materials from Benton County would have limited impacts compared to that of all of the materials from neighboring counties, as Benton County's waste contribution to the landfill is relatively small. SMMPs are not specifically about landfills, but about materials management across the full lifecycle of materials, including addressing impacts from production, transportation, use, reuse, recovery, and disposal.

SMMP F-7 - Benton County has limited control over the waste management practices of the counties that emplace the vast majority of the annual landfill waste intake, and the volume of waste material they haul to Coffin Butte Landfill, however, the county and its infrastructure is impacted by other counties' waste stream contributions to facilities within Benton County (via Coffin Butte Landfill, Pacific Region Compost, and transportation methods through the county).

SMMP F-8 – The 2040 Thriving Communities Initiative identified our communities' Core Values and has been adopted by Benton County government which is used as a benchmark or lens for initiatives such as the Benton County SMMP.

Key Recommendations

SMMP R-1: Benton County Sustainable Materials Management Plan should be developed within a Sustainable Materials Management framework, reflecting full lifecycle impacts. The

development of a Sustainable Materials Management Plan should consider, 1) the 2040 Thriving Communities Initiative and our communities' Core Values, 2) national, State and local goals, vision documents (DEQ's Materials Management in Oregon 2020 Framework for Action), plans, policies, ordinances, etc. relating to materials management and climate change, 3) examples of values and goals expressed in state and local jurisdiction materials management plans, and 4) long-term strategies (to 2040) with short-term action items (5 years or less).

SMMP R-2 – Benton County should use the 2040 Thriving Communities Initiative as a high-level lens to frame our communities' Core Values in developing the SMMP.

SMMP R-3: The SMMP should not just be about how Benton County can better manage materials, but to also address how to approach inter-county collaboration from a regional perspective. The RFP should indicate the need for researching and exploring opportunities for a regional multi-county approach to achieve the goals of sustainable materials management. RFP firms with experience with Oregon's materials management legislation, policies and other county materials management plans may have the capability to address this need.

SMMP R-4: Counties impacting Benton County through their materials management practices (including by contributing materials to Coffin Butte Landfill) should have an SMMP in place. The SMMP should have a perspective on how to strategize this.

SMMP R-5: SMMP content should incorporate the sustainability of materials management strategies/tactics. The result of the process should give us a method of measuring costs and benefits to evaluate the impact on economic, social, and environmental indicators. Specific goals should be included of how materials in Benton County can fit within a circular economy, cradle-to-cradle, or similar framework.

SMMP R-6: The SMMP should clarify Benefit-Cost perspectives being addressed through an equity analysis, including, 1) financial cost impacts associated with materials management and outcomes, 2) the equity of circular economy, how it engages and impacts consumers, 3) a perspective that goes beyond landfilling, and 4) a "who's at the table" list of stakeholder perspectives.

SMMP R-7: Bring "lessons learned" into the process from other sources, including international examples as well as other counties, lessons from past Benton County experiences, and West Coast states. See full report for more sources.

SMMP R-8: Beyond those in the County, a wide assortment of stakeholders should be brought to the table. Stakeholders include community members, advocacy groups, businesses and industry, local and state government, and resources for innovation. See report for full stakeholder list. The consultant should provide recommendations based on analysis and extensive outreach and engagement with community stakeholders from the "who should be at the table" list. These stakeholders should represent a broader area than Benton County.

SMMP R-9: Benton County should use an RFP to find consultant(s) for developing a Sustainable Materials Management Plan.

SMMP R-10: The SMMP subcommittee researched other jurisdiction's plans, compared and aggregated a list of subjects, and the SMMP should evaluate and address the subjects listed in the full subcommittee report, answering the 117 questions listed as RFP priorities allow, and include recommended courses of action.

SMMP R-11: Recruitment for the RFP needs to be extensive, and selection of successful proposal should be careful and thorough. Qualities of a successful applicant should include those listed in the full subcommittee report.

SMMP R-12: The scope of work for this project is expected to be broad and comprehensive, with specific goals recommended for the County to consider as milestones.

SMMP R-13: The RFP development process should: 1) provide details about the Workgroup process and its findings to RFP applicants, 2) prioritize topics, adding additional topics that are important to consider, and 3) communicate accurate priorities to applicants.

SMMP R-14: Members of this BCTT SMMP subcommittee should be offered to participate in subsequent stakeholder group meetings for RFP development and review. Benton County's Advisory Committees related to SMMP work should have an advisory role during the development of the plan.

SMMP R-15: The RFP Release/Announcement should 1) communicate an expectation that this plan can be approached by teams (multiple firms), instead of just single firms, 2) put guidelines on the size/length of proposals and sections of proposals, and 3) be distributed to allow enough time for it to be posted to various trade groups, shared with underrepresented groups, and internationally minded outlets.

SMMP R-16: The County should share the various steps of the process with the public, making updates available, and demonstrating transparency (cross-referencing subcommittee E.1. work).

SMMP R-17: The RFP should demonstrate flexibility in allowing further work plan development after applications are reviewed and accepted.

SMMP R-18: The SMMP Timeline should allow for extensive public interaction and engagement. In order to expedite the process, procedural elements should be done concurrently as possible. The timeline should generally be defined throughout the process.

SMMP R-19: Applicants should include various scope/cost options for one year, two years, and three-year timelines. The report should be released in sections, based on timeline and content priorities.

SMMP R-20: It's important that the SMMP process include extensive public outreach and engagement. In addition, a Technical Advisory Committee (TAC) should vet the consultant's technical work (SMMP development) and a Community Advisory Committee (CAC) to provide more general review. SMMP Sub-Committee members should be included in the CAC. The TAC should include subject matter experts from Oregon State University, and other regional academic institutions. Many of the subject areas of central importance to the SMMP are characterized by fast-moving science, and a SAC could help the SMMP consultant to navigate to the best available data and knowledge.

SMMP R-21: Proposals contain the following information, with parameters around each of these items in terms of document length. Requested information includes project team experience and qualifications, understanding of the project, approach to the scope of work, cost of the proposal, the project schedule, social/environmental responsibility, and references. Each criteria includes a total set of points the proposal can be awarded. See full report for more information.

SMMP R-22: An evaluation team consisting of County staff and members of the stakeholder group should determine the best proposal deemed most qualified based on the above criteria.

SMMP R-23: The SMMP should emphasize impacts of the results of the RFP on social equity, innovation, to understand and emphasize the upstream aspects of material sustainability, and creative solutions that provide pathways for tangible long-term outcomes.

SMMP R-24: The workplan should include ongoing adaptive management and refinement and include a timeline for completion. The sections of the workplan outline include RFP development and release, a webinar for prospective consultants, a pre-proposal Q&A period, a period for application submittal, and the selection committee to identify shortlisted firms who are given time for additional presentation. The committee then evaluates proposals, selects a consultant, and develops a workplan with selected consultant. See full report for more information.

SMMP R-25: The County should evaluate if it would be in their best interest to have an SMMP in place prior to any major materials management decisions.

SMMP R-26: The county should consider using alternative funding mechanisms, including landfill revenue, to support the SMMP recommendations.

SMMP R-27: A complete materials audit is highly recommended as both a benchmark and a way to measure progress. Benton County should initiate a Waste Audit to characterize more precisely what is in the waste stream of Coffin Butte Landfill. The SMMP consultant can use this audit information when formulating this plan, and there is no up-to-date information specific to the landfill currently available. The benchmark audit should be completed as soon as possible, along with recommendations for follow up audits.

Long Term Sustainable Materials Management Plan (SMMP) tasks

1) Topics covered in recent similar planning efforts across the state

2) Subjects to be covered

3) (New) Add in Vision 2040 and related County documents with similar from other counties referenced

4) (Moved from Common Understandings) Benefit-Cost Topics are only Outlined

5) What “lessons learned” should be brought forward in this process

6) Who needs to be at the table beyond those in the County

7) A workplan outline with a timeline for completion

8) Contracting out

Includes necessary foundational “common understandings” and protocols needed before beginning the actual planning process.

NOTE: This charge does not include completing the plan. It only includes a discussion of the preliminary scoping to start that planning process.

Possible Amendment for BOC Consideration: If there is sufficient time to complete the original Charge and the following activities, subcommittee to provide recommendations on:

1) the most important topics/subjects from the draft of the SWMP Table of Contents;

2) the brainstormed options for those topics/subjects; and
3) the reasoning, both pro and con, for their selection.

Common Terms and Definitions

What is circular economy?

A circular economy is an economic system where the waste and pollution generated by society is minimized, and resources are conserved and regenerated by reusing and recycling materials and products. It aims to reduce dependency on finite resources, eliminate waste, and create a more sustainable economy. The circular economy model is in contrast to the traditional linear economy, which operates on a "take, make, use, dispose" model.

What is a sustainable economy?

A sustainable economy is an economic system that meets the needs of the present without compromising the ability of future generations to meet their own needs. It is characterized by the efficient use of natural resources, reduced waste and pollution, and equitable distribution of wealth and opportunities. A sustainable economy prioritizes long-term economic, social, and environmental well-being and aims to balance economic growth with environmental protection, social equality, and preservation of natural resources for future generations.

What is net zero emissions?

Net zero refers to the balance between the amount of greenhouse gas emissions produced and the amount removed from the atmosphere. It means that the total amount of emissions produced is equal to the amount removed, resulting in no net increase in atmospheric greenhouse gas concentrations.

What is carbon neutral?

Carbon neutral refers to a state where the amount of carbon dioxide (CO2) emissions produced is balanced by an equivalent amount removed from the atmosphere. This can be achieved through reducing emissions as much as possible and balancing any remaining emissions through offsetting activities, such as planting trees or investing in carbon capture and storage technology.

What is a solid waste management plan?

A solid waste management plan is a comprehensive plan for the collection, transport, processing, and disposal of solid waste, such as household trash, industrial waste, and construction and demolition debris. The purpose of a solid waste management plan is to ensure that waste is managed in an environmentally responsible and sustainable manner, while also considering economic and social factors.

The goal of a solid waste management plan is to minimize the environmental impact of waste, reduce the dependence on landfills, conserve resources through recycling and composting, and promote public health and safety.

What is a Sustainable Materials Management Plan (SMMP)?

Sustainable Materials Management (SMMP) plan is a comprehensive approach to managing the entire lifecycle of materials, from extraction of raw materials, through production, use, and disposal, with the goal of reducing their environmental impact. It seeks to conserve resources,

reduce waste, and minimize the environmental impacts of materials use, including greenhouse gas emissions, water and air pollution, and habitat destruction.

A SMM plan typically includes the following elements:

1. Materials Inventory: A comprehensive inventory of the types and quantities of materials used in a community, including data on generation, use, and disposal.
2. Materials Reduction: Strategies to reduce the amount of materials used, such as reducing packaging, promoting reuse, and designing products for recyclability.
3. Materials Recycling: Programs and policies to promote recycling and composting, including collection systems, processing facilities, and market development.
4. Materials Disposal: Strategies to minimize the environmental impacts of waste disposal, including reducing the use of landfills, promoting the use of incineration, and new technologies for waste conversion.
5. Monitoring and Evaluation: A plan for monitoring and evaluating the effectiveness of the SMM plan and making changes as necessary to ensure sustainability.

The goal of an SMM plan is to create a more sustainable and environmentally responsible materials management system, reducing waste, conserving resources, and minimizing environmental impacts.

What is an engineered sanitary landfill?

An engineered sanitary landfill is a type of landfill specifically designed and constructed to meet technical and regulatory standards for the safe and efficient disposal of solid waste. The design and construction of an engineered sanitary landfill typically involves several key components, including:

1. Base and bottom liner systems to prevent the release of waste into the environment
2. Collection and removal systems for leachate (liquid that has filtered through waste)
3. Gas collection and control systems to minimize the release of landfill gas (primarily methane) into the atmosphere
4. Final cover systems to prevent the escape of waste and landfill gas, and to promote drainage and evaporation of leachate.

The goal of an engineered sanitary landfill is to manage waste in a way that minimizes the risk to human health and the environment and provides a long-term solution for waste disposal.

What are landfill alternatives?

There are several alternatives to landfills for waste management, including:

1. Incineration: burning of waste to convert it into ash and gases
2. Recycling: process of collecting, sorting, reusing and reprocessing materials into new products
3. Composting: biological decomposition of organic matter to produce a nutrient-rich soil amendment

4. Anaerobic digestion: breaking down organic matter in the absence of oxygen to produce biogas
5. Mechanical biological treatment: a combination of mechanical processes (e.g. sorting, shredding) and biological processes (e.g. composting, anaerobic digestion) to treat waste
6. Waste-to-energy (WTE) plants: facilities that burn waste to generate electricity or heat
7. Solid waste gasification is a process of converting solid waste into a gas called synthesis gas (or "syngas") through high-temperature heating in the absence of oxygen.
9. Plasma gasification is a thermal waste treatment technology that uses high temperature plasma to convert waste into a syngas (synthesis gas), which is composed mainly of hydrogen and carbon monoxide. This syngas can be used as fuel for electricity generation or further processed into chemicals and fuels.

Each alternative has its own advantages and disadvantages, and the best option will depend on factors such as the type of waste, local infrastructure and resources, and government regulations.

What is an intermodal transfer station for solid waste and recyclables?

An intermodal transfer station for solid waste and recyclables is a facility where solid waste and recyclable materials are temporarily stored and transferred from one mode of transportation (such as a truck) to another (such as a train or barge) for disposal or processing. The purpose of this type of transfer station is to provide an efficient and cost-effective way to manage and dispose of solid waste and recyclables, and to minimize the impact of waste transportation on the environment.

What is public policy of Benton County to regulate solid waste management?

BCC 23.010 Purpose. Solid Waste Management Program.

In order to protect the health, safety and welfare of the people of Benton County and to provide a solid waste management program, it is declared to be the public policy of Benton County to regulate solid waste management to:

1. Provide for a coordinated solid waste management program and administration with cities within Benton County and with other counties or cities under existing and future regional programs.
2. Provide for cooperation and agreements between Benton County and cities and other counties involving joint or regional franchising of solid waste service.
3. Provide standards, regulations and franchising to ensure the safe and sanitary accumulation, storage, collection, transportation and disposal or resource recovery of solid wastes and ensure maintenance of solid waste collection, resource recovery and disposal service.

Introduction

Benton County is seeking a new Sustainable Materials Management Plan (SMMP) that will guide decisions and policies for future generations. The main theme of this subcommittee's findings and recommendations are that the plan should help transition our re-focus from the

linear, end-of-life waste management to a more holistic, systemic, circular approach with the materials involved. The many positive impacts of this transition include:

- Efficiencies derived from full life cycle/cradle-to-cradle principles of sustainable material management
- Savings from waste reduction
- Creating opportunities for efficient circular economies both locally and regionally
- Better inclusion of Equity and shared prosperity in waste Considerations
- Recognizing and encouraging innovation

Traditionally, Benton County has managed waste materials with an end-of-life approach – largely by landfilling them locally in Coffin Butte Landfill, but also by recovery, recycling, and composting. This has presented challenges, which include, but are not limited to, the landfill's limitations environmentally and economically. In our work we have sought to chart the expectation and aspirations for a longer-range vision that will guide the County towards more sustainable materials management. Our report advises the County on the parameters for a Request For Proposal (RFP) that will bring in consultants to develop a Plan that enables the County to achieve that longer-range vision.

Based upon the magnitude of ideas and possibilities we have encountered, it is anticipated that the SMMP could usher in a paradigm shift in how we view and interact with materials we use in our everyday lives. In addition to Findings and Recommendations, we have recorded a list of Questions the consultants and the County can use to frame their thinking about this new paradigm, its benefits, and the practical path to get there.

One task of the subcommittee was to develop a "table of contents" outlining the subjects to be covered in an SMMP. The group started by looking at examples of Solid Waste Management Plan (SWMP) documents from various Oregon counties, listing, reviewing, and comparing the topics covered in each. The group was able to add to and edit that list, creating a "table of contents" of topics to cover in a future SMMP, as well as an associated list of questions for the SMMP to answer. Benefits and costs were covered throughout the as it related to various topics and discussions, and are largely included in the overall approach of sustainable materials management approach, which evaluates the impacts across the full life cycle of materials, weighing the "costs and benefits" in the decision-making process.

The group also reviewed Benton County's 2040 Thriving Communities Initiative and examples of values and goals expressed in other planning documents to develop overarching framework to be considered for developing an SMMP.

The more recent subcommittee work has focused on future next steps and recommendations around the RFP process, including contracting out, workplan and timeline, and who's at the table. The group has included considerations of lesson's learned from outside of Benton County, including neighboring county jurisdiction presentations provided to the full work group.

How to read the document:

The document is split up into the following major sections, each containing various related work group charge element. Each charge lists key findings and/or key recommendations. These key findings and recommendations summarize more complete content found in the rest of the report.

Development of Sustainable Materials Management Plan (SMMP)

Topics covered in recent similar planning efforts across the state

One task of the subcommittee was to develop a "table of contents" outlining the subjects to be covered in an SMMP. The group started by looking at examples of Solid Waste Management Plan (SWMP) documents from various Oregon counties, listing, reviewing, and comparing the topics covered in each. Subcommittee members reviewed and discussed pros and cons, and the differences between the various approach's frameworks. Subcommittee members identified key topics to include on Benton County's plan, including aspects of climate change, equity, health impacts, economic opportunities, and many others. The group was able to add to and edit that list, creating a "table of contents" of topics to cover in a future SMMP, as well as an associated list of questions for the SMMP to answer.

Among the planning documents referenced in the development of the "topics to be covered", the subcommittee reviewed topics covered in the following recent similar planning efforts across the state:

- Materials Management in Oregon 2020 Framework for Action
- Materials Management in Oregon 2050 Vision and Framework for Action (2012)
- Deschutes County Solid Waste Management Plan (2019)
- Lane County Solid Waste Management Plan (2019)
- Lincoln County Integrated Solid Waste Management Plan (2004)
- Marion County
    - Marion County, Oregon Solid Waste Management Plan Update (2009)
    - Marion County Solid Waste System Assessment Report (2016)
    - Marion County, Oregon Solid Waste and Energy Final Report (2017)
- Metro:
    - Metro 2030 Regional Waste Plan (2019)
    - Waste Prevention & Environmental Services Regional Waste Plan Progress Report (January 2022)
- Tillamook County Comprehensive Materials and Solid Waste Management Plan (2012)

As an outcome of the discussion reviewing other plans, members organized the topics into an aggregated framework, including the questions below, as well as a "table of contents" in the appendix.

Subjects to be covered

Our expectation is that the consultant will perform an analysis and provide recommendations based on robust outreach to the stakeholders listed in this document. The RFP should ask "how will the applicant address this, and what is the applicant's outreach plan?"

Questions that should be considered in the SMMP development

INTRODUCTION

- What is the context of the plan?
- What are the purpose and goals of the plan?
- What issues are addressed by the plan, and what issues are excluded?
- What is the new approach to managing waste: sustainable materials management framework vs. solid waste management framework?
- How does this plan lead with equity?
- What are the values, principles, and vision of the plan?
- How do these values translate to measurable criteria for evaluating and analyzing the full life cycle impacts of materials and the management system?
- What are the goals and actions of the plan across the material lifecycle, including shared prosperity, product design and manufacturing, product consumption and use, product end-of-life management, and disaster resilience?
- How do readers navigate the plan?
- How does the county measure progress on the plan?
- How will Implementation, compliance, and amendments to be plan work?
- What are the roles and responsibilities of the various agencies and stakeholders?
- What are the state and local requirements?
- What is the management planning process?
- How is stakeholder input used in the planning process?

CLIMATE CHANGE

- What climate change policies impact materials management?
- What materials management practices impact climate change?
- What are the waste stream impacts from climate change policy/shifts?
- What are the social, political, legislative dimensions of climate change as they relate to materials management?
- What are the possibilities for transition assistance from state and federal initiatives addressing climate change related to disposal alternatives?
- Climate change is associated with an emerging set of values and imperatives. How do the county's values adapt as these new values and imperatives evolve, when evaluating waste management alternatives?

LIFE CYCLE IMPACTS OF MATERIALS

- What is the scale of impacts (regional, state, national)?
- What are the full lifecycle/net environmental impacts of materials/systems?
- Which materials are most impactful?
- Which disposal methods are most impactful?
- What are the impacts of generation sources (industries, large quantity generators)?

BACKGROUND AND WASTE STREAM ANALYSIS

- what are the characteristics of the planning area?
- What is the description of the materials management system?
- What are the community impacts from the materials management system?

- What is the summary of annual solid waste generation across Benton County wasteshed (disposal and recovery)?
- What are the current and projected waste stream composition and quantities?
- What is the waste stream generation by economic sector/industry?
- What unique waste streams exist in Benton County?
- Where compared to waste management hierarchy is Benton County?
- What is the waste stream generation forecast, including economic, environmental, and material trend factors?

WASTE PREVENTION/REDUCTION/ REUSE AND RECYCLING ANALYSIS

- What are the existing waste reduction and reuse programs, their effectiveness, and needs and opportunities?
- What is the future potential for waste reduction and reuse programs, especially given its synergy with climate change initiatives?
- Equity and livability costs/impacts? How equitable are the current waste/recycling/prevention services provided in Benton County to traditionally underserved populations and all communities, and what are the standards to strive for?
- Can we foster legislation to encourage building codes that support recycling capabilities and other sustainable materials used in construction? Can we require a level of waste reduction and re-purposing of building materials and demolition debris?
- What is the most impactful approach to construction and demolition materials and deconstruction?
- What are the alternatives for increased waste reduction, reuse, and recycling?
- What are the potential impacts/benefits of utilizing alternative options, and what is needed to accomplish effectiveness?
- How do recommendations from advisory groups and public impact options?
- What are the analyses and recommendations for policy as related to increased waste reduction, reuse, and recycling?
- What are options for supporting circular economy?
- What are options for integrating extended producer responsibility?

RECYCLING AND MATERIALS PROCESSING

- What are the existing collection and processing services and facilities?
- What are the bottlenecks relating to expanding recycling and materials processing? What are the ways around those bottlenecks?
- How are food waste and organics treated?
- What are the needs and opportunities?
- What are the alternatives for processing recyclable materials, sorting technologies and MRF options?
- What are the proven vs. unproven alternatives?
- What are the recommendations for collection and recycling/processing?
- How can we encourage local construction companies to provide recycling facilities for tenants with the use of building codes, subsidies or penalties to encourage responsible construction that will continue to be viable in the future?

WASTE COLLECTION AND TRANSFER

- What is the regulatory framework?
- What is the local authority?
- What are the existing collection services?
- What is the commercial waste collection approach?
- What is the current transfer station operation approach?
- What are the waste and vehicle volumes to each recycling depot and collection event?
- How are unique wastes collected?
- What are the transfer station Facility benefits and costs related to disposal options?
- What are other operations-related requirements?
- What are collection considerations for specific wastes?
- What are the needs and opportunities for collection and transfer services?
- How to increase commercial waste collection of recyclable materials?
- What are the options, benefits, and costs of regional intermodal transfer station(s)?
- What are the comparative costs of landfilling vs. waste to energy vs. recycling?
- What is the comparison of different waste disposal and material management governance models?
- What European/global strategies to consider?
- What options are there for multiple franchised collection service providers?
- Can the issues of a franchise permit for an intermodal transfer station be compliant with BC 23.220 by a qualified third party compliant with BC 23.210 (1) (2), or
- b. Can the intermodal transfer station be enjoined with the current Holder (hauler) franchise agreement (discretionary), or
- c. Can the intermodal transfer station be enjoined with the current disposal site agreement party (discretionary)?
- What are the potential transportation and truck traffic impacts of the current disposal system, as well as alternative disposal options and recovery methods, across major impact areas both inside and outside of Benton County?

ALTERNATIVE TECHNOLOGIES AND SOLID WASTE DISPOSAL

- What are the alternative waste technologies available to lessen or replace landfilling?
- What options are there for material flow control?
- What are the waste disposal projections?
- What are the needs and opportunities?
- What are the alternatives and evaluation?
- What are the alternatives for municipal solid waste (MSW) disposal?
- What are the options for mixed waste processing?
- What is the technology summary?
- What is the evaluation of options?
- What are the findings and recommendations?
- What are disposal methods are utilized in Benton County and elsewhere – slash burning, open burning, etc. and what are their impacts?
- What means (funding, regional collaborations, etc.) are necessary to bring these technologies into Benton County or the region?

HAZARDOUS WASTE

- What is the existing collection and processing system?
- What are the collection and processing services?
- What are the processing/collection facilities?
- What are the needs and opportunities?
- What are the alternatives?
- What are the recommendations for collection /processing services and facilities?

LANDFILL DISPOSAL OPTIONS

- What is the county authority for waste disposal?
- What is the description of the existing landfill disposal system/process, and what are the pros and cons?
- What are the waste stream projections?
- What are the projection scenarios - climate change, regulatory environment, costs, etc.
- What is the landfill lifespan?
- What is the env. impact assessment of the landfill?
- What are the needs and opportunities?
- What are the landfill disposal options, including long-haul waste to out-of-county landfills and alternatives?
- What are the waste disposal recommendations?
- What are the true environmental impacts of landfilling for Benton County? Especially: what is the greenhouse gas footprint of the landfill? What do these impacts look like when projected into the future?
- What are the true economic costs and benefits of landfilling for the County? What do these costs and benefits look like when projected into the future?
- What are the various paths that the County can take to transition away from landfilling at Coffin Butte Landfill?
- What means (funding, collaborations, etc.) are necessary to make to embark upon these paths?
- Are there landfills other than Coffin Butte Landfill that should be considered? What are the tradeoffs (economic, environmental)?
- What is the path forward that balances these competing interests: reducing waste generation/increasing recovery vs. economic interests of landfilling?
- What is the risk assessment of the landfill? How can the County best manage these risks?
- What is the long-term outlook for the landfill? What is its best closure plan? What measures should be in place to manage the landfill's impacts after closure?
- What is the impact of leachate from the landfill site?
- How would closure of Coffin Butte Landfill, or use of alternate disposal sites, impact solid waste collection rates in Benton County?

ADMINISTRATION AND ENFORCEMENT

- How can we use government grants and programs that are being set up to combat the effects of climate change to create a truly unique and innovative program that makes the best use of the resources available in our county and highlights our most valuable

assets to enable our residents to 'be their best selves' in terms of living a sustainable life?
- How can the county explore potential for conflict between income from the landfill and the approach of reducing waste to the landfill?
- How will the county fund and/or support ongoing sustainable materials management recommendations of this plan, including an evaluation of funding options, for systemic longevity? Is there a possibility to use landfill revenue to support the SMMP recommendations? Currently landfill fees go into the general fund.

GENERAL

- Which options for addressing the above issues best reflect the County's (and the State's) stated values?
- How are each of the plan recommendations centered in equity?
- What are the details of the analysis, investigation/evaluation, and recommendations for each topic?
- How do we support and extend the Oregon 2050 Vision for Materials Management?
- How do we support Oregon SB 582, the Plastic Pollution and Recycling Modernization Act, in our county?
- What is a practical, economically feasible, and innovative path for our county to move from where we are today to a responsible and sustainable community?
- How can we use our unique assets and any economic benefits we might glean from our county natural resources? Can we use our rivers and forests to foster more sustainable local practices?

2040 Thriving Communities Initiative and related County documents with similar from other counties referenced

Benton County Sustainable Materials Management Plan should be developed within a Sustainable Materials Management framework, reflecting full lifecycle impacts. The development of a Sustainable Materials Management Plan should consider,

1) the 2040 Thriving Communities Initiative and our communities' Core Values,
2) national, State and local goals, vision documents (DEQ's Materials Management in Oregon 2020 Framework for Action), plans, policies, ordinances, etc. relating to materials management and climate change,
3) examples of values and goals expressed in state and local jurisdiction materials management plans, and
4) long-term strategies (to 2040) with short-term action items (5 years or less).

Benefit-Cost Topics are only outlined

Benefits and costs were covered throughout the as it related to various topics and discussions, and are largely included in the overall approach of sustainable materials management, which evaluates the impacts across the full life cycle of materials, weighing the "costs and benefits" in the decision-making process. The following list benefit and cost considerations are represented as more of an analysis of pros and cons, and not as an economic analysis in most cases.

- SMMP content should include cost-benefit analyses in the evaluation and recommendations of major topics.
- Circular economy costs/benefits should be addressed in the SMMP.
  - Description of different approaches (sustainable, cradle to cradle, circular economy) should also be outlined.
- The SMMP should clarify Benefit-Cost perspectives being addressed through an equity analysis, including:
  - Financial cost impacts associated with materials management and outcomes
  - A perspective that goes beyond landfilling
  - Equity of circular economy, how it engages and impacts consumers (product/material oriented)
  - "who's at the table" list of stakeholder perspectives

What "lessons learned" should be brought forward in this process.

Staff invited members of various jurisdictions to share their experiences and processes in solid waste/materials and materials management during the "Benton County Talks Trash" Workgroup meeting #4 on October 27, 2023 (BCTT Meeting #4 Recording, starting at 01:34:45).Here is a brief summary of the feedback received:

- The public engagement process is very important. The Solid Waste Advisory Committee can help with the planning process, including representatives from incorporated cities, franchised haulers, professionals with experience related to solid waste (local trucking companies), and the public. Ione jurisdiction experienced relatively low initial public engagement, which increased towards the end of the process with an Open House event, which was critical. Subcommittees of the committees can help with the process.
- The RFP process for another jurisdiction's plan was competitive, with several qualified firms. Having a well-defined scope of work after embarking on negotiations was helpful.
- The process can take over two years from start to finish, including RFP, scoping and outreach. Creating and distributing an RFP, up to the point of hiring a consultant can take at least three months. Negotiating the contract can take another month. The report can be developed and drafted in sections, with an approximate 18-month timeline before a full draft is reviewed by the Board of Commissioners.
- The solid waste industry is changing and shifting towards full lifecycle approach.
- Oregon's Recycling Modernizations Act should be a focus area for the SMMP.
- The plan can be integral to address key challenges, like landfills reaching capacity.
- Address new housing types for recycling, for example ensuring adequate space for recycling in increasing multi-family housing. A jurisdiction can work with building code requirements to ensure space is available for recycling.
- Planning and codes should have common grounds where roots can cross over between county and city planning and solid waste staff.
- Solid waste is a transportation issue, and changing transportation should be addressed in planning.
- Emerging technologies can be considered during the planning process, particularly established technologies that are already being used in the United States. The planning should pay attention to the experimental process underway at the Georgia Pacific plant in Toledo, OR.

- Policy analyses were not included in the planning process for some Oregon jurisdictions.

In addition to those "lessons learned", the group recommends considering the following:

- Feedback from other counties who have developed materials management plans
- International examples of landfill alternatives (such as Germany, Finland, Sweden, and South Korea)
- Examples from California and Washington
- Lessons from past Benton County experiences with contracts with Republic, engagement,
- Lessons from individual processes vs. integrated systems
- Workgroup process and its findings

Who needs to be at the table* beyond those in the County**

Subcommittee discussed and identified stakeholders that we felt needed to be included in various aspects of the SMMP process. This list is not prioritized in any way. These were presented to the full work group, and their feedback was incorporated into the list, including local and state agencies, non-profits, advocacy groups, communities, equity and health advocates, key private sector companies and industries, and more below:

Governmental Agencies

- DEQ
- Economic Development Office County/Corvallis
- Small Cities
- Government advisory groups relating to the subject matter
- Neighboring counties
- Equity, Diversity, Inclusion coordinator
- Waste generation sources (jurisdictions) – how much weight should non-county members be given? Economy of scale?
- Tribal governments

Community

- Community Members
- Low-income populations
- Multi-family residents
- Diverse Language Representation and underserved communities not speaking English as first language
- Residents and businesses from rural areas of the county

Advocacy Groups

- Local Advocacy groups (Willamette valley) – sustainability coalition, river keepers, watershed councils
- National Advocacy groups
- Youth organizations - civics/schools

Business and Industry

- Larger industry groups
- Large waste generators
- Building industry - USGBC
- Architecture (AIA) American Institute of Architects
- Designers – various materials, products, etc.
- OSU – Business/Administration
- OSU – Innovation, science around materials
- Hospital/medical,
- Business community
- Restaurants,

Materials Management and Processing

- Disposal sites
- Collectors/haulers
- Materials processors - MRF's
- End users of secondary materials)

*At the table - meaning who to be consulted for feedback through the development of this plan, discuss regional coalitions/partnerships/collaboration
**County government/staff

RFP Process

A workplan outline with a timeline for completion

Staff used Deschutes County RFP as an example and starting point for this discussion. Subcommittee brainstormed different components that they concluded should be in the RFP process and hiring of a consultant. The recommendations are as follows:

- RFP Development
  - RFP Development feedback opportunity from Technical Advisory Committees (TAC) and Community Advisory Committee (CAC)
  - Consider DEQ's RFP Process for Modernizing Oregon's Recycling System as an example
- RFP Release/Announcement
  - Distribution to allow time for it to be posted to various trade groups, equity-minded sharing to underrepresented groups, internationally-minded
- Webinar – interact ***live***, field questions, make presentation
- Pre-proposal/bid/RFP Q&A opportunity for prospective applicants – possible to make this element required/mandatory
  - Early in the RFP release period
- Opportunity for respondents to express interest as primary or sub-contractors
- RFP Response Due Date
  - At least 4 weeks' time that the RFP is available prior to application deadline.
- Review committee to shortlist firms
  - 2 weeks

- Shortlisted firms awarded additional time for presentation with optional funding for expected presentation/deliverables
  - Additional month (within 1 week if no work product/report is due, just an interview).
- Evaluation and Selection Timeline
  - Evaluation team review period
    - Including Technical Advisory Committees (TAC) and Community Advisory Committee (CAC) review opportunity
  - Presentations/Interviews
- Develop work plan further with contractor selected
- Length of overall project
- Plan Development
  - Technical Advisory Committees (TAC) - Vet technical information from consultant, get to a place of consensus
  - Community Advisory Committee (CAC) - Review in areas of disagreement for technical experts
  - SWAC/DSAC advisory role during the development of the plan
- General public meetings – number of meetings
- The plan-making process should prioritize completeness over promptness, i.e., a complete plan is more important to us than it being ready by any particular future date, for example.

Contracting out

There are many topics being recommended, which are likely beyond the capability of any single party. Multiple parties could be involved in the SMMP development process.

Benton County should use an RFP to find consultant(s) and/or other stakeholder groups to assist Benton County in developing a Sustainable Materials Management Plan.

Qualities of a successful applicant should include:

- Technical Knowledge and Abilities
  - Demonstrated familiarity with international examples of reduced or eliminated reliance on landfilling.
  - Conversant in the design and implementation of these alternative waste technologies, be able to evaluate their suitability for use in Benton County, and be able to map out rough timelines for their deployment
  - Demonstrate their ability to design a well-imagined and resilient Plan that can assess the likelihoods of such climate-impacted events as wildfires, floods, population migrations, unprecedented disruptions to energy and transportation infrastructure, and so on
  - Show their ability to map out the County's changing social, economic, environmental and regulatory landscapes, and ability to develop a Plan to navigate the County through them
  - Ability to show Economic/Env/Social impacts, and comparative analysis
  - Be able to suggest programs and ways in which the community could participate, and measure their participation

    - Be able to answer (most, almost all) questions (below table of contents) – RFP process, applicant
    - Be able to map out the social, ethical and environmental landscape of climate change
- Experience
    - Experience with inclusivity, outreach campaigns
    - Experience in such community engagement.
    - Have some experience with large university communities
    - Experience with jurisdictions with non-standard waste streams – like high-tech industries, labs, forestry
    - Experience in analyzing policy impacts of materials
    - Have experience in SMMP development in the past (traditional and innovative)
    - Demonstrated experience with jurisdictions like Benton County (rural areas for example, industries)
    - Demonstrated experience showing Economic/Env/Social impacts, and comparative analysis
- Values
    - Show their understanding of the importance of the values listed in Benton County's "Core Values" and the State of Oregon's "Materials Management in Oregon 2050 Vision and Framework for Action," and will describe how these values will permeate the process and the product of the SMMP.
    - Be able to keep 2040 Thriving Communities Initiative core values in mind during the entire process of formulating an SMMP plan, and trace each recommendation back to the values expressed in the initiative
    - Be able to lay out innovative pathways for the County to reduce negative environmental impacts in keeping with county and state values
- Work Plan and Process
    - Able to incorporate measures into its Planning process and product that will help the County respond to various trends affecting current and projected waste streams
    - incorporate a map of social, ethical and environmental landscape of climate change into its Planning process and product
    - Able to allow and encourage community involvement in the development process, and demonstrated experience
    - Ability and willingness to communicate with the community
    - Be able to engage with the community throughout this process with any innovative measures on how this can take place, either virtually or with town hall type gatherings. Consider using the Justice System Improvement Project (JSIP) as a model of best practices when engaging with the community on the SMMP
    - Look at the unique qualities of our community, not a one size fits all plan
    - Will be able to incorporate these evolving Social, Political, Legislative Dimensions around climate change into its Planning process and product
    - Consider materials and links to BCTT SMMP Subcommittee work
    - Early-stage outreach to community, including students, multi-family residential, single-family residential, rural residential, businesses, local builders, developers
- Plan Content

    - Will delineate paths for the County to establish clearer knowledge about and control over these environmental impacts (methane and other GHGs) by its franchisees, and incorporate these responsibilities into its Planning process and product
    - SMMP document to answer (most, almost all) questions (below table of contents)
    - Should be able to articulate a clear narrative or set of scenarios that describe how the Plan will be a resilient guide for the future
    - Will provide an analysis and recommendation for the "subjects to be covered", incorporating feedback from extensive public engagement and stakeholder engagement, SWAC/DSAC

RFP Development

- Provide details about Workgroup process and its findings to RFP applicants
- Prioritize topics, adding additional topics that are important to consider
- Communicate accurate priorities to applicants
- Members of this BCTT SMMP subcommittee should be offered to participate in subsequent stakeholder group meetings for RFP development and review
- SWAC/DSAC should have an advisory role during the development of the plan
- RFP Release/Announcement should:
    - communicate an expectation that this plan can be approached by teams (multiple firms), instead of just single firms
    - Put guidelines on the size/length of proposals and sections of proposals
    - Be distributed to allow enough time for it to be posted to various trade groups, equity-minded sharing to underrepresented groups, internationally minded outlets
- The county should share with the public the various steps of the process, making updates available, and demonstrating transparency (Cross-referencing subcommittee E.1. work)
- The RFP should demonstrate flexibility through allowing further work plan development after applications are reviewed and accepted
- Length of overall project:
    - Can be heavily impacted and defined by the level of public interaction/stakeholder engagement included in the project, and by requirements from the county
    - R&D from consultant can occur in the background
    - Applicants should include various scope/cost options for 1 year, 2 years, and 3-year timelines.
    - The report should be released in sections, based on timeline and content priorities.
- This RFP process should include Technical Advisory Committees (TAC), which Vet technical information from consultant, get to a place of consensus, and Community Advisory Committee (CAC), which Review in areas of disagreement for technical experts.
    - SMMP Sub-Committee members should be included in the CAC.

Proposal Format, Content, Review and Selection[74]

Proposal must contain the following information, with parameters around each of these items in terms of document length:

a) Cover Letter (P/F).
b) Project Team Experience and Qualifications.
    a. Experience, Capabilities and Resources of the Proposer. 25 points.
    b. Experience of project team members. 25 points.
    c. Experiences with other SMMP in the last 5 years
c) Understanding of Project.
d) Approach to the Scope of Work. 25 points
    a. Fully and completely address all of the questions listed
e) Cost Proposal (based on cost matrix)
    a. Reasonableness of the Cost Proposal. 15 points
    b. Various options based on timeline and scope
    c. Review committee is not given the cost information until initial review is complete
    d. Important consideration, but not the most important consideration
f) Project Schedule. 10 points
g) Social/environmental responsibility
    a. Use county values as evaluation criteria
h) References.
i) Interview/presentation (how important compared to other criteria?)
    a. Separate scoring criteria/process for the interview
    b. The group preparing the RFP will want to make sure that they set enough points with this process so that it can swing the point selection one way or another. The RFP group will want to prepare a list of questions or items they are wanting the interviewees to answer ahead of time and weigh out each question to ensure that it leads to a discovery of which consultant best fits the needs of the county.

An evaluation team consisting of County staff and members of the stakeholder group should determine the best proposal deemed most qualified based on the above criteria.

Conclusion

A good SMMP will serve the county and residents now and in the future – it will be adaptable to new technologies while aligning with clearly stated county/state goals.

The county should not rush the selection process or solicitation process – selecting the correct partner whose core values and vision align with what has been assembled will be a key component to getting the best outcome in this process.

[74] Source of some section content: Deschutes County 2017 SWMP RFP

SMMP Appendix A: Drafted Table of Contents Outlining Elements of Recommendations

TOPICS
INTRODUCTION
Context of the Plan
Plan Purpose and Goals
Issues Addressed by the Plan (include discussion of exclusions to the Plan)
A new approach to managing waste: Sustainable materials management framework vs. Solid Waste management framework
1) Addressing the full life cycle of materials
2) Moving From Where We've Been to Our New Vision (provide timeline)
3) The life cycle of products and materials
4) The garbage and recycling system
5) Leading with equity
Environmental impacts of products and materials
1) Measuring environmental impacts (Full Life Cycle Analyses)
2) Reducing our impact
Values, principles, and vision
1) Overview
2) Values
3) Principles
4) Vision
Goals and actions
1) Overview
2) Navigating the action tables
3) Shared prosperity
4) Product design and manufacturing
5) Product consumption and use
6) Product end-of-life management

TOPICS
7) Disaster resilience
Measuring progress
1) Plan Indicators
Implementation, compliance, and amendments
1) Overview
2) Roles and responsibilities
3) The County's Role in Solid Waste Management Planning and Operations
4) Oregon statutory requirements
5) Requirements for local governments
Address upcoming legislation, Oregon Recycling Modernization Act
6) Plan implementation
7) Plan oversight
Legal foundation and policy guidance
1) Overview
2) Legal foundation
3) Policy guidance
4) Plan Organization
Management Planning Process and Summary
1) Building On Previous Planning Work
2) Management Planning Process
3) Public And Stakeholder Input
4) Common Themes of Public and Stakeholder Input
6) Valuable Partnerships
Local Economic Development
Opportunities for innovation and entrepreneurship
CLIMATE CHANGE
Policy Impacts
Waste stream impacts from climate change policy/shifts
Social, Political, Legislative Dimensions

TOPICS
LIFE CYCLE IMPACTS OF MATERIALS
Introduction
Scale of impacts (Regional, state, national)
Which materials are most impactful
Which Disposal methods are most impactful
Impacts of generation sources (industries, large quantity generators)
Method and recommendations for ongoing analysis
BACKGROUND AND WASTE STREAM ANALYSIS
Introduction
Characteristics of the Planning Area
Description of the Solid Waste Management System
Analysis of community impacts from solid waste management system
Summary of Annual Solid Waste Generation
1) Refuse Collection
2) Transfer Stations
3) Disposal Facilities
4) Recycling Facilities
Current and Projected Waste Stream Composition and Quantities
1) Definition
2) Historical Solid Waste Data
3) Waste Stream Composition
4) Waste stream generation by economic sector/industry
5) Unique waste streams – timber wastes ex.
6) Disposal methods – slash burning, open burning, etc. and their impacts
7) Waste Stream Generation Forecast, including Economic, environmental, and material trend factors
WASTE PREVENTION/REDUCTION/ REUSE AND RECYCLING ANALYSIS
Introduction
Background
Existing Waste Reduction and Reuse Programs

TOPICS
1) Waste Reduction Programs, including food
2) Reuse Programs
3) Recycling Programs
4) Composting
5) Needs and Opportunities
Construction and Demolition materials and Deconstruction
Alternatives for Increased Waste Reduction, Reuse, and Recycling
1) Enhance Current Promotion/Education/Support Services
2) Target Certain Types of Generators or Waste Streams to Increase Diversion by Expanding Basic Services
3) Targeted high impact materials for Reduction, Reuse, and Recovery
Sorting at point of generation
4) Target Recovery of New Materials
Potential impacts/benefits of utilizing alternative options. How do these impact Benton County? What is needed to accomplish effectiveness?
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Options for supporting circular economy
Options for integrating extended producer responsibility
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Transfer Station Descriptions
1) Facility Needs
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Needs and Opportunities
1) Collection Services
2) Need to Implement Transfer Station Capacity
Alternatives and Evaluation – Analysis and Investigation
1) Increase Commercial Waste Collection of Recyclable Materials
2) Develop Transfer Stations Capacity
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Comparison of different waste disposal and material management governance models
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2) Flow Control
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Waste Stream Projections
1) Waste Disposal Projections
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1) Alternatives for Municipal Solid Waste (MSW) Disposal
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Projection Scenarios - climate change, regulatory environment, costs, etc.
Landfill Lifespan
Env. Impact Assessment
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1) Long-Haul Waste to Out-of-County Landfills
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Background and Existing Conditions
1) Solid Waste Administrative Agencies
2) Solid Waste Advisory Council (SWAC) and Disposal Site Advisory Committee (DSAC)
3) Solid Waste Enforcement
4) Financing and Funding Sources
5) Economic footprint
6) Economic impact
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Monitoring plan progress
Ensuring Policies are followed
County community and business engagement
What grant opportunities, and how can county leverage them?
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CONCLUSION
RESOURCES

Appendix C2: Subcommittee Reports: Landfill Size/Capacity/Longevity

Background

Charge

Workgroup charter and bylaws 8-23-2022

From the "Benton County Talks Trash" Workgroup Charter and Bylaws document, Topic A:

A. Develop Common Understandings to form the basis of the work.

1) A chronological history of key Coffin Butte Landfill topics:

a. Size;
b. Specific locations;
c. Conditions of past land use approvals;
d. Compliance with prior land use approvals and SWMP;
e. Reporting requirements;
f. Assumptions (e.g. when will the landfill close;)
g. Economics (i.e. Benefit – Cost, etc.;) and
h. Examples from other jurisdictions hosting landfills, e.g.:
   i. Typical land use conditions of approval; and
   ii. Issue sequencing, (e.g. in what order are landfill versus hauling approvals done, etc.

Subcommittee A.1 charge

The A.1 subcommittee was charged with a subset of the tasks listed above. Specifically, per the A.1 Subcommittee web page:

Charge A: Common Understandings Tasks

1) A chronological history of key Coffin Butte Landfill topics:

1. Size;
2. Specific locations;
3. Assumptions (e.g. when will the landfill close;)

Thus the A.1 subcommittee addresses components 1(a), 1(b) and 1(f) of the workgroup charter Topic A tasks.

Charge 3 "Assumptions" is interpreted to mean estimation of the landfill operational lifetime including the assumptions behind this estimation.

Note that for the A.1 subcommittee, "chronological history" is limited specifically to these three topics; a more general history of the landfill will be addressed by another body.

Membership Composition

The A.1 Subcommittee membership is composed of four primary representative groups:

1. Franchisee: 3 members (Ian Macnab, Ginger Rough, Bill Bromann, all of Republic Services)
2. Benton County community members: 4 members (Chuck Gilbert*, Mark Yeager*, Ken Eklund*, Paul Nietfeld)

3. County governments: 3 members (Daniel Redick (Benton County), Brian May (Marion County), Shane Sanderson (Linn County))

Daniel Redick, a Benton County Community Development Department staff member, acts as Chair of this subcommittee.

Sam Imperati, the workgroup facilitator, normally attends subcommittee meetings and provides guidance in regard to aligning with workgroup objectives.

* Also members of the Solid Waste Advisory Council and the Disposal Site Advisory Committee for Benton County

Document Organization

This document is organized into sections that correspond to the "Charge" items assigned to the A.1 Subcommittee (i.e. Sections 1, 2, 3 correspond to Charges 1, 2, 3).

References to specific sections in this document are in the format <Section #>.<Subsection Letter>.<Subpart Designation>. Thus this location would be referenced as 0.C, and the A.1 Subcommittee Charge may be found in 0.A.ii.

Common Terms and Definitions

Landfill: Landfill means a facility for the disposal of solid waste involving the placement of solid waste on or beneath the land surface. ORS 459.005(14)

Sanitary Landfill: Sanitary landfills are intended as biological reactors (bioreactors) in which microbes will break down complex organic waste into simpler, less toxic compounds over time.

Disposal Site: Disposal site means land and facilities used for the disposal, handling or transfer of, or energy recovery, material recovery and recycling from solid wastes, including but not limited to dumps, landfills, sludge lagoons, sludge treatment facilities, disposal sites for septic tank pumping or cesspool cleaning service, transfer stations, energy recovery facilities, incinerators for solid waste delivered by the public or by a collection service, composting plants and land and facilities previously used for solid waste disposal at a land disposal site. ORS 459.005 (8)

Regional Disposal Site: Regional disposal site means a disposal site that receives, or a proposed disposal site that is designed to receive more than 75,000 tons of solid waste a year from outside the immediate service area in which the disposal site is located. As used in this subsection, "immediate service area" means the county boundary of all counties except a county that is within the boundary of the metropolitan service district. For a county within the metropolitan service district, "immediate service area" means the metropolitan service district boundary. ORS 459.005 (22). From all particular measures, a landfill is a subset of a disposal site.

Landfill Cell: Landfill cell means a discrete volume of a landfill which uses a liner system to provide isolation of solid waste from adjacent cells of solid waste. (RI 250-RICR=140-05-1)

Coffin Butte Landfill: Coffin Butte Landfill is a regional disposal site and an engineered sanitary landfill in Benton County, north of Corvallis, located off Coffin Butte Road.

Landfill Life: Expected time remaining in which the landfill will continue to accept waste, typically in Years. Landfill Life (longevity) in a landfill linear economy model is the consumption of its resources in reserve as well as ancillary resources thereby extinguishing its maximum capacity to further dispose refuse?

End of Life (EOL): Expected calendar date when the landfill ceases to accept waste, typically in Calendar Years AD.

Remaining Landfill Life (longevity): The available timeline a landfill will remain open to accept waste placement into it's permitted capacity.

Franchisee, landfill owner, landfill operator: Republic Services/ Valley Landfills, Inc. Republic Services has been the owner/operator of Coffin Butte Landfill since 2008.

Intake Tonnage: The total quantity of solid waste accepted at the landfill in US short Tons (1 Ton = 2000 lbs.). Conversion to airspace volume in cubic yards (yd^3) is obtained by mathematically dividing the Intake Tonnage value by the density figure provided by the franchisee for the relevant period (stated in Tons/yd^3).

Permitted Airspace: The physical volume available for the placement of solid waste. Benton County approves the land use for the landfill's footprint. However, DEQ and the franchisee (Valley Landfills Inc.), approve the cell design that determines the physical volume available. "Airspace" is the resulting volume left within the permitted space for the disposal of solid waste. Permitted airspace refers to the maximum amount of space that is authorized by regulatory agencies for use as a landfill. It is typically specified in a landfill's permit issued by the relevant regulatory agency, and it represents the total volume of waste that the landfill is permitted to accept over its operating life. The permitted airspace takes into account various factors, such as the size of the landfill, the type of waste it can accept, the geology and hydrology of the area, and the potential environmental impacts of the landfill. It is important for landfill operators to carefully manage their landfill to ensure that they do not exceed their permitted airspace and to minimize the environmental impact of their operations. Exceeding permitted airspace can result in fines or other regulatory actions, and can also have significant environmental consequences.

Service Area: Total geographic area from which waste feeds into Coffin Butte Landfill. These areas represent the geographic area of the landfill's customer base, which is not constant and may change over time based on business choices of the landfill.

Landfill threshold: A landfill threshold, also known as a fill line, is the designated level or height within a landfill at which waste is no longer allowed to be deposited. It represents the maximum height to which a landfill can be filled, as determined by regulatory agencies and landfill permits. The threshold is typically marked by a physical barrier or layer of soil, and is designed to ensure that the landfill does not exceed its permitted airspace or pose a risk to public health and the environment.

2000 Landfill Franchise Agreement: The 2000 Landfill Franchise Agreement between Benton County and Valley Landfills Inc., signed December 31, 2000 and effective from December 31, 2000 until December 31, 2020.

2000 Intake Threshold: The intake tonnage level specified mathematically in the 2000 Landfill Franchise Agreement. If the volume of solid waste accepted at the landfill in any calendar year exceeded the annual level, or if the cumulative volume of solid waste accepted at the landfill in any two consecutive calendar years exceeded the two-year level, the County was allowed, at its expense, to perform a new Baseline assessment, and if the County determined this assessment indicated an adverse impact relative to the 2001 Baseline Study an immediate renegotiation of the Franchise Fee and/or Host Surcharge was required.

2001 Baseline Study: The assessment of environmental and infrastructure conditions and areas of potential impacts from the volume of solid waste accepted at the landfill, as mandated in the 2000 Landfill Franchise Agreement. This assessment was completed by the Benton County Health Department with results documented in a report released in 2001. This study included the following elements: Traffic, Soil Conditions and Contamination Levels, Air Quality, Surface and Groundwater Conditions and Contamination Levels, Noise, Odor, Visual Screening, Litter, Hours of Operation, Solid Waste Control Systems and Compliance with all Solid Waste Permits.

2020 Landfill Franchise Agreement: The 2020 Landfill Franchise Agreement between Benton County and Valley Landfills Inc., signed December 21, 2020 and effective from January 1, 2021 until December 31, 2040.

Tonnage Cap: The 1.1 M Tons/year "Limit on Solid Waste" defined in the 2020 Landfill Franchise Agreement, in place until "Franchisee's governmental applications to expand the landfill onto the Expansion Parcel are granted" and stipulated as the level which the total tonnage of solid waste deposited by the franchisee "shall not exceed" during any calendar year, with exceptions for fire, flood, other natural disaster or any Force Majeure event.

Expansion Parcel: As specified in the 2020 Landfill Franchise Agreement, the "expansion parcel" is tax lot 104180001107, listed as 59.23 Ac.

Circular Economy:

An expansion of a landfill alone without a circular economy would only consume valuable landfill reserve resources in a traditional linear economy model, which operates on a "take, make, use, dispose" model.

A circular economy is an economic model where the waste and pollution generated by society is minimized, and resources are conserved and regenerated by reusing and recycling materials and products. It aims to reduce dependency on finite resources, eliminate waste, and create a more sustainable economy. The circular economy model is in contrast to the traditional linear economy model.

In Republic Services 2021 Sustainability Report, Jon Vander Ark, President and Chief Executive Officer reports, "This is our company vision, which is intentionally ambitious because we believe we are uniquely positioned to help our customers achieve their own sustainability goals. That commitment begins with our Elements of Sustainability – Safety, Talent, Climate Leadership and Communities – and these elements anchor our 2030 sustainability goals".

A solid waste management plan is a comprehensive plan for the collection, transport, processing, and disposal of solid waste, such as household trash, industrial waste, and construction and demolition debris. The purpose of a solid waste management plan is to

ensure that waste is managed in an environmentally responsible and sustainable manner, while also considering economic and social factors of a circular economy.

In the 2020 landfill franchise agreement under article 5a Benton County and the Franchisee acknowledge that there may be adverse effects to the County's infrastructure and environmental conditions due to increased annual volumes of solid waste accepted at the landfill.

In other words, a solid waste management plan needs to work shoulder to shoulder with sustainability goals in a circular economy within Benton County's proposed sustainable materials management plan and transportation plan.

What is the economical principal of demand and supply equilibrium?

The economic principle of demand and supply equilibrium is a fundamental concept in economics. It states that in a free market, the price of a good or service will settle at a level where the quantity demanded by buyers is equal to the quantity supplied by sellers.

What are the economics of a franchise?

A franchise is a business model in which a franchisor grants a franchisee the right to use its trademarks, products, services, and business methods for a specified period of time in exchange for an initial fee and ongoing royalty payments. The economics of a franchise depend on various factors, including the type of franchise, the market conditions, and the terms of the franchise agreement.

What is the economics of a landfill?

The economics of a landfill refers to the financial costs and benefits associated with operating and managing a landfill. Landfills are a type of waste management facility where garbage and other forms of solid waste are buried underground in order to minimize their impact on the environment.

The economics of a landfill can be broken down into several components:

1. Capital Costs: These are the costs associated with building the landfill, including site preparation, infrastructure development, construction of waste cells, and installation of monitoring systems.
2. Operating Costs: These are the ongoing costs associated with running the landfill, including labor costs, equipment maintenance, waste collection, transportation, and disposal costs.
3. Revenues: These are the revenues generated from the landfill, which may come from tipping fees charged to waste generators or from the sale of recovered materials such as metals, plastics, or glass.
4. Environmental Costs: These are the costs associated with the environmental impact of the landfill, including pollution, greenhouse gas emissions, and impacts on local ecosystems.
5. Regulatory Costs: These are the costs associated with complying with local, state, and federal regulations governing the operation of landfills, including permitting, monitoring, and reporting requirements.

Overall, the economics of a landfill depend on a number of factors, including the size, capacity and location of the landfill, the amount and type of waste it receives, the regulatory environment, and the cost of alternative waste management options. Proper management of a landfill can result in a profitable operation, but this must be balanced with the potential negative environmental impacts and the costs associated with mitigating them.

What are resources in reserve in a landfill?

In the context of a landfill, resources in reserve typically refer to the remaining capacity of the landfill to accept waste before it reaches its maximum capacity. This can be estimated by conducting periodic surveys and measurements of the landfill's remaining space, as well as assessing the rate at which waste is being deposited.

The resources in reserve of a landfill are a key consideration in waste management planning, as they determine how long the landfill can continue to accept waste before it reaches its maximum capacity and must be closed. Once a landfill reaches its maximum capacity, it must be closed and monitored for an extended period of time to ensure that it does not pose a threat to human health or the environment.

In addition to the remaining capacity of the landfill, other resources in reserve in a landfill may include materials that can be recovered and reused, such as metals, plastics, and other recyclable materials. Landfills may also be equipped with systems for capturing and utilizing landfill gas, which is a byproduct of the decomposition of organic materials in the landfill.

Overall, the resources in reserve of a landfill are an important consideration in waste management planning, as they determine the landfill's remaining lifespan and its potential for resource recovery and utilization.

What are ancillary resources in a landfill?

Landfill ancillary resources are the resources that can be extracted or generated from a landfill in addition to its primary function of waste disposal. These resources can include both tangible and intangible assets that have value for the landfill operator or for other entities.

Examples of landfill ancillary resources include:

1. Landfill gas: Landfills generate methane and other gases as waste decomposes. This gas can be captured and used to generate electricity, heat, or fuel.
2. Recoverable materials: Certain materials, such as metals, plastics, and glass, can be recovered from the waste stream and sold or recycled.
3. Compost: Some landfills may have the capability to compost organic waste, such as food and yard waste, which can be sold as a soil amendment or fertilizer.
4. Land: Once a landfill has reached the end of its useful life, the land can be repurposed for other uses, such as parks, recreation areas, or commercial or industrial development.
5. Environmental credits: Landfills that reduce their greenhouse gas emissions or implement other environmentally beneficial practices may be eligible for credits that can be sold on carbon markets or other environmental markets.

6. Water: Some landfills may have groundwater resources that can be used for irrigation or other purposes.

Overall, landfill ancillary resources can provide additional revenue streams for landfill operators, reduce the environmental impact of landfill operations, and provide value to the broader community.

What is a landfill linear economy?

A landfill linear economy refers to a waste management approach in which waste is generated, collected, and disposed of in a linear manner, without much emphasis on resource recovery or reuse. This approach is often characterized by a "take-make-dispose" model, where resources are extracted, processed into products, used, and then discarded as waste.

In a landfill linear economy, waste is typically sent to landfills for disposal, without much effort to recover or recycle materials from the waste stream. This can result in the depletion of natural resources and the generation of significant amounts of waste that can pose environmental and health hazards.

In contrast, a circular economy approach to waste management emphasizes resource recovery and reuse, with the goal of reducing waste and conserving natural resources. In a circular economy, waste is treated as a valuable resource, and materials are reused, recycled, or repurposed, rather than being disposed of in landfills or incinerators.

Overall, the concept of a landfill linear economy highlights the need for more sustainable waste management practices that prioritize resource recovery and reuse over disposal. By adopting a circular economy approach to waste management, it may be possible to minimize waste, conserve natural resources, and reduce the environmental impact of waste disposal.

What is refuse?

Refuse is a term used to describe any material or object that is thrown away or discarded because it is no longer wanted or needed. Refuse typically includes waste, garbage, trash, or other types of discarded materials, such as food scraps, old papers, empty containers, and broken household items.

Refuse can take many forms and can come from a variety of sources, including households, businesses, and industrial processes. Proper disposal of refuse is important to prevent environmental pollution, reduce health risks, and conserve resources. Recycling, composting, and other waste reduction strategies can help to minimize the amount of refuse that ends up in landfills or incinerators.

What is consumption of resources in a landfill?

The consumption of resources in a landfill refers to the use of resources, such as energy, water, and raw materials, that are required to operate and maintain a landfill. Landfills consume resources in several ways, including:

1. Construction and operation of the landfill facility: This includes the use of energy and raw materials to construct the landfill, install infrastructure (such as access roads and monitoring systems), and operate heavy equipment (such as bulldozers and excavators) to manage and compact waste.

2. Transportation of waste: Waste must be transported to the landfill from its point of origin, which requires energy and resources to operate vehicles, such as garbage trucks and hauling equipment.
3. Leachate management: Landfills generate leachate, which is liquid that is generated as water percolates through the waste. Leachate must be collected and treated to prevent contamination of the surrounding environment, which requires energy and resources.
4. Gas management: Landfills also generate methane gas, which must be collected and managed to prevent it from escaping into the atmosphere, where it can contribute to climate change.

The consumption of resources in landfills can have environmental impacts, including air pollution, water pollution, and greenhouse gas emissions. Therefore, landfill operators must carefully manage their operations to minimize resource consumption and environmental impacts. This may include implementing a circular economy using in part energy-efficient practices, which use renewable energy sources, and implementing waste reduction and recycling programs to reduce the amount of waste that enters the landfill.

Table of Findings

Key Findings:

Landfill Estimated Remaining Life, Projected End of Life (EOL)

LSCL F-1: In 2003 EOL was projected to be approximately 2074, with a Landfill Life estimate of 71 years (2003 East Triangle CUP document, Benton County file PC-03-11.pdf). Twenty years later EOL is projected to be 2037-2039 with a Landfill Life of 14.5-16 years, a reduction of approximately 36 years of estimated life in 20 elapsed years. In 2013 Valley Landfills Inc. reevaluated an area of Landfill Site zoned property in the northeast corner of the site for waste placement stability engineering. This area was removed from the landfill's site development plan based on updated state seismic guidance for landfill stability.

LSCL F-2: In 2013 EOL was projected to be 2053-2062, with a Landfill Life estimate of 40-49 years[75]. Ten years later EOL is projected to be 2037-2039 with a Landfill Life of 14-16 years, a lower and upper range reduction of approximately 16 and 23 years respectively.

LSCL-F-3: Current (1Q2023) estimate for landfill EOL = CY 2037 – 2039, with a landfill life estimate of 14-16 years, based on an annual intake level of 1.0 – 1.1 MTons/year and a density of 0.999 Tons/yd3, assuming the quarry area will be fully excavated by the time the current disposal areas are full. Valley Landfills, Inc. has represented that this nominal life projection ("baseline") is derived from a few data points in annual measurements, and is the product of a modeling process that is standard in the landfill industry. Valley Landfills, Inc. acknowledges that a variety of factors, including human factors, can impact landfill site life, but are not included in this baseline calculation. Valley Landfills, Inc.'s baseline projection of a 2037-2039 closure date is based both upon existing demand and Valley Landfill Inc.'s efforts to maintain and/or grow its service area and business in the market.

LSCL F-4: The 2021 Site Development Plan is a registered engineer of record stamped and dated plan set which includes but not limited to a projected a 2039 EOL based on an annual intake of approximately 846,000 Tons/year, but this intake tonnage is not considered binding or

[75] 2013 Coffin Butte Landfill and Pacific Region Compost Annual Report

controlling by either ODEQ or Valley Landfills, Inc. This is based on the best information available at time of approval by Oregon DEQ, which can change based upon service area impacts.

LSCL F-5: Under the 2020 Franchise Agreement, the 1.1M tonnage cap is eliminated upon Benton County's approval of a CUP (expansion). If intake volumes increase, an **expansion would not necessarily guarantee an increase in site life** or the extension of the Landfill's closure date. For example, if an expansion increases available airspace but intake volumes increase the fill rate even more, the overall life of the landfill could decrease. Republic Services said it was unlikely such a scenario would occur, due to operational limitations at the Landfill and in the Service Area [could not reach consensus].

Nonetheless, transitioning from the current linear landfill economy to a circular economy landfill can potentially extend the life of a landfill. This is because a circular economy landfill is designed to minimize the amount of waste sent to the landfill and extract value from the materials that are discarded. By recovering valuable materials through recycling, composting, and other forms of recovery, a circular economy landfill reduces the volume of waste that needs to be disposed of in the landfill. This, in turn, reduces the rate at which the landfill is filled up, which can extend its lifespan with or without tonnage cap limitation.

Notwithstanding, a landfill tonnage cap is a regulatory limit on the amount of waste that can be disposed of in a landfill over a certain period of time. The tonnage cap is typically set by the local or state government and is intended to prevent the landfill from becoming overfilled and causing environmental or problems such as contamination of groundwater, soil, air, or demand and supply equilibrium problems, while transitioning to a circular economy.

LSCL F-6: For purposes of this discussion, the subcommittee agreed to rely on data from the annual reports and other landfill filings with the county. EPA also provides data in in its greenhouse gas reporting webpage that uses different data from another source.

LSCL F-7: Factors such as population growth and debris from disasters may drive up intake rates and thus shorten landfill life; factors such as recycling and waste diversion, plus emerging factors such as extended producer responsibility (EPR) incentives and climate crisis legislation, may drive down intake rates and thus lengthen landfill life.

LSCL F-8: Landfill Life (longevity) is the availability of the landfill reserve resources and landfill ancillary resources that currently operates the landfill's demand, supply and equilibrium of refuse disposal in a linear economy model.

LSCL-F-9: The subcommittee identified these factors that could impact usable landfill airspace: Landfill expansion(s) and associated removal of tonnage cap; the quarry excavation schedule; water table concerns; disasters that happen to the landfill itself.

LSCL F-10: The subcommittee identified many factors that could impact the landfill's annual tonnage; i.e., the rate at which its usable volume fills up. These included: exceedance of the tonnage cap; recession(s); economic growth; structural and societal reductions in waste generation; disposal alternatives; transportation alternatives; global health issues such as pandemics; climate change and other environmental legislation concerning methane and other greenhouse gases; climate change and other environmental legislation concerning the reduction of waste and pollution in landfilled material; state and local legislation upgrading waste diversion efforts; environmental activism, especially about the climate crisis; wildfires

and other disasters that generate debris for landfilling; service area changes; changes in population in the service area.

LSCL F-11: Recognizing that the question "What factors could make the landfill close earlier than the Baseline Scenarios (by 2037–39)?" is of particular importance to this report's readers, the subcommittee has prepared a table that contains background information about each factor and proposes questions for the County and the SMMP to answer. This information can be found in Table 4.

LSCL F-12: Landfills are known to be major emitters of methane, but previously these emissions have typically been estimated through mathematical modeling, because the emissions themselves were hard to measure directly. The methane emissions from Coffin Butte Landfill have not been well-characterized, so the possible effects of methane-reducing legislation on the landfill's waste intake rates are also hard to characterize.

LSCL F-13: One proven way to reduce a landfill's greenhouse gas emissions is to divert organic material. Landfill gas collection systems are another tool to lessen the greenhouse gas impact but do not remediate it. In 2019 the EPA estimated that Coffin Butte Landfill's gas collection system operates at 57% efficiency.

LSCL F-14: The impetus to curtail methane emissions is focusing attention on ways to divert organic waste from landfill wastestreams. The 2023 Food Donation Improvement Act, for example, enables existing food donation organizations to expand operations and incentivizes the creation of new methods and innovations in preventing food waste, both to stop wasting a valuable resource and to reduce methane emissions.

Landfill Size: Capacity

LSCL F-15: A significant portion of the permitted airspace in the quarry area (also known as Cell 6) is currently unavailable for waste disposal due to unexcavated rock. As with other cells at Coffin Butte, permitted airspace is ultimately the result of two separate decisions by two separate entities. Benton County approves the land use for the landfill's footprint, while DEQ and the franchisee (Valley Landfills Inc.), approve the cell design that determines the physical volume available.

LSCL F-16: The addition of Cell 6 added approximately 13,400,000 cubic yards. Landfill total capacity increased by approximately 9,000,000 cubic yards in 2003 with the addition of the West and East triangle areas for a total of approximately 35,500,000 cubic yards. The formal County approval of Cell 6 as a disposal area has not been identified or confirmed. Since 2004, reported remaining airspace has decreased gradually, while total permitted airspace has remaining somewhat constant. As of end 2021 approximately 44% of permitted capacity remained unused.

Landfill Size: Intake Tonnage

LSCL F-17: The amount of waste placed into the landfill has grown dramatically over the past 40 years. In 1983, 375 tons per day were placed into the landfill (117,000 tons per year). By 1993, the tonnage volume increased to 310,000 tons per year. In 2003 550,000 tons were placed into the landfill. In 2013, the waste tonnage was 479,000, and in 2021, 1,046,000 tons were emplaced.

LSCL F-18: The official 2022 Coffin Butte annual intake tonnage is not available at the time of this report (February 2023). The size of the Host Fee payment to Benton County in January 2023 indicates a 2022 intake volume of 1,066,436 Tons. The actual tonnage figure should be updated after the receipt of the 2022 Coffin Butte Landfill Annual Report.

LSCL F-19: The 2000 Landfill Franchise Agreement stipulated that the County was to perform a "Baseline" study as a reference for measuring potential future adverse effects (completed in 2001), and defined a ramping intake tonnage threshold to be applied during the term of the agreement (CY2001-2019). Intake volumes in excess of this threshold granted the County clear right to pursue specific remedies: a) the County, at its expense, could perform an updated Baseline assessment, and b) if the County determined that the new assessment indicated an adverse impact on "the Baseline," the agreement stipulated that "the parties shall immediately proceed in good faith to negotiate an increase in the Franchise Fee and/or Host Surcharge…".

LSCL F-20: The 2000 intake tonnage threshold was exceeded in calendar years 2017, 2018 and 2019.

LSCL F-21: Washington County waste tonnage accepted at the landfill increased by over 400% between 2016-2017, with the increased tonnage continuing through 2019. Riverbend Landfill was a regional landfill that accepted waste from many counties, including Washington County. Riverbend's owner/operator diverted tonnage to Coffin Butte in an effort to extend Riverbend's site life.

LSCL F-22: Benton County did not utilize either of the contractual remedies available to it as a result of the intake tonnage exceeding the threshold in 2017-2019. No updated Baseline study was performed, and no renegotiation of the landfill fee structure was undertaken.

LSCL F-23: Benton County received approximately $3.1M of incremental revenue from the increased intake volumes over the 2017-2019 period. Of this, approximately $1.08M was the result of intake volume in excess of the annual limits over the three-year period. This equates to roughly $11.50 total per Benton County resident for the three-year period.

LSCL F-24: In an official 2018 presentation to Benton County Board of Commissioners, Benton County represented the 2000 Franchise Agreement intake threshold as "Annual Maximums Specified in Franchise Agreement." However, the 2000 Franchise Agreement does not describe the tonnage threshold as a "limit" or "maximum" and does not limit the number of tons that can be accepted.

LSCL F-25: Both the 2000 Landfill Franchise Agreement and the 2020 Landfill Franchise Agreement include a section stating that "The parties acknowledge that there may be adverse effects to the County's infrastructure and environmental conditions due to increased annual volumes of Solid Waste accepted at the Landfill." In both agreements this section of the agreement then stipulates terms regarding intake volumes.

LSCL F-26: The intake threshold defined in the 2000 Landfill Franchise Agreement and the Tonnage Cap defined in the 2020 Landfill Franchise Agreement were stipulated as contractual provisions, with consequences explicitly defined in the 2000 agreement and implicit (violation of contract) consequences in the 2020 agreement.

LSCL F-27: The 2020 Landfill Franchise Agreement defined a 2020 Tonnage Cap of 1.1 M Tons/year that the Landfill "shall not exceed." That includes 75,000 tons reserved annually for

Benton County. The Tonnage Cap does not apply to fire, flood, natural disaster, or Force Majeure event materials.

LSCL F-28: The 2020 Landfill Franchise Agreement also includes a provision that the tonnage cap would be eliminated upon governmental approval of an application to "expand the landfill onto the Expansion Parcel."

LSCL F-29: It is unclear if the 2020 Franchise Agreement's enforcement mechanisms are strong enough to prevent agreement violation or if the County will pursue the options at its disposal.

LSCL F-30: The landfill operator generally chooses how much tonnage to accept, based on demand and their contracts with various jurisdictions and haulers. Some of the increasing tonnage accepted at the landfill from 1993-2021 reflect the increase in business development.

LSCL F-31: The slow downward trend in intake volume in the 2006-2010 period is explained by the franchisee as resulting from the economic downturn of 2008.

LSCL F-32: Republic Services states that the drop in volumes to Coffin Butte in 2020 is due to the global COVID-19 pandemic, coupled with diversion of tonnage from Riverbend Landfill to other landfills besides Coffin Butte. However, tonnage volumes increased again in 2021 due in part to changes in lifestyle/development/at home shopping patterns as a result of the pandemic, as well as debris from the Oregon wildfires.

LSCL F-33: A range of human factors have been seen to influence the landfill's intake rate and therefore its operating life in the past. These include business factors such as expansions or contractions of the Service Area, social factors such as recessions and population growth, and environmental factors such as recycling and other initiatives that divert materials out of the waste stream.

LSCL F-34: More human factors are emerging that could influence the landfill's intake rate and therefore its operating life in the future. These include newly enacted state legislation assigning responsibility for disposal costs to the producers of waste material, newly enacted national legislation addressing food waste, and national legislation being rolled out that targets methane and other greenhouse gas pollution.

LSCL F-35: A 2016 MOU between Benton County and Republic Services acknowledged "Coffin Butte Landfill will be accepting municipal solid waste currently being delivered to Waste Management's Riverbend Landfill for a term of 1-2 years, beginning in January of 2017."

LSCL F-36: The 2016 MOU does not contain language preventing Benton County from exercising its rights under the 2000 Landfill Franchise Agreement (see Recommendations).

Specific Locations

LSCL F-37 : Valley Landfills Inc. anticipates it will no longer be able to place waste in Cell 5 by mid-year 2025. When Cell 5 is full, Republic Services is working on a plan to deposit waste in the permitted area of the landfill known as the quarry known as Cell 6. Excavation of the primary quarry footprint is scheduled to begin in Spring of 2023 with completion in Spring 2025.

LSCL F-38: Approval of the 1983 rezoning was recommended by SWAC and CAC with on the condition that "No landfill be allowed on property south of Coffin Butte Road."

LSCL F-39: The recommended condition prohibiting landfill south of Coffin Butte Road was not included in the 1983 rezoning ordinance through a change recommended by Benton County Staff, in which Staff noted that any new disposal area would require approval of the Planning Commission in a public vote. The process for approving landfill south of Coffin Butte Road was subsequently changed to "allowed by conditional use permit." This appears to be done via Ord. 90-0069 (BCC 77.305) This change was memorialized in the 2002 Memorandum of Understanding executed by Valley Landfills and Benton County.

Landfill Size: Footprint and Structure

LSCL F-40: The 1983 rezoning action defined 194 acres as Landfill Size (LS) zone. An additional 59-acre parcel south of Coffin Butte Road, while zoned LS, would not be used for disposal of solid waste unless approved by a conditional use permit and Department of Environmental Quality permit for solid waste landfill use. The site map attached to the 2002 MOU restricted "fill" activity to the north side of Coffin Butte Road.

LSCL F-41: Twenty-three tax lots are owned by landfill-affiliated entities. Six of these taxlots are zoned LS, and the 5 LS tax lots on the north side of Coffin Butte Road contain landfill cell disposal areas. The most recent tax lots associated with the landfill were purchased in 2001 (non-disposal areas).

LSCL F-42: The landfill has developed visually over time in accordance with site development plans. Coffin Butte Landfill has changed visually since it's designation as a regional landfill in 1974, growing in both height and size, and visual appearance. However, the overall landfill acreage hasn't changed significantly since 1983; it has filled in more of its footprint.

Table of Recommendations

Key Recommendations:

LSCL R-1: The Sustainable Materials Management Plan should further develop scenarios and factors that may impact the landfill lifespan, including detailed analyses of likely projections. The Commissioners and County staff should keep the questions about these factors and their effects in mind when making decisions affecting the landfill.

LSCL R-2: Benton County should create and share a plan for the enforcement of all franchise agreements.

LSCL R-3: Benton County should contract for an updated Baseline Study to evaluate the impact of the current intake level at Coffin Butte. As with the 2001 Baseline Study stipulated in the 2000 Landfill Franchise Agreement, this study should determine and measure adverse effects, including but not limited to: traffic, soil conditions and contamination levels, air quality, surface and ground water conditions and contamination levels, noise, odor, visual screenings, litter, hours of operation, solid waste control systems and compliance with all solid waste Permits. This baseline study could help inform Benton County in decision making and financial choices regarding how to use the income from the landfill.

LSCL R-4: The County should, as soon as possible, consider the public record of the deliberations leading to the execution of the 2020 Landfill Franchise Agreement in order to assess a) which party requested that the 2020 Tonnage Cap be eliminated if expansion was approved, b) if Benton County proposed the elimination of the 2020 Tonnage Cap, determine why this was done, c) determine the County's expectation for the benefit(s) to the County of accepting up to 1.1M Tons of waste per year when the County's reserve portion is approximately 6.8% of that

amount, d) interpretation of the “Tonnage Cap”, specifically relative to the 2020 Tonnage Cap, and e) expectations of both parties for future landfill site expansion, including any plans for multiple (repeated) future expansions. The county should then use this information to inform landfill-related decision-making. These negotiations were conducted privately (not in public meetings), and there are elements of these discussions that may be proprietary and/or fall under attorney-client privilege.

LSCL R-5: Benton County should clarify and document the process for officially establishing Permitted Space, including any and all required Benton County actions and regulatory agency approvals (ODEQ, EPA, etc.).

LSCL R-6: The County should clarify when formal approval of Cell 6 as a disposal area was granted.

LSCL R-7: The Benton County Solid Waste Advisory Council (SWAC) should review all future Coffin Butte Annual Reports relative to past reports and official approvals, in particular with regard to intake volume, landfill traffic volume (both Municipal Solid Waste and leachate transport), expected Landfill Life and EOL, and total and remaining Permitted Space. SWAC should report these findings to the BOC for consideration.

LSCL R-8: Benton County should secure information from Republic Services about the Annual Tonnage figures for presentation to SWAC/DSAC as soon as they are available, and not wait to include them for the first time in the Annual Report.

LSCL R-9: The baseline scenarios laid out in this report assume that landfilling will continue as it is doing today for the next 16 years. That expectation should be tempered by signals of factors that can reshape Coffin Butte Landfill's social and regulatory landscape, especially environmental considerations related to the climate crisis. This reshaping is something that Benton County can participate in, on behalf of its citizens, as the landfill’s permitted volume is filled.

LSCL R-10: Benton County should take steps to acquire better information about the methane emissions of Coffin Butte Landfill, because the landfill’s emissions are currently not well-characterized and use this information to guide diversion programs that could limit the amount of organic waste going to the Landfill.

LSCL R-11: In its current actions and in concert with its Sustainable Materials Management Plan, the County should be aware of and prepare for changes in Coffin Butte Landfill's social and regulatory landscape, as the future could hold significant opportunities for the County and affiliated organizations to bring waste management closer to the County’s goals and values.

LSCL R-12: Benton County should keep in mind that the most effective way to curtail a landfill’s greenhouse gas emissions is to divert organic material from being landfilled. This can inform County and area-wide decisions regarding recycling, composting, food waste, and other initiatives affecting how the landfill’s permitted volume is filled.

Executive Summary

The current landfill activities north of Coffin Butte Road consist of a total of 194 acres, with 6 cells currently slated or approved for disposal of waste.

In 2003 the End of Life “EOL” of Coffin Butte Landfill was projected to be approximately to year 2074, with a Landfill Life estimate of 71 years.

In 2013 EOL was projected to be years 2053-2062, with a Landfill Life estimate of 40-49 years.

In the current year of 2023 the EOL is projected to be years 2037 -2039, with a landfill life estimate of 14-16 years.

The above landfill progression is a linear economy model that represents a waste management approach in which waste is generated, collected, and disposed of in a linear manner, without much emphasis on resource recovery or reuse. This approach is often characterized by a "take-make-dispose" model, where resources are extracted, processed into products, used, and then discarded as waste by society.

The linear model of a landfill economy is being replaced by more sustainable models, such as the circular economy. In a circular economy, waste is minimized by prioritizing waste reduction and recycling, and by designing products and processes with a focus on sustainability and longevity. In this model, waste is seen as a valuable resource that can be reused, repurposed, or recycled, rather than being discarded into a landfill.

This approach supports the solid waste management plan of Benton County working shoulder to shoulder with a sustainable materials management plan being developed by Benton County Community Development in conjunction with Oregon Department of Environmental Quality, members of Benton County, as well neighboring Counties and municipality using Republic Services waste management services.

In Republic Services 2021 Sustainability Report, Jon Vander Ark, President and Chief Executive Officer reports, “This is our company vision, which is intentionally ambitious because we believe we are uniquely positioned to help our customers achieve their own sustainability goals. That commitment begins with our Elements of Sustainability – Safety, Talent, Climate Leadership and Communities – and these elements anchor our 2030 sustainability goals”.

The reader of this executive summary is encouraged to read further into subcommittee reports to appreciate the wealth of information the members of the community have brought forwarded in the short amount of time granted under the Benton County Talks Trash bridge approach into a needed sustainable landfill economy and transportation plan for waste disposal.

Landfill Life Projections

Coffin Butte Site Life Projection: 2023 to closure

The landfill life projections shown below are provided Republic Services. They are designed to establish a baseline – a simple operational projection that more sophisticated scenarios can be built upon.

It presumes:

a) A steady annual tonnage intake of between 1 million and 1.1 million tons for the duration of the landfill’s projected remaining site life.
b) Site life is currently projected by Republic Services to be between 14.5 and 16 years, with a closure date between 2037-2039.

Note: This also presumes that the landfill area known as “the quarry” can be fully excavated. A significant portion of permitted airspace at Coffin Butte is currently unusable due to unexcavated rock.

c) As indicated in the assumptions, this baseline is not a “default future,” in that it does not incorporate outside factors.

Scenario 1

Tons per Year	1,000,000	Tons
Projected Remaining Airspace 12/31/22	16,008,557	CY
2022 3-year Density Avg	0.999	Tons/CY
Site Life	15.99	Years

Scenario 2

Tons per Year	1,100,000	Tons
Projected Remaining Airspace 12/31/22	16,008,557	CY
2022 3-year Density Avg	0.999	Tons/CY
Site Life	14.54	Years

Definitions:

Tons per Year: Projected tonnage based off recent history*

Projected Remaining Airspace: Airspace remaining at the end of 2022 based off projected 2022 tons and 2022 3-year density average

2022 3-year Density Avg: Average density measured during 2020, 2021 and 2022 measurements

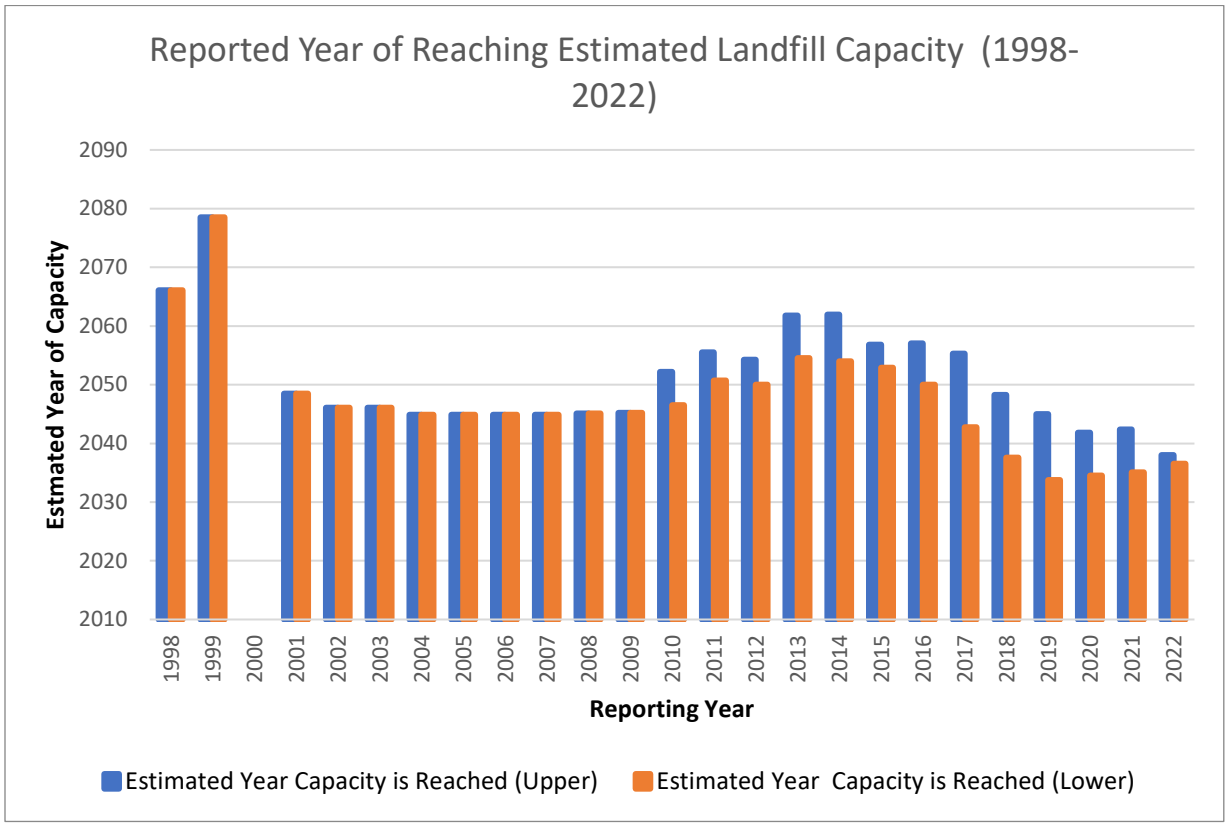
Site Life: Total site life including the fully excavated quarry area

*Variables can and do impact tonnage and available airspace, and can include changes in disposal and diversion rates, natural disasters and other unforeseen market changes, etc.

The table shown above represents industry-accepted modeling for estimating a Landfill’s remaining life. Modeling is based on three factors: remaining permitted airspace, volume, and density. As noted in the text below the graphic, Republic Services acknowledges that a wide variety of variables, independently or in concert with each other, can impact the baseline(s) enumerated above.

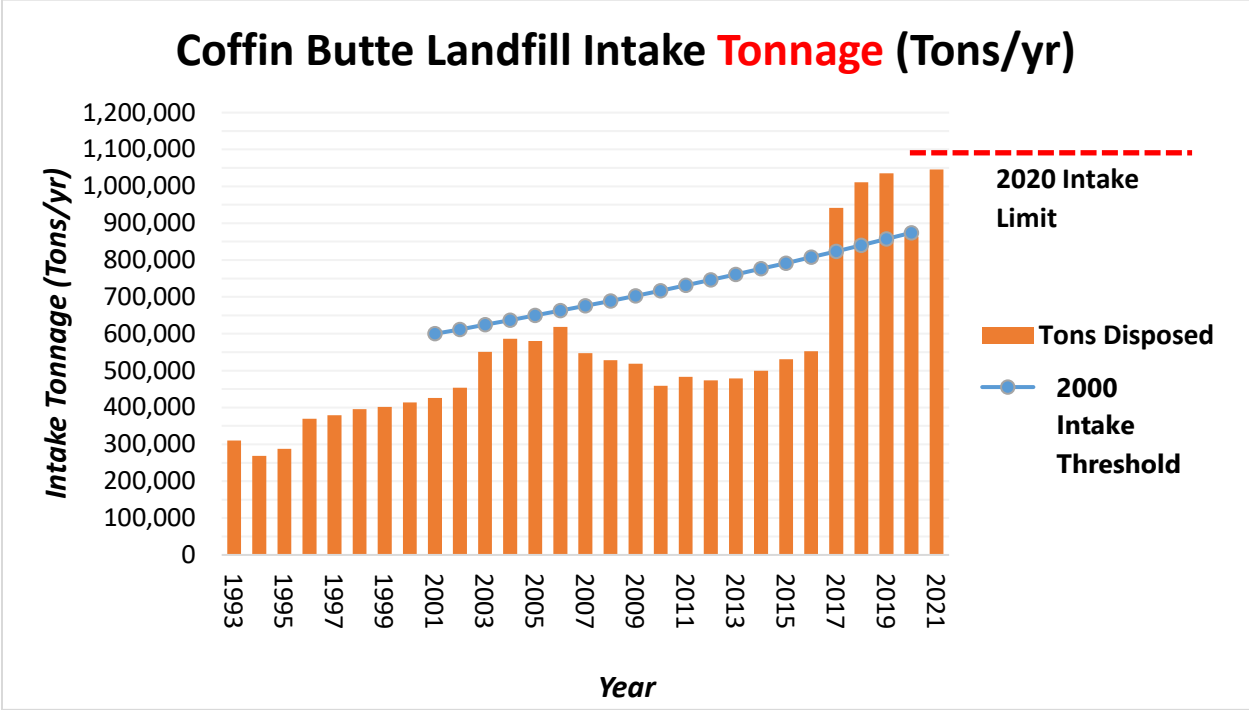
Historical Landfill Life Projections

Chart 4: Historical EOL Projections (source: Landfill Annual Reports)



Recent intake volume: 1993 – 2021

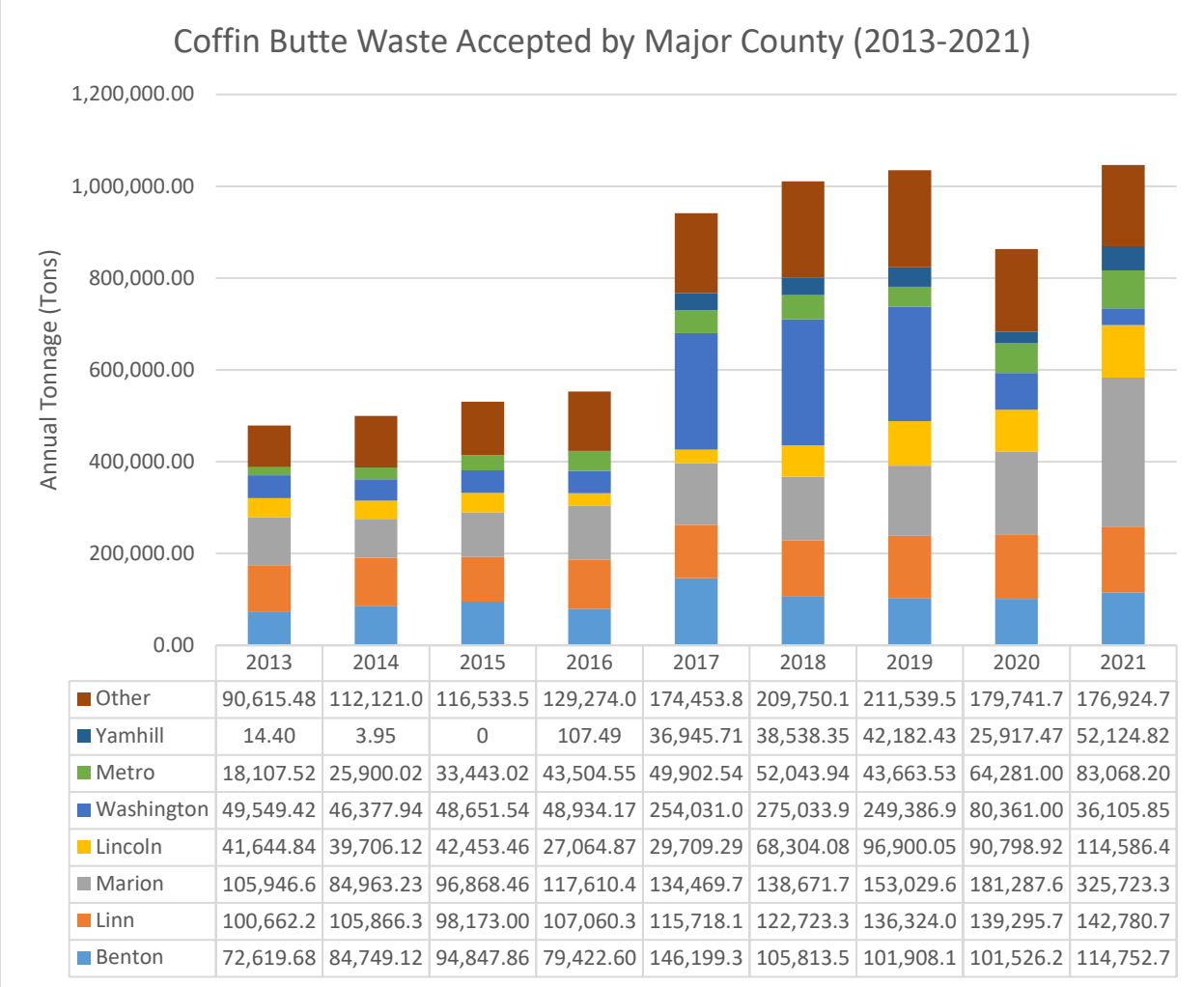
Chart 2: Coffin Butte Landfill Intake 1993 - 2021



Intake volume by source 2016 – 2021

See chart below for a breakdown of the Coffin Butte intake by source county for the period 2013-2021. This period includes the significant intake volume increase of 2016-2017. The intake shown for Benton County includes the volume of the landfill's daily cover, the soil used to overlay waste at the end of each day.

Chart 3: Intake by Source, 2013 - 2021



	2013	2014	2015	2016	2017	2018	2019	2020	2021
Other	90,615.48	112,121.0	116,533.5	129,274.0	174,453.8	209,750.1	211,539.5	179,741.7	176,924.7
Yamhill	14.40	3.95	0	107.49	36,945.71	38,538.35	42,182.43	25,917.47	52,124.82
Metro	18,107.52	25,900.02	33,443.02	43,504.55	49,902.54	52,043.94	43,663.53	64,281.00	83,068.20
Washington	49,549.42	46,377.94	48,651.54	48,934.17	254,031.0	275,033.9	249,386.9	80,361.00	36,105.85
Lincoln	41,644.84	39,706.12	42,453.46	27,064.87	29,709.29	68,304.08	96,900.05	90,798.92	114,586.4
Marion	105,946.6	84,963.23	96,868.46	117,610.4	134,469.7	138,671.7	153,029.6	181,287.6	325,723.3
Linn	100,662.2	105,866.3	98,173.00	107,060.3	115,718.1	122,723.3	136,324.0	139,295.7	142,780.7
Benton	72,619.68	84,749.12	94,847.86	79,422.60	146,199.3	105,813.5	101,908.1	101,526.2	114,752.7

Section 1: Landfill Size

Physical Real Estate Footprint

History

The Coffin Butte landfill was initiated in the early World War II era as a local burn dump for the Adair Air Force Base. The location was chosen because it was convenient to the Base, and was not necessarily the result of a careful selection and evaluation process.

Per the 2002 MOU Benton County & Valley Landfills MOU Relating to Land Use Issues (2002):

- 1974 CUP approved landfill activities on 184 acres north of Coffin Butte Road.
- 1983 rezoning added 10 acres for landfill activities north of Coffin Butte Road, for a total of 194 acres.
- The site map included in the 1983 rezoning consideration restricted "fill" activity to the north side of Coffin Butte Road.
- Since 1983, the total acreage of the permitted landfill site has remained largely unchanged.
- Franchisee (VLI) agrees that the approximately 56-acre parcel south of Coffin Butte Road, while zoned Landfill Site (LS), would not be used for disposal of solid waste unless approved by a conditional use permit and Department of Environmental Quality permit for solid waste landfill use.
- Total acreage owned by landfill franchisee unstated.

See Section 2 of this document for additional detail on land use and zoning actions impacting the landfill.

Images

Figure 1: Reported circa 1941 aerial view of Coffin Butte area, before Camp

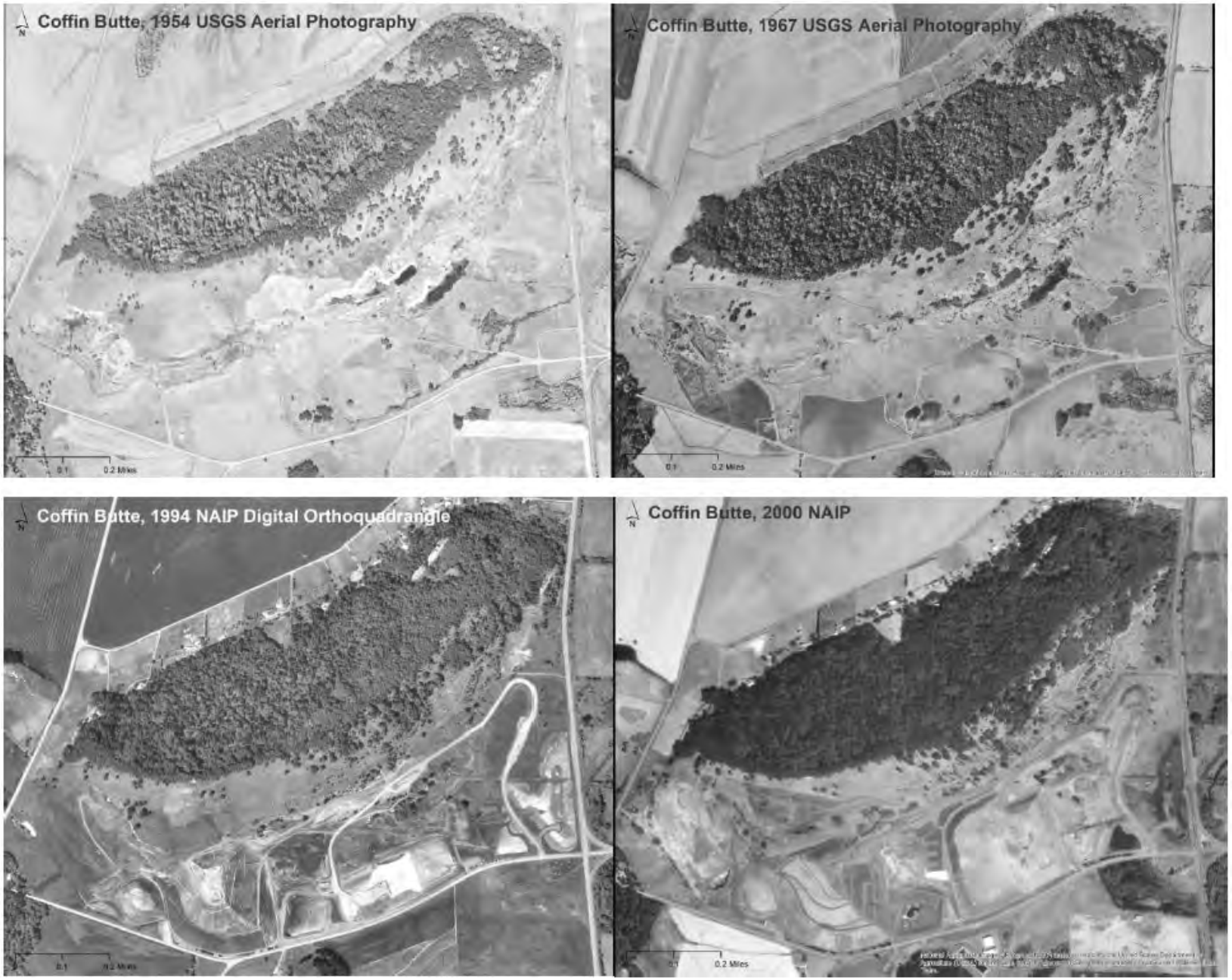
Figure 2: Wide aerial view dated 6-10-63 (1963). Pond on south side of Coffin Butte was a result of military quarry operation.

Figure 3: Reported 1978 image of vehicles in line at the landfill.

Figure 4: 2008 aerial view, from the 2008 Coffin Butte Landfill Annual Report, Republic Services, Inc.

Figure 5: Aerial image from Fall 2022

Figure 6: Additional Aerial Photography of Coffin Butte Landfill over Time (1954-2020)



Coffin Butte, 2005 NAIP

Coffin Butte, 2009 NAIP

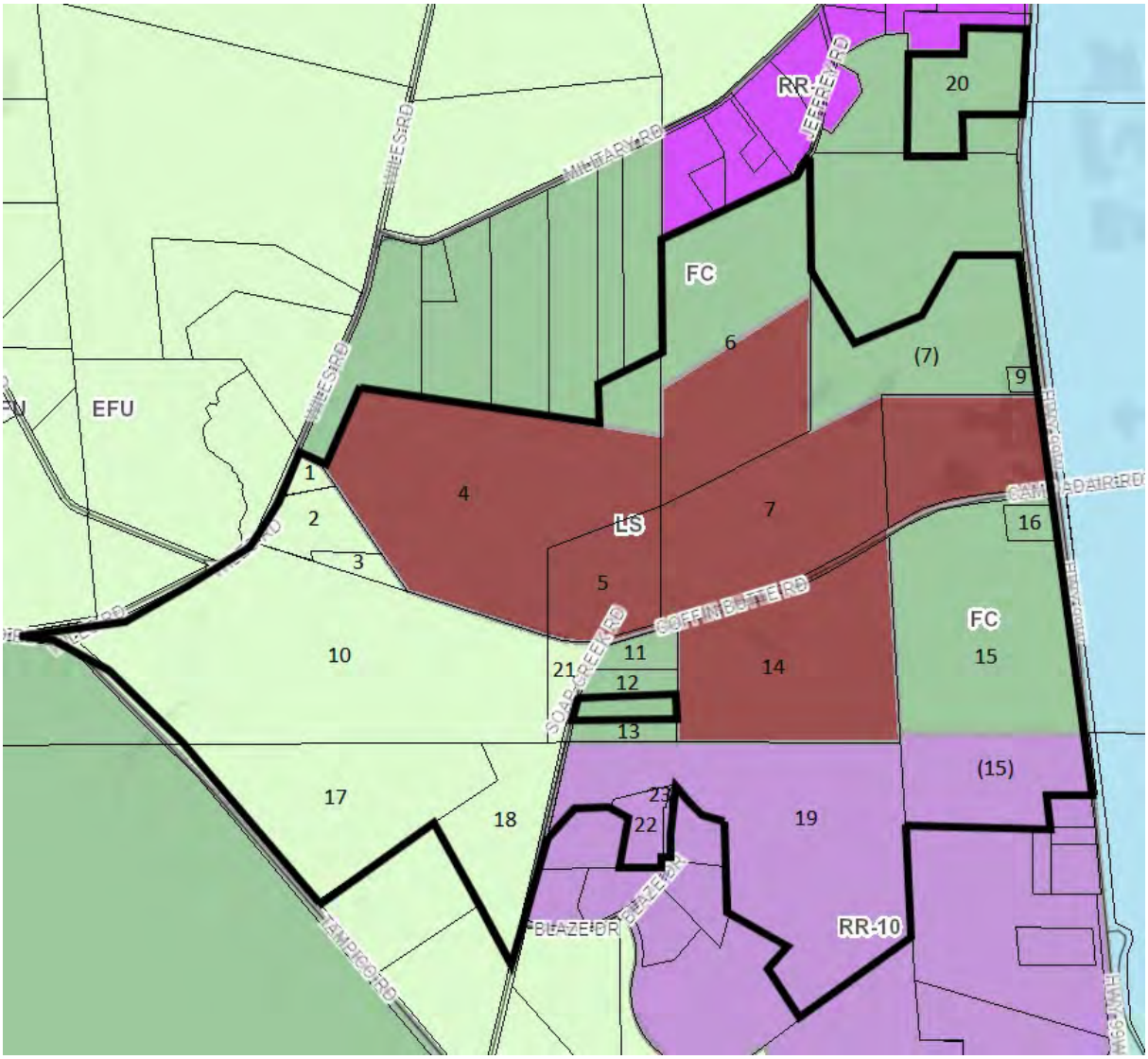
Coffin Butte, 2016 NAIP

Coffin Butte, 2020 NAIP

Current footprint

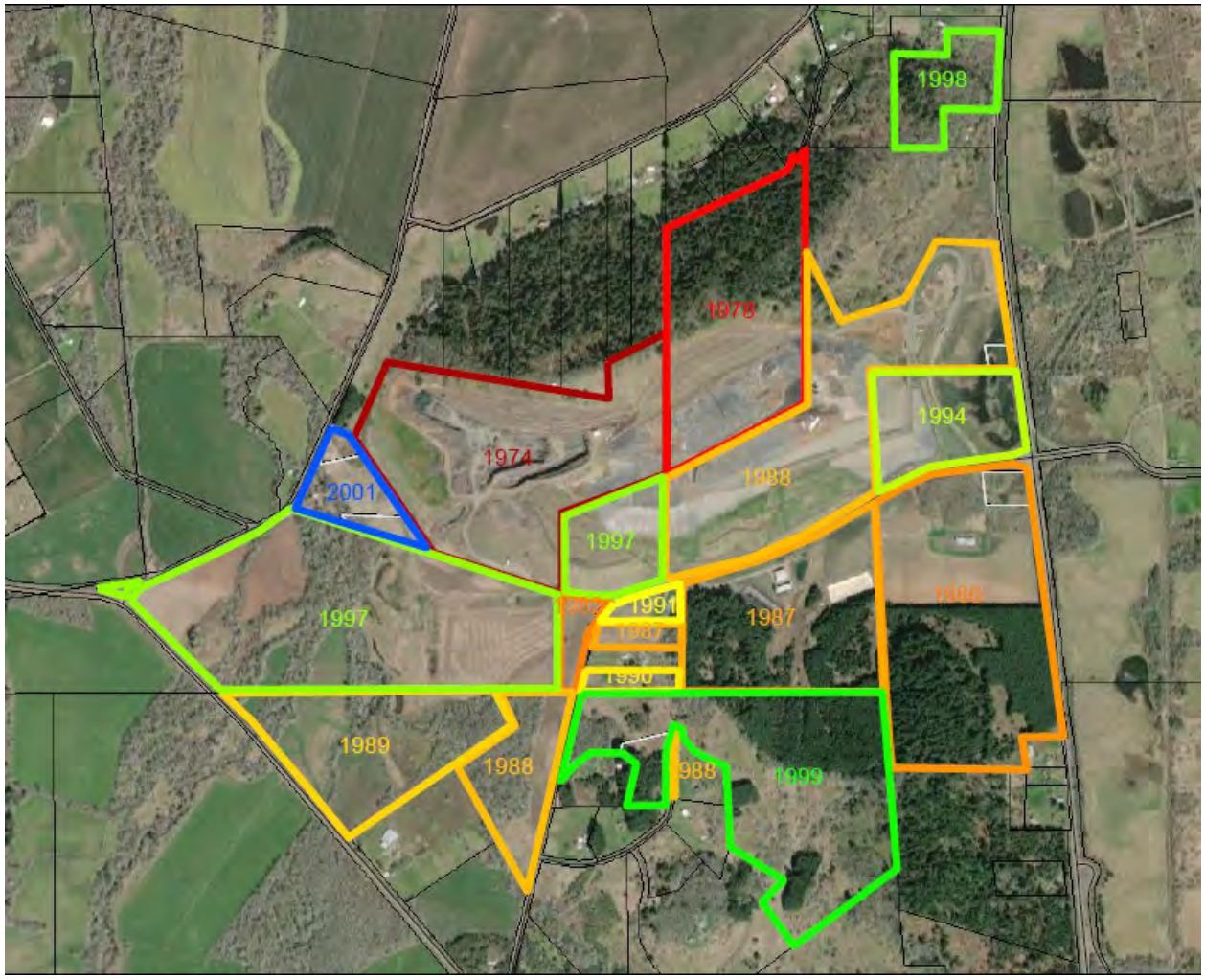
The real estate footprint of the landfill is shown in **Error! Reference source not found.**, and **Error! Reference source not found.**, below. See Appendix C for a detailed table of landfill property by taxlot.

Figure 7: Properties associated with the landfill, numbered in coordination with the table in Appendix C, and color-coded by zoning.



Note: Properties zoned LS (specifically #5, 7, 8 and 14) were likely purchased by landfill owners prior to 1983, but at the time of this report that property ownership information was not available, and only the more recent property records shown above were available.

Figure 8: Property map, with years each property was purchased by a landfill-affiliated organization.



Permitted Disposal Capacity

Historical permitted capacity benchmarks

The following table lists total expected/calculated permitted capacity for selected points in time. Note that before approximately CY 2000 the Coffin Butte annual reports are inconsistent in presenting an estimate of this capacity; thus, historical figures (e.g. 1983) are typically derived from a combination of archival data. For all but the latest figure (CY 2021), the figures should be interpreted as rough estimates and not precise volume numbers. The intent of providing the historical numbers is to document the growth of the expected/planned landfill size over time.

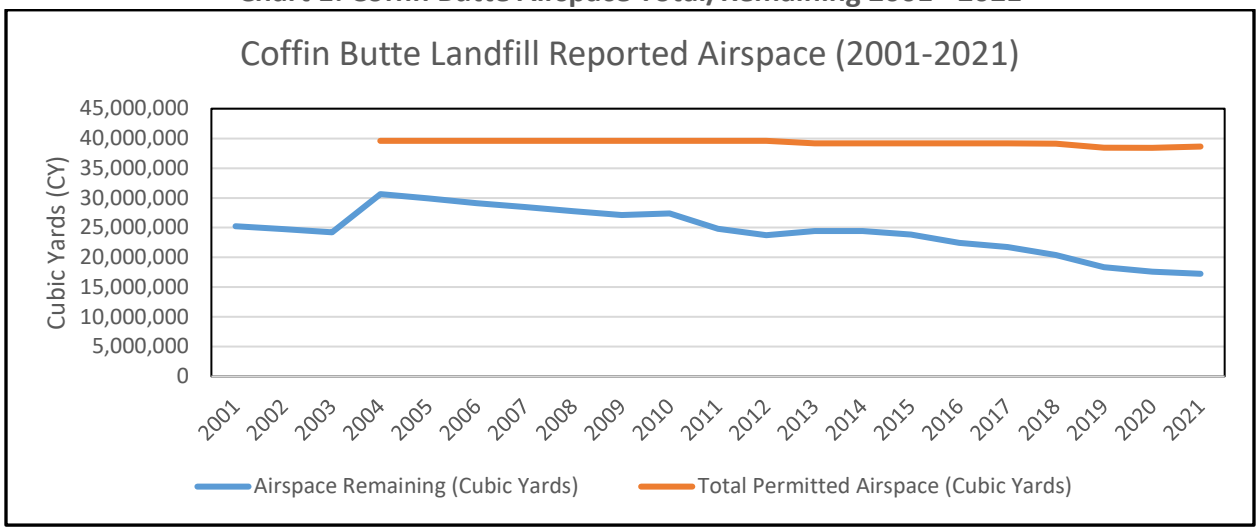
Table 1: Historical Capacity Values

Date	Total Capacity (yd^3)	Notes
1983	13,134,000	Capacities defined in the 2003 Site Development Plan for the cells ultimately located on the fill areas shown in ***Error! Reference source not found.*** areas (Cells 2-5)
?	35,531,000	With Cell 6, estimated at 13,397,000 yd^3. Benton County staff are currently researching the Cell 6 approval date/status.
1995	18,000,000	1995 Annual Report, estimated total capacity of Cells 1-5
1999/2003	22,134,000	Addition of West and East triangles (3,400,000 yd^3 and 5,600,000 yd^3 respectively); calculated from 2003 Site Development plan 1999 cell volume figures
2003	35,531,000	2003 Site Development Plan, based on October 1999 cell volumes and adding West and East triangles, with Cell 6 estimated at 13,397,000 yd^3
2004	39,594,002	2004 Coffin Butte Landfill Annual Report
2013	39,172,992	2013 Coffin Butte Landfill Annual Report
2021	38,997,848	2021 Coffin Butte Landfill Annual Report

Capacity utilization 2001 – 2021

The plot below shows the total permitted airspace and the available (remaining) airspace over the period 2001 – 2021. Note that as of end 2021 approximately 44% of the total permitted capacity remained unused.

Chart 1: Coffin Butte Airspace Total/Remaining 2001 - 2021



Near-term (circa 2025) capacity adjustments for 5-year operating plan

Republic Services is currently in discussion with Knife River regarding necessary permitting/steps to begin accelerated excavation of the quarry (future cell 6).

Valley Landfills Inc. anticipates it will no longer be able to place waste in Cell 5 by mid-year 2025. Republic Services is working on a plan to deposit waste in the permitted area of the landfill known as the quarry (also referred to as Cell 6). Excavation of the primary quarry footprint is scheduled to begin in Spring of 2023 with completion in Spring 2025.

Intake Volume

Coffin Butte intake volume is documented in the annual reports produced by the landfill franchisee. Benton County has annual reports on file for years 1993 – 2021 (inclusive) with the exception of year 2000; intake data for 2000 is available in the 2021 report. Note that with older (pre-2008) reports, the annual intake volume figure is sometimes difficult to determine precisely due to inconsistent values stated within a given annual report (e.g. narrative summary vs. intake volume table) and/or discrepancies in values referenced in subsequent annual reports (e.g. historical comparisons). Where discrepancies exist within a given annual report, the figure documented in the intake volume table is used. See Appendix A for a detailed listing of the annual intake volumes used in this document.

I. 2000 and 2020 Landfill Franchise Agreement Intake Thresholds

Agreement Terms

Both the 2000 Landfill Franchise Agreement and the 2020 Landfill Franchise Agreement include a section with the stipulation "The parties acknowledge that there may be adverse effects to the County's infrastructure and environmental conditions due to increased annual volumes of Solid Waste accepted at the Landfill." In both agreements this section of the agreement then stipulates terms regarding intake volumes.

The 2000 Landfill Franchise Agreement mandated that the County was to perform a "Baseline" study as a reference for measuring potential future adverse effects (completed in 2001), and defined a ramping intake tonnage threshold to be applied during the term of the agreement (CY2001-2019). See Appendix A for a detailed calculation of the annual values of this threshold. In this document the threshold thus defined is termed the "2000 Intake Threshold." Intake volumes in excess of this threshold granted the County clear right to pursue specific remedies: a) the County, at its expense, could perform an updated Baseline assessment, and b) if the County determined that the new assessment indicated an adverse impact on "the Baseline," the "parties [Benton County and the franchisee] shall immediately proceed in good faith to negotiate an increase in the Franchise Fee and/or Host Surcharge…".

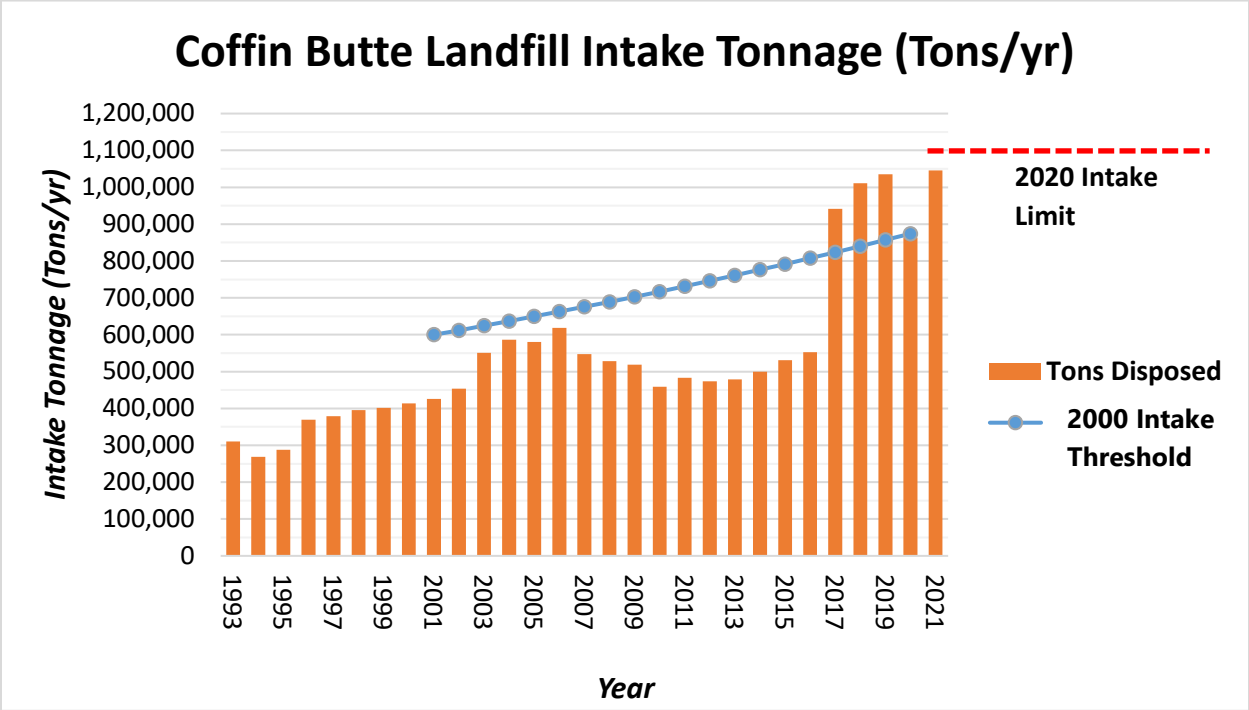
While the 2000 Landfill Franchisee Agreement did not refer to the intake threshold as a "limit," in a presentation compiled by the Benton County Health Department for consideration at the September 4, 2018 Benton County Board of Commissioners meeting the 2000 agreement intake threshold was described in a key chart as "Annual Maximums Specified in Franchise Agreement"; see Page 33 of the *BentonCountyBoardofCommissionersMeeting_4Sep20189_180904_tu_pkt.pdf* document.

The 2020 Landfill Franchise Agreement stipulates that the total tonnage deposited at the Landfill "shall not exceed" 1.1M Tons per calendar year (described as the "Limit on Solid Waste) until "applications to expand the Landfill onto the Expansion Parcel are granted (following any and all appeals to final judgement)." Of this 1.1 M Tons per year, 75,000 Tons per year were reserved for Solid Waste from the County exclusively, with the balance of 1.025 M Tons per year being termed the "Tonnage Cap." It was stipulated that "The County agrees that the Tonnage Cap shall not apply to any Solid Waste generated from fire, flood, other natural disaster or any Force Majeure event."

II. Recent intake volume: 1993 – 2021

Annual intake volume for 1993 – 2021 is shown in Figure 2.

Chart 2: Coffin Butte Landfill Intake 1993 - 2021



III. Comments/discussion:

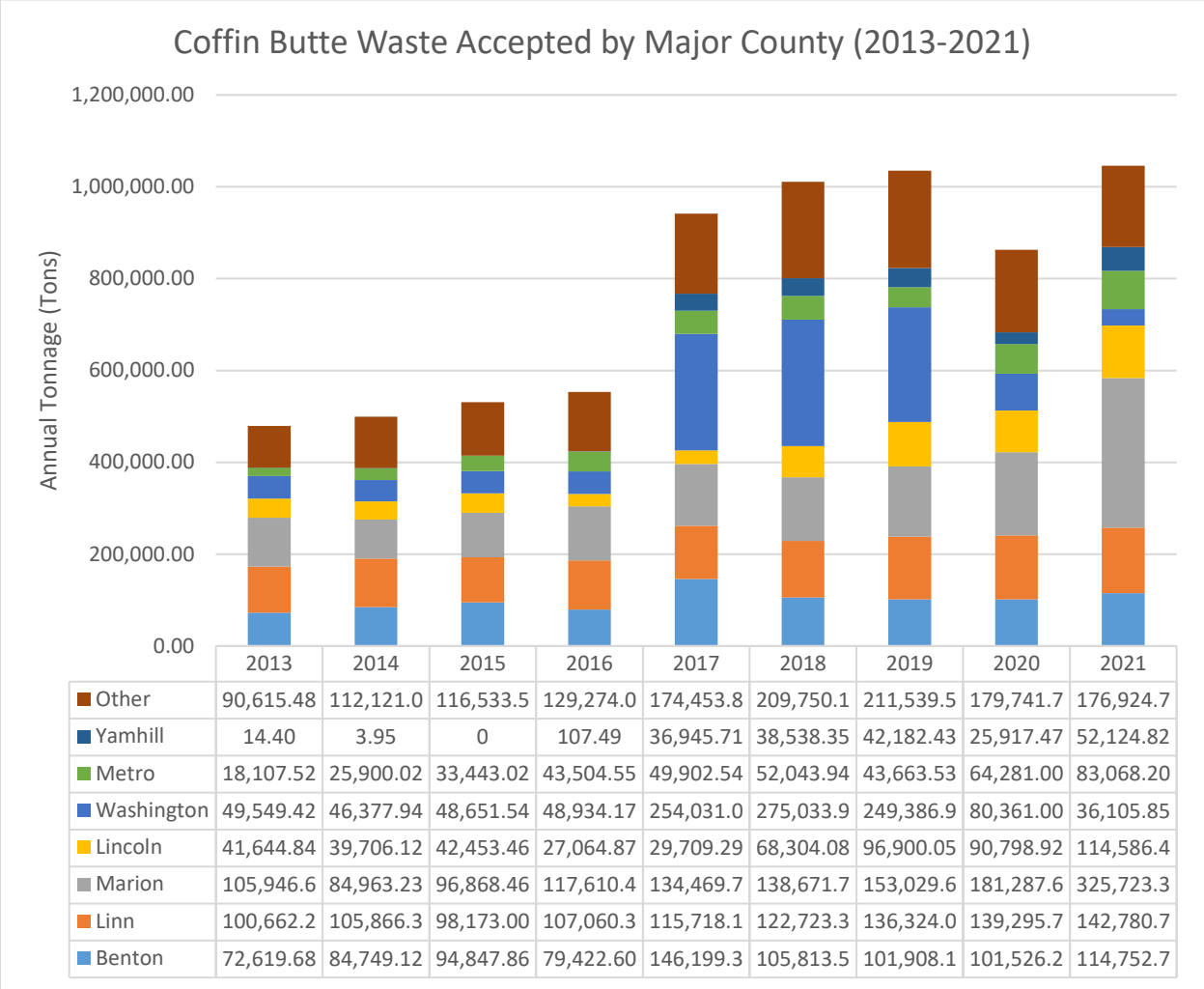
4. The landfill operator generally chooses how much tonnage to accept, based on demand and their contracts with various jurisdictions and haulers. Some of the increasing tonnage accepted at the landfill from 1993-2021 reflect the increase in business development.
5. The annual Coffin Butte intake tonnage exceeded the 2000 Intake Threshold in calendar years 2017, 2018, and 2019 (see Appendix A for exact figures). The County did not perform an updated impact assessment as a result of the 2017-2019 tonnage threshold exceedances and no fee increase negation was undertaken.
6. Due to an expected additional influx of volume in 2017 resulting from the onset of the closure process for Riverbend landfill in Yamhill County, in December 2016 the franchisee and Benton County executed a MOU (Benton County & Republic Services MOU Relating to Additional Tonnage (2016)) acknowledging an expected increase in Coffin Butte intake volume "for a term of 1-2 years."

7. In documents provided to the A.1 Subcommittee, representatives of the franchisee have indicated that the approximately 70.25% year-over-year increase in CY2016-2017 was primarily due to redirected flow from Riverbend to Coffin Butte. Other factors, including rapid population growth in Willamette Valley and Western Oregon also played a role, according to the franchisee. Note that data from the Portland State University Population Center indicates the population of the 6-county service area defined in the 2000 Landfill Franchise Agreement grew 3.6% total in the period 2016-2019 (see Appendix A for population data).
8. The slow downward trend in intake volume in the 2006-2010 period is explained by the franchisee as resulting from the economic downturn of 2008.
9. The drop in volumes to Coffin Butte in 2020 is due to the global COVID-19 pandemic, coupled with diversion of tonnage from Riverbend Landfill to other landfills besides Coffin Butte. However, tonnage volumes increased again in 2021 due in part to changes in lifestyle/development/at home shopping patterns as a result of the pandemic, as well as debris from the Oregon wildfires.
10. The franchisee reported Coffin Butte Landfill accepted fire debris in 2021.
11. Benton County received approximately $3.1M of incremental revenue from the increased intake volumes over the 2017-2019 period (approximately 450,000 additional Tons/year @ $2.31/Ton x 3 years). Of this, approximately $1.08M was the result of volumes in excess of the intake threshold over the three-year period (see yearly overage figures in Appendix A; total = 466,479 Tons @2.31/Ton). This equates to roughly $11.50 total per Benton County resident for the three-year period.
12. A clear understanding of the intent of language in the 2020 Franchise Agreement is necessary for a thorough interpretation of this document regarding questions such as the setting of the 1.1 M Tons/yr. intake limit relative to the expected life of the landfill over the term of the agreement, the proper interpretation of the "Tonnage Cap" term, stipulations that bear on questions of allowed intake capacity relative to expected landfill life, and the parties' expectations of landfill expansion. To that end, release by Benton County of all available public records related to the negotiation of this agreement is necessary for proper consideration of these issues by this subcommittee and the larger workgroup.

IV. Intake volume by source 2016 – 2021

See chart below for a breakdown of the Coffin Butte intake by source county for the period 2013-2021. This period includes the significant intake volume increase of 2016-2017.

Chart 3: Intake by Source, 2013 - 2021



	2013	2014	2015	2016	2017	2018	2019	2020	2021
Other	90,615.48	112,121.0	116,533.5	129,274.0	174,453.8	209,750.1	211,539.5	179,741.7	176,924.7
Yamhill	14.40	3.95	0	107.49	36,945.71	38,538.35	42,182.43	25,917.47	52,124.82
Metro	18,107.52	25,900.02	33,443.02	43,504.55	49,902.54	52,043.94	43,663.53	64,281.00	83,068.20
Washington	49,549.42	46,377.94	48,651.54	48,934.17	254,031.0	275,033.9	249,386.9	80,361.00	36,105.85
Lincoln	41,644.84	39,706.12	42,453.46	27,064.87	29,709.29	68,304.08	96,900.05	90,798.92	114,586.4
Marion	105,946.6	84,963.23	96,868.46	117,610.4	134,469.7	138,671.7	153,029.6	181,287.6	325,723.3
Linn	100,662.2	105,866.3	98,173.00	107,060.3	115,718.1	122,723.3	136,324.0	139,295.7	142,780.7
Benton	72,619.68	84,749.12	94,847.86	79,422.60	146,199.3	105,813.5	101,908.1	101,526.2	114,752.7

Landfill Structure

Overview

The disposal area and surrounding lots are shown in Figure 12: Property and Cell Structure Overview, 2021 Site Development Plan below. This drawing is reproduced from the 2021 Site Development Plan, Appendix A, Drawing No. G03, and is reproduced here for convenience.

Cell detail

Detail on individual disposal cells and the active dates for these cells is shown in Table 2: Cell Open/Closed Detail below.

Table 2: Cell Open/Closed Detail

Area	Date Opened	Date Capped/Closed
Closed Landfill (Burn Dump)	1940's	Relocated into lined landfill (no longer exists)
Cell 1	Late 1970's	Mid-1990's
Cell 1A	Late 1970's	Mid-1990's
Cell 2A	1988	TBD
Cell 2B	1994	TBD
Cell 2C	1995	TBD
Cell 2D	1998	TBD
Cell 3A	2003	TBD
Cell 3B	2004	TBD
Cell 3C	2005	TBD
Cell 3D Phase I	2007	TBD
Cell 3D Phase 2	2009	TBD
Cell 4	2012	TBD
Cell 5A	2014	TBD
Cell 5B	2018	TBD
Cell 5C	2020	TBD
Cell 5D	2022	TBD
Cell 5E	Future	TBD
Cell 6 (Quarry Area)	Future	TBD

Figure 9: Landfill Zoning

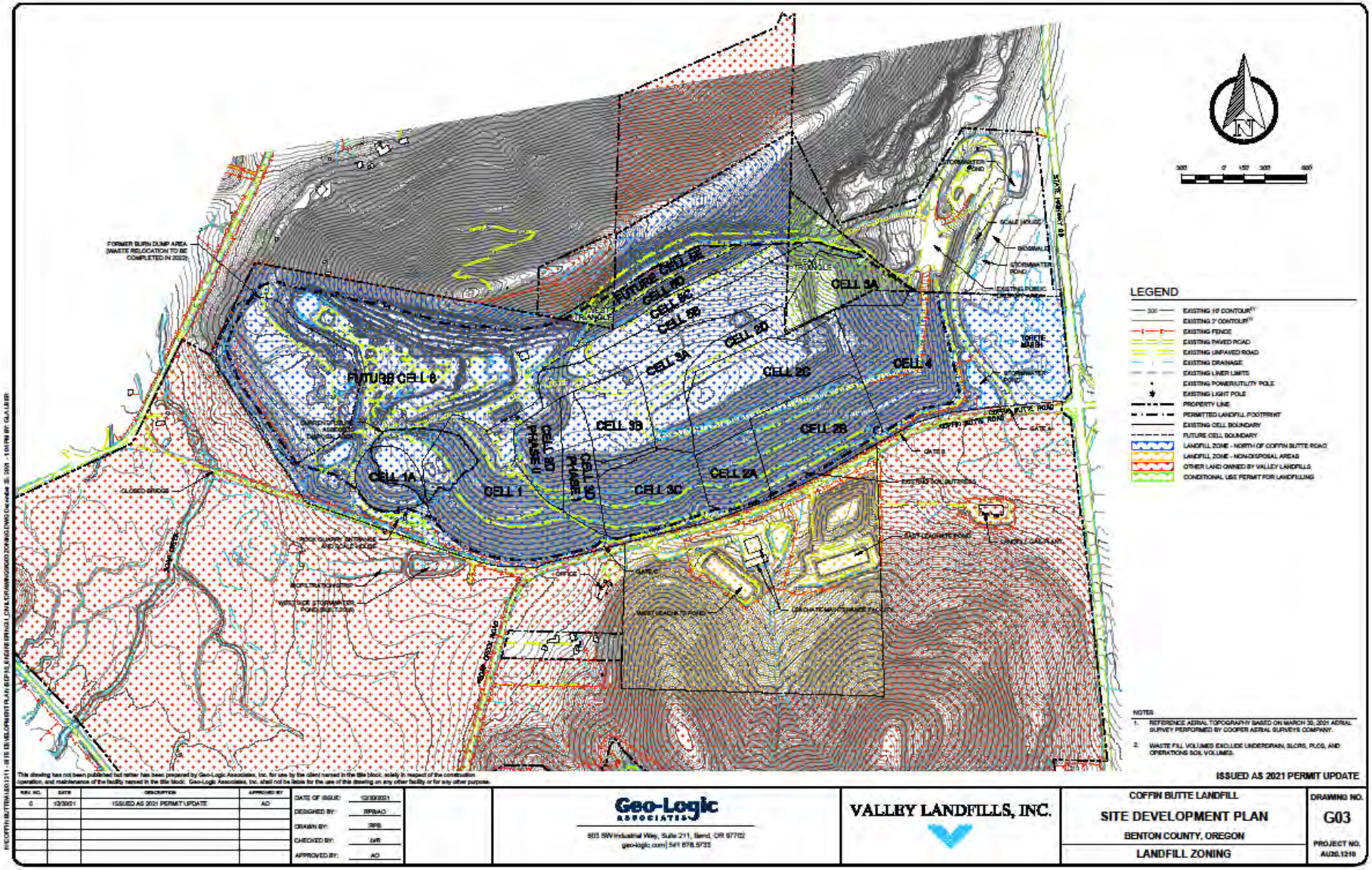
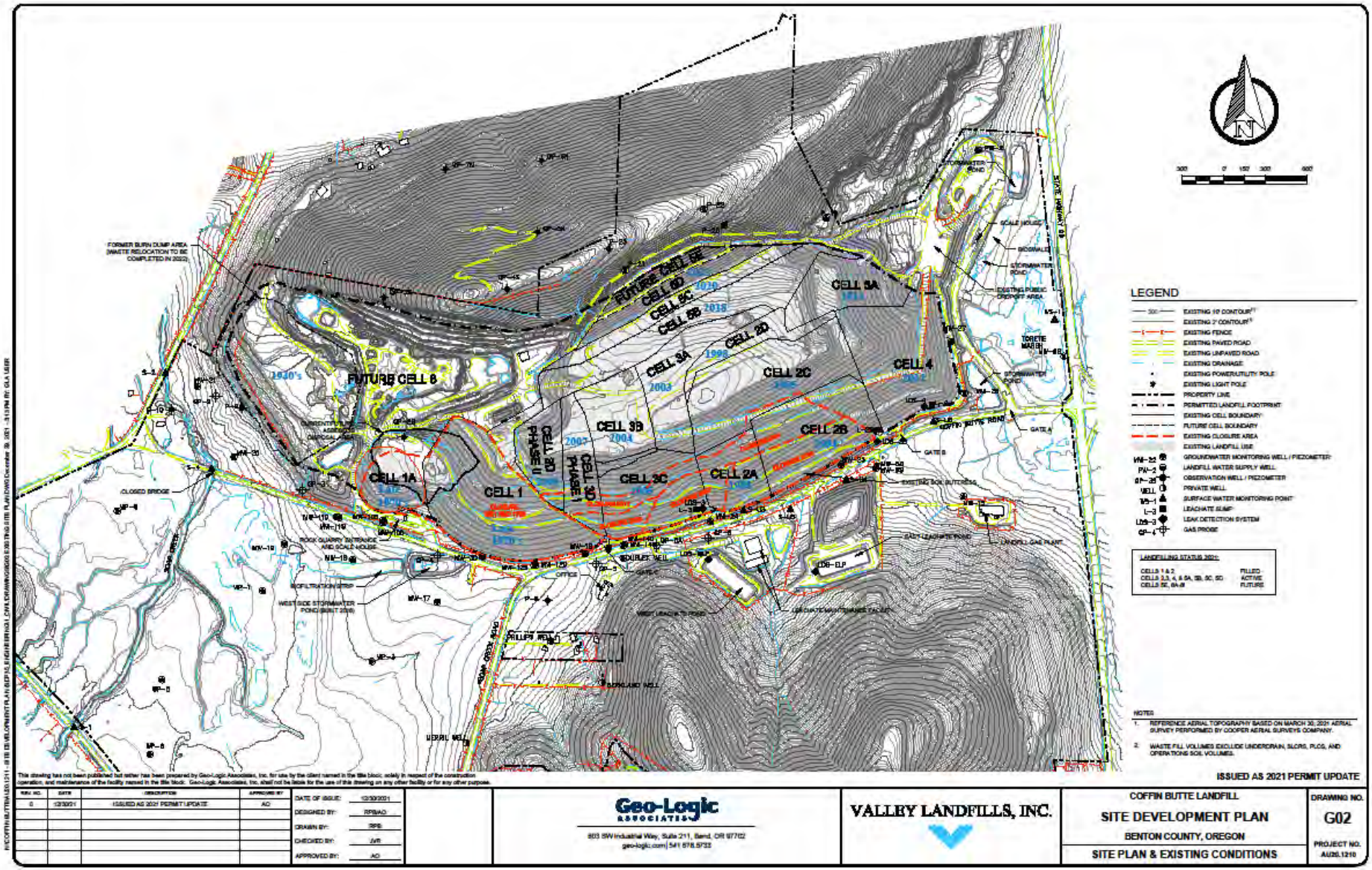


Figure 2: Landfill Cells



Specific Locations

This section summarizes the primary actions and events that define the current Coffin Butte landfill footprint.

1983 Rezoning Action

Per Benton County PC-83-07-C, in 1983 a new zoning category ("LANDFILL SITE") was created for Benton County. Approximately 266 acres of land owned by Valley Landfill, Inc. were rezoned with this classification. Of these 266 acres, 194 acres, all on the north side of Coffin Butte Road, were approved for waste disposal. The acreage on the south side of Coffin Butte Road can be permitted for waste disposal if a CUP is obtained from Benton County.

At the time the application for a zone change was filed in 1983, the landfill was receiving "approximately 375 tons of refuse per day" per PC-83-07 applicant filing.

Error! Reference source not found. denotes the originally proposed outline for land to be rezoned as Landfill Site (LS). Note that the northernmost section of the proposed area, extending north from the ridgeline of Coffin Butte, was ultimately not rezoned as LS due to concerns from neighbors. Also note that the expected areas of landfill are delineated in this drawing: Completed fill (west side), Present fill (southwest section), and Future fill (large area in center/east).

The overview map included in the Benton County & Valley Landfills MOU Relating to Land Use Issues (2002) document, included here as ***Error! Reference source not found.***, clarifies the zoning boundaries.

Figure 4: Proposed 1983 Rezoning Map

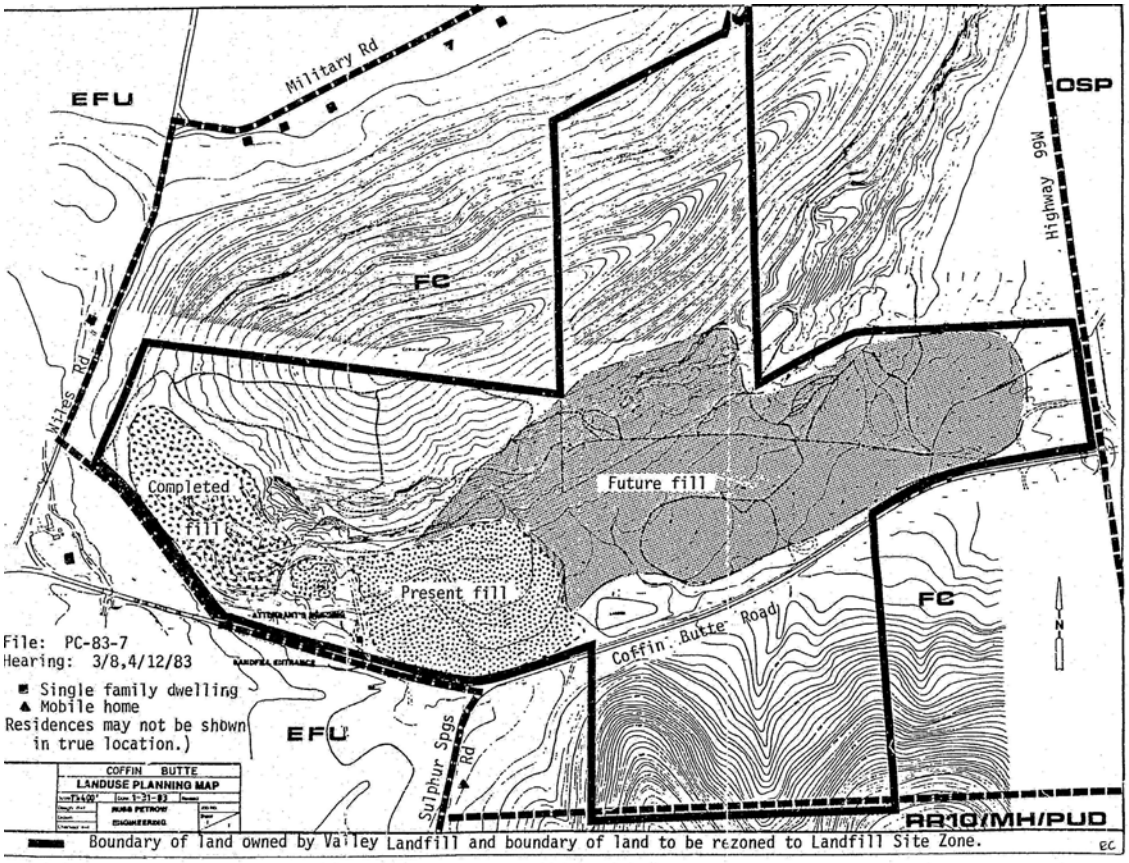
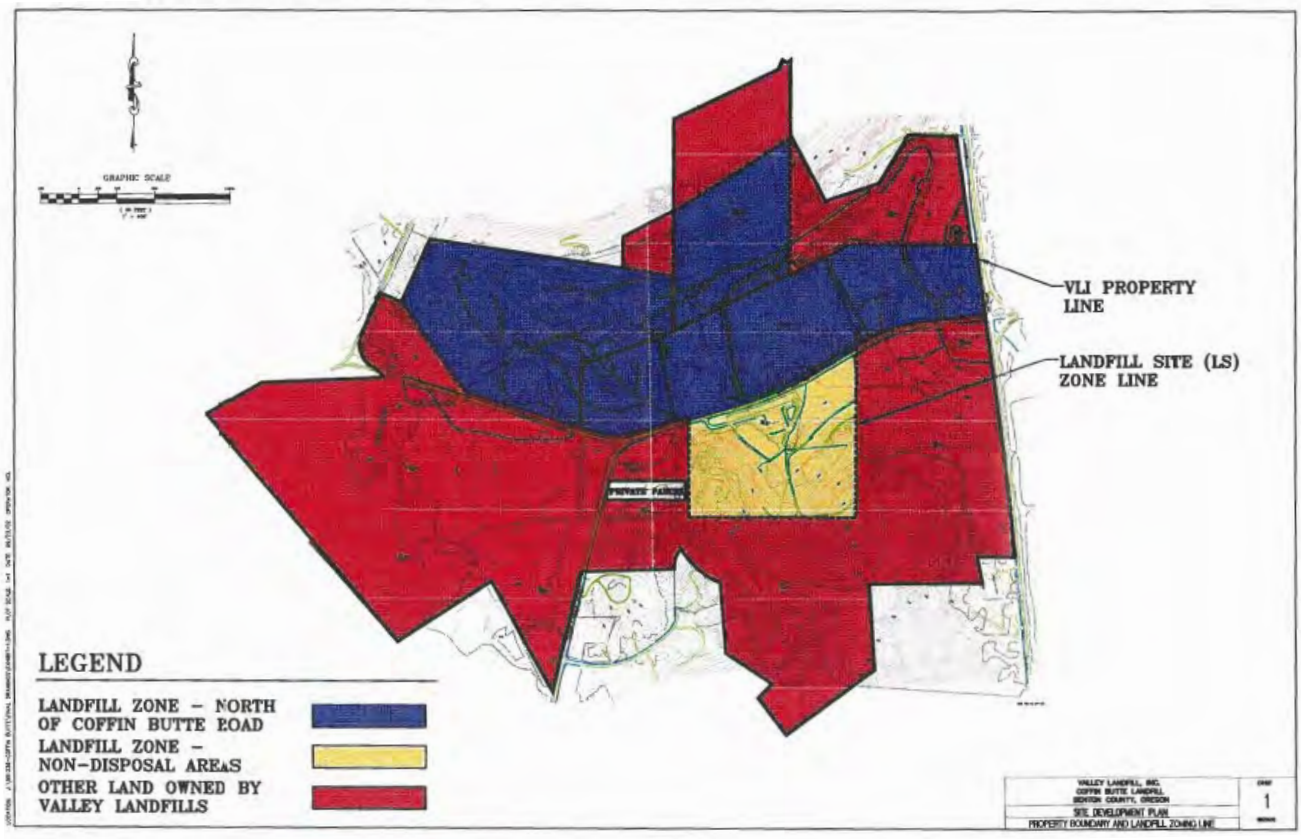


Figure 3: Zoning Map (2002 MOU)



West and East Triangle Additions

Two landfill areas were added in 2002 and 2003:

- The "West Triangle" was approved for landfill activities via Conditional Use Permit in 2002. This area is located on land zoned Forest Conservation (FC). Approximately 3,400,000 yd^3 of expected landfill capacity were added by the approval of the West Triangle.
- The "East Triangle" was approved for landfill activities via Conditional Use Permit in 2003. This area is located on land zoned Forest Conservation (FC). Approximately 5,600,000 yd^3 of expected landfill capacity were added by the approval of the East Triangle.

See Benton County document PC-03-11 for details.

Thus, a total of approximately 9,000,000 yd^3 of landfill capacity was added in the 2002 – 2003 period. This constituted an approximately 68.5% increase in total permitted capacity using the cell capacity figures shown in Table 3.1 of the Site Development Plan Amendment A2 in document PC-03-11.

Cell 6 (Quarry) Addition

Benton County staff are currently researching the Cell 6 approval date/status.

LS Zone Parcel South of Coffin Butte Road

As part of the 1983 action considering the requests for rezoning of several parcels from Forest Conservation to Landfill Site, the Benton County Planning Department submitted a Staff Report. Within this report (Staff Report P2361/7 Page 3; Benton County document PC-83-07 Page 13) a Staff Comments section noted:

"Benton County Solid Waste Advisory Council recommended approval of the requests [for rezoning] subject to two conditions:

1. No landfill be allowed on north face of Coffin Butte.
2. No landfill be allowed on property south of Coffin Butte Road [Taxlot 104180001107, Index 14 in Appendix C].

These two conditions were also requested by the North Benton Citizens Advisory Committee (CAC) and they recommended approval of the requests.

Staff concurs with these conditions. The property on the North face of Coffin Butte (approximately 30 acres) should remain under the Comprehensive Plan Designation of Forestry Conservation (FC), from the crest of the butte North."

However, the Benton County Planning Department Staff Report went on to state:

"The other issue concerning the property south of Coffin Butte Road can be resolved through Conditions of Development placed on any approval of the site plan by the Planning Commission. The proposed zone allows no additional landfill activities unless approved by the Planning Commission at a public hearing. Therefore, the Commission may limit expansion into any area that is not appropriate for a landfill."

The staff recommendation was adopted as submitted by the Planning Commission in their April 26, 1983 meeting. The Staff Report was expressly adopted as Finding 4(a) by the Benton County Board of Commissioners and incorporated into the resulting Order on June 15, 1983.

The recommended approval of both SWAC and CAC for the 1983 rezoning action was conditioned on the agreement that no landfill would be allowed on the parcel south of Coffin Butte Road (Taxlot 104180001107, Index #14 in Appendix C).

Thus, Benton County Planning staff modified the clear recommendation from the Solid Waste Advisory Council (SWAC) and the recommendation of the North Benton Citizens Advisory Committee by weakening the terms governing the property south of Coffin Butte Road from "No landfill be allowed" to "...no additional landfill activities unless approved by the Planning Commission at a public hearing."

The 1983 rezoning ordinance (Ord. 26I) stated that "Any proposal to expand the area approved for landfill must be reviewed and approved by the Planning Commission at a Public Hearing." No mention of a Conditional Use Permit process was stated in this ordinance as part of the process for expanding landfill area.

Per the Benton County Code Chapter 77 (77.305), "Any proposal to expand the area approved for landfill within the Landfill Size Zone is allowed by conditional use permit approved by the Planning Commission." This change is apparently a result of Ord. 90-0069. The introduction of the conditional use permit process allows review and/or de novo judgement by the Board of Commissioners, as opposed to a final decision by the Planning Commission.

Landfill Life Projections

Waste in Place: Projection to End 2022

Coffin Butte Landfill's 2022 intake volume has not yet been finalized, so we are using the projected figure of 1 million tons. As such, we are projecting the Landfill's remaining permitted airspace to be 16,008,557 cubic yards. As noted in the subcommittee's findings, remaining permitted airspace is not available airspace. A significant portion of what's permitted is not currently useable to unexcavated rock.

This section of the report will first look at historical end of life projections and then try to address future scenarios.

Historical Landfill Life Projections

Chart 4: Historical EOL Projections (source: Landfill Annual Reports)

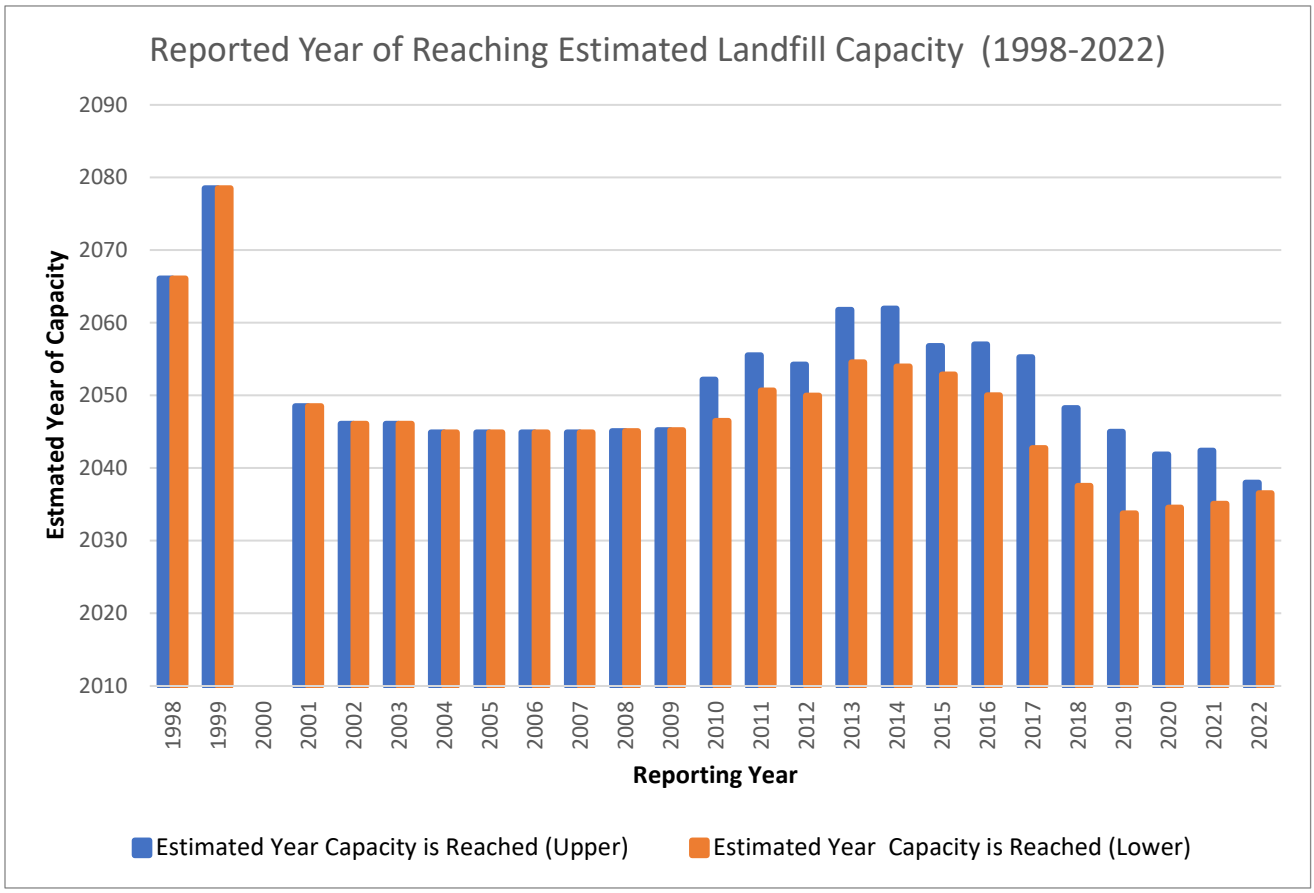


Table 3: Historical EOL Projections

Date of Projection	Projected EOL (CY)	Reference/Comment
1974	1989-2004+	February 19, 1974 Planning Commission Public Hearing Minutes (CP-74-01) 15-30 or more years estimated from 1974.
1974	1994	March 1, 1974 Letter from Chemeketa Region Solid Waste Management Program Director (CP-74-01) Based on 1,759,831 total tons received, at 32-40 feet, with Sweet Home and Lebanon area wastes directed towards "Lebanon Landfill"
1977	2000	WCSI Solid Waste Management Plan (1977)
1983	2033	March 7, 1983 Memo from Benton County Development Director to BOC (L-83-07) 50 years from 1983 estimated with approval of zoning change (estimate may include property South or Coffin Butte Road, the information was unclear).
1994	2024-2034	"Summary of Written Comments Receipted from Citizens Regarding Coffin Butte Zone Change Request" Prepared by Benton County Environmental Health Division for a 11/29/10994 community meeting (PC-94-10) 30-40 years from 1994. Estimate using only property North of coffin Butte Road, assuming material from current counties at the time.
1999	Late 2070	2003 Site Development Plan, Page 57, Table 3.1 71.1 Years from Oct 1999 Includes Cells 1-6 and East and West Triangles Based on 400,000 Tons/year and 0.8 Tons/yd^3
2001	2049	2001 Annual Report, prior to addition of East and West Triangles and Cell 6 47.5 years from Beginning 2002 Based on 425,000 Tons/year and 0.8 Tons/yd^3
2003	2046	2003 Annual Report (Referenced in the chart above)
2010	2053	United States Environmental Protection Agency*
2013	2064	United States Environmental Protection Agency*
2014	2065	United States Environmental Protection Agency*

2015	2061	United States Environmental Protection Agency*
2016	2058	United States Environmental Protection Agency*
2018	2048	United States Environmental Protection Agency*
2019	2044	United States Environmental Protection Agency*
2021	2039	2021 Site Development Plan, Appendix B With detailed breakdown of planned Cell 6 structure and corresponding subcell life expectancy Based on 846,274 Tons/year and 0.8 Tons/yd^3
* EPA Greenhouse Gas (GHG) Emissions Data from Large Facilities, 2010-2021		

Coffin Butte Site Life Projection: 2023 to closure

The landfill life projections shown below are provided Republic Services. They are designed to establish a baseline – a simple operational projection that more sophisticated scenarios can be built upon.

It presumes:

a) A steady annual tonnage intake of between 1 million and 1.1 million tons for the duration of the landfill's projected remaining site life.
b) Site life is currently projected by Republic Services to be between 14.5 and 16 years, with a closure date between 2037-2039.
   Note: This also presumes that the landfill area known as "the quarry" can be fully excavated. A significant portion of permitted airspace at Coffin Butte is currently unusable due to unexcavated rock.
c) As indicated in the assumptions, this baseline is not a "default future," in that it does not incorporate outside factors.

Scenario 1

Tons per Year	1,000,000	Tons
Projected Remaining Airspace 12/31/22	16,008,557	CY
2022 3-year Density Avg	0.999	Tons/CY
Site Life	15.99	Years

Scenario 2

Tons per Year	1,100,000	Tons
Projected Remaining Airspace 12/31/22	16,008,557	CY
2022 3-year Density Avg	0.999	Tons/CY
Site Life	14.54	Years

Definitions:
Tons per Year: Projected tonnage based off recent history*
Projected Remaining Airspace: Airspace remaining at the end of 2022 based off projected 2022 tons and 2022 3-year density average
2022 3-year Density Avg: Average density measured during 2020, 2021 and 2022 measurements
Site Life: Total site life including the fully excavated quarry area

*Variables can and do impact tonnage and available airspace, and can include changes in disposal and diversion rates, natural disasters and other unforeseen market changes, etc.

The table shown above represents industry-accepted modeling for estimating a Landfill's remaining life. Modeling is based on three factors: remaining permitted airspace, volume, and density. As noted in the text below the graphic, Republic Services acknowledges that a wide variety of variables, independently or in concert with each other, can impact the baseline(s) enumerated above.

Committee members also want to make clear that the two baseline scenarios shown in the graphic are built on certain assumptions. They are as follows:

a) **Tons per year** – Projected tonnage based on recent history (2019-2021) and 2020 Franchise Agreement tonnage cap (1.1M tons/year). *Does not reflect variables such as changes in disposal and diversion rates, natural disasters, market, and regulatory changes, etc.*
b) **Projected remaining airspace** – Airspace consumed in 2022 based on projected 2022 tonnage and the three-year density average. *"Remaining airspace" includes approximately 2.7M cubic yards of quarry rock; how much of and by when this rock can*

be converted to airspace is currently unknown. Quarry extraction in 2022 freed up approximately 140,000 cubic yards.

c) **2022, three-year-density average** – Derived from 2020-22 measurements. 2022 density based on 2021 measurements.

d) **Site Life** – Time to fill the projected remaining airspace, *including the permitted airspace that is currently unexcavated.*

e) Landfill Life is the availability of landfill reserves and landfill alternatives that sustains the landfill's demand, supply, and equilibrium of refuse disposal.

Events and Factors That Could Impact Life

As noted, Republic Services and other landfill owners/operators generally estimate a facility's lifespan by calculating three variables on an annual basis, using data from previous years as a roadmap:

- Amount of space available (airspace)
- Amount of waste accepted (tonnage)
- Density of the waste (tons per cubic yard)

The main discussion in this section is around the various factors that impact the first and second variables: i.e. the amount of space available (airspace) and the amount of waste accepted (tonnage.)

Almost none of the factors relate to density of solid waste, so this discussion excludes that variable. The following graphic summarizes possible impacts of various factors on site life, meaning those that could impact the amount of space available and the amount of waste accepted:

The chart above, submitted by Republic Services, lists factors and elements that could impact Coffin Butte's site life in ways not foreseen in the baseline (Scenario 1 and 2) approach outlined above. The subcommittee believes that it's likely that one or more of these factors could occur in concert with each other.

For example, an expansion through approval of a CUP is listed as a "positive" factor – meaning one that could increase the Landfill's site life and longevity. However, it is possible that any positive gain from such a factor would be neutralized or lessened by a "negative" element listed above (such as another wildfire or continued population growth in the region.)

Items listed in the neutral category are defined as such because they serve as "swing" factors – climate change legislation, for example, could yield either a positive or negative impact on site life depending on political influences and authors that shape it.

In addition, the future construction of a transfer station, alternate disposal options and other such factors as contemplated in a wide-ranging Sustainable Materials Management Plan could likely produce new options for refuse disposal for Benton County and neighboring municipalities and counties.

Therefore, the intent of the above graphic is not to provide an either/or solution, but to convey that an evolving array of factors, including future legislative and economic influences, could produce a matrix of outcomes that not only impact Landfill life but foster new waste management solutions as contemplated by the sustainable management sub-committee.

Assumptions and scenarios:

While the subcommittee has generated a list of potential factors that could impact site life, these are by no means exhaustive. Our goal was to begin to describe the "terrain" that the Landfill's future could traverse.

The subcommittee also agrees that so-called "human factors" play a significant role in any Landfill's longevity, because they determine not only the flow of material that fills up the Landfill's permitted volume but what comprises that material.

Unlike the layout of the Landfill or its permitted airspace (factors which are either pre-determined or yield a planned impact) these so-called human variables have the power to shift a Landfill's operating life unexpectedly and very quickly.

Business decisions and legal obligations, legislation, changing societal attitudes, technological advances global shifts in consumer habits are all key components of a broad system that ultimately determines what is reused as part of a circular economy -- and what is landfilled as waste.

While the A.1 Subcommittee agrees that these factors are real and present, we struggled with how best to present them in terms of predictive scenarios from which the reader could potentially draw conclusions. **We could not reach consensus on the merits of presenting them in terms of predictive scenarios from which the reader could potentially draw conclusions.** The subcommittee members who represent Republic Services and its interests support using the existing modeling data to shape its projections, while acknowledging the "caveats" presented in the graphic above. But they offer no speculative analysis.

The subcommittee members who represent community and neighborhood interests, meanwhile, supported a broader exploration of factors and impacts using predictive processes known as "futurecasting," and "imagination training."

Ultimately, we decided as a subcommittee that these human-caused factors and scenarios need further review and detailed analysis, a careful examination that we were neither qualified nor had time to pursue given time constraints and the limited scope of this bridge process.

Therefore, we have posed a multitude of questions that we would like the SMMP subcommittee and its hired experts to delve into, in hopes of providing a more detailed picture of solid waste disposal options and Landfill longevity.

Those questions are enumerated in the table below.

Table 4: Coffin Butte Landfill: How could site life change from the Baseline Scenario(s)?

Factors	Background	Questions
Factors that could impact Airspace		
Landfill expansion (and removal of tonnage cap)	Republic Services is likely to apply to expand the landfill's permitted airspace. Republic Services currently operates under a 1.1 million annual tonnage cap. Under the terms of the 2020 Franchise Agreement,	If the tonnage cap were removed, by how many years could the Landfill's life be shortened, given the region's capacity for generating landfill material?

	this cap would be eliminated if the Landfill is expanded. MORE: see "4. Landfill expansion and intake limit removal" section below.	
Quarry excavation schedule	Our baseline scenario assumes 100 percent of the Landfill's permitted airspace is made usable by excavating rock from the quarry. MORE: see "2. Quarry excavation" section below.	What is the likelihood that the quarry is not fully excavated by the time landfilling operations need to begin in that area? Or that it cannot ever be fully excavated? How would that impact the Landfill's lifespan?
Water table concerns	A portion of the Landfill's permitted airspace seems to lie below the groundwater level, and it is unclear whether DEQ regulations allow this airspace to be used, or if it would be cost effective for the Landfill owner to excavate the area.	To what extent do DEQ regulations address the water table issue and what steps would the Landfill operator need to take to turn this into "useable airspace?" How could overall site life be reduced by the water table issue? What role if any does Benton County have in protecting its groundwater?
Disaster concerns (Landfill fire, earthquake)	Although it rarely happens, landfills can catch fire, either on their surface or as exothermic reactions deep under their surface. The ubiquitous presence of methane, a flammable gas, is a risk factor. A landfill fire ignited by an area wildfire is a troubling possibility. Exothermic reactions are deep in the landfill itself and can take years to extinguish. The Landfill is in an earthquake zone and that could also cause loss of access to permitted airspace. (Note: there are regulations and plans in place at the landfill regarding disasters)	How can Benton County better assess the risks of losing access to permitted airspace due to damage from disasters that directly or indirectly impact landfill infrastructure such as a landfill fire?
Factors related to annual tonnage (demand)		
Exceedance beyond tonnage cap	Benton County previously did not exercise its threshold options under the 2000	How often does Benton County review its Franchise Agreements for contract compliance? Does the

	Franchise Agreement, when Republic Services took in excess tonnages in 2017-2019. MORE: see “5. Intake Limit Exceeded” section below.	county have enforcement plans? Are the contracts written in such a way that Benton County is incentivized to ignore exceedances of the tonnage cap or other aspects of the contract that would shorten landfill life?
Recession	A slowing or contracting economy, such as the Crash of 2008, generally reduces the volume of waste produced throughout the service area. We saw a decline in tonnage at Coffin Butte Landfill during 2006-2010.	Are current inflationary pressures likely to have any reduction in waste generation at Coffin Butte Landfill? Using history as a guide, how many recessions are we likely to experience between now and the Landfill’s baseline closure dates? How could recessions/inflation alter the Landfill's projected site life?
Economic growth	If a slowing economy generally reduces waste production, a robust growth economy could increase it. EPA data from 2018 states that 4.9 pounds of municipal solid waste was generated per person per day.	How have waste generation rates changed over time, and specifically during periods of economic growth? Can we project any changes to a Landfill's site life using the data available and forecasting that against the likelihood of economic expansion?
Reductions in waste generation (structural and societal)	Oregon environmental policy emphasizes recovery and reuse of solid waste, to insure highest practicable protection of the public health and welfare and air, water and land resources. Desire to decrease the size of wastestreams and increased awareness of the importance of a "circular economy" are prompting structural and societal changes to divert material from landfilling. Example: SB 582, an extended producer responsibility (EPR) law for packaging, became law in 2021, giving producer responsibility organizations (PROs) mandates to improve	What is the likelihood that counties in the service area will decrease the size of their wastestreams over the next 20 years? What proportion of the tonnage that currently goes into the Landfill is divertible material? What role can Benton County play in reducing waste generation and landfilling in county and in the Landfill service area?

	recycling and other waste diversion plans beginning in 2025.	
Disposal alternatives	Outside of maximized recovery (recycling and composting), alternatives to landfilling exist in various forms, primarily in new disposal technology. An incinerator in Marion County burns waste and generates energy for example.	What other disposal alternatives exist in the U.S. and elsewhere in the world? Which ones are showing the greatest promise for success and replication (taking in factors like cost, longevity, political will, etc)? How readily could these be incorporated into the solid waste management plans for cities and counties in the service area? Will Benton County consider these alternatives in its own Sustainable Materials Management Plan?
Transportation alternatives	Solid waste is currently trucked to Coffin Butte Landfill. Alternative modes of transportation (barge, rail, etc.) are being used to haul trash from intermodal transfer stations to landfills in more remote, less-densely populated areas.	What are the options for transporting waste using via rail or boat? How could Western Oregon's current network of transfer stations play a role in diverting waste from Coffin Butte? What is the feasibility of using existing railroad networks to haul waste (consider costs, safety, reliability, etc.)?
Global health issues (pandemics)	The COVID-19 pandemic had a significant impact on Landfill tonnage, decreasing it dramatically in 2020, but waste generation surged back in 2021.	Is the COVID-19 pandemic still impacting waste generation? If so, how? What is the likelihood that we will experience other global health crises in the next two decades? How would that potentially extend or reduce the life of Coffin Butte Landfill?
Climate change and other environmental legislation (A)	People worldwide are increasingly concerned about the threat of uncontrolled releases of greenhouse gases to their quality of life. Methane releases are a focus, because methane is a potent and quick-acting greenhouse gas. Landfills are major sources of	Are there plans to expand the requirements of the methane legislation to include landfills? If so, what is the likelihood of that passing and how could that impact Landfill operations? What other major pieces of legislation are circulating and gaining support? Do the climate pollution

	greenhouse gas emissions, especially methane, in the United States. (A) Concern by the public, science and industry, and financial entities about the climate crisis is manifesting in legislation. President Biden rolled out the U.S. Methane Emissions Reduction Action Plan in November 2021, followed by the Inflation Reduction Act of 2022, which provided for more than $300 billion in strategic investments to address the climate crisis. This includes incentives to detect, monitor and reduce methane emissions. MORE: see Appendix D below.	reduction incentives authorized in the Act present opportunities to fund waste-reduction projects in Benton County and throughout the Landfill service area? Are there opportunities for Benton County to begin the monitoring of methane emissions at Coffin Butte Landfill?
Climate change and other environmental legislation (B)	(B) Regarding landfilling, the first effect of the EPA's focus on methane reduction is the Food Donation Improvement Act, signed into law in January 2023. America wastes about 30-40% of its food, and food waste is the most common material found in landfills, estimated at roughly a quarter of material. When landfilled, food waste converts readily to methane. MORE: see Appendix D below.	How much food waste will the new legislation divert from landfills? How prohibitive is the "commerce clause" in diverting tonnage away from the Landfill? Is environmental legislation creating incentives and opportunities for Benton County and other counties in the service area to transition to cleaner, less wasteful trash management systems?
Wildfires/natural disasters (local and regional)	Fires, floods, spills, and other disasters can suddenly generate large amounts of landfill material. Disaster debris is not limited by the Landfill's 1.1 million annual tonnage cap. Example: devastating wildfires in the mid-Willamette Valley in 2020 generated hundreds of thousands of tons of disaster debris, and Coffin Butte Landfill accepted roughly 300,000 tons	What is the forecast for wildfires and other disasters in the region? What options are there for disaster debris other than disposal at Coffin Butte Landfill?

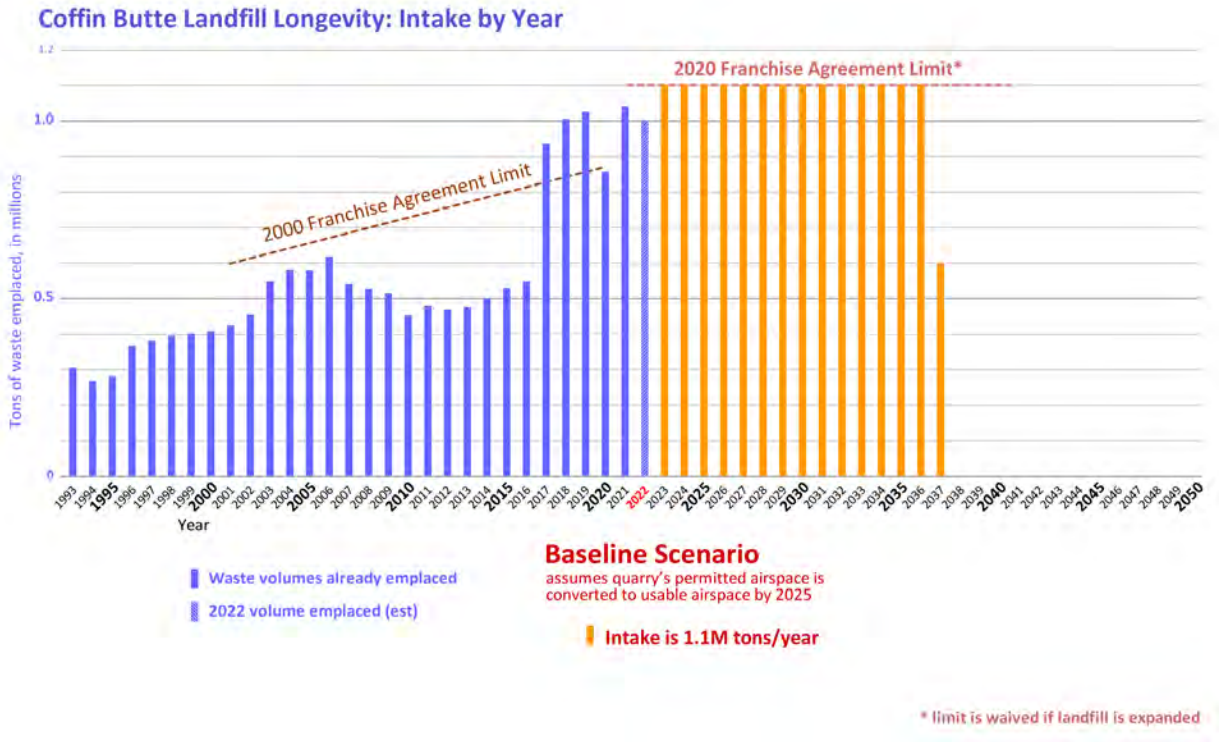
	of debris for landfilling in late 2020–early 2021. MORE: see “6. Disaster Debris” section below.	
Service area changes (closures and creation of other landfills/facilities)	In recent years Coffin Butte Landfill has taken in 25% to 30% of the total trash generated and disposed of in Oregon, according to DEQ reports. Closure of other regional landfills could create a opportunity for Coffin Butte Landfill to grow its service area if an expansion is granted and the tonnage cap removed.	What is the current disposal picture for Western Oregon? How many landfills are operating and how much capacity is remaining in each? Are there landfills nearing capacity? How could these dynamics impact tonnage and airspace at Coffin Butte Landfill? Does Benton County have options for influencing or preparing for these outcomes?
Industry competition/business choices	Republic Services competes with other trash haulers and Landfill owners and operators. Industry competition can yield either an increase or decrease in the Coffin Butte waste shed, depending on Republic Services ability to successfully gain or maintain existing contracts.	What market factors could impact Republic Services (and Coffin Butte's) customer base? Who are the other competitors in the market? Which municipalities and counties are nearing the end of their franchise or hauling agreements? Where are the new business opportunities? How could these increase or decrease tonnage coming to the Landfill?
Population growth/change	The service area's population is forecast to grow modestly over the next 20 years, with annual growth rates of less than one percent. Under the 2020 Franchise Agreement, any additional waste tonnage generated would be subject to the Landfill’s intake cap unless an expansion is granted.	Can Benton County make educated guesses about actual population trends in the Landfill’s service area? Can Benton County make more detailed estimates about future waste generation in the service area? What options does Benton County have to influence a likely increase in waste generation, both in county and regionally?

Coffin Butte Landfill: What factors could make the landfill close earlier than the Baseline Scenario(s)?

The subcommittee paid particular attention to factors that could lead to a landfill closure date earlier than 2037, because such a development could have serious repercussions for Benton County and for everyone else in the landfill's service area. These factors are discussed in more detail in this section, and graphs with representative assumptions are included to make these prospective outcomes easier to visualize.

1. The Baseline Scenario

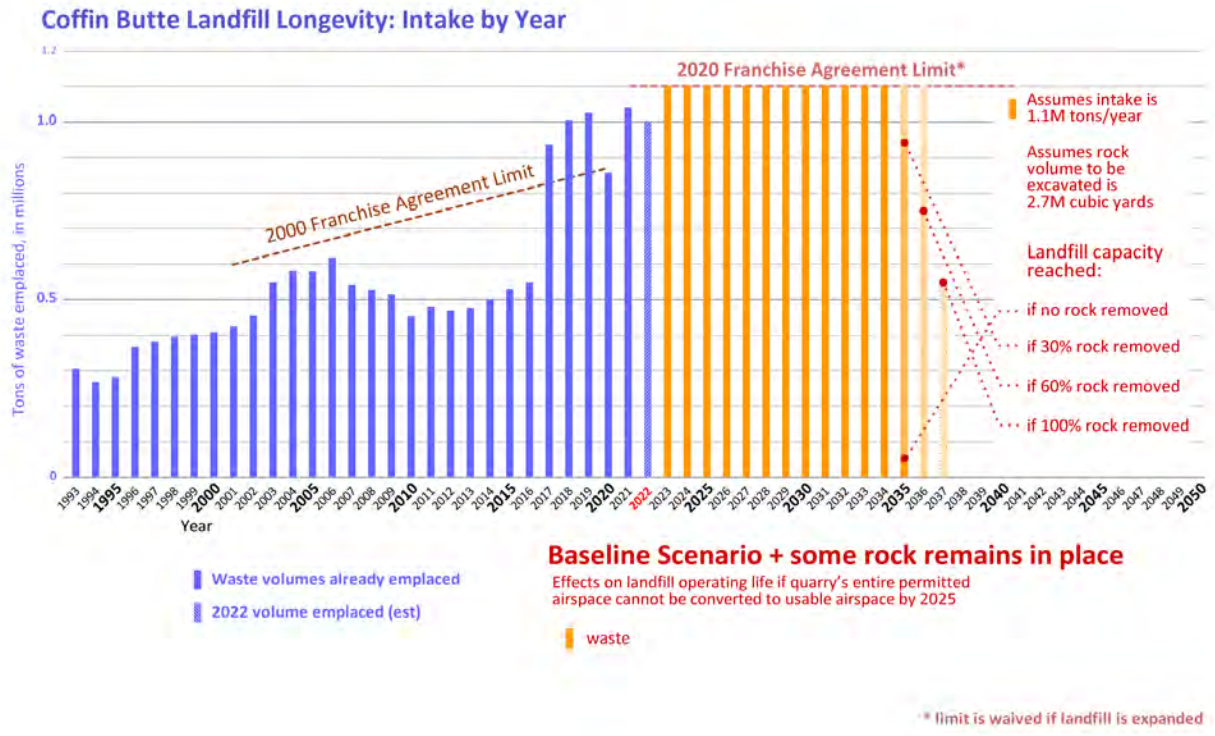
Graph 5: Baseline Scenario



The graph above visualizes Scenario 2 of the formal baseline projection ("baseline") provided by the franchisee, from Section 3.C Table 1 above. This projection is derived from an upward limit of waste intake of 1.1 million tons a year, which is in turn derived from the limit specified in the 2020 Franchise Agreement, as shown on this graph. We will use this projection in the expanded scenarios that follow.

2. Quarry excavation: "What if the franchisee cannot excavate all of the quarry?"

Graph 6: Quarry excavation: "What if the franchisee cannot excavate all of the quarry?"



Roughly 2.7 million cubic yards of the landfill's permitted airspace is currently unavailable because it is unexcavated rock.[76] The landfill's owner holds a surface mining permit for this rock, and franchises it to Knife River as a quarry. For the past few years Knife River has currently quarried the rock at a rate of roughly 150,000 cubic yards a year,[77] so at a normal pace the airspace will not be fully available until the year 2040.

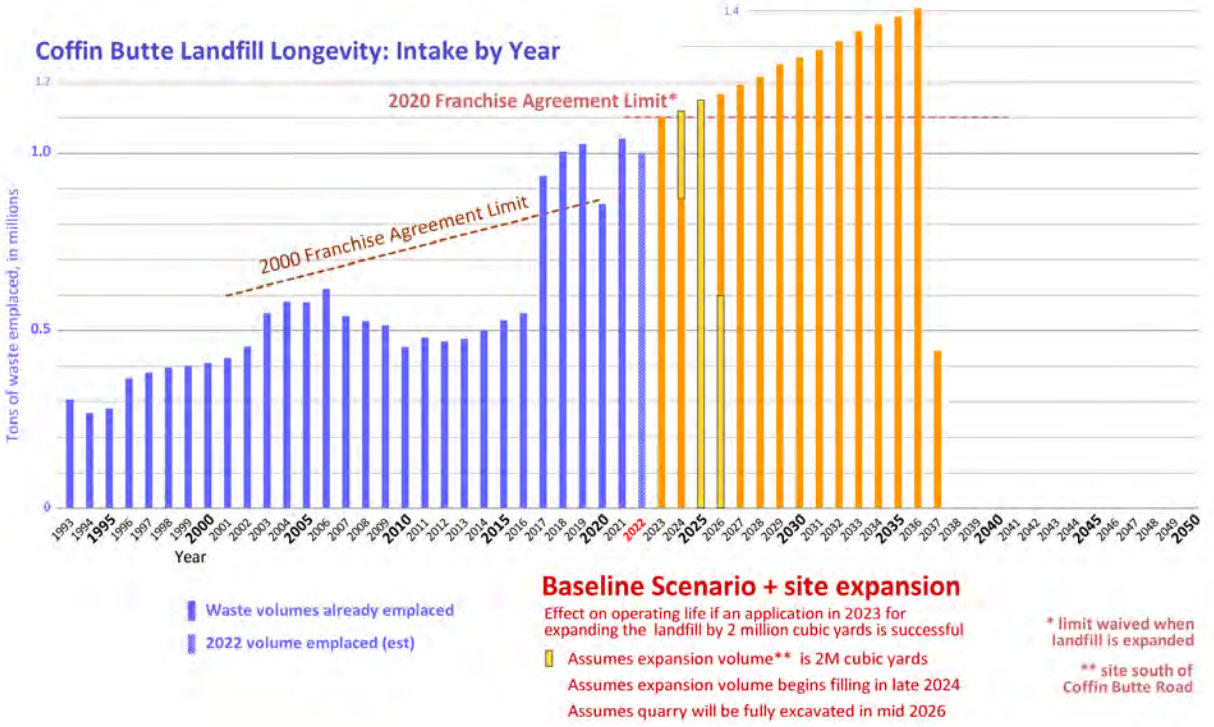
This poses a dilemma for the landfill's owners because the landfill is on track to fill its current cell in 3 years, when it will look to move operations into the quarry area. As noted elsewhere in this document, Republic Services is working with Knife River on a possible solution to this problem, with the goal of accelerating excavations in the quarry over a two-year period.

We do not currently know how much rock can be pre-excavated before landfilling operations move into the quarry airspace. We can display the possibility range graphically, assuming the unexcavated volume is 2.7 million cubic yards.

[76] Derived from Knife River testimony before the Benton County Planning Commission, November 2021.
[77] Derived from Knife River testimony before the Benton County Planning Commission, November 2021.

3. Landfill expansion and intake limit removal: "What if the franchisee obtains a permit to expand the landfill, which will remove the intake cap?"

Graph 7: Landfill expansion and intake limit removal: "What if the franchisee obtains a permit to expand the landfill, which will remove the intake cap?"



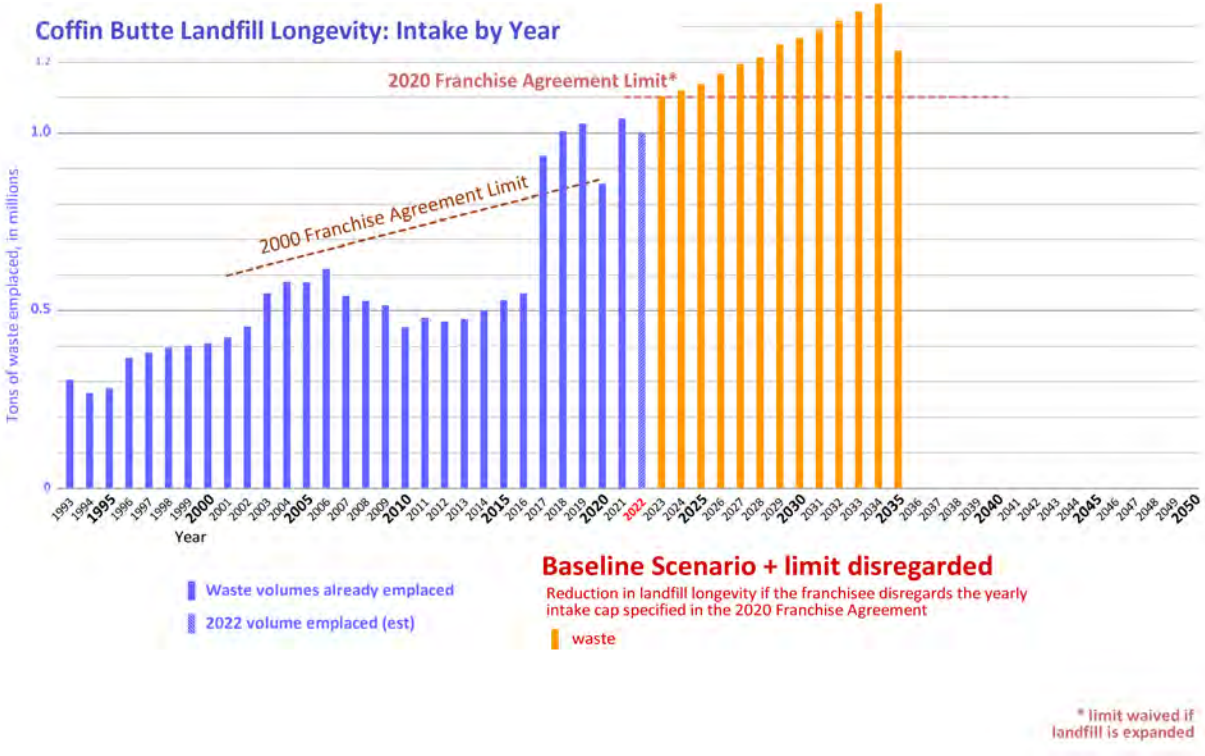
The baseline scenario may only be fully realized in combination with a landfill expansion – to serve as a bridge landfilling site that allows time for the quarry airspace to be pre-excavated. The landfill owner has indicated that it will apply for such an expansion, likely in the first half of 2023.

Republic Services does not currently have a CUP proposal before the County and has committed to not filing any application prior to the conclusion of this Workgroup's deliberations and recommendations. At this time, Republic Services has not decided the scope of its CUP expansion request. The company has indicated it is open to discussing a continuation or renegotiation of the tonnage cap as part of a new CUP application process.

Given these unknowns, the graph above presumes two things: a) that a future expansion would include the area south of Coffin Butte Road, known as the "Expansion Parcel," and b) the removal of the tonnage cap, as spelled out in the 2020 Franchise Agreement.

4. Intake Limit Exceeded: "What if the franchisee exceeds the 2020 Franchise Agreement limit?"

Graph 8: Intake Limit Exceeded: "What if the franchisee exceeds the 2020 Franchise Agreement limit?"

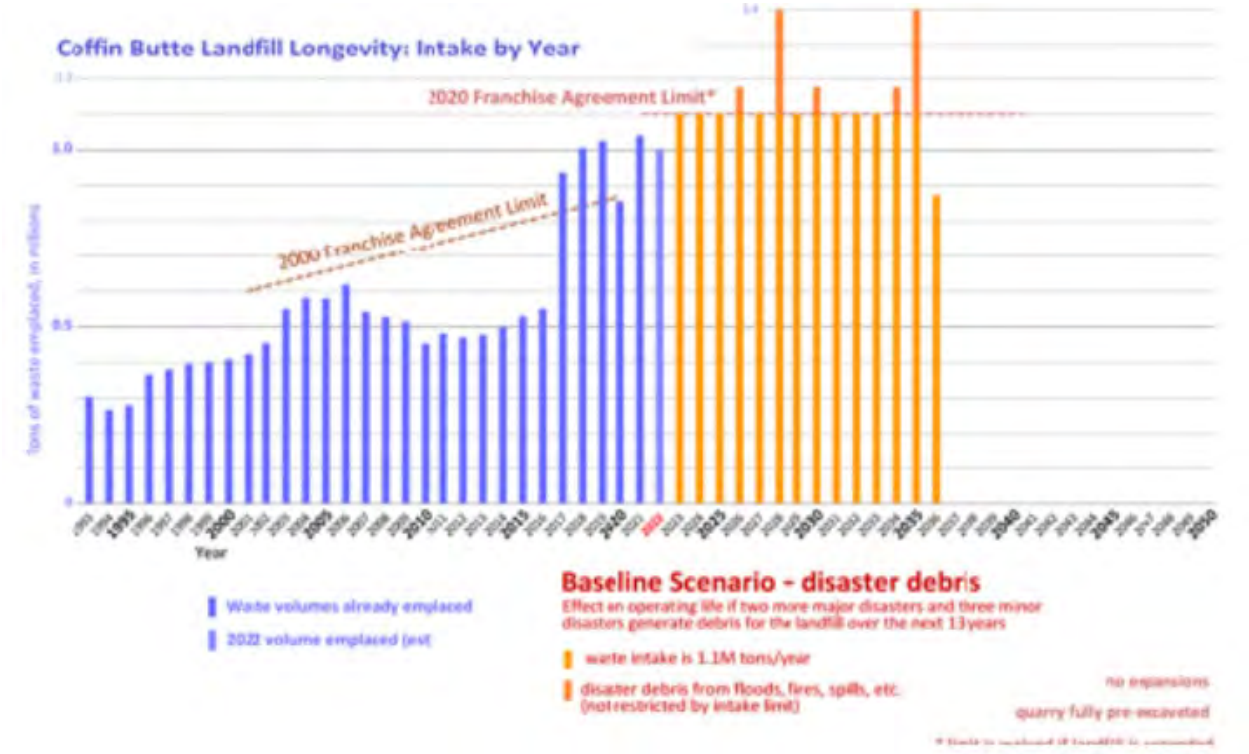


The 2020 Franchise Agreement limits the franchisee to a cap of 1.1M tons per year, but does not include any provisions for enforcement of that cap. There is historical precedent; as described earlier in Section 1.C, when the 2000 Franchise Agreement limit was exceeded, Benton County signed a Memorandum of Understanding that allowed the exceedance with no extra fees per ton. There is contemporary precedent also, as the 2020 Franchise Agreement also specifies a fee-per-ton that would apply if the cap were contractually lifted when an expansion was approved. The scenario assumes there are business opportunities that enable the franchisee to grow the yearly intake, because those are what would motivate the exceedance in the first place.

This scenario represents the effect on landfill longevity if annual intake volume at the Landfill exceeds that which is specified in the 2020 Franchise Agreement and the County responds either with no action or with an accommodation agreement such as a per-ton surcharge. It assumes a modest growth rate to intake (less than 2% per year).

5. Disaster debris: "What if there are more disasters like the 2020 wildfires, that generate debris for the landfill?"

Graph 9: Disaster debris: "What if there are more disasters like the 2020 wildfires, that generate debris for the landfill?"



Fires, floods, earthquakes, spills, and other major disasters can suddenly generate large amounts of debris to be landfilled. These events also occur more frequently at minor levels. These inflows can reduce the landfill's life, as disaster debris takes up airspace in the Landfill and is not limited by the Landfill's 1.1 million annual tonnage cap.

The visualization above assumes that two more major disasters occur in the region before close of Landfill, or roughly once every seven years; plus three minor disasters occur in the same time period, roughly every four years. The two major events each generate about 300,000 tons of debris (roughly the amount of material generated by the area wildfires of 2020) and the three smaller disasters generate 75,000 tons each. These inflows happen in addition to the normal waste stream, which as per the baseline is assumed to be 1.1 million tons per year.

Conclusion: A Confluence of Factors – Findings and Recommendations

The subcommittee has generated a Table calling attention to, and posing questions about, potential factors impacting site life; this list is not exhaustive and its characterizations are limited. We hope a more complete list and more detailed characterizations will come as Benton County prepares a Sustainable Materials Management Plan.

These factors are all relevant to understanding the possible longevity of Coffin Butte Landfill. Each factor has its own likelihood of being significant to landfill longevity and its own effect over time, and each joins with other factors to determine the actual longevity. These factors

have been included to enable the reader to form a conception of the likely "possibility space" for the landfill's operation from current day to its End Of Life.

The possibility space shows landfill closure as early as 2034 and as late as 2045.[78] Within that range, the landfill's 2021 Site Development Plan estimates the closure year to be 2039 and the EPA shows a closure year of 2044. The franchisee's baseline projects a closure range of 2037-2039. The franchisee anticipates intake rates staying stable (close to their current level), as shown in their baseline projection. Intake-increasing factors such as population growth and debris from disasters may drive up intake rates and thus shorten landfill life within the range; intake reduction factors such as recycling and waste diversion, plus emerging factors such as extended producer responsibility (EPR) incentives and climate crisis legislation, may drive down intake rates and thus lengthen landfill life in the range and beyond.

[78] Closure outside of this date range is possible, but seen as less likely

LSCL Appendix A: Intake Tonnage and Capacity Data

Coffin Butte annual intake volume, derived from 1993-2021 Coffin Butte Annual Report (CBAR) documents. CY 2000 is highlighted to indicate this value was derived from the 2001 report because the 2000 report document is unavailable. Blue highlights below are assumptions and estimates, not actually recorded data.

Year	CBAR Volume (Tons)	2000 FA Threshold	Intake Exceeding 2000 FA Threshold (Tons)	CBR Density Ration	CBR Annual Airspace Used (CY)	CBR Remaining Airspace (cy)
1993	310,648	#N/A				
1994	268,472	#N/A				
1995	287,932	#N/A				
1996	369,835	#N/A				
1997	378,919	#N/A				
1998	395,751	#N/A				
1999	401,408	#N/A				
2000	413,493	#N/A				
2001	425,723	600,000		0.9	473000	25,238,000
2002	453,261	612,000		0.98	561,592	24,776,627
2003	550,506	624,240		0.98	561,592	24,209,320
2004	586,076	636,725		0.80	736,434	24,513,192
2005	580,275	649,459		0.80	725,344	29,916,144
2006	618,340	662,448		0.8	781,094	29,135,051
2007	546,996	675,697		0.8	683,746	28,451,306
2008	528,396	689,211		0.8	660,494	27,785,082
2009	519,058	702,996		0.8	648,823	27,136,259
2010	458,590	717,056		0.892	514,111	27,382,241
2011	482,951	731,397		1.0375	465,495	24,807,718
2012	473,550	746,025		0.83	572,825	23,741,843
2013	479,160	760,945		0.92	523,100	24,458,567
2014	499,687	776,164		0.92	545,510	23,839,138
2015	530,971	791,687		0.89	595,593	23,839,138
2016	552,979	807,521		0.93	592,689	22453729
2017	941,430	823,671	117,759	0.97	969,048	21,727,371
2018	1,010,879	840,145	170,734	0.99	1,021,090	18,015,098
2019	1,034,934	856,948	177,986	0.8	1,293,668	18,352,257
2020	863,210	874,087		1	863,210	17,621,208
2021	1,046,067	#N/A		0.98	1,067,415	17,249,778
2022	1,100,000			0.999	1,089,900	16,008,557
2023	1,100,000			0.999	1,089,900	14,918,657
2024	1,100,000			0.999	1,089,900	13,828,757
2025	1,100,000			0.999	1,089,900	12,738,857

Year	CBAR Volume (Tons)	2000 FA Threshold	Intake Exceeding 2000 FA Threshold (Tons)	CBR Density Ration	CBR Annual Airspace Used (CY)	CBR Remaining Airspace (cy)
2026	1,100,000			0.999	1,089,900	11,648,957
2027	1,100,000			0.999	1,089,900	10,559,057
2028	1,100,000			0.999	1,089,900	9,469,157
2029	1,100,000			0.999	1,089,900	8,379,257
2030	1,100,000			0.999	1,089,900	7,289,357
2031	1,100,000			0.999	1,089,900	6,199,457
2031	1,100,000			0.999	1,089,900	5,109,557
2033	1,100,000			0.999	1,089,900	4,019,657
2034	1,100,000			0.999	1,089,900	2,929,757
2034	1,100,000			0.999	1,089,900	1,839,857
2035	1,100,000			0.999	1,089,900	749,957
2036	750,708			0.999	749,957	0

LSCL Appendix B: Calculation of 2000 Intake Threshold

From the 2000 Landfill Franchise Agreement Section 8 (b):

"One year after the Effective Date of this Agreement, the tonnage volumes identified in Section 8 (a) above (600,000 tons for one calendar year and 1,200,000 tons for two consecutive calendar years) shall each be increased at an annual rate of the greater of the following two percentages: (i) two percent (2%); or (ii) the increase in total population of Benton, Linn, Polk, Lincoln, Tillamook and Marion Counties as reported by Portland State University, based upon the preceding calendar year."

Population data from Portland State University for the 2000-2019 period, with calculated Y/Y percentage increase:

Data from Portland State University Population Research Center																					1/4/2023
https://drive.google.com/file/d/1g1ckFE8eSrLAkztbeqcA9GlEadKsY043/view?usp=sharing																					
https://www.pdx.edu/population-research/population-estimate-reports												*For 2010 - 2019 data, figures from individual "Certified Population Estimates" tables are used*									
	April 1, 2000 Census	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
BENTON	78,153	78,334	78,777	79,542	80,006	81,121	82,071	83,226	84,266	84,950	85,420	85,735	85,995	86,785	87,725	88,740	90,005	91,320	92,575	93,590	94,360
LINCOLN	44,479	44,519	44,880	45,069	45,509	45,048	45,193	45,447	45,697	45,921	46,045	46,135	46,155	46,295	46,560	46,890	47,225	47,735	47,960	48,210	48,260
LINN	103,069	103,393	104,397	105,441	106,885	108,879	110,223	111,867	113,481	114,890	116,114	116,840	117,340	118,035	118,665	119,705	120,860	122,315	124,010	125,575	126,550
MARION	284,834	285,571	287,676	289,757	294,188	296,268	299,484	303,545	307,481	310,807	313,643	315,900	318,150	320,495	322,880	326,150	329,770	333,950	339,200	344,035	347,760
POLK	62,380	62,679	64,647	65,132	66,317	67,902	69,256	70,891	72,361	73,726	74,911	75,495	75,965	76,625	77,065	77,735	78,570	79,730	81,000	82,100	82,940
TILLAMOOK	24,262	24,287	24,450	24,359	24,568	24,527	24,691	24,925	25,149	25,273	25,252	25,260	25,255	25,305	25,375	25,480	25,690	25,920	26,175	26,935	26,500
Total		598,783	604,828	609,300	617,473	623,746	630,919	639,901	648,434	655,567	661,385	665,365	668,860	673,540	678,270	684,700	692,120	700,970	710,920	720,445	726,370
Y/Y Incr. (%)			1.010	0.740	1.341	1.016	1.150	1.424	1.333	1.100	0.887	0.602	0.525	0.700	0.702	0.948	1.084	1.279	1.419	1.340	0.822

From the table above, the population of the specified area did not increase more than 2% Year over Year in any consecutive two-year interval in the CY2000-2019 period.

Therefore, the mathematical value of the 2000 Intake Threshold defined in Section 8 of the 2000 Landfill Franchise Agreement is equal to the initial (CY2000) values of 600,000 tons per calendar year or 1,200,000 cumulative tons over any period of two consecutive calendar years, with each figure increased at a rate of 2% per calendar year. The calculated yearly values of the 2000 Intake Threshold are detailed in the table above.

LSCL Appendix C: Landfill Properties

Coffin Butte Landfill Properties					
	Tax Lot #	**Current Zone**	**Previous Zone (Change Date)**	**Property Use**	**Date Acquired and Ownership**
1	105130000901	Exclusive Farm Use	Agricultural and Forestry (AF) (1982)	Agriculture	March 2001, Valley Landfills, Inc. Deed 295810-01
2	105130000900	Exclusive Farm Use	Agricultural and Forestry (AF) (1982)	Agriculture, barn	March 2001, Valley Landfills, Inc. Deed 295810-01
3	105130000902	Exclusive Farm Use	Agricultural and Forestry (AF) (1982)	Agriculture	March 2001, Valley Landfills, Inc. Deed 295810-01
4	105130001000	Landfill Site/ Forest Conservation (Northeast Corner)	Forest Conservation Forty Acre Minimum (FC-40) (1983)	Disposal Cell 1A, Cell 1, Cell 5, Future Cell 6, Current/Future Asbestos Disposal area, Rock quarry entrance and scale house (2021 SDP); Quarry excavation and landfilling in FC zone (2002)	October 1974, Valley Landfills, Inc. Deed M-50855 Consolidated with Tax Lot 105130000205 (4.69 ACRE) and Tax Lot 105130000204 (1.74 ACRE) in 1992
5	104180001106	Landfill Site	Forest Conservation Forty Acre Minimum (FC-40) (1983)	Disposal Cell 1, Cell 3	November 1994, Valley Landfill, Inc. Deed M-192291-94 Segregated Parcels 104180001108 (29.22 AC) & 104180001109 (51.39 AC) in 2011. Went from 100 acres to 20.15 * This property was likely purchased by the landfill owner prior to 1983, however, that information was unavailable at the time of this report.
6	104180000301	Landfill Site (South)/ Forest Conservation (North)	Forest Conservation Forty Acre Minimum (FC-40) (1983)	Disposal Cell 5 and forested hillside	March 1978, Valley Landfills, Inc. Deed M-91774 Segregated from 104180000300 in 1972

Coffin Butte Landfill Properties					
	Tax Lot #	**Current Zone**	**Previous Zone (Change Date)**	**Property Use**	**Date Acquired and Ownership**
7	104180000801	Landfill Site/ Forest Conservation	Forest Conservation Forty Acre Minimum (FC-40) (1983)	Disposal Cell 2, Cell 3, Cell 4, Cell 5, Scale house, public disposal area, stormwater ponds, bioswale, Toretie Marsh (2021 SDP); landfilling in FC zone (2003); transfer facility, stormwater conveyance/detention, container/drop box storage area, landfill construction staging/storage area (2011)	July 1988, Valley Landfills, Inc Deed M-102558-88 Segregated from 104180000800 in 1988 * This property was likely purchased by the landfill owner prior to 1983, however, that information was unavailable at the time of this report.
8	104180001108	Landfill Site	Forest Conservation Forty Acre Minimum (FC-40) (1983)	Disposal Cell 4, Entrance, stormwater pond, Toretie Marsh (2021 SDP)	November 1994, Valley Landfill, Inc. Deed M-192291-94 Segregated from 104180001106 in 2011 * This property was likely purchased by the landfill owner prior to 1983, however, that information was unavailable at the time of this report.
9	104180000900	Forest Conservation	Agricultural and Forestry (AF) (1982)	Wetland, pond	July 1988, Valley Landfills, Inc. Deed 1988-101891 Segregated from 104180000800 in 1968
10	105130000800	Exclusive Farm Use	Agricultural and Forestry (AF) (1982)	Stormwater treatment facility (pond and biofiltration strip) (2015), Soap Creek, Agriculture	February 1997, Valley Landfills, Inc Deed 1997-224922
11	104180001101	Forest Conservation	Rural Residential, 5 Acre Minimum (1982)	Construction staging/storage area, office (2013)	December 1991, Valley Landfills, Inc Deed 142396-91
12	104180001104	Forest Conservation	Rural Residential, 5 Acre Minimum (1982)	Construction staging/storage area (2013)	January 1987, Valley Landfills Inc. Deed 1987-086356 Segregated from 104180001101 in 1969

Coffin Butte Landfill Properties					
	Tax Lot #	**Current Zone**	**Previous Zone (Change Date)**	**Property Use**	**Date Acquired and Ownership**
13	104180001102	Forest Conservation	Rural Residential, 5 Acre Minimum (1982)	Vacant, non-forested land	March 1990, Valley Landfills, Inc Deed 123022-90
14	104180001107	Landfill Site	Forest Conservation Forty Acre Minimum (FC-40) (1983)	Leachate Maintenance facility/leachate ponds (2021 SDP)	August 1987, Valley Landfills, Inc. Deed 1987-092809 Segregated from 104180001100 in 1977 * This property was likely purchased by the landfill owner prior to 1983, however, that information was unavailable at the time of this report.
15	104180001200	Forest Conservation	Rural Residential, 5 Acre Minimum (1982)	2.2 Megawatt power generation facility (originally on lot 1100) (1994)	September 1986, Valley Landfills, Inc. Deed 1986-081011
16	104180001000	Forest Conservation	Rural Residential, 5 Acre Minimum (1982)	forest	March 1986, Valley Landfills, Inc. Deed 1986-077318 Segregated from 104180001100 in 1968
17	105240000200	Exclusive Farm Use	Agricultural and Forestry (AF) (1982)	Agriculture, forest, creeks	December 1989, Valley Landfills, Inc Deed M-118414-89
18	105240000103	Exclusive Farm Use	Agricultural and Forestry (AF) (1982)	Minor Land Partition 1980-017312; Formerly part of 105240000100	April 1988, Valley Landfill Inc. Deed 1988-099247 Segregated from 105240000100 in 1980
19	10419B001600	Rural Residential - 10	RR-10 Planned Unit Development (PUD)	Vacant residential Former subdivision/Planned Development BCS-78-5, LD-82-11, Tampico Ridge Subdivision vacated in 1988	December 1999, Valley Landfills, Inc. Deed 1999-276868 Segregated from 10419B000100/00200/01400 in 1988, Segregated from 10419B001601 in 1999

Coffin Butte Landfill Properties					
	Tax Lot #	**Current Zone**	**Previous Zone (Change Date)**	**Property Use**	**Date Acquired and Ownership**
20*	104180000200	Forest Conservation		Forested land	01/07/1998, purchased by Peltier Real Estate Co Deed 239947-98 Taxes paid by Republic Services
21*	104180001105	Exclusive Farm Use		Agriculture	October 1982, purchased by Peltier Real Estate Co Deed 1982-041706 Taxes paid by Republic Services Property Tax
22*	10419B000300	Rural Residential - 10	RR-10	Vacant residential	09/07/1999, purchased by Peltier Real Estate Co Deed 277841-99 Taxes paid by Republic Services
23	10419B001301	Rural Residential - 10	RR-10	Vacated right-of-way Former subdivision/Planned Development BCS-78-5, LD-82-11, part of Tampico Ridge Subdivision vacated in 1988	September 1988, Valley Landfills Inc. Deed M-106768-88 Formerly part of 10419B000300

LSCL Appendix D: Climate change and other environmental activism/legislation

Table 4 of our report has two rows identifying "climate change and other environmental legislation" as factors that could change site life from the baseline projection, by reducing the amount of material to be landfilled coming from the service area. This Appendix has been created to characterize in some detail the emerging forces that may incentivize that reduction in waste intake.

Summary

Organic material placed in a landfill such as Coffin Butte Landfill is decomposed by anaerobic microbial action, which produces methane gas. Methane is a pollutant that has been identified as a main contributor to the climate crisis. Responses to the climate crisis are focusing on reducing methane emissions, because methane emissions act quickly to warm the planet. In the US, legislation is in place to prioritize and incentivize reductions in methane; programs are beginning with methane reduction as a goal.

Roughly 25-30% of the material going into US landfills is organic, which if applied to Coffin Butte Landfill, would translate into roughly 275,000 to 330,000 tons of organic matter going into the landfill each year (per Republic Services' baseline projection). Republic Services currently diverts on average over 120,000 tons of green waste and food waste a year at its Pacific Region Compost Facility; its recycling center in Albany, Oregon, processes 20-25K tons of recycling material every year, much of which is organic material. If climate change and other environmental legislation further incentivize reduction or elimination of landfilling of organic material, it will further reduce the landfill's waste intake and thus extend the landfill's operating life in proportion to the additional volume thus diverted from the waste stream. Incentives could affect choices among disposal options in the future, which could also affect waste intake.

Background: the climate crisis imperative, landfills, and methane

People all over the world are growing increasingly concerned about the threat the uncontrolled release of greenhouse gases poses to the ecosystems that human societies depend upon. Worldwide, militaries, businesses, governments at all levels, other organizations and the public at large have incorporated or are incorporating responses to this threat into their planning, a response that collectively comprises the "climate crisis."[79] Internationally, the 27th Conference

[79] "Global Risks: The heat is on businesses to respond to climate change," World Economic Forum, January 2020. link

"Climate change poses a range of financial and economic risks to households, communities and market sectors across the United States… Climate change impacts threaten the stability of the US housing market." Nature Climate Change, "Unpriced climate risk and the potential consequences of overvaluation in US housing markets," Feb 2023. link

"Tackling the Climate Crisis – The planet's changing climate has a significant effect on Defense Department missions, plans and installations. DOD is elevating climate change as a national security priority, integrating climate considerations into policies, strategies and partner engagements." US Department of Defense, Spotlight, January 26, 2023. link

"President Biden's Executive Order 14057, collectively referred to as 'The Federal Sustainability Plan', outlines an ambitious path to prepare Federal agency policy, programs, operations, and infrastructure to adopt adaptive and resilient strategies for future climate impacts." Office of the Federal Chief Sustainability Officer, 2023. link

"Oregon is already experiencing the effects of the changing climate and ocean… State government has a duty to our communities, businesses, and future generations not only to reduce emission of Green House Gases (GHGs), the primary cause of climate and ocean change, but to take action to address the impacts of change across all

of the Parties to the United Nations Framework Convention on Climate Change (COP27) took place from 6 to 20 November in 2022, and hosted more than 100 Heads of State and Governments and over 35,000 participants who engaged in high-level meetings and key negotiations regarding climate action. UN Secretary-General António Guterres said that more needs to be done to drastically reduce emissions now. "The world still needs a giant leap on climate ambition… we can and must win this battle for our lives." He urged the world not to relent "in the fight for climate justice and climate ambition."[80]

In the United States, this fight is focused on the release of methane, a potent greenhouse gas. Over a period of 20 years, a unit of methane causes between 84 and 87 times the climate damage of a unit of carbon dioxide.[81] The US is one of the world's top 10 methane emitters, and methane emissions are a major contributor to climate change.[82] Last year the US announced that it was joining with more than 100 world governments to meet a Global Methane Pledge and reduce the world's methane emissions 30% from 2020 levels by 2030.[83] Humans produce the bulk of methane pollution, and atmospheric concentrations of methane have been trending upward for more than a decade,[84] with landfills contributing 17% of US pollution,[85] a figure which many experts say significantly underestimates landfill methane.[86]

Through the 2021 Methane Emissions Reduction Plan, the US government is using all available tools – "commonsense regulations, catalytic financial incentives, transparency and disclosure of actionable data, and public and private partnerships – to identify and cost-effectively reduce methane emissions from all major sources." As part of this Plan, in a carrot-and-stick manner, the EPA has begun to catalyze multi-pronged action against, and assess penalties for, the

sectors… to take advantage of emerging opportunities and harness existing state resources to protect people and the environment." The 2021 Oregon Climate Adaption Framework. link

"This page provides resources for climate change materials and information. It includes links to documents, reports, web sites, and resources from local, state, federal, academic, and non-profit organizations." Climate Change Resources, Oregon Department of Land Conservation and Development. link

"Americans who think global warming is happening outnumber those who think it is not happening by a ratio of more than 4 to 1 (70% versus 16%)… One in ten Americans (10%) have considered moving to avoid the impacts of global warming." Yale Program on Climate Change Communication, "Change in the American Mind: Beliefs & Attitudes, December 2022." link

[80] United Nations: Climate Action. link

[81] "CO2 … has a Global Warming Potential (GWP) of one. Methane has a GWP of between 28 and 36 over 100 years, according to the EPA, meaning it is significantly more potent as a greenhouse gas than CO2. It gets worse. The GWP of methane gets even higher over shorter periods of time due to the gas' shorter life span. Over a period of 20 years, methane has a GWP of between 84 and 87. According to the Environmental Defense Fund, while CO2 lasts for longer than methane, methane 'sets the pace for warming' in the short term." "Methane Vs CO2: Which Is the Most Potent Greenhouse Gas As White House Unveils New Pledge," Newsweek, November 2021. link

[82] The White House, "Fact Sheet: President Biden Tackles Methane Emissions, Spurs Innovations, and Supports Sustainable Agriculture to Build a Clean Energy Economy and Create Jobs," November 2021. link

[83] The White House, "Fact Sheet: President Biden Tackles Methane Emissions, Spurs Innovations, and Supports Sustainable Agriculture to Build a Clean Energy Economy and Create Jobs," November 2021. link

[84] "Methane Levels Hit New High, While the Cause of Rising Emissions Remains a Mystery," Yahoo News, February 2021. link

[85] Environmental Protection Agency, "Overview of Greenhouse Gases: Methane." link

[86] National Public Radio, "Your Trash Is Emitting Methane In The Landfill. Here's Why It Matters For The Climate," July 13, 2021 link

[86] "Existing measures to burn off the powerful greenhouse gas allow far more to slip by than had been believed, according to the paper published on Thursday in Science." "Study: Methane emissions may be five times higher than previously thought," The Hill, September 2022. link

release of methane into the atmosphere.[87] The global monetized benefits for all market and non-market effects are approximately $4300 benefit per ton of methane reduced.[88]

Relevance to Coffin Butte Landfill and its longevity

Landfills are major sources of methane, according to the EPA. Landfilling inherently creates methane as a natural byproduct of the decomposition of organic material in landfills. Coffin Butte's landfill gas is composed of about 53 percent methane (the primary component of natural gas), 38 percent carbon dioxide (CO_2) and 9 percent other gases, according to the EPA.[89]

Landfill methane generation rates are currently estimated using EPA models. These models are based on average waste composition from the country and don't account for areas with high organics diversion rates. Currently, Republic Services diverts on average over 120,000 tons of green waste and food waste a year at its Pacific Region Compost Facility; its recycling center in Albany, Oregon, processes 20-25K tons of recycling material every year, much of which is organic material.

It's known that Coffin Butte Landfill, like all landfills**,** has methane gas emissions, but also like many landfills its levels of "fugitive methane" are estimated rather than known. The US Environmental Protection Agency estimated in 2019 that Coffin Butte Landfill's methane collection system converts 57% of its methane to CO2, as compared to other Oregon landfills such as Columbia Ridge (85%) and Dry Creek (80%)[90] ; this finding is preliminary. Republic Services' notes that data it submitted to the EPA for inclusion in its 2021 greenhouse gas report estimates that Coffin Butte's landfill gas collection system has a collection efficiency of 91.2 percent.

Direct measuring technologies are coming online that can improve the characterization of landfill methane emissions, but currently they are better at providing snapshots of events rather than continuous data. Since methane generation varies daily and seasonally, models will continue to be needed to provide overall long-term emissions estimates, but these models will be improved by the more accurate event reports that direct-measuring technologies provide.

Waste disposal comprises a small percentage (roughly 2-3 percent) of Oregon's total greenhouse gas emissions, which are largely comprised of carbon dioxide emissions associated with providing Oregonians with material of value.

In contrast, the emissions generated by waste disposal are mostly associated with methane escaping landfills. This "fugitive methane" is not of value to anyone: Republic Services, for example, has considerable infrastructure in place to capture as much methane as possible to burn in a waste-to-energy plant and in flare stacks. For Benton County as for the nation as a whole, addressing fugitive methane is an opportunity when seeking to lower total greenhouse gas emissions.

[87] "Methane Emissions Reduction Program: The Next Step in the United States' Efforts to Tackle a Potent Greenhouse Gas," Covington, July 2022. link

[88] "Global Methane Assessment: Benefits and Costs of Mitigating Methane Emissions," United Nations Environment Programme and Climate and Clean Air Coalition, 2021. link

[89] "Emission Data for the Designated Pollutants," Oregon Amended State Plan to Implement Emissions Guidelines for Municipal Solid Waste Landfills, Oregon Department of Environmental Quality, August 1, 2019.

[90] "Emission Data for the Designated Pollutants," Oregon Amended State Plan to Implement Emissions Guidelines for Municipal Solid Waste Landfills, Oregon Department of Environmental Quality, August 1, 2019.

Changes to the Landfill's emissions status in the near future

In the past methane pollution has been difficult to quantify. For landfills, historically the EPA has relied on theoretical calculations to estimate pollution, but these mathematical models by definition produce estimates, not exact data – useful at a national level but less so at a per-landfill level. In response, other organizations have engineered their own models that are more useful for assessing emissions at a particular landfill. In recent years, focus has shifted to better direct measurement technologies for more accurate and transparent emissions reporting.[91]

Carbon-Mapper, a joint public-private enterprise, focuses on identifying super-emitters, because a previous flyover project across California discovered that only 1% of sites produced 50% of methane emissions, and the largest emissions were from landfills.[92] Carbon Mapper consulted with Republic Services and other major environmental services companies on their 2022 report of this project.[93] Carbon-Mapper plans to launch two satellites in 2023, building to a suite of 20 satellites eventually; these will join other systems such as Kayrros, a French company, GHGSat, a Canadian company, and MethaneSAT, a subsidiary of the EDF.[94] In March 2023, Kayrros announced a list of the planet's 1,005 highest methane "super-emitting events," and the list included leaks from waste facilities in the US; this data will begin to be released publicly later this year.[95]

These developments could provide a clearer, more precise picture of methane emissions from U.S. landfills, including Coffin Butte, and lead to improved diversion efforts, regulatory changes and operations improvements at landfills themselves.

Improving environmental outcomes

The best-case environmental outcome for methane, once it is generated from municipal solid waste, is for it to oxidize into carbon dioxide, i.e., for it to transition from a quick-acting high-impact greenhouse gas into a slower-acting, durable greenhouse gas. In climate crisis terms, methane is not "destroyed" as it does not become carbon neutral. From an environmental point of view, the best mitigation for landfill methane is never to create it in the first place, i.e., to divert waste, especially organic waste, from ever entering a landfill. This fundamental logic applies to landfill methane now and into the future.[96]

Climate crisis legislation

The US focus on methane reduction was codified in January 2023, with the signing of the Food Donation Improvement Act. America wastes about 30-40% of its food, and food waste is the most common material found in landfills. When landfilled, food waste converts readily to methane. Diverting food waste from Coffin Butte Landfill would lengthen the landfill's

[91] "Methane menace: Aerial survey spots 'super-emitter' landfills," Reuters, June 2021 link

[92] "Fugitive Methane Worsens Warming: New Assessments Point To Urgent Oil And Gas Fix," Forbes, August 2021. link

[93] "RMI and Carbon Mapper see better data and landfill upgrades as the keys to cutting methane emissions," Waste Dive, Oct 2022. link

[94] "With landfill methane in the climate spotlight, satellite and flyover measurements attract a following," Waste Dive, November 2021 link

[95] "Revealed: 1,000 super-emitting methane leaks risk triggering climate tipping points," The Guardian, March 2023. link

[96] "The first priority for landfills continues to be avoiding landfilling materials altogether," the CARB spokesperson said, "which provides the most direct path for reducing landfill methane emissions." "With landfill methane in the climate spotlight, satellite and flyover measurements attract a following," Waste Dive, November 2021. link

operating life and reduce its methane emissions. The bipartisan Act offers benefits beyond methane reduction, which is typical when initiatives target waste. [97]

The Inflation Reduction Act of 2023 imposed methane-corrective measures on the oil/gas industry. These measures are focusing on incentives to prevent methane from being emitted but include penalties for methane pollution. These penalties are being eased in over a four-year period, and establish a rate for methane pollution: $1550 per metric ton in 2022 dollars.[98]

It's possible that similar methane-corrective measures will be imposed upon the landfill industry, as a next development in the US 2021 Methane Emissions Reduction Plan.

Diverting organics from Coffin Butte Landfill would lengthen the landfill's operating life and reduce its methane emissions. Recyclers and other entities would have incentives to repurpose the organic sector of the landfill's intake (25-30% of total intake mass), which would benefit the landfill due to measures avoided. This change in waste flow may create knock-on opportunities to create circular economies for other types of waste, motivated by environmental concerns, economic efficiencies, and other reasons.

Climate crisis legal and shareholder action

As part of the climate crisis, environmentally engaged citizens and environmental organizations are suing governmental agencies (and investors are suing corporations) for failing to act on the climate crisis.[99] As with climate crisis legislation, these lawsuits may compel action to reduce emissions of greenhouse gases, which in turn may boost efforts to divert material, especially food and other high organic waste, from being landfilled. As with climate crisis legislation, the effect would be to reduce waste inflow into landfills.

Climate crisis environmental activism

As part of the climate crisis, environmental activists accelerate their efforts, and act as an across-the-board accelerant and forcer for all the environmentally motivated changes being discussed in this Appendix.

Environmental activism has already had significant effects on the operating life of Coffin Butte Landfill. Riverbend Landfill in Yamhill County was stopped from expanding in 2016, and environmental activists were a driving force; that outcome enabled Republic Services to increase trash intake at Coffin Butte Landfill by over 50% beginning in 2017.-Activism focused on trash reduction or on waste flows to the landfill itself may extend the landfill's life, if they act to reduce waste intake rates at the landfill.

Conclusion

[97] "Here's Why Congress Should Pass The Food Donation Improvement Act," Forbes, March 2022. link
"Reducing food waste seems to be one of those areas that is a win-win situation. No one is benefiting when we throw food away. The production of food itself causes emissions, and when the food goes to the landfill, it's a huge emitter of methane. So that's not good on either end of it." The Harvard Gazette, "How food donations can help fight hunger and climate change," August 2021. link

[98] "Inflation Reduction Act Adds First-time Charge for Methane Emissions for the Oil and Gas Sector," O'Melveny, August 2022. link

[99] "Growing numbers of customers and investors are insisting that all industries — waste included — record greenhouse gas emissions and shrink their carbon footprints. In a relatively short period, considering how a company may be exacerbating the effects of climate change morphed from a peripheral concern for investors to a mainstream inquiry." "Renewed focus on landfill calculations as waste industry faces pressure to reduce emissions," Waste Dive, March 2021. link

In recent years society and its structures have begun to take action on the climate crisis, due to the threat that greenhouse gases pose to natural and social systems. Responses to the climate crisis focus mainly on curtailing the release of greenhouse gases, but also include mitigating or adapting to the emerging effects of climate change. Efforts to curtail the release of greenhouse gases pay special attention to methane, because this pollutant has fast-acting effects. These efforts therefore involve landfills, as they produce methane.

The baseline scenarios laid out elsewhere in this report assume that landfilling will continue as normal for the next 16 years. That expectation should be tempered by the signals that environmental considerations, especially those related to the climate crisis, are emerging as a major factor that will reshape the social and legal landscape that Coffin Butte Landfill is in. This reshaping is something that Benton County can participate in, on behalf of its citizens. This is something the County should be aware of and prepare for, in current actions and in concert with its Sustainable Materials Management Plan, as the reshaping includes significant opportunities for the County and affiliated organizations to bring their waste management more in line with the County's stated goals and values.

Appendix C3: Subcommittee Reports: Legal & Land Use Issues

Introduction

The purpose the subcommittee is to address: a) law relevant to, and the legal status of, landfill operation and oversight; b) relevant law related to land use regulation, and c) typical practices in land use regulation. The majority of the subcommittee's work product is in the form of objective legal information; however, the charge elements that relate to land use also include descriptions of practices and considerations and are noted as such. In all areas, the subcommittee's goal has been to be clear, concise and legally informative.

Membership of the subcommittee consists of Benton County Counsel Vance Croney, Planning Commissioner Liz Irish, Republic Services land use attorney Jeff Condit and Republic Services in-house counsel Holly Doyle. The facilitator invited participation by Jeff Kleinmann, land use attorney who represented a group of property owners in the vicinity of the landfill during the Planning Commission hearings on the proposed expansion. Mr. Kleinmann declined to participate and submitted a letter stating his reasons. The facilitator subcontracted with Ginny Lucker, a highly regarded land use attorney and Benton County community member, to participate on the subcommittee and provide a third legal perspective. The County staff member supporting the subcommittee was Greg Verret, Deputy Director in the Community Development Department.

The Key Findings and Key Recommendations summarize most of the subcommittee's work. However, a wealth of information on each charge element is presented in the subcommittee's full report and readers are encouraged to refer to that report for a full accounting of any topic of interest.

SUBCOMMITTEE WEBPAGE LINK

SUBCOMMITTEE CHARGE
Charge A:
2) A Summary of the County's current rights and obligations to Republic Services, and vice versa, surrounding:

d. The hauling franchise;
e. The landfill CUP; and
f. What legally can and cannot be conditions of any land use approvals (e.g., past compliance, compliance with future laws, codes, and policies, DEQ compliance, reopening, limitations on what can be brought into the County from where, required facilities and practices, reporting/compliance/financial monitoring requirements, etc.)

3) *Interpretation and Deference:* **A Summary of the rights and obligations of other entities surrounding landfills, hauling, and sustainability initiatives, etc.:**

f. Federal;
g. Tribal;
h. State (e.g., Is DEQ prohibited from permitting another landfill west of the Cascades and what does the "regional landfill" designation mean?);
i. Local Government; and

j. Summary of the step-by-step process in ORS chapter 459 and associated timing for the cross-jurisdictional approvals of landfill applications, (e.g. DEQ) including:

(iii) What topics are within whose authority, and
(iv) Whether, for example, the County can or should consider the topics it does not have permitting authority over when assessing the criteria outlined in Code section 53.215?

Charge B: Clarifying existing criteria and information requirements for the land use review process for any proposed landfill expansion. Specifically:

3) Create a common understanding document outlining which Development Code criteria are applicable to the review of a conditional use application for landfill expansion by reviewing:
   - 53.215 (Criteria)
   - 77.305 (Conditional Uses)
   - 77.310 (Review)
   - 77.405 (DEQ)
   - Review Chapters 50 and 51 for context, and then

   c. Preparing a conceptual list of any other Development Code criteria the WORKGROUP recommends be applicable.
   d. Developing recommended guidelines for interpreting any ambiguous provisions recognizing current statutes, regulations, case law, and County precedent, etc.

      A. The phrase, "Other information as required by the Planning Official" 77.310(e)
      B. The terms found in Section 53.215, e.g.
      C. "seriously interfere"
      D. "character of the area"
      E. "purpose of the zone"
      F. "undue burden"
      G. "any additional criteria which may be required for the specific use of this code.
      H. Other: _____

4) In doing so, refer to Comprehensive Plan for policy guidance regarding interpretation of any ambiguous Development Code provisions (see, BCC 50.015,) and Review the Planning Commission comments made during its last review of Republic Services' CUP application for context. Examples for consideration include:
   a. Necessary Tasks to Start Planning Reopening of Existing Hauling Agreement
   b. Roles, Responsibilities, and Protocols of SWAC and DSAC
   c. Specific Recommended Review Criteria for the Evaluation of Landfill CUP applications
   d. SWAC/DSAC, Planning Commission, and BOC Use of the Review Criteria
   e. Future Timeline for Discussing any Needed Changes to the Benton County Code Flowing from WORKGROUP Recommendations

SUBCOMMITTEE MEMBERS:

- Jeff Condit

- Liz Irish
- Vance Croney
- Holly Doyle
- Ginny Lucker

County Staff: Greg Verret

Key Findings and Key Recommendations

Key findings and key recommendations from the full subcommittee report have been listed below. These key findings and recommendations summarize more complete content found in the full report, which can be accessed by clicking on the link adjacent to each.

Key Findings:

LLU F-1. [Link] Do conditions of approval imposed as part of a later land use approval supersede conditions imposed as part of a prior approval? Unless a later land use approval expressly addresses whether conditions of a prior land use approval are superseded, the issue will be subject to interpretation by the local government (the Board of County Commissioners, in this case).

LLU F-2. [Link] Only the current franchise agreement has legal effect. The previous franchise agreement is superseded when a new agreement takes effect.

LLU F-3a. [Link] Up-front and ongoing financial assurance to cover the cost of closure, post-closure, and corrective actions are required by DEQ. Where this preliminary line of defense fails, Oregon statute holds any person owning or controlling the disposal site liable for closure and post-closure maintenance. [See additional DEQ information on this topic in full subcommittee report.]

LLU F-3b. [Link] DEQ reviewed the last annual FA update submittal which was dated April 1, 2022 and approved on April 13, 2022. DEQ's approval letter summarizes the following:

- The updated cost estimates for closure ($16,222,800) and post-closure care ($5,743,202) were correctly updated, prepared, and stamped by a registered P.E.
- The current penal sum of your Bond, as provided by Evergreen National Indemnity Company, with your new Riders in place, covers the total of updated cost estimates.

DEQ identifies Valley Landfill Inc. as the owner of the landfill and the DEQ solid waste permittee for DEQ permit #306. The operator of the landfill is Coffin Butte Landfill. The owner or operator of the landfill is responsible for compliance with the permit and permit conditions. The owner or operator is responsible for providing financial assurance for closure, post closure and any needed corrective action per ORS 459.272.

Valley Landfill Inc. uses a bond to provide financial assurance. According to OAR 340-094-0140(6)(d) and (6)(e) the permittee is to recertify compliance every year

which Valley Landfill Inc. did in a March 28, 2022 attachment to the annual financial assurance submittal that DEQ received.

LLU F-3c. [Link] In negotiating the 2020 landfill franchise agreement, Benton County established three elements to provide assurance that costs of closure, post-closure and corrective action are covered: Statutory DEQ financial assurances, insurance, and the environment trust fund.

LLU F-4. [Link] What legally can and cannot be conditions of any land use approvals? Conditions of approval must relate to approval criteria. To be approved, an applicant must demonstrate compliance with all discretionary approval criteria. Conditions of approval cannot substitute for compliance with applicable criteria but may be imposed to ensure the criteria are met. The county may find compliance with approval criteria by establishing that compliance is feasible, subject to compliance with a specific condition(s) of approval. A preponderance of the evidence must support a finding that the condition is "likely and reasonably certain" to result in compliance. To lessen adverse impacts on surrounding uses, the county may "impose conditions of approval to mitigate negative impacts to adjacent property, to meet the public service demand created by the development activity, or to otherwise ensure compliance with the purpose and provisions of this code." (BCC 53.220)

LLU F-5. [Link] In reviewing a CUP for landfill expansion, the County has jurisdiction over only the proposed expansion. Existing and past operations are not within the County's scope of review. Prior decisions are final and cannot be subjected to a new review or have additional/revised conditions of approval imposed as part of the CUP application for the expansion. The mechanism for enforcing conditions of approval is a separate process; see recommendation LLU R-11.

LLU F-6. [Link] Benton County may not prohibit a private landfill operator from accepting solid waste from outside Benton County.

LLU F-7. [Link] Is DEQ prohibited from permitting another landfill west of the Cascades? No.

LLU F-8. [Link] What does the "regional landfill" designation mean? Oregon Revised Statute (ORS) 459.005(23) defines a Regional Disposal Site as "a disposal site that receives … more than 75,000 tons of solid waste a year from outside the immediate service area in which the disposal site is located…." The immediate service area of Coffin Butte is Benton County. Coffin Butte Landfill has received more than 75,000 tons from outside its immediate service area every year since at least 1993. Coffin Butte thus meets the definition of a regional landfill per ORS.

LLU F-9. [Link] Interpretation of the review criteria for a landfill-expansion conditional use permit requires determinations that are based on the facts of the specific application. The rules of statutory construction describe how ambiguous terms are to be interpreted: text, context, and legislative history. However, LUBA's standard of review is highly deferential to the local decisionmaker's interpretations, so if the interpretation is plausible (does not conflict with the provision's language), LUBA (and the courts) will uphold the local interpretation. This gives the decision-maker a lot of flexibility in interpreting their own code provisions. In response to a request by the Board of Commissioners, the following

four findings provide staff-provided historical information, particularly over the past 25 years, on how the County decision-makers have interpreted these terms across the full range of conditional use applications the County reviews. They are not recommendations on how the Planning Commission and Board should interpret future applications. Restated, each body fully retains its flexibility in interpreting those terms in the context of the specific application before it.

LLU F-9a. [Link] The first criterion requires the decision-maker to find that "*The proposed use does not seriously interfere with uses on adjacent property, with the character of the area, or with the purpose of the zone"* [BCC 53.215(1)]. In applying the term "seriously interfere", Staff reports that in past CUP applications the Planning Official, Planning Commission or Board has considered factors such as: does the proposed use make it difficult to continue uses on the adjacent property; would it create significant disruption to the character of the area; would it conflict, in a substantive way, with the purpose of the zone. As noted above, the county decision-makers have wide discretion in evaluating whether a use will "seriously interfere." In the past, "seriously interfere" has generally been applied as meaning more than an inconvenience or irritation but is a lesser threshold than rendering the uses on adjacent property impossible. Speculated effect on property values has not been a primary consideration in determining serious interference.

LLU F-9b. [Link] In the phrase "character of the area" in BCC 53.215(1), how narrow or broad has "the area" typically been?

When the County is evaluating the "character of the area", the "area" is based on the facts of each application and how far the effects of the proposed land use are likely to extend. The impacted area will be unique to each application and may differ by particular effect—for example, the impact of noise might extend farther than visual impact (or vice versa).

Because each review is unique, examining past cases for the specific distances utilized may not be illuminating. Staff reports that in past CUP applications the Planning Official, Planning Commission or Board has considered these factors in determining the character of the area and its extent include:

- The particular attributes of the geographic setting (including existing operations in the vicinity.)
- Is there a distinct change in the area's physical characteristics beyond a certain point (such as a change from flat land to hills or from one river basin across a ridgeline into another)?
- What features or elements give the area its character? Is it a homogenous or heterogeneous character (is there a high degree of similarity, or is it mixed)?
- How far are the effects of the proposed land use likely to extend? This may differ by particular effect—for example, the impact of noise might extend farther than visual impact (or vice versa).

LLU F-9c. [Link] In the conditional use review criterion of: "*The proposed use does not impose an undue burden on any public improvements, facilities, utilities, or services available to the area"* [BCC 53.215(2)], what constitutes a "burden" is again based on the facts of the application. Staff has stated that in past CUP applications the

Planning Official, Planning Commission or Board has considered a "burden" on public infrastructure and service is likely "undue" if it overloads the system or causes significant degradation in terms of quality, effectiveness or timeliness of infrastructure or service. Lesser burdens may also be "undue" if the effect jeopardizes people's health, safety, or welfare. Burdens that the County has typically not considered "undue" include those that can be mitigated through planned improvements, that are incremental service additions[100] consistent with that generated by other uses in the area or that fall below an established threshold (such as road classification standards). For planned improvements to be relied upon in determining that a burden is not undue, the implementation of those improvements must be certain, such as through a condition of approval specifying the improvement and the timeline for implementation. Again, as noted in LLU F-9 above, so long as the interpretation is plausible, the decision makers have wide discretion in interpreting the term "undue burden."

LLU F-9d. [Link] With regard to the conditional use review criterion of BCC 53.215(3) *["The proposed use complies with any additional criteria which may be required for the specific use by this code."*], if the county has adopted additional code criteria that apply to a proposed use, then those code provisions would apply. This does not allow the county to apply unadopted criteria that are not in the code at the time of application. In applying for expansion in the Landfill Site zone, the BCC Chapter 77 does not adopt any additional criteria and, therefore, no additional criteria apply.

LLU F-10. [Link] SWAC's bylaws require it to "assist the Board of Commissioners (Board) in Planning and implementing solid waste management, pursuant to BCC Chapter 23, the Benton County Solid Waste Management Ordinance." BCC 77.305 directs the Solid Waste Advisory Council (SWAC) to review and make recommendations regarding the Site Development Plan and Narrative submitted on a landfill-expansion CUP; however, the code does not specify what criteria or considerations that recommendation should be based on. Based on SWAC's bylaws and role in planning and implementing solid waste management, it appears that the intent of the language in BCC 77.305 is that the Planning Commission rely on SWAC for guidance on the impacts of the Site Development Plan and Narrative on solid waste management. However, the language of BCC 77.305 does not expressly limit the scope of SWAC's recommendations.

LLU F-11. [Link] Pursuant to BCC 77.310(1)(e), to what extent may the Planning Official require additional information from an applicant for a Landfill Site Zone Conditional Use Permit? Only "other information" that relates to the approval criteria for a conditional use permit may be required under BCC 77.310(1)(e), and the applicant may choose to provide some, all, or none of the requested information. The land use decision must be based on demonstrating compliance with the code criteria, not on whether the applicant provided the requested information.

[100] Incremental service additions are additions to the overall burden on services that are small relative to the total. For example, adding 10 daily vehicle trips to a road currently experiencing 300 daily vehicle trips could be considered an incremental service addition.

LLU F-12. [Link] BCC 77.310(1) lists the information required in the applicant's narrative submitted with a conditional use application. The information required under BCC 77.310(1) includes the documents and information required to be part of the application. During the "completeness" process, the Planning Official will consider whether the applicant's documents and information are sufficient for purposes of review of the application. A determination that an application is complete does not mean that the information satisfies the approval criteria.

LLU F-13. [Link] In addition to the list of information listed in BCC 77.310(1)(a)-(d), BCC 77.310(1)(e) allows the Planning Official to request that the conditional use application narrative include "other information". This information must relate to the approval criteria. The applicant has the discretion whether to submit the requested information. The applicant's failure to submit any requested information is relevant to the decision on the application only to the extent that the decision maker determines that the information is necessary to comply with an approval criterion.

LLU F-14. [Link] Pursuant to long-standing LUBA case law, representations and statements made by the applicant do not become conditions of approval unless those statements are specifically included or incorporated, directly or by reference, into the final decision as conditions of approval. See LLU R-10.

LLU F-15. [Link] How does the 2002 Memorandum of Understanding (MOU) fit into the Workgroup considerations? The 2002 MOU clarifies authorization for landfill activities within the Landfill Zone and establishes a point in time at which the landfill was operating in compliance with state and local requirements.

- The MOU does not address whether the County's determination of "compliance with local requirements" includes compliance with all conditions of past land use approvals.
- The MOU indicates that, as of 11/5/2002, there were no known land use ordinance violations involving the landfill. The MOU does not describe the extent to which Benton County investigated the compliance status of any conditions of past land use approvals in preparing the MOU.
- The MOU did not negate or supersede conditions of past land use approvals.

LLU F-16. [Link] Is there an opportunity for public input to determine whether an application is complete? The public may submit comments on the completeness of an application. However, the completeness process is not a review of the application's merits; only whether sufficient information has been submitted to the application's merits can be evaluated through the public hearing process. And there are no statutory or code requirements for incorporating public input on the county's administrative determination of whether an application is complete.

LLU F-17. [Link] Once any land use application is submitted to the County, the County Planning Official must determine within 30 days whether the application is complete. Following the completeness process the County then has 150 days to make a final land use decision, including the completion of any appeal to the Board of Commissioners or other proceeding under County Code. If the County does not make a final decision within the prescribed time, an applicant may petition the

circuit court for a "writ of mandamus." ORS 215.429(1) et seq and citing ORS 34.130. This statute requires the circuit court to approve the application unless the County can prove it violates a substantive provision of the Comprehensive Plan or Code. If the court determines the County has not met that burden, the applicant may then proceed with the development as proposed.

LLU F-18. [Link] Section 2 of the June 7, 2022, collection franchise agreement between Benton County and Allied Waste Services of Corvallis ("Republic Services") contains a mandatory limited reopener provision. Contract negotiations are not conducted in public. With that said, a process could be designed to allow public input, comment, and feedback on any provisions subject to Section 2 that may be negotiated between the parties to the agreement. The renegotiated collection franchise agreement must be agreed upon, in its entirety, by both Benton County and Republic Services.

LLU F-19. [Link] What options does the Planning Commission have if they determine that DEQ regulation of a particular parameter is inadequate or likely to be inadequate?

The County could not determine that DEQ regulation of a particular environmental parameter is inadequate to protect public health and deny the application on those grounds. The County also has no authority to interpret, apply or enforce DEQ regulations (except for regulatory programs that DEQ formally delegates to a local government, such as with on-site sewage disposal regulation.) Additionally, the County cannot assume that an activity will result in a violation of DEQ parameters when the activity hasn't happened.

The County could potentially determine that DEQ's regulation of a particular parameter is inadequate to prevent the proposed land use from seriously interfering with uses on surrounding properties. However, the County must articulate why DEQ's requirements are insufficient, and the County typically lacks the expertise or personnel to determine whether a particular environmental parameter is being exceeded. Alternatively, the County could require that specified mitigations be implemented, which is simpler to monitor than the level of certain emissions.

LLU F-20. [Link] Could a new CUP approval be conditioned on cleaning up noncompliance with existing operations?

A new CUP cannot require as a condition of approval that an existing operation on a different property be modified or that noncompliance be rectified. Enforcement procedures (see Chapter 31 of the Benton County Code) would have to address the noncompliance. See recommendation R-11.

LLU F-21. [Link] Is compliance/noncompliance with conditions of past land use approvals a topic that can be considered in any way during a new land use application?

Generally, the new proposal must be evaluated on its own merits relative to the approval criteria. However, the current non-compliance of an existing land use condition could provide information that the Planning Commission considers in developing a condition on a new application. If an application is made to expand an existing land use that is currently out of compliance with a condition of

approval of a previous decision, and that noncompliance is causing issues for surrounding land uses, noncompliance of the original land use decision is not in itself grounds to deny the new application. However, the decision-maker could potentially look at the fact of existing noncompliance in evaluating whether that noncompliance is causing the existing land use to "seriously interfere" with uses on surrounding properties. That fact can then be used as evidence in evaluating whether the proposed land use complies with the review criteria because the same land use in a similar location was seriously interfering with surrounding uses even though it was subject to conditions of approval. If the language in a condition of a past decision was unclear or insufficient to ensure compliance with an approval criterion, in evaluating a new application the decision maker could craft and impose a condition on a new decision that more clearly describes the measures necessary to ensure compliance. Past conditions superseded by subsequent decisions or changes in the law could not form a basis for such analysis.

LLU F-22. [Link] Were the site plan and narrative in PC-83-7 regulatory conditions of approval?

No.

The Board adopted the applicant's site plan and narrative in PC-83-07 as "findings" but did not specifically adopt them as conditions of approval. Findings are not conditions of approval. Rather, they explain how the decision was reached and the facts the decision maker relied on to determine compliance with a criterion. For compliance with specific findings to be enforceable they must be made conditions of approval.

The conditions that were adopted through the 1983 decision, described as "conditions of development", specified changes to be made to the applicant's site plan. Compliance with those revisions was not required as a condition of approval; the conditions required only that the revisions be submitted. The decision did not describe these revisions as necessary to establish compliance with any approval criteria and required only submission of additional documentation and a revised narrative.

Because a) the site plan and narrative, while relied upon as findings, were not made conditions of approval, and because b) the conditions imposed in PC-83-07 that required changes to the site plan did not require those changes on the basis that they were necessary to establish compliance with any criterion but rather required only that they be submitted, the site plan and narrative are not conditions approval of PC-83-07.

LLU F-23. [Link] Clarify when formal approval of landfilling Cell 6 (current quarry) was granted.

Land Use File PC-83-7 has been interpreted by Benton County, including in the 2002 MOU, as authorizing landfilling of the area known as Cell 6, the current quarry. The record in PC-83-07 does not clearly specify that the portion of the property containing the current quarry is authorized for landfilling. However, the Board of Commissioners' findings in PC-83-7 state that 194 acres are approved for

landfilling on the property north of Coffin Butte Road; that the total area of the property in the LS zone is approximately 266 acres; and that 59.23 acres of the LS zone are located south of Coffin Butte Road. That leaves approximately 207 acres north of Coffin Butte Road. Given that several areas are clearly shown on the 1983 site plan as being designated open space/buffer, there is no possible configuration of 194 acres out of the 207 acres total that does not include the current quarry area. Based on this analysis, this subcommittee concludes that quarry area was included in the area approved for landfills by PC-83-7.

LLU F-24. [Link] The County's decision on a conditional use permit must be based on the evidence submitted into the record. Evidence must be submitted into the record before the record is closed. The Planning Commission makes the initial decision on a conditional use application to expand the landfill, and the record includes all evidence submitted into the record before the Planning Commission makes its decision. The Planning Commission's decision may be appealed to the Board of Commissioners. The Board considers the record of the decision being appealed (all evidence and testimony submitted to the Planning Commission) and any new evidence or testimony that is submitted into the record at the Board's appeal hearing. The record closes either at the end of the final hearing on the application, or if there has been a request to leave the record open before the end of the final hearing, on the date specified at that hearing.

LLU F-25a. A petition is circulating requesting the Board of Commissioners "OPPPOSE ANY expansion of the Coffin Butte Landfill before Benton County completes a thorough, detailed waste management plan that focuses on future resilience and includes alternatives for decreasing and redistributing materials from the waste steam." One of its sponsors said, "All [it] does is urge you, the Commissioners — if the application comes before you on appeal following a decision by the Planning Commission — to "oppose any expansion request before you have a materials management plan in place to guide you. How can you approve a land-use action that will have a permanent impact on our county and its inhabitants, for generations to come, when you don't know what all the alternatives are?" (Emphasis in original.)

LLU F-25b. The petition sponsors agree with the County's position that it cannot legally postpone consideration of any landfill expansion pending completion of a Sustainable Materials Management Plan (SMMP). However, *t*he petition essentially states that a future waste management plan is necessary before the Board can thoroughly evaluate a proposed expansion because that plan may provide evidence that a landfill expansion is not needed, or that it may demonstrate suitable alternatives to a landfill expansion. Opposition to a conditional use permit based on potential findings from a future waste management plan would effectively impose an impermissible de facto moratorium pending the development of that plan. As discussed in Finding LLU F-17, failure by the County to reach a final decision, including all local appeals, within 150 days of a complete application can result in a writ of mandamus in which the circuit court may authorize the land use as proposed.

LLU F-25c. Petition sponsors have stated that they are asking the Board to conclude that, in the absence of a waste management plan, any proposal to expand the landfill necessarily violates one or more of the *current* discretionary approval criteria. A land use decision on a conditional use permit application must be based on the specifics of that application. To make a determination as to whether a land use application violates one or more conditional use criteria requires the decision-maker to review the application and make written findings as to whether and how the application complies with the criteria. This cannot be done prior to receipt of an application or outside of the land use review process.

LLU F-25d. The current CUP criteria give the Board discretion and, under the existing statute, LUBA and the courts will defer to the Board's interpretation of its criteria so long as the interpretation is "plausible." That discretion, however, is not unlimited and does not extend to applying unadopted criteria or to adding criteria that are not in the code at the time an application is filed. The current CUP criteria do not include – and cannot plausibly be interpreted to include -- any requirement that the applicant demonstrate need or that it must evaluate alternatives to a proposed landfill expansion. Interpreting the existing code criteria to require demonstration of "need" or alternatives is beyond the range of discretion afforded by state statute and would constitute an improper code amendment under the guise of interpretation.

LLU F-25e. Under both state law and the county code, an application must be evaluated based on the criteria in effect on the date the application is filed. Because the current CUP criteria do not require the applicant to address need or reasonable alternatives to the expansion, even if the evidence existed today, evidence regarding the need for or alternatives to landfill expansion is not relevant to the existing conditional use approval criteria; and therefore the possible evidence that might flow from a future SMMP is not relevant to the Board's evaluation of whether there is substantial evidence in the record as a whole related to compliance with the CUP criteria.

LLU F-25f. The County could amend BCC chapter 77 to add a criterion under BCC 53.215(3) to require compliance with specific provisions of an adopted SMMP. However, that criterion would apply only to applications filed after the code was amended to include, as criteria, specific requirements of such a plan. [See also Recommendation LLU R-8.]

Key Recommendations:

LLU R-1. [Link] https://www.co.benton.or.us/sites/default/files/fileattachments/community_development/page/8136/collection_franchise_renewal_agrmt_503172_republic_services.pdfA process to allow public input, comment, and feedback on any provisions subject to Section 2 of the collection franchise agreement between Benton County and Allied Waste Services of Corvallis ("Republic Services") could be designed as follows:

After the parties have begun discussing what specific terms may be amended pursuant to Section 2, but no more than 60 days prior to any amendment being

approved by the Board of Commissioners, the County will publish a notice that it is seeking suggestions from the public for negotiation topics generated from the "concepts from the consensus-seeking process."

Any input received would be presented to the Board of Commissioners at a work session, at which time the Board would identify those ideas or suggestions that may be included as negotiation topics.

Following the work session and as part of the ongoing negotiations, Benton County Staff will discuss with Republic Services the topics and ideas the Board of Commissioners identified.

At such time as Benton County and Republic Services reach a tentative agreement on the renegotiated terms, Staff would bring the proposed franchise changes to the board meeting, where consideration of the amended franchise agreement would be conducted in a public hearing pursuant to BCC 23.235, which will include an opportunity for the public to present testimony. The Board could approve the agreement as presented or may direct staff to resume negotiations with Republic Services to include specific topics identified by the Board.

The renegotiated collection franchise agreement must be agreed upon, in its entirety, by both Benton County and Republic Services. At such time as the terms have been agreed upon, and the Board is satisfied that public input has been adequately included or addressed in the renewed agreement, the franchise agreement will be the subject of a public hearing and, ultimately, approval by the Board of Commissioners at a regular board meeting.

LLU R-2. [Link] The County should provide to the public a description of the purpose of the statutory completeness review process, and the scope of the information the county planning official considers at the completeness stage. That description should clearly explain how the administrative "completeness" process fits into the review of a land use application. While the county should not discourage public involvement at all stages of the review process, the public should be informed that the statutory completeness is a preliminary step that does not include any review of whether an application does or can satisfy the approval criteria; and that the public review and hearing process that follows after the application is complete provides the public an opportunity to provide evidence and arguments to the decision makers on the merits of the application. The information should clearly inform the public that any evidence or testimony submitted at the completeness stage is not part of the "record" that the decision makers will review, and that information would have to be re-submitted during the public hearing process in order for the decision makers to review it.

LLU R-3. [Link] BCC 77.310 states that "The applicant for a conditional use permit shall provide a narrative which describes: * * * Other information as required by the Planning Official." [BCC 77.310(1)(e)] The workgroup could make recommendations regarding what "other information" would be helpful in a narrative. However, any committee recommendations would have to be limited to information related to the applicable criteria and could not expand that criteria. "Additional information" required by the Planning Official does not become part of the applicable criteria.

BCC 77.310 states only what the applicant's narrative shall include; it does not identify criteria for SWAC's review of a CUP application. This absence contributed to the subcommittee's recommendation in LLU R-6.

LLU R-4. [Link] BCC 77.310(1) lists the information required for a conditional use application in the landfill site zone and permits the planning official to request that the applicant's narrative include "additional information." However, the development code does not specify how or when that information is to be requested. In the past, the Planning Official has used the statutory completeness review process to request additional information. However, in addition to the Planning Official's review of the information after the application has been submitted, the Board could amend the code to require that the Planning Official conduct a "preapplication conference" with the applicant to discuss the information that is required. It could also require a "neighborhood meeting" before the application is filed that requires the applicant to present its proposal to the public and allow the applicant to obtain more information about the proposal. Public comment during a pre-application neighborhood meeting, as with other public comment submitted before the application is complete and notification is sent, is not part of the formal record of the land use review and cannot be considered by decision-makers. The record includes only public comment submitted after formal notification has been sent to affected parties stating that the comment period is open.

LLU R-5. [Link] BCC 77.305 directs the Solid Waste Advisory Council (SWAC) to review and make recommendations regarding the Site Development Plan and Narrative submitted on a landfill-expansion CUP; however, the code does not specify what criteria or considerations that recommendation should be based on. Consistent with SWAC's bylaws and Chapter 23 of the County Code, which require SWAC to "assist the Board of Commissioners (Board) in Planning and implementing solid waste management, pursuant to BCC Chapter 23, the Benton County Solid Waste Management Ordinance", the Board of Commissioners should more clearly define SWAC's role by articulating the scope, manner and timing of SWAC's review. Interpreting the existing County Code is within the Board's purview, but amending that code effects a more permanent solution. As an initial step, the Board could issue an official interpretation of SWAC's role pursuant to Chapter 23. Then, as a subsequent step, the Board could initiate amendments to Chapter 23 and/or Chapter 77, which would then proceed through a public hearings process. (If/when SWAC's overall role shifts to sustainable materials management, instances of the term "solid waste management" above should be replaced with "sustainable materials management.")

LLU R-6. [Link] Amendments to the Development Code may be needed to create a clear and legally consistent process for SWAC's involvement in reviewing a CUP. Pursuant to the Development Code as written, the only criteria that a CUP decision can be based upon are those of BCC 53.215, and the Planning Commission is the decision-making body. Yet, the code states an ambiguous role for SWAC in that process and seems to imply that other considerations beyond those of BCC 53.215 should go into the decision-making process. This needs clarification.

LLU R-7. In addition to the two criteria listed in BCC 53.215(1) and (2), BCC 53.215(3) requires the decision maker to consider whether the "proposed use complies with any additional criteria which may be required for the specific use by this code." Currently Chapter 77 (Landfill Site zone) does not include any additional criteria that must be considered in the review of a conditional use application for the expansion of a landfill in the landfill zone. If there are additional criteria that the Board of Commissioners determines are necessary for the review of a conditional use application in the landfill zone, the Board would have to amend Chapter 77 to specify those additional approval criteria. The Board could also require that compliance with the site plan and reclamation plan (currently required by Chapter 77 to be submitted with the application) be adopted as conditions of approval of any approved conditional use permit.

LLU R-8. [Link] When the County adopts its SMMP, it should amend BCC chapter 77 to add a criterion under BCC 53.215(3) to require compliance with specific provisions of an adopted SMMP.

LLU R-9. [Link] BCC 77.405 states, "*Copies of materials submitted to the Oregon Department of Environmental Quality as a part of any permit process shall be submitted to the Planning Official. If at any time the Planning Official determines that permit application materials or conditions of DEQ permit are judged to merit public review, a Public Hearing before the Planning Commission shall be scheduled.*" This provision is unclear. (The provision might have been codified before adoption of the current state agency coordination requirements, which now require a land use compatibility statement (LUCS) as part of any application for a state permit in which local land use is implicated.) The subcommittee interprets this section as requiring a review if the use originally approved has been or will be modified due to the DEQ permit. The Planning Official could make such a determination using a formal "Interpretation" pursuant to BCC 51.205(1). Recommend a code amendment to clarify this provision. For example, a code amendment could require that when DEQ issues a landfill permit, the Planning Official shall review the permit and conditions of approval and, if discrepancies with the County's land use approval are noted, determine whether this constitutes a "modification of a conditional use permit" (BCC 53.225) and, if so, require the applicant to submit application for such modification. A workgroup recommendation on how public review of DEQ permit requirements could most benefit the public would also be helpful.

LLU R-10. [Link] In issuing land use decisions, Benton County decision-makers should:

a. Draft clear findings and be certain to incorporate into the conditions of approval the items that are intended to be binding.

b. State conditions of approval in clear and explicit terms and ensure that what is expected of the applicant in order to comply is clearly stated in the text of the conditions.

LLU R-11. [Link] Benton County should evaluate its existing system regarding compliance monitoring and enforcement to determine if there are sufficient mechanisms in place to ensure compliance with conditions of approval that the County imposes on

land use approvals and, if not, recommend improvements. Elements of such an evaluation could include:

f. What enforcement mechanisms exist within the County Code?
g. Is there a mandamus option or a private right of action option?
h. What is missing?
i. What provisions and procedures do other counties have, particularly counties that host a privately operated landfill?
j. The future cost of such a system, the benefits, and the consequences of not improving the current practices and procedures.

Topic Areas Benton County Can or Cannot Regulate

-- Summary Table –

Topic Area	*Primary Jurisdiction*	*County Allowed to Regulate?*	*Notes*
Wetlands	Department of State Lands	Yes, if the County has identified significant wetlands at the site in a wetland inventory adopted through the Statewide Planning Goal 5 procedure.	No significant wetlands are identified in the vicinity of the landfill on the County's adopted inventory. The County has not conducted a comprehensive wetland inventory and analysis of significance since the 1980s.
Groundwater quality	DEQ	No. Statute precludes.	County can regulate the impact of one land use on another.
Groundwater quantity	OWRD	No. Statute precludes.	County can regulate the impact of one land use on another.
Noise	DEQ	Yes. DEQ has adopted noise standards but does not enforce. County may apply (only) those standards and enforce.	

Topic Area	*Primary Jurisdiction*	*County Allowed to Regulate?*	*Notes*
Odors	DEQ's regulation of air quality via emissions standards does not specifically address odor, but DEQ does regulate nuisance odor through a complaint-based system (see DEQ's Nuisance Odor Strategy).	Benton County cannot substitute a different regulatory standard for DEQ's regulation of air quality emissions. County could determine that odor will violate a CUP criterion and then impose a condition regulating odor, typically by requiring specified odor mitigations to be in place.	No objective "odor meter" (similar to a decibel meter for noise) seems to be available.
Methane emissions	DEQ	Precluded if regulated by DEQ.	
Wildlife	ODFW	Yes, if Benton County were to adopt a program pursuant to the Statewide Planning Goal 5 procedure.	Requires Comprehensive Plan Amendment.
Stormwater runoff	DEQ	Yes, pursuant to BCC 99.650-99.680.	
Point-source discharge to surface waters	DEQ	Yes, pursuant to BCC Chapter 36 Illicit (Non-Stormwater) Discharges.	
Light	None.	Yes, through CUP criteria and resulting conditions of approval. Not directly regulated in Development Code.	No state regulations that we are aware of.
Leachate	DEQ	No. Statute precludes.	County can regulate the impact of one land use on another.

Conclusion

Solid waste topics in Benton County intersect with legal and land use issues in several ways:

- Franchise agreements (in this case collection and landfill franchises) are contracts between a local government and a service provider.
- Legal requirements for permitting a landfill at a given location.
- Land use regulations.
- Benton County's oversight of solid waste topics through Chapter 23 of the Benton County Code, including the Solid Waste Advisory Council and the state-mandated Disposal Site Advisory Committee.

Franchise agreements are subject to contract law, applicable state statutes and county code, and applicable federal law and court cases. Franchise agreements are the product of confidential contract negotiations between the parties. However, the County and Republic Services recognize and acknowledge the public interest in these agreements and the desire to ensure the agreements reflect community priorities. The U.S. Supreme Court has determined the federal constitution prevents the County from limiting the area from which the landfill can accept waste.

Permitting a landfill or changes to a landfill is a complex mixture of state law (involving a variety of agencies) and Benton County Code. Understanding the roles and limitations on authority of each entity is important to enable community members to provide informed comment and for Benton County decision-makers to arrive at informed decisions.

Benton County has latitude to interpret the provisions of its own code and to interpret ambiguities in past decisions, provided those interpretations are plausible. Decisions and conditions of approval must be rooted in the applicable criteria in the County's Development Code and can only address the current application (not look to alter previous land use decisions or conditions). Subjective terms in the review criteria and procedures applicable to a conditional use permit (CUP) in Benton County, including a CUP to expand the landfill, were discussed in the subcommittee findings with the intent *not* of directing how these terms should be interpreted and applied in a future land use review but of providing such legal context as exists and how the County has historically interpreted them.

The County's long land-use history with Coffin Butte Landfill has resulted in legal and interpretation questions which the subcommittee has attempted to clarify from an objective legal perspective. The 1983 approval of the landfill did include approval for landfilling of Cell 6 (the present quarry) and did not establish the site plan and narrative as regulatory conditions of approval. The 2002 memorandum of understanding (MOU) between Benton County and the landfill operator memorialized the County's understanding that at that time the landfill was operating in compliance with local requirements but the MOU did not negate conditions of past land use approvals.

The subcommittee makes recommendations to:

- clarify the role of the Solid Waste Advisory Council in the land use conditional use review process
- consider specifying what "additional information" would be helpful in review of a conditional use application
- consider requiring a "pre-application conference" and a "neighborhood meeting"

- consider specifying any additional criteria necessary for CUP review and/or requiring compliance with the proposed site plan and reclamation plan
- clarify BCC 77.405 regarding review of DEQ permits
- provide the public with information regarding the initial review of the completeness of an application
- consider a proposed process for public input in the re-opener of the collection franchise agreement
- evaluate the system of compliance monitoring and enforcement
- ensure that land use findings are clear and that conditions of approval include all elements intended to be binding and are clear about what is necessary to comply with the conditions.

SECTION A: Develop Common Understandings

1) Republic Services and Benton County's Current Rights and Obligations

A Summary of the County's current rights and obligations to Republic Services, and vice versa surrounding the hauling franchise; The landfill CUP; and What legally can and cannot be conditions of any land use approvals (e.g. past compliance, compliance with future laws, codes, and policies, DEQ compliance, reopening, limitations on what can be brought into the County from where, required facilities and practices, reporting/compliance/financial monitoring requirements, etc.)

1a. Rights and obligations relative to past land use approvals

Question: **Do conditions of approval imposed as part of a later land use approval supersede conditions imposed as part of a prior approval?**

Answer: Unless the later land use approval expressly addresses whether the prior approval conditions continue or cease to be applicable, the issue will be subject to interpretation by the local government. LUBA will uphold the local government's interpretation of approval conditions unless the local government has improperly construed the applicable law.

Discussion:

When evaluating the effect of later conditions of approval on earlier conditions, the analysis will depend on the specific land use approvals at issue. If the later land use decision unambiguously states that the earlier conditions either continue or no longer apply, the express language of the later decision resolves the issue. If the later decision does not unambiguously address the issue, it is subject to interpretation by the local government, and LUBA will uphold that interpretation unless the local government has improperly construed the applicable law.

When the meaning of an earlier land use decision is disputed during review of a later land use application, the local government (here, the Benton County Board of Commissioners) will interpret the previous land use decision, including any conditions of approval. *See M & T Partners, Inc. v. Miller*, 302 Or App 159, 164-65, 460 P3d 117 (2020); *Bradbury v. City of Bandon*, 33 Or LUBA 664 (1997).

Once the local government has made the determination, LUBA will review under ORS 197.835(9)(a)(D) to determine whether the decision maker "improperly construed the applicable law." *Dahlen v. City of Bend*, __ Or LUBA __ (LUBA No. 2021-013, June 14, 2021). That is, LUBA will review for whether the interpretation is consistent with the statutory construction rules set out in ORS 174.010 to 174.090, *PGE v. Bureau of Labor and Indus.*, 317 Or 606, 611, 859 P2d 1143 (1993), and *State v. Gaines*, 346 Or 160, 206 P3d 1042 (2009). *Lennar Nw., Inc. v. Clackamas Cty.*, 280 Or App 456, 468, 380 P3d 1237 (2016).

This interpretative framework requires consideration of the text, context, and purpose of the land use approval. The fact that a specific condition was included in a prior decision but was not included in a later decision is relevant to the text, cotext, and purpose of the later decision.

Additionally, when reviewing a local government's interpretation of its later land use approvals to determine whether prior approval conditions continue to apply, LUBA cannot insert what has been omitted or omit what has been inserted. *Lennar*, 280 Or App at 469 (citing ORS 174.010); *Gould v. Deschutes Cty.*, 322 Or App 11, 24, 518 P3d 978 (2022); *M & T Partners*, 302 Or App at 172. LUBA will also give effect to the entire text of the later land use approval to the extent possible. *See* ORS 174.010; *Willamette Oaks LLC v. City of Eugene*, 76 Or LUBA 187 (2017).

Accordingly, it is for the Benton County Board of Commissioners to determine whether the later land use decisions continued or discontinued the conditions of approval attached to earlier land use decision. And, so long as it applies the interpretative framework outlined above, LUBA will uphold that determination.

1b. Rights and obligations relative to franchise agreements

Question: **How do previous franchise agreements impact continuation of operations under a new franchise agreement?**

Answer: Only the current franchise agreement has bearing. The previous franchise agreement is superseded at the time a new agreement takes effect. The provisions of the current (2020) franchise agreement are reflected in Table 1 below.

Discussion:

Valley Landfills, Inc., operates Coffin Butte Landfill under a Landfill Franchise and Host Agreement ("Landfill Franchise Agreement") negotiated with Benton County in accordance with Benton County Code Chapter 23 ("BCC Chapter 23"). The most recent Landfill Franchise Agreement became effective on January 1, 2021 and extends until December 31, 2040. A franchise agreement is a contract, meaning that it cannot be amended except in writing executed by both parties. Among many other provisions, the Landfill Franchise Agreement specifies that Benton County will receive franchise and host fee payments from Valley Landfills.

Table 1: Rights and Obligations Relative to Franchise Agreements

Landfill Rights and Obligations			
	Republic Right[101]/Republic Obligation[102] **(A Republic "right" is a County "obligation" and vice versa unless another entity is noted)**	**Authority**	**Comment**
1	"Operate and maintain the Landfill as a sanitary landfill for disposal of Solid Waste"	Landfill Franchise Agreement §2(a)	
2	"Comply with Benton County's solid waste ordinance and all provisions for service as set forth in Exhibit B" (current provisions detailed in this document)	Landfill Franchise Agreement §2(a)	Exhibit B contains Benton County Code Ch. 23.
3	"Charge tipping fees."	Landfill Franchise Agreement §2(b)	County hasn't participated in rate setting since 2000 franchise agreement eliminated county oversight. Section 7(f) designates Republic information related to tipping fees to be confidential. BCC 23.505 specified rate structures are not reviewed by BOC.
4	"Operate and promote the use of a Pacific Region Composting Facility (PRCF)."	Landfill Franchise Agreement §2(c)	

[101] A right is something one "is entitled to have * * * or receive." *Barron's Law Dictionary*, pg. 416.
[102] An obligation is the "legal or moral duty to do or not do something." *Black's Law Dictionary*, pg. 1102.

Landfill Rights and Obligations			
	Republic Right[101]/Republic Obligation[102] (A Republic "right" is a County "obligation" and vice versa unless another entity is noted)	**Authority**	**Comment**
5	"Shall accept for disposal at the Landfill, Solid Waste created or generated within Benton County."	Landfill Franchise Agreement §2(d)	This guarantees Benton County residents will have access to landfill as long as it is operational. Per §11(f), if Republic is unable to take Benton County-generated waste at the landfill, it will make other permitted landfills available to Benton County Solid Waste. In that case, the tipping fee shall be the same as if solid waste was disposed of at Coffin Butte. Same rate provision applies for 6 months.
6	"All persons holding a franchise to collect and transport municipal Solid Waste in Benton County will be permitted access to the Landfill" as long as they pay the tipping fee.	Landfill Franchise Agreement §2(d)	This ensures municipalities within Benton County which franchise collection services can access Coffin Butte. BCC 23.410(7) codifies this requirement as well.
7	Residential self-haulers will be accepted.	Landfill Franchise Agreement §2(f)	$35 per residential vehicle flat fee established, to be revised by the CPI after 3 years.
8	Secure loads required and maintain litter control measures.	Landfill Franchise Agreement §2(h)	
9	Annual franchise fee to be paid to County.	Landfill Franchise Agreement §4(a)	Section 11(d) describes situation when uncontrollable circumstances excuse Republic from paying fees. If Republic disposes of solid waste elsewhere, but not because of uncontrollable circumstances, it must still pay franchise fee.

Landfill Rights and Obligations			
	Republic Right[101]/Republic Obligation[102] (A Republic "right" is a County "obligation" and vice versa unless another entity is noted)	**Authority**	**Comment**
10	Annual host fee, based on an amount per ton of Solid Waste accepted at the landfill, will be paid to County.	Landfill Franchise Agreement §4(b)	The host fee is a credit against the franchise fee, with the franchise fee serving as the minimum amount Republic will pay County each year.
11	Until landfill expansion is approved, annual tonnage deposited at landfill is capped at 1,100,000 tons.	Landfill Franchise Agreement §5(b)	Within the tonnage cap, Republic must allow Benton County generated waste up to 75,000 annual tons. Solid waste deposited as a result of fire, flood, or other natural disasters is exempt from the tonnage cap.
12	Environmental Trust Fund to be maintained at no less than $5,000,000.	Landfill Franchise Agreement §6(a)	
13	Republic to maintain pollution liability insurance policy with minimum coverage of $10,000,000.	Landfill Franchise Agreement §6(b)	Section 6(d) requires the parties to meet every 4 years or after each 2,000,000 ton increment of solid waste is deposited to review the pollution liability insurance coverage.
14	Following year 1 of the agreement, Republic to furnish an annual report to County.	Landfill Franchise Agreement §7(a)	Annual report on environmental condition of the landfill, "covering air, water, Solid Waste Permits, pollution controls, and related issues as determined by the parties."
15	Beginning in year 2 of the agreement, Republic to furnish remaining capacity data to County.	Landfill Franchise Agreement §7(b)	Republic to provide BOC "necessary data to confirm the remaining capacity of the Landfill as determined by both parties." Data to include methods and calculations used.

Landfill Rights and Obligations			
	Republic Right[101]/Republic Obligation[102] (A Republic "right" is a County "obligation" and vice versa unless another entity is noted)	**Authority**	**Comment**
16	Other reports to be provided to County, when submitted to other agencies.	Landfill Franchise Agreement §7(c)	Public information and reports to state or federal agencies relative to operation of landfill to be provided to County.
17	All current and future state and federal laws must be complied with.	Landfill Franchise Agreement §11(a)	Codified at BCC 23.410(8) and (11).
18	Republic may only "sell, convey, transfer or assign the Landfill or any of its rights, interests, or obligations under [the franchise agreement]" with County's prior written approval.	Landfill Franchise Agreement §11(b)	
19	90-day notice required prior to discontinuance of service.	BCC 23.410(9)	
20	**DEQ** permit required to operate landfill	ORS 459.205	Term of permit not to exceed 10 years. ORS 459.245(d).
21	Cleanup of hazardous substance contaminating ground water	ORS 459.248	
22	Closure of landfill site.	ORS 459.268, OAR 340-094https://secure.sos.state.or.us/oard/displayDivisionRules.action?selectedDivision=14900100	
23	Groundwater monitoring	OAR 340-094-0080	
24	Emissions Standards	OAR 340-236-0500	
25	Franchise Agreement may only be reopened with "the mutual approval of both the Board and [Republic]."	BCC 23.310(2)	
26	Republic and County will "work together" to monitor the flow of C&D materials and work toward establishing a transfer facility.	Landfill Franchise Agreement §2(g)	

Landfill Rights and Obligations			
	Republic Right[101]/Republic Obligation[102] (A Republic "right" is a County "obligation" and vice versa unless another entity is noted)	**Authority**	**Comment**
27	"Negotiate in good faith to establish a program to promote selfhaulers and cease activities by illegal dumpers."	Landfill Franchise Agreement §2(e)	Parties to negotiate in good faith during the period of Jan 1, 2021-July 1, 2021 to establish a Dump-Stoppers program with a joint report to BOC three years thereafter.
28	If landfill expansion occurs prior to 2024, host fee will be adjusted to reflect additional landfill space.	Landfill Franchise Agreement §4(c)(i)	
29	If landfill expansion occurs 2025 or later, host fee and franchise fee will be adjusted.	Landfill Franchise Agreement §4(c)(ii)	
30	Inspections of landfill by County authorized.	Landfill Franchise Agreement §7(d)	County has the right to inspect landfill for "determining [Republic's] compliance" with the franchise agreement.
31	County may prevent interruption of service.	BCC 23.415	If failure or interruption of service would create an "immediate and serious health hazard or serious public nuisance," the BOC, with 24-hours' written notice to Republic, authorize county personnel or other persons to temporarily provide the service.

Collection Rights and Obligations				
	Republic Right/Republic Obligation (A Republic "right" is a County "obligation" and vice versa unless another entity is noted)	**Responsible Party**	**Authority**	**Comment**
1	Republic to provide solid waste collection and recycling services in the service areas specified in its application	Republic	Solid Waste Collection Franchise Agreement ¶1	Service area is all of the unincorporated area of Benton County. See Map attached to application.
2	Republic to pay fee of 5% of gross cash receipts from collection service provided in service area	Republic	Board Order D2022https://www.co.benton.or.us/sites/default/files/fileattachments/community_development/page/8136/collection_franchise_renewal_agrmt_503172_republic_services.pdf044 ¶3	
3	Republic to comply with applicable provisions of BCC Ch. 23 (Current provisions detailed in this document)	Republic	Board Order D2022https://www.co.benton.or.us/sites/default/files/fileattachments/community_development/page/8136/collection_franchise_renewal_agrmt_503172_republic_services.pdf044 ¶4	
4	Annual submission of service/days of week map	Republic	Board Order D2022https://www.co.benton.or.us/sites/default/files/fileattachments/community_development/page/8136/collection_franchise_renewal_agrmt_503172_republic_services.pdf044 ¶8	
5	Coordinate recycling efforts with solid waste collection efforts to enhance recycling/recovery and meet state goals.	Republic	Board Order D2022https://www.co.benton.or.us/sites/default/files/fileattachments/community_development/page/8136/collection_franchise_renewal_agrmt_503172_republic_services.pdf044 ¶9	State goals found at ORS 459A.010.

Collection Rights and Obligations				
	Republic Right/Republic Obligation (A Republic "right" is a County "obligation" and vice versa unless another entity is noted)	**Responsible Party**	**Authority**	**Comment**
6	Make reasonable effort to resolve customer complaints on service, record written complaints and their disposition.	Republic	Solid Waste Collection Franchise App. §5.E.	
7	Provide solid waste collection at least weekly.	Republic	BCC 23.410(1)	23.410 provide some exceptions to this baseline requirement.
8	Provide and maintain adequate equipment to handle and dispose of or resource recover solid waste.	Republic	BCC 23.410(2)	
9	Set rate structure.	Republic, County	BCC 23.505, 23.510	Republic proposes rates, county reviews and approves. Rate adjustments to accommodate Refuse Rate Index adjustments may not need BOC approval if contemplated in prior BOC order.
10	If County wants to consider a new solid waste service, Republic will provide written proposal within reasonable period of time, including proposed methods and costs for the service.	Republic, County	Solid Waste Collection Franchise Agreement ¶7	Also found in Order, paragraph 7.

Collection Rights and Obligations				
	Republic Right/Republic Obligation (A Republic "right" is a County "obligation" and vice versa unless another entity is noted)	**Responsible Party**	**Authority**	**Comment**
11	Agreement to be amended by July 1, 2024 "to include same or similar terms as the forthcoming City of Corvallis collection franchise agreement, including, but not limited to, the same termination date, as well as concepts from the consensus-seeking process."	Republic, County	Solid Waste Collection Franchise Agreement ¶2	This provision is also found in the BOC Order granting the franchise at section 2.
12	County may prevent interruption of service.	County	BCC 23.415	If failure or interruption of service would create an "immediate and serious health hazard or serious public nuisance," the BOC, with 24-hours' written notice to Republic, authorize county personnel or other persons to temporarily provide the service.
13	County to protect franchise rights and interests granted Republic to achieve compliance with BCC Ch. 23.	County	Solid Waste Collection Franchise Agreement ¶5	

1c. Responsibility for landfill closure and post-closure obligations

Question: Who is responsible for complying with landfill closure and post-closure obligations?

Answer: DEQ regulations require up-front and ongoing financial assurance to cover the cost of closure, post-closure, and corrective actions. Where this preliminary line of defense fails, Oregon statute holds any person owning or controlling the disposal site liable for closure and post-closure maintenance.

Discussion:

DEQ regulations require up-front and ongoing financial assurance to cover the cost of closure and post-closure obligations, as well as the cost of any required corrective action. OAR 340-094-0140. The owner or operator of a landfill must provide the required financial assurance by the time DEQ issues the solid waste permit. (This applies to any landfills permitted after November 4, 1993. For landfills already in operation on November 4, 1993, DEQ required those initial financial assurances no later than October 9, 1997.) OAR 340-094-0140(3)(a).

The owner or operator is required to update its financial assurance plan annually, and the amount of the financial assurance mechanism must be increased (or may be reduced) consistent with each financial assurance plan update. OAR 340-094-0140(6)(e). A copy of the most recent annual financial assurance plan submitted by Valley Landfills, Inc. is attached as Appendix A to this report.

The owner or operator is restricted to certain allowable "financial assurance mechanisms," each of which is designed to ensure that funds will be available to complete closure, post-closure, and corrective action obligations, even if the owner or operator becomes insolvent or otherwise fails to satisfy those obligations. Under OAR 340-094-0145 the allowable financial assurance mechanisms include:

a. A trust fund whose purpose is to receive and manage funds paid by the permittee and to disburse those funds only for closure, post closure, or correction activities.
b. A surety bond guaranteeing payment into a standby trust fund for closure or post-closure activities.
c. A surety bond guaranteeing performance of closure, post-closure, or corrective action activities.
d. An irrevocable letter of credit in conjunction with a standby trust fund.
e. A closure or post-closure insurance policy guaranteeing that funds will be available to complete final closure and post-closure maintenance of the site.
f. A corporate guarantee from an entity that passes a specified financial test, and which is subject to replacement by a substitute financial assurance mechanism if the guarantor no longer meets the financial test criteria.
g. Alternative forms of financial assurance, so long as they provide an equivalent level of security as the specified mechanisms and are approved by DEQ.

Finally, if the owner or operator of the landfill fails to provide the required financial assurance, and also fails to satisfy its closure and post-closure obligations, then each person owning or controlling the property on which the disposal site is located will be liable for those closure and post-closure obligations. (ORS 459.205 and 459.268) Under a recent decision, the Oregon Supreme Court determined that both a person who actually exercises control over the site and a person with legal authority to control the site are liable for closure and post-closure activities.

Kinzua Res., LLC v. Oregon Dep't of Envtl. Quality, 366 Or 674, 686, 468 P3d 410 (2020). Accordingly, an entity or individual with legal authority to control the site can be liable under ORS 459.205 and 459.268, even if that entity or individual does not operate the landfill or directly hold title to the site. The Oregon Supreme Court has also held that liability under ORS 459.205 and 459.268 is direct liability for that person's own failure to satisfy closure or post-closure obligations, such that ORS 63.165 (part of the Oregon Limited Liability Act) may not serve to protect a member of an LLC from such liability.

In negotiating the 2020 landfill franchise agreement, Benton County established three elements to provide assurance that costs of closure, post-closure and corrective action are covered: DEQ assurances, insurance, and the environment trust fund.

Additional related information from DEQ (submitted by Audrey O'Brien):

ORS 459.272 requires a landfill owner to provide financial assurance for closure, post-closure and corrective action and must annually review and update those assurances. OAR 340-094-0140 identifies the rules regarding financial assurance requirements and what must be included. OAR 340-094-0140(7(c) states that DEQ will review the financial assurances. Permit conditions 13.1-13.5 of the DEQ solid waste permit #306 identify the requirements for financial assurance. The numbers may vary each year depending on the annual review conducted by the permittee and submitted to DEQ.

Query from Ed Pitera:

Oregon statute holds any person owning or controlling the disposal site *at the point in time closure rules are triggered* is liable for closure and post-closure maintenance. As of March 2023, the responsible entity is VLI with Republic Services of Corvallis, Limited Partnership next in line. Check if the owner is unable to perform the work, the landfill would likely become a CERCLA (Superfund) site. There is no foreseeable path for liabilities to fall solely on Benton County, but the County may have to contribute a share based on a criteria to be negotiated.

Response from Audrey O'Brien, DEQ:

DEQ has no evidence to support the following statement: "Check if the owner is unable to perform the work, the landfill would likely become a CERCLA (Superfund) site." DEQ is not aware of information that would lead to this landfill becoming a CERCLA Superfund site. State law directs the EQC to adopt regulations of disposal sites.

See ORS 459.045(1) "The Environmental Quality Commission shall adopt reasonable and necessary solid waste management rules governing the:

(a) Accumulation, storage, collection, transportation and disposal of solid wastes to prevent vector production and sustenance, transmission of diseases to humans or animals, air pollution, pollution of surface or ground waters, and hazards to service or disposal workers or to the public."

The rules established in OAR 340-093 and OAR 340-094 identify requirements for all stages of a disposal site including design, construction, operation, closure, post-closure and any needed corrective action.

Additional from Audrey O'Brien, DEQ:

DEQ reviewed the last annual FA update submittal which was dated April 1, 2022 and approved on April 13, 2022. DEQ's approval letter summarizes the following:

1. The updated cost estimates for closure ($16,222,800) and post-closure care ($5,743,202) were correctly updated, prepared, and stamped by a registered P.E.
2. The current penal sum of your Bond, as provided by Evergreen National Indemnity Company, with your new Riders in place, covers the total of updated cost estimates.

DEQ identifies Valley Landfill Inc. as the owner of the landfill and the DEQ solid waste permittee for DEQ permit #306. The operator of the landfill is Coffin Butte Landfill. The owner or operator of the landfill is responsible for compliance with the permit and permit conditions. The owner or operator is responsible for providing financial assurance for closure, post closure and any needed corrective action per ORS 459.272.

Valley Landfill Inc. uses a bond to provide financial assurance. According to OAR 340-094-0140(6)(d) and (6)(e) the permittee is to recertify compliance every year which Valley Landfill Inc. did in a March 28, 2022 attachment to the annual financial assurance submittal that DEQ received.

1d. What legally can and cannot be conditions of any land use approvals

Question 1dA: What legally can and cannot be conditions of any land use approvals?

Answer: Conditions of approval must relate to approval criteria. To be approved, an applicant must demonstrate compliance with all discretionary approval criteria. Conditions of approval cannot substitute for compliance with applicable criteria but may be imposed to ensure the criteria are met. The county may find compliance with approval criteria by establishing that compliance is feasible, subject to compliance with a specific condition(s) of approval. A preponderance of the evidence must support a finding that the condition is "likely and reasonably certain" to result in compliance. To lessen adverse impacts on surrounding uses, the county may "impose conditions of approval to mitigate negative impacts to adjacent property, to meet the public service demand created by the development activity, or to otherwise ensure compliance with the purpose and provisions of this code." (BCC 53.220)

Discussion:

Benton County's Development Code describes conditional uses as "land uses which may have an adverse effect on surrounding uses in a zone." BCC 53.205. To lessen the adverse impacts, in approving a conditional use permit (CUP) application the county may "impose conditions of approval to mitigate negative impacts to adjacent property, to meet the public service demand created by the development activity, or to otherwise ensure compliance with the purpose and provisions of this code." BCC 53.220.

The county's conditional use criteria **focus on negative off-site impacts.** The applicant is required to demonstrate that the proposed use (a) does not "seriously interfere" with uses on adjacent property, with the character of the area or with the purpose of the zone, and (b) does not impose an "undue burden" on public improvements or services available to the area. (BCC

53.215) Attachment "A" to this memo provides further detail on the interpretation of the CUP criteria.

Conditions of approval are not a substitute for compliance with approval criteria. *See, e.g., Hodge Or. Props. v. Lincoln County*, 194 Or App 50 (2004). Rather, conditions of approval may be imposed to provide the details of how compliance will be achieved "and assure those criteria are met." *Rhyne v. Multnomah County*, 23 Or LUBA 442, 447 (1992). Conditions of approval must relate to approval criteria. *Harra v. City of West Linn*, 77 Or LUBA 136 (2018). The decision maker does not have authority to impose conditions unrelated to the criteria. *Caster v. City of Silverton*, 560 Or. LUBA 250, 256-60 (2008).

The county may find compliance with approval criteria by establishing compliance is feasible, subject to compliance with specific condition(s) of approval. *Meyer v. City of Portland*, 7 Or LUBA 184 (1983), *aff'd* 67 Or App 274 (1984). If the applicant demonstrates feasibility of compliance, the County then has authority and obligation to impose conditions of approval to ensure compliance with these criteria. (For example, if limited hours of operation are necessary to establish that a use will not seriously interfere with uses on adjacent property, the decision maker may find that compliance with the criteria is feasible, subject to a condition that requires that the hours of operation be limited to a specified time period.) If a condition of approval is imposed in order to ensure compliance with an approval criterion based on a finding of feasibility, a preponderance of the evidence in the record must support a finding that the condition is "likely and reasonably certain" to result in compliance. *Gould v. Deschutes County*, 227 Or App 60, 606-607 (2009).

The existing landfill and expansion area are located on property specially designated for a landfill site on the comprehensive plan and zoning maps. *See Benton County Zoning Map, BCC ch. 77 and Benton County Comprehensive Plan, Additional Adopted Documents, pg. 4* The landfill is a permitted use in the landfill zone. (BCC 77.105) However, under the county development code, any expansion of the landfill within the landfill site zone requires CUP approval by the County. (BCC 77.305)

Therefore, under the CUP process the County only has jurisdiction over the proposed expansion as requested in the CUP application. Existing and past operations are not within the County's scope of review. Prior decisions are final and cannot be subjected to a new review or have additional/revised conditions of approval imposed as part of the CUP application for the expansion. *See, e.g.*, *Beck v. Tillamook Cnty.*, 313 Or 148, 153, 831 P2d 678 (1992). Any future application would have to be judged under the criteria in effect at the time of the application and any conditions of approval must be related to the impacts of the proposed expansion as that proposal relates to the approval criteria.

Notably, the Benton County Collection Franchise Agreement and the Landfill Franchise Agreement are not land use decisions that are subject to review through a CUP process, and therefore cannot be subject to land use conditions of approval. *See* ORS 197.015(10). [103]

[103] Although both Corvallis Disposal Co. dba Allied Waste Services of Corvallis and Valley Landfills, Inc. are subsidiaries of the same parent company, the collection franchise for Benton County ("Benton County Collection Franchise") (as well as that of the City of Corvallis) is comprised of a separate operation which is distinct from the landfill operations.

Both the Benton County Collection Franchise and the Landfill Franchise Agreement are controlled by BCC Chapter 23. BCC Chapter 23 is not a land use regulation. *See* ORS 197.015(10). It, along with ORS 459.065(1)(a) and 459.085(1)(b) authorizes negotiation of franchise agreements for collection and disposal of solid waste. ORS 459.005(10) defines a franchise as "a franchise, certificate, contract or license issued by a local government unit authorizing a person to provide solid waste management services." A franchise is not a land use and the Benton County Development Code does not apply to franchise agreements. Because BCC Chapter 23 is a business regulation separate from the land use process, the County has no legal authority to require changes to the Benton County Collection Franchise or the Landfill Franchise Agreement in conjunction with the review of a CUP for the landfill expansion. Any changes to the Franchise Agreements must be negotiated between the parties.

ORS 459.095(1) preempts local government's authority to adopt regulations or impose conditions that conflict with DEQ regulations.

Question 1dB: Could a new CUP approval be conditioned on cleaning up noncompliance with existing operations?

Answer: No.

Discussion:

A new CUP cannot require as a condition of approval that an existing operation on a different property be modified or that noncompliance be rectified. Enforcement procedures (see Chapter 31 of the Benton County Code) would have to address the noncompliance. Benton County should evaluate its existing system regarding compliance monitoring and enforcement to determine if there are sufficient mechanisms in place to ensure compliance with conditions of approval that the County imposes on land use approvals and, if not, recommend improvements. Elements of such an evaluation could include:

- What enforcement mechanisms exist within the County Code?
- Is there a mandamus option or a private right of action option?
- What is missing?
- What provisions and procedures do other counties have, particularly counties that host a privately operated landfill?
- The future cost of such a system, the benefits, and the consequences of not improving the current practices and procedures.

Question 1dC: Is compliance/noncompliance with conditions of past land use approvals a topic that can be considered in any way during a new land use application?

Answer: Potentially.

Discussion:

Generally, the new proposal must be evaluated on its own merits relative to the approval criteria. However, the current non-compliance of an existing land use condition could provide information that the Planning Commission considers in developing a condition on a new application. If an application is made to expand an existing land use that is currently out of compliance with a condition of approval of a previous decision, and that noncompliance is causing issues for surrounding land uses, noncompliance of the original land use decision is not in itself grounds to deny the new application. However, the decision-maker could potentially look at the fact of existing noncompliance in evaluating whether that noncompliance is causing the existing land use to "seriously interfere" with uses on surrounding properties. That fact can then be used as evidence in evaluating whether the proposed land use complies with the review criteria because the same land use in a similar location was seriously interfering with surrounding uses even though it was subject to conditions of approval. If the language in a condition of a past decision was unclear or insufficient to ensure compliance with an approval criterion, in evaluating a new application the decision maker could craft and impose a condition on a new decision that more clearly describes the measures necessary to ensure compliance. Past conditions superseded by subsequent decisions or changes in the law could not form a basis for such analysis.

Question 1dD: What options does the Planning Commission have if they determine that DEQ regulation of a particular parameter is inadequate or likely to be inadequate?

Answer: Any County action in this regard must be tied to the criteria in the Development Code.

Discussion:

First, the County's purview is limited to the review criteria listed in the Development Code. The County could not determine that DEQ regulation of a particular environmental parameter is inadequate to protect public health and deny the application on those grounds. DEQ rules do not allow the County to override DEQ environmental regulations.

Secondly, the County does not have authority to interpret, apply or enforce DEQ regulations.[104] Whether an activity has resulted in noncompliance with DEQ regulations is a determination made by DEQ and, if noncompliant, addressed through DEQ's enforcement. Additionally, the County cannot assume that an activity will result in violation of DEQ parameters when the activity hasn't happened.

But what if the County determines that DEQ's regulation of a particular parameter is inadequate to prevent the proposed land use from seriously interfering with uses on

[104] Except for regulatory programs that are formally delegated by DEQ to a local government, such as with on-site sewage disposal regulation.

surrounding properties? Such a determination could be within the County's purview; however, the County would need to articulate findings as to why the agency's established standards, permitting, monitoring and enforcement are insufficient to prevent the conditional use criteria from being exceeded. The County would face the challenge of demonstrating that its assessment of the hazard posed by a given pollutant should be substituted for that of the agency whose expertise it is. As a practical matter, the County typically lacks expertise or personnel to determine whether a particular environmental parameter is being exceeded.

The above is general guidance. Different environmental parameters may have different regulatory structures. For example, odor: DEQ regulates air quality by means of emissions standards and Benton County cannot substitute a different regulatory standard. Odor is not specifically addressed through DEQ standards, but DEQ does regulate nuisance odor through a complaint-based system (see DEQ's Nuisance Odor Strategy). Could the County determine that odor will seriously interfere with surrounding uses or the character of the area and then impose a condition regulating odor? In theory, yes. However, odor is a fairly subjective matter (we are not aware of an objective "odor meter" similar to a decibel meter for noise) and conditions of approval must be clear and objective. One approach could be to require specified odor mitigations to be in place (e.g., odor box?).

1e. What is the scope of Benton County's authority to regulate activities at Coffin Butte?

Question 1eA: Can waste from outside Benton County be prohibited from being disposed of at Coffin Butte?

Answer: No.

Discussion:

The Commerce Clause, Art. I, §8, Cl. 3 of the U.S. Constitution, explicitly gives Congress the power "to regulate commerce with foreign nations, and among the several states, and with the Indian tribes." Implicit in this grant of authority is the prohibition on states (and local governments) against passage of legislation which discriminates or burdens interstate commerce. This is referred to as the "dormant Commerce Clause."

The dormant commerce clause was the basis of a decision by the United States Supreme Court in which it ruled unconstitutional a Michigan law barring out-of-state solid waste from being deposited in landfills located in Michigan counties.

In *Fort Gratiot Sanitary Landfill, Inc. v. Michigan Dept. of Natural Resources,* 504 U.S. 353, 112 S.Ct. 2019 (1992), Michigan enacted legislation which prohibited private landfill operators from accepting solid waste originating outside the county where the facility was located, unless otherwise authorized by the county's waste management plan. *Id.* at 353. In its challenge to that law, the landfill operator argued "that requiring a private landfill operator to limit its business to the acceptance of local waste constituted impermissible discrimination against interstate commerce." *Id.* at 357.

As part of its analysis, the Supreme Court reexamined its holding in *Dean Milk Co. v. Madison*, 340 U.S. 349, 71 S.Ct. 295 (1951) in which the petitioner challenged a Wisconsin city ordinance "that made it unlawful to sell any milk as unpasteurized unless it had been processed at a plant 'within a radius of five miles from the central square of Madison.'" *Dean*, at 350. That local ban,

as it applied to adjacent Illinois dairy producers, was found to be unconstitutional under the Commerce Clause. *Id.* But, significantly, the Court also emphasized the intrastate unconstitutionality of the ban:

> "The fact that the ordinance also discriminated against all Wisconsin producers whose facilities were more than five miles from the center of the city did not mitigate its burden on interstate commerce. As we noted, it was 'immaterial that Wisconsin milk from outside the Madison area is subjected to the same proscription as that moving in interstate commerce." *Dean* at 345, n. 4.

Fort Gratiot, 504 U.S. at 362-63.

Relying on *Dean* and *Philadelphia v. New Jersey,* 437 U.S. 617, 98 S.Ct. 2531 (1978), the Court found Michigan's ban "unambiguously discriminate[s] against interstate commerce and [is] appropriately characterized as protectionist measures that cannot withstand scrutiny under the Commerce Clause." *Fort Gratiot,* 504 U.S. at 367-68.

Pursuant to the holding in *Fort Gratiot*, and the precedent cited by the U.S. Supreme Court, Benton County may not prohibit a private landfill operator from accepting solid waste from outside Benton County.

Question 1eB: For regulatory areas unrelated to land use approvals, what are the Benton County and other agency reporting requirements?

Answer: Each regulatory authority has specific reporting requirements for operations or permits within its jurisdiction.

Discussion:

Following is a summary of the state and local agencies with regulatory authority over Coffin Butte Landfill operations:

i. **Oregon Department of Environmental Quality (DEQ) solid waste permit:** Includes semiannual inspections, semi-annual groundwater monitoring (usually in April and October); results are submitted in an annual report every month to DEQ.[105]

ii. **DEQ Title V air permit:** Bi-annual inspections; Coffin Butte also utilizes third-party technology to monitor landfill gas twice monthly. Results are reviewed in real time and submitted to DEQ twice a year. In addition, Coffin Butte submits monthly and semi-annual reports to DEQ on well readings, flare readings and other routine operations.

iii. **DEQ stormwater permit:** Coffin Butte staff performs weekly and monthly visual inspections of the stormwater and stormwater related infrastructure. Stormwater monitoring (taking samples and sending them to a third-party laboratory for analysis) is conducted four times a year during rainy season and reported to DEQ quarterly. DEQ also conducts its own inspections every five years or so.

iv. **City of Corvallis wastewater disposal permit:** Subject to an annual inspection as well as weekly monitoring and monthly reporting to the City.

[105] The references to an "annual report" and "every month" needs clarification.

v. **City of Salem wastewater disposal permit:** Subject to semi-annual inspection as well as semi-annual monitoring to the City and reporting to the City.

The following table (Table 3) summarizes the reporting requirements for both Benton County other agency non-land use regulations.

Table 3: Reporting Requirements

#	Authority	Reporting Requirement
1	Landfill Franchise Agreement:	Operational Reports
2		Capacity Reports
3		Other Reports: copies relative to the operation of the landfill (Benton County & Valley Landfills, Inc., 2020)
4	OAR Chapter 340, Division 94: "(13) Records" (Oregon Secretary of State, 2022)	(A) Daily listing by load of the volume or weight of solid waste received;
5		(B) Monthly and quarterly accumulations of amounts of daily waste received."
6	DEQ Solid Waste Permit Reporting Requirements (GeoLogic Associates, 2021)	Operating Record
7		Daily amount of each waste type received and approved alternative daily cover
8		If applicable, every quarter, record the amount of each material recovered for recycling or other beneficial purpose.
9		Solid Waste Disposal Report/Fee Calculation form.
10		Wasteshed Reporting (as part of the Opportunity to Recycle Reporting)
11		Retain copies of all records and reports for 10 years after their creation.
12		Update all records to reflect current conditions at the facility
13		Annual Environmental Monitoring Report (AEMR)
14		Statement of compliance
15		Annual leachate treatment report
16		Split sampling submittal Includes semiannual inspections, semi-annual groundwater monitoring (usually in April and October. Groundwater results are submitted annually (by 3/31). DEQ inspection results are submitted to VLI as they occur throughout the year.
17		Quality Assurance and Quality Control (QA/QC)

#	Authority	Reporting Requirement
18	DEQ NPDES Permit (Geo-Logic Associates, 2021)	Coffin Butte staff performs weekly and monthly visual inspections of the stormwater and stormwater related infrastructure. Stormwater monitoring (taking samples and sending them to a third-party laboratory for analysis) is conducted four times a year during rainy season and reported to DEQ quarterly. DEQ also conducts its own inspections every five years or so.
19	Federal Fish and Wildlife Depredation Permit (Geo-Logic Associates, 2021)	Annual Report
20	Oregon Title V Operating Permit for Site Air Emissions (Geo-Logic Associates, 2021)	Bi-annual inspections; Coffin Butte also utilizes third-party technology to monitor landfill gas twice monthly. Results are reviewed in real time and submitted to DEQ twice a year. In addition, Coffin Butte submits monthly and semi-annual reports to DEQ on well readings, flare readings and other routine operations.
21	City of Corvallis wastewater disposal permit.	Subject to an annual inspection as well as weekly monitoring and monthly reporting to the City.
	City of Salem wastewater disposal permit.	Subject to an annual inspection as well as weekly monitoring and monthly reporting to the City.

1f. How does the county interpret ambiguous terms in its code?

Question: How are ambiguous terms interpreted and what deference is given to that interpretation?

Answer: The rules of statutory construction describe how ambiguous terms are to be interpreted. When an interpretation is made, as long as it is plausible, LUBA's standard of review is highly deferential to that interpretation.

Discussion:

An ambiguous term is one that is typically undefined by statute or code. *See State v. Arnold*, 302 Or. App. 765, 772 (2020). If a term is capable of two or more plausibly reasonable explanations, it is ambiguous. *Hoffman Const. Co. of Alaska v. Fred S. James & Co. of Oregon*, 313 Or 464, 470-71 (1992). When confronted with an ambiguous term, the decision-making body must engage in what is referred to as "statutory construction."

PGE v. Bureau of Labor and Indus., 317 Or 606, 611 (1993) and *State v. Gaines*, 346 Or 160 (2009) establish a framework for interpreting statutes based upon text, context, and legislative history. This same framework also applies to the interpretation of local code provisions. *Church v. Grant County*, 187 Or App 518, 527 n.4 (2003) (citing *Lincoln Loan Co. v. City of Portland*, 317 Or 192, 199 (1993)).

The text is the best evidence of intent: If a term in not defined in the code or is not otherwise a term of art, the courts in Oregon apply a "plain, ordinary meaning" rule, where they turn to the dictionary.

Context includes provisions in the same code section and within the regulatory scheme.

Legislative intent is determined by reviewing evidence of the intent of the legislative body (in this case, the Benton County Board of Commissioners) at the time of enactment.

Within this framework, the governing body then reaches an interpretation of the ambiguous term.

This raises the next question: How much deference is given to the governing body's interpretation? The Oregon legislature and the state Supreme Court have both answered this question. ORS 197.829 reads:

(1) The Land Use Board of Appeals shall affirm a local government's interpretation of its comprehensive plan and land use regulations, unless the board determines that the local government's interpretation:

   (a) Is inconsistent with the express language of the comprehensive plan or land use regulation;

   (b) Is inconsistent with the purpose for the comprehensive plan or land use regulation;

   (c) Is inconsistent with the underlying policy that provides the basis for the comprehensive plan or land use regulation; or

   (d) Is contrary to a state statute, land use goal or rule that the comprehensive plan provision or land use regulation implements.

ORS 197.829 refers to the Land Use Board of Appeal (LUBA)'s review of governing bodies' interpretations because appeals of land use decisions are made to LUBA.

The Oregon Supreme Court applied and explained the breadth of this statutory deference in a case involving the City of Medford's interpretation of its development code: "[W]hen a governing body is responsible for enacting an ordinance, it may be assumed to have a better understanding than LUBA or the courts of its intended meaning. * * * [T]hat assumption is equally relevant to * * * the governing body's intention." *Siporen v. City of Medford*, 349 Or. 247, 258 (2010).

The Court found when a local government interprets its own development code, it is "entitled to the deference described in ORS 197.829(1)." *Id.* And the extent of that deference is substantial:

> "[W]hen a local government plausibly interprets its own land use regulations by considering and then choosing between or harmonizing conflicting provisions, that interpretation must be affirmed, as held in *Clark v. Jackson County*, 313 Or. 508 (1992) and provided in ORS 197.829(1)(a), unless the interpretation is inconsistent with *all* of the "express language" that is relevant to the interpretation, or inconsistent with the purposes or policies underpinning the regulations. (emphasis in original)." *Id.* at 259.

When LUBA evaluates whether an interpretation is "plausible," the standard of review is "highly deferential" to the governing body and the "existence of a stronger or more logical interpretation does not render a weaker or less logical interpretation 'implausible.'" *Mark Latham Excavation, Inc. v. Deschutes County*, 250 Or. App. 543, 555 (2012), quoted in *Crowley v. City of Hood River*, 308 Or. App. 44, 52 (2020).

Thus, as long as the Benton County Board of Commissioners' interpretation of its development code is plausible, LUBA must defer to that interpretation. It should be noted, deference only applies to interpretations by the governing body (the Board of Commissioners) and not to interpretations of other county decision-makers, such as staff, the Planning Commission, or the Solid Waste Advisory committee. [106]

1g. Other Entity Rights and Obligations

Question: **What are other governmental entities' rights and obligations related to operation of a landfill?**

Answer: The environmental services industry is heavily regulated at the local, state and federal level, with specific rights or obligations established based on the scope of each entities' regulatory authority.

Discussion:

The following table lists various federal, state, tribal, and local entities regarding rights and obligations. The table includes preliminary research relating to entity roles and authority.

[106] Note that the exercise of interpreting a code or statutory provision only applies if the term is ambiguous; an interpretation of a non-ambiguous term can't be used to amend a code in the guise of an interpretation. *Central Eastside Indus. Council v. City of Portland*, 74 Or LUBA 221 (2016).

Table 4: Other Entity Rights and Obligation

	Agency	Question	Right or Obligation	Responsible Party	Authority
1		What are DEQ's rights and obligations regarding **groundwater** associated with landfills?	459.248 Cleanup of hazardous substance contaminating ground water. In addition to any other authority granted by law, if the Department of Environmental Quality finds that ground water is contaminated with a hazardous substance originating at a land disposal site, the department may require cleanup of the hazardous substance pursuant to authority under ORS 465.200 to 465.545. As used in this section, "hazardous substance" has the meaning given that term in ORS 465.200. [1993 c.526 §3] (State of Oregon, 2021)	Republic Services, Oregon DEQ	ORS 459.248

	Agency	Question	Right or Obligation	Responsible Party	Authority
2		(continued) What are DEQ's rights and obligations regarding **groundwater** associated with landfills?	(6) Additional Requirements to Protect or to Monitor Potential Threats to Groundwater. When a person applies to construct a new or expanded landfill cell at a municipal solid waste landfill, the Department shall evaluate the need to provide protection to groundwater in addition to the requirements of 40 CFR, Part 258, Subpart D. The Department shall also evaluate whether the specific conditions at the site require an enhanced ability to monitor potential threats to groundwater in addition to the requirements in 40 CFR, Part 258, Subpart E. The evaluation shall be based on site-specific data, including but not limited to location, geography, hydrogeology and size of the site. To assist in the Department's evaluation, the applicant shall provide necessary relevant data. The Department may require a secondary leachate collection system, and/or leak detection system, or other design or technology providing equivalent protection to the environment if the Department determines that: (a) There is significant potential for adverse impact to groundwater from the proposed cell; or (b) Additional measures are necessary to provide adequate monitoring of potential threats to the groundwater.	Republic Services, Oregon DEQ	OAR 340-094-0060

	Agency	Question	Right or Obligation	Responsible Party	Authority
3		(continued) What are DEQ's rights and obligations regarding **groundwater** associated with landfills?	Groundwater Monitoring and Corrective Action If a municipal solid waste landfill is subject to 40 CFR, Part 258 as provided in 40 CFR, §258.1, the owner or operator shall comply with groundwater monitoring and corrective action requirements in 40 CFR, Part 258, Subpart E. Consistent with those requirements, all municipal solid waste landfill owners and operators shall also comply with this rule: (See rule for more detail)	Republic Services, Oregon DEQ	340-094-0080
4		(continued) What are DEQ's rights and obligations regarding **groundwater** associated with landfills?	(4) Sensitive Hydrogeological Environments. In addition to the requirements of 40 CFR, Part 258, Subpart B, no person shall establish or expand a landfill in a gravel pit excavated into or above a water table aquifer or other sensitive or sole source aquifer, or in a wellhead protection area, where the Department has determined that: (a) Groundwater must be protected from pollution because it has existing or potential beneficial uses (OAR 340040-0020); and (b) Existing natural protection is insufficient or inadequate to minimize the risk of polluting groundwater.	Republic Services, Oregon DEQ	340-094-0030

	Agency	Question	Right or Obligation	Responsible Party	Authority
5		What are DEQ's rights and obligations regarding **leachate** associated with landfills?	(3) Leachate. In addition to the requirements of 40 CFR, Part 258, Subpart D, any person designing or constructing a landfill shall ensure that leachate production is minimized. Where required by the Department, leachate shall be collected and treated or otherwise controlled in a manner approved by the Department. Leachate storage and treatment impoundments shall be located, designed, constructed and monitored, at a minimum, to the same standards of environmental protection as municipal solid waste landfills.	Republic Services, Oregon DEQ	OAR 340-094-0060
6		What are DEQ's rights and obligations regarding **noise** associated with landfills?	OAR 340-030-0035 established DEQ regulation of industrial or commercial noise levels. OAR 340-030-0110 states legislative funding for DEQ's oversight of noise control was defunded in 1991.		OAR 340-035-0030, OAR 340-035-0110
7		What are DEQ's rights and obligations regarding **odors** associated with landfills?	(4) Gas Control. No person shall establish, expand or modify a landfill such that: (a) The concentration of methane (CH4) gas at the landfill exceeds 25 percent of its lower explosive limit in facility structures (excluding gas control or gas recovery system components) or its lower explosive limit at the property boundary; (b) Malodorous decomposition gases become a public nuisance.	Republic Services, Oregon DEQ	OAR 340-094-0060

	Agency	Question	Right or Obligation	Responsible Party	Authority
8		What fugitive **methane** emissions standards and monitoring is required by the landfill?	ii. Air Quality Permit (1) All sources subject to this division must have an Oregon Title V Operating Permit that assures compliance by the source with all applicable requirements in effect as of the date of permit issuance. (Oregon Secretary of State, n.d.-a) OAR 340-239-0100 Landfills with Greater Than or Equal to 200,000 Tons of Waste-in-Place (4) The owner or operator of a landfill having greater than or equal to 200,000 tons of waste-in-place must submit an annual Waste-in-Place Report to DEQ pursuant to OAR 340-239-0700(3)(e) and an annual Methane Generation Rate Report, pursuant to OAR 340-2390700(3)(f), until the owner or operator submits a Closure Notification pursuant to OAR 340-239-0700(3)(a). The initial Waste-in-Place Report and Methane Generation Rate Report submitted by a landfill pursuant to sections (1), (2) or (3) shall satisfy this requirement for the initial year it applies to a landfill. OAR 340-239-0800 Test Methods and Procedures When required as provided in OAR 340239-0100 through 340-239-0700, the owner or operator of a landfill must comply with the test methods and procedures for monitoring and measurements in this rule. (Oregon Secretary of State, n.d.-b)	Republic Services, Oregon DEQ	340-218-0010 340-239

	Agency	Question	Right or Obligation	Responsible Party	Authority
9		Can or should the County consider **DEQ permitting topics** when assessing the local land use application criteria?	The county does consider, and incorporates, DEQ's permitting into its conditions of approval. Typically, conditions of approval will include the requirement that the applicant obtain, and maintain, the relevant and required approvals and/or permits from other regulatory agencies, e.g., DEQ, DSL, ODOT. The condition recognizes the outside agency's jurisdiction over the issue and links the lawful status of Benton County's permit to the applicant's compliance with the agencies rules and regulations. If the applicant later violates, or is unable to meet the agency's, regulations, that failure would constitute a violation of a condition of Benton County's approval.		
10	Oregon Department of Fish and Wildlife (ODFW)	a. What restrictions does the landfill have regarding **wildlife**?	(3) Endangered Species. In addition to the requirements of 40 CFR, Part 258, Subpart B, no person shall establish, expand or modify a landfill in a manner that will cause or contribute to the actual or attempted: (a) Harassing, harming, pursuing, hunting, wounding, killing, trapping, capturing or collecting of any endangered or threatened species of plants, fish, or wildlife; (b) Direct or indirect alteration of critical habitat which appreciably diminishes the likelihood of the survival and recovery of endangered or threatened species using that habitat. (Oregon Secretary of State, 2022)	Republic Services, Oregon	OAR 340-094-0030
11	Oregon Department of State Lands (DSL)	What are the rights and obligations both retained and delegated by DSL, which are associated with landfills, hauling, and materials management?			

	Agency	Question	Right or Obligation	Responsible Party	Authority
12	Water Resource Commission	What are the rights and obligations both retained and delegated by Water Resource Commission, which are associated with landfills, hauling, and materials management?			
13	Oregon Department of Transportation (ODOT)	What are the rights and obligations both retained and delegated by ODOT, which are associated with landfills, hauling, and materials management?			
14	Metro	What are the rights and obligations associated with landfills, hauling, and materials management?	a. Financial Reporting	Republic Services, Metro	Designated Facility Agreement, Metro Contract No. 936520 (Metro, 2019)

	Agency	Question	Right or Obligation	Responsible Party	Authority
15	City of Corvallis	What are the rights and obligations both retained and delegated by Corvallis, which are associated with landfills, hauling, and materials management?	a. Stormwater Discharge Reporting	Republic services, City of Corvallis	City of Corvallis Industrial Wastewater Discharge Permit No. 5
16			Solid Waste Collection Franchise, negotiations with the hauler heavily influence Benton County's agreement.	City of Corvallis, Republic Services	City of Corvallis Ordinance No. 2015-13
17	City of Salem	What are the rights and obligations both retained and delegated by Salem, associated with landfills, hauling, and materials management?	a. Stormwater Discharge Reporting	Republic Services, City of Salem	City of Salem Wastewater Discharge Permit No. WD7577

1h. DEQ landfill permitting authority and "regional landfill" designation

Question 1hA: Is DEQ prohibited from permitting another land fill west of the Cascades?

Answer: No.

Discussion: See ORS 459.047 and 459.049.

Question 1hB: What does the "regional landfill" designation mean?

Answer: Oregon Revised Statute (ORS) 459.005(23) defines a Regional Disposal Site as "a disposal site that receives … more than 75,000 tons of solid waste a year from outside the immediate service area in which the disposal site is located…." The immediate service area of Coffin Butte is Benton County. Coffin Butte Landfill has received more than 75,000 tons from outside its immediate service area every year since at least 1993. Coffin Butte thus meets the definition of a regional landfill per ORS.

Discussion:

The State of Oregon implemented and began permitting "regional landfills" in the 1970s, as a more environmentally reasonable approach to solid waste management and disposal. Coffin Butte was designated a regional landfill in 1974 under a cooperative effort between Benton, Linn, Marion, Yamhill and Polk Counties. The plan noted that "individual communities will be unable to effectively solve the economic, social, scientific and technical problems of solid waste disposal" and that a "regional approach to solid waste disposal will be necessary" for the area's economy. Today, these counties all depend upon Coffin Butte for responsible waste disposal through various contracts, requirements or other enforceable arrangements, which cannot be wished away.

Oregon Revised Statute (ORS) 459.005(23) defines a Regional Disposal Site as follows:

> "Regional disposal site" means a disposal site that receives, or a proposed disposal site that is designed to receive more than 75,000 tons of solid waste a year from outside the immediate service area in which the disposal site is located. As used in this subsection, "immediate service area" means the county boundary of all counties except a county that is within the boundary of the metropolitan service district. For a county within the metropolitan service district, "immediate service area" means the metropolitan service district boundary.

The immediate service area of Coffin Butte is Benton County. To constitute a regional disposal site, Coffin Butte must have been designed to "receive more than 75,000 tons of solid waste a year" from outside Benton County.

The definition set forth in ORS 459.005(23) was enacted in 1987, but at that time, limited the 75,000-ton threshold to solid waste received from commercial haulers. In 1993, the statutory definition of regional disposal site was amended to remove the reference to commercial haulers and has remained substantively unchanged since that time.

The 1994 annual report submitted by Benton County's Environmental Health Department showed solid waste received at Coffin Butte from outside Benton County in 1993 totaled

250,655 tons. In every year thereafter, Coffin Butte has received solid waste in excess of 75,000 tons from outside Benton County.

While the statute uses the term “designed to receive” rather than “receives,” Coffin Butte has received more than 75,000 tons of out-of-county solid waste per year and the facility is clearly designed to accommodate those volumes. Its annual out-of-county solid waste volume exceeds the statutory threshold for meeting the definition of a regional disposal site.

Before the Oregon legislature defined regional disposal sites, Benton County established Coffin Butte as a regional disposal site through the land use process. The Board order dated May 15, 1974, declared “that the proposed Coffin Butte landfill be and is hereby approved as a regional sanitary landfill site as recommended by the Chemeketa Regional Solid Waste Program Report.” The staff report accompanying that order identifies Polk, Yamhill, Marion and Linn Counties as being served by the regional sanitary landfill. Benton County Comprehensive Plan Policy 6.5.8 identifies Coffin Butte as a “Regional Sanitary Landfill.”

The Chemeketa Report designated Coffin Butte as a regional landfill. Report, pg. 24. Pursuant to the Chemeketa Report, the region to be served by Coffin Butte included Polk, Yamhill, Marion, Linn and Benton Counties.

In 1988, by Board Order, Benton County included Tillamook County among the counties to be served by Coffin Butte. In 1993-94, the Board authorized the inclusion of Lincoln County in the region.

SECTION B: Land Use Review Tasks

A. State and Local Land Use Process

***Overview of the Statewide Land Use Framework*.**

Under Oregon land use law, an application for a land use permit is considered "quasi-judicial" (as opposed to legislative) because the local government is judging whether an applicant has submitted sufficient evidence to demonstrate compliance with the applicable criteria. As part of the quasi-judicial process, an applicant is entitled to an impartial decision-maker, the ability to present and rebut evidence, and a written decision that applies the established applicable criteria to the facts, and which is subject to review by the Oregon Land Use Board of Appeals (LUBA). A local government may not apply criteria or policy choices outside the applicable approval criteria. ORS 215.416(8)(a).

An applicant is statutorily entitled to approval or denial of its application based upon the standards and criteria in effect at the time of the application. (This requirement is called the "no changing-of-the-goalposts" rule). ORS 215.427(3). If the local government desires to change the applicable criteria, it must first go through a post-acknowledgement plan amendment (PAPA) process. That process is considered "legislative" (meaning it applies generally rather than to a specific application). A PAPA is subject to notice from the local government; review by the Land Conservation and Development Commission; compliance with the comprehensive plan and Statewide Land Use Planning Goals; and a public hearing and adoption process. After they are approved, these regulations apply to applications submitted after the date the new regulations become effective, but can't be retroactively applied to prior approvals or pending applications filed prior to their effective date.

How does a land use decision get made in Benton County?

1. Application submitted. Application must include:
    a. Completed form;
    b. Submission of fee;
    c. Documentation to support a demonstration of compliance with the applicable criteria in the Development Code (and, in some instances, in state law).
2. 150-day clock[107] starts after application is deemed complete. County must reach a final decision within 150 days after county planning official deems the application complete.
3. County must determine whether application is complete within 30 days. If Planning Official determines application is "incomplete" (i.e., missing any of the documentation required by "c." above) planning official must notify applicant within 30 days of application submittal.
    a. Once application is complete or applicant directs application to proceed without the missing information, 150-day clock starts.
4. The County mails notice to property owners within ordinance-prescribed notification area and other interested parties identifying a public comment period. The County also publishes notice in the newspaper.
5. Staff researches and prepares a report evaluating the proposal relative to the applicable criteria.

[107] Discussed further in separate section below.

6. Depending on type of application, Planning Official either issues a decision or recommendation to Planning Commission.
    a. If Planning Official issues a decision, notice of decision is mailed as in #4.
    b. 14-day appeal period; if no appeal, decision is final.
7. If appealed, or for land use applications that go directly to the Planning Commission, a Planning Commission hearing is scheduled. Notice of the hearing is mailed as in #4, above.
8. Planning Commission receives staff presentation, applicant presentation, public testimony, applicant's rebuttal.
    a. Planning Commission may ask questions of any testifiers.
    b. Planning Commission may (and if requested by any participant must) keep record open for additional written testimony or may continue hearing for additional oral testimony.
    c. Planning Commission deliberates, votes to approve or deny the application.
9. Notice of Planning Commission decision is sent to all participants and others requesting to be on notification list. Practice has been to mail as in #4, above.
    a. 14-day appeal period.
    b. If no appeal, decision is final decision
10. If appealed, Board of Commissioners hearing is scheduled. Process is the same as for Planning Commission hearing (#9, above)
11. Board of Commissioners decision is final local decision, and must be issued within 150-days after application is deemed complete.
12. Notice of Board of Commissioners decision mailed to, at minimum, all participants.
    a. 21-day appeal period
    b. Appeal is to the Oregon Land Use Board of Appeals and from there to the Oregon Court of Appeals and then to the Oregon Supreme Court. Federal constitutional issues (such as regulatory takings of property without just compensation) may be appealed to the U.S. Supreme Court.

Decision-making Process for Planning Commission or Board of Commissioners

1. Criteria applicable to the land use proposal are identified.
    a. County criteria are all within the Benton County Development Code
    b. Some instances where state rules or statute are directly applicable; examples:
        i. Exceptions to a statewide planning goal
        ii. Expansion of an urban growth boundary
2. Decision-makers consider available evidence in determining whether the proposed use complies with the applicable criteria. When the criteria are subjective, this analysis (either explicitly or implicitly) involves interpretation of what the criteria mean. Evidence and testimony can address the interpretation of the criteria as well as whether the proposal meets the criteria.
    a. Staff research and analysis
    b. Public testimony, including from other agencies
    c. Members of the Planning Commission or Board of Commissioners are discouraged from doing their own research as that can lead to issues or perception of bias or ex parte contact.
3. A motion is made; deliberations (oral discussion of the matter) are held by the decision-making body, including reasons why the proposal does or does not comply with the

applicable criteria, and a vote is taken. If the motion fails, another motion is made, and so on, until a motion approving or denying the application passes.

The County's decision on a conditional use permit must be based on the evidence submitted into the record. Evidence must be submitted into the record before the record is closed. The Planning Commission makes the initial decision on a conditional use application to expand the landfill, and the record includes all evidence submitted into the record before the Planning Commission makes its decision. The Planning Commission's decision may be appealed to the Board of Commissioners. The Board considers the record of the decision being appealed (all evidence and testimony submitted to the Planning Commission) and any new evidence or testimony that is submitted into the record at the Board's appeal hearing. The record closes either at the end of the final hearing on the application, or if there has been a request to leave the record open before the end of the final hearing, on the date specified at that hearing.

Interpretation of the Terms Found in BCC 53.215.

BCC 53.215 includes the criteria for approval of conditional use permits.

For context, Benton County's Development Code (BCC) allows for both "permitted uses" and "conditional uses." Permitted uses are land uses that are "consistent with the purpose of the zone" (BCC 53.105); and conditional uses are "land uses which may have an adverse effect on surrounding uses in a zone." (BCC 53.205). Permitted uses are generally considered compatible in the zone in which they are allowed, without any review process. (BCC 53.110).[108] Conditional uses are required to demonstrate that compatibility by establishing compliance with specific criteria. (BCC 53.215.)[109] To reduce the adverse impacts of conditional uses, the county may "impose conditions of approval to mitigate negative impacts to adjacent property, to meet the public service demand created by the development activity, or to otherwise ensure compliance with the purpose and provisions of this code." (BCC 53.220).

The existing landfill and expansion area are located on property specially designated for a landfill site on the comprehensive plan and zoning maps and are zoned Landfill Site (LS). The landfill is a permitted use in the Landfill Site zone. (BCC 77.105) However, under the county Development Code, any expansion of the landfill within the landfill site zone requires CUP approval by the County. (BCC 77.305).

Under BCC 53.315, an application to expand the existing landfill is approvable under criteria that focus on potential off-site impacts: The applicant is required to demonstrate that the expansion (1) does not "seriously interfere" with uses on adjacent property, with the character of the area, or with the purpose of the zone, and (2) does not impose an "undue burden" on public improvements or services available to the area. The decisional history contained in the Past Land Use Approvals section of the Workgroup Report indicates that these criteria should

[108] BCC 53.110 requires that, in some instances, permitted uses must go through a review process. In those cases, the approval is based on "clear and objective standards."

[109] Under BCC 53.215, in order for a conditionally allowed use to be approved, the Planning Commission must determine that:
"(1) The proposed use does not seriously interfere with uses on adjacent property, with the character of the area, or with the purpose of the zone;
"(2) The proposed use does not impose an undue burden on any public improvements, facilities, utilities, or services available to the area; and
"(3) The proposed use complies with any additional criteria which may be required for the specific use by this code."

be considered in the context of the existing operation—e.g., whether a proposed expansion creates impacts that exceed or are more significant than the impacts of the existing landfill operation. The legislative and decisional history indicates that the purpose for creation of the Landfill Site zone was to recognize the existence of the landfill and to support its continued operation. These terms apply specifically under the county's code, and are not defined by state law or case law.

Interpretation of the review criteria for a landfill-expansion conditional use permit requires determinations that are based on the facts of the specific application. The rules of statutory construction describe how ambiguous terms are to be interpreted: text, context, and legislative history. However, LUBA's standard of review is highly deferential to the local decisionmaker's interpretations, so if the interpretation is plausible (does not conflict with the provision's language), LUBA (and the courts) will uphold the local interpretation. This gives the decision-maker a lot of flexibility in interpreting their own code provisions. In response to a request by the Board of Commissioners, the following section provides historical information from County staff, particularly regarding the past 25 years, on how the County decision-makers have interpreted these terms across the full range of conditional use applications the County reviews. This information is not a recommendation on how the Planning Commission and Board should interpret future applications. Restated, each body fully retains its flexibility in interpreting the conditional use criteria in the context of the specific application before it.

53.215 Criteria. *The decision to approve a conditional use permit shall be based on findings that:*

(1) The proposed use does not seriously interfere with uses on adjacent property, with the character of the area, or with the purpose of the zone;

The term "seriously interfere" is crucial to the determination of whether a proposed conditional use can be approved, and it is a quite subjective term that must be interpreted in the context of a specific application based upon the evidence in the record. The term is not defined in Benton County Code.

Staff reports that in past CUP applications the Planning Official, Planning Commission or Board has considered factors such as: does the proposed use make it difficult to continue uses on the adjacent property; would it create significant disruption to the character of the area; would it conflict, in a substantive way, with the purpose of the zone. As noted above, the county decision-makers have wide discretion in evaluating whether a use will "seriously interfere." In the past, "seriously interfere" has generally been applied as meaning more than an inconvenience or irritation but is a lesser threshold than rendering the uses on adjacent property impossible. Speculated effect on property values has not been a primary consideration in determining serious interference.

Hypothetical examples: A building that obstructs a portion of the view from a neighboring residence typically is not, by itself, serious interference. A noise-generating use such as an auto-repair shop locating next to an established meditation retreat center could be considered as seriously interfering with the use on the adjacent property if the noise could not be mitigated and would make it difficult to continue the land use on the neighboring property.

In the findings adopted by the Planning Commission in the matter of the 2021 conditional use permit for expansion of Coffin Butte landfill (File No. LU-21-047; see attachment), the meaning of the term "seriously interfere" is not explicitly addressed. The Planning Commission identified a number of impacts to adjacent properties and the broader area and did not find it necessary to parse the term "seriously interfere" in order to reach a conclusion that the proposal did seriously interfere with uses on adjacent property, the character of the area and the purpose of the zone. Nonetheless, the Planning Commission's findings are useful to this charge topic in that they identify the types of concerns that are likely to be important in considering whether any future landfill-related conditional use permit application can be approved. A future application would be formally evaluated on its own merits, not in relation to the previous application, but the Planning Commission's findings provide information as to what applicants and decision-makers in the future would do well to consider.

In the phrase "character of the area" in BCC 53.215(1), how narrow or broad has "the area" typically been?

When the County is evaluating the "character of the area", the "area" is based on the facts of each application and how far the effects of the proposed land use are likely to extend. The impacted area will be unique to each application and may differ by particular effect—for example, the impact of noise might extend farther than visual impact (or vice versa).

Because each review is unique, examining past cases for the specific distances utilized may not be illuminating. Staff reports that in past CUP applications the Planning Official, Planning Commission or Board has considered these factors in determining the character of the area and its extent include:

- The particular attributes of the geographic setting (including existing operations in the vicinity.)
- Is there a distinct change in the area's physical characteristics beyond a certain point (such as a change from flat land to hills or from one river basin across a ridgeline into another)?
- What features or elements give the area its character? Is it a homogenous or heterogeneous character (is there a high degree of similarity, or is it mixed)?
- How far are the effects of the proposed land use likely to extend? This may differ by particular effect—for example, the impact of noise might extend farther than visual impact (or vice versa).

(2) The proposed use does not impose an undue burden on any public improvements, facilities, utilities, or services available to the area; and

In the conditional use review criterion of: "*The proposed use does not impose an undue burden on any public improvements, facilities, utilities, or services available to the area"* [BCC 53.215(2)], what constitutes a "burden" is again based on the facts of the application. Staff has stated that in past CUP applications the Planning Official, Planning Commission or Board has considered a "burden" on public infrastructure and service is likely "undue" if it overloads the system or causes significant degradation in terms of quality, effectiveness or timeliness of infrastructure or service. Lesser burdens may also

be "undue" if the effect jeopardizes people's health, safety, or welfare. Burdens that the County has typically not considered "undue" include those that can be mitigated through planned improvements, that are incremental service additions[110] consistent with that generated by other uses in the area or that fall below an established threshold (such as road classification standards). For planned improvements to be relied upon in determining that a burden is not undue, the implementation of those improvements must be certain, such as through a condition of approval specifying the improvement and the timeline for implementation. Again, as noted above, so long as the interpretation is plausible, the decision makers have wide discretion in interpreting the term "undue burden.".

(3) The proposed use complies with any additional criteria which may be required for the specific use by this code.

If the county has adopted additional code criteria that apply to a proposed use implicates other code provisions in effect at the time of application, then those code provisions would apply. This does not a allow the county to apply unadopted criteria that are not in the code at the time of application or to require information about a topic that is not relevant to compliance with an applicable criterion. While BCC 77.305 lists requirements the narrative. In applying for a proposed landfill expansion application, those application requirements are not approval criteria. expansion in the Landfill Site zone, the BCC Chapter 77 does not adopt any additional criteria for a proposed expansion in the Landfill Site zone, and, therefore BCC 53.215(3) does not apply to a proposed landfill expansion, no additional criteria apply.

Provisions in the Landfill Site Zone Regarding a Conditional Use Application:

BCC 77.305 Conditional Uses Approved by the Planning Commission. *Any proposal to expand the area approved for a landfill within the Landfill Site Zone is allowed by conditional use permit approved by the Planning Commission. The Benton County Environmental Health Division and the Solid Waste Advisory Council shall review and make recommendations through the Planning Official to the Planning Commission regarding the Site Development Plan Map and narrative. The Oregon Department of Environmental Quality shall be given an opportunity to review and comment on any proposal which may affect this site. [Ord 26I, Ord 90-0069]*

This section directs the Solid Waste Advisory Council (SWAC) to review and make recommendations; however, the code does not specify any criteria or considerations that recommendation should be based on. Any action of SWAC should be consistent with that Council's role as specified in its bylaws: "assist the Board of Commissioners (Board) in Planning and implementation of solid waste management, pursuant to BCC Chapter 23, the Benton County Solid Waste Management Ordinance." As such, SWAC should review the proposal and provide input from a solid waste management perspective. (If/when SWAC's overall role shifts to sustainable materials management, instances of the term "solid waste management" above should be replaced with "sustainable materials management.") The Planning Commission's role is to review the

[110] Incremental service additions are additions to the overall burden on services that are small relative to the total. For example, adding 10 daily vehicle trips to a road currently experiencing 300 daily vehicle trips could be considered an incremental service addition.

proposal from a land use perspective, relative to specific criteria listed in the Development Code, and to make a decision. The Planning Commission is the body with land use expertise and tasked with considering the BCC 53.215 criteria, whereas SWAC's expertise is on questions of solid waste management. Based on SWAC's bylaws and role in planning and implementing solid waste management, it appears that the intent of the language in BCC 77.305 is that the Planning Commission rely on SWAC for guidance on the impacts of the Site Development Plan and Narrative on solid waste management. However, the language of BCC 77.305 does not expressly limit the scope of SWAC's recommendations.

Per BCC 51.405(3), the Planning Commission has exclusive decision-making authority on land use applications for which it is the initial decision maker (such as a conditional use permit to expand the landfill). BCC 77.305 states SWAC "shall review and make recommendations * * * regarding the Site Development Plan Map and narrative." BCC 77.310(2)[111] describes the Site Development Plan. The second sentence of that section lists the elements to be included on the map. The third sentence says "[a] statement shall be placed on the map that the site plan map and narrative together are considered the Site Development Plan." The question then is does BCC 77.305 limit SWAC's review and recommendation to only the narrative on the site plan map? Or does the language of BCC 77.310(2) create sufficient ambiguity that "narrative" could include the entire land use application narrative?

That second option is doubtful when considering the detail included in 77.310(2) to describe what constitutes a site plan map. It is more likely the phrase "Site Plan Map and narrative" used in 77.305 is intended to mean the elements of the map plan described in 77.310(2).

To infer "Site Plan Map and narrative" includes the entire application would draw in every element of 77.310(1), when subsection (2) deliberately only included screening

[111] 77.310 Conditional Use Review.

(1) The applicant for a conditional use permit shall provide a narrative which describes:
  (a) Adjacent land use and impacts upon adjacent uses;
  (b) Future use of site as reclaimed, and impacts of that reclamation on adjacent uses;
  (c) Provisions for screening of the site from public roads and adjacent property;
  (d) Egress and ingress; and
  (e) Other information as required by the Planning Official.

(2) A site plan map shall accompany a conditional use permit application. The map shall contain at least a scale, north arrow, assessor map numbers, location of existing landfill, access, proposed alteration, leachate treatment or monitoring areas surface water systems, and existing and proposed screening (location and types of materials). A statement shall be placed on the map that the site plan map and narrative together are considered as the Site Development Plan. A signature block shall be included for the date the approval is given and the signature of the Planning Official indicating approval.

(3) A conditional use permit application shall contain a reclamation plan describing present efforts and future reclamation plans related to the site.

(4) The following environmental and operational considerations shall be reviewed prior to changes in the documents referenced above:
  (a) Geology;
  (b) Groundwater and surface water;
  (c) Soil depth and classification, and erosion control factors;
  (d) Slope; and
  (e) Cover material availability, transportation, and use.

and access from the list of subsection (1) land use narrative components. To include all of the subsection (1) elements would subsume subsection (2) and render it meaningless. The intent of BCC 77.305 appears to be to set SWAC's scope of review as that described in BCC 77.310(2).

Amendments to the Development Code may be needed in order to create a clear and legally consistent process for SWAC's involvement in review of a CUP. Pursuant to the Development Code as written, the only criteria that a CUP decision can be based upon are those of BCC 53.215, and the Planning Commission is the decision-making body; yet the code states an ambiguous role for SWAC in that process and seems to imply that other considerations beyond those of BCC 53.215 should go into the decision-making process. This needs clarification. The Legal & Land Use Issues subcommittee recommends that the Board of County Commissioners:

a. Amend the Development Code to clarify SWAC's role in reviewing a CUP, and

b. Articulate SWAC's scope of review, focused on the solid waste management aspects of the application. Examples of areas that may be appropriate for SWAC to comment on:

   - Is the proposed expansion consistent with long-term plans for the landfill site?
   - Is the proposal consistent with principles of responsible solid waste management?
   - What (solid waste management) benefits do you see to the proposed expansion?
   - What potential (solid waste management) negative effects do you see?
   - Are there ways to minimize or mitigate those effects?

(If/when SWAC's overall role shifts to sustainable materials management, instances of the term "solid waste management" above should be replaced with "sustainable materials management.")

BCC 77.310 Conditional Use Review.

(1) The applicant for a conditional use permit shall provide a narrative which describes:

(a) Adjacent land use and impacts upon adjacent uses;
(b) Future use of site as reclaimed, and impacts of that reclamation on adjacent uses;
(c) Provisions for screening of the site from public roads and adjacent property;
(d) Egress and ingress; and
(e) Other information as required by the Planning Official.

(2) A site plan map shall accompany a conditional use permit application. The map shall contain at least a scale, north arrow, assessor map numbers, location of existing landfill, access, proposed alteration, leachate treatment or monitoring areas surface water systems, and existing and proposed screening (location and types of materials). A statement shall be placed on the map that the site plan map and narrative together are considered as the Site Development Plan. A signature block shall be included for the date the approval is given and the signature of the Planning Official indicating approval.

(3) A conditional use permit application shall contain a reclamation plan describing present efforts and future reclamation plans related to the site.

(4) The following environmental and operational considerations shall be reviewed prior to

changes in the documents referenced above:

(a) Geology;
(b) Groundwater and surface water;
(c) Soil depth and classification, and erosion control factors;
(d) Slope; and
(e) Cover material availability, transportation, and use.

These provisions are application requirements; not approval criteria. They list the documents and information the Planning Official will consider in determining whether the application is complete for purposes of review. A determination that an application is complete for purposes of review does not mean that the applicant's information satisfies the approval criteria.

While most of the application requirements are fairly prescriptive, BCC 77.310(1)(e) lists "*Other information as required by the Planning Official."* With any land use application, one of the roles of the Planning Official is to identify information that is needed for the decision maker to determine whether the applicable criteria have been met. As emphasized by LUBA, such information must relate to the approval criteria. And, as noted above, it is the applicant that determines whether to submit any information requested by the Planning Official; and the applicant's failure to submit any requested information is relevant to the decision on the application only to the extent that the decision maker determines that the information is necessary to comply with an approval criterion.

In *Murphy Citizens Advisory Committee v. Josephine County*, 25 Or LUBA 312 (1993), petitioner asserted information required by the local code had not been submitted by the applicant and that such omission rendered the application deficient. *Id.* at 320. LUBA rejected the argument, saying:

> Thus, in order for a petitioner to obtain reversal or remand of a challenged decision because required information is missing from the subject application, petitioner must argue that the missing information is not found elsewhere in the record, and must explain why the missing information is necessary to determine compliance of the proposed development with applicable approval standards. In this case, petitioner does not relate the allegedly missing site plan information to specific requirements of JCZO 15.218(1)-(24), does not respond to intervenor's argument and citations that some of the allegedly missing information is found elsewhere in the record, and does not explain how the missing information prevents determination of compliance with applicable site plan or conditional use permit approval standards. (emphasis added)

Id. See also *Venable v. City of* Albany, 33 Or LUBA 1 (1997); *Hopper v. Clackamas County*, 15 Or LUBA 413, 418 (1987); *Hershberger v. Clackamas County*, 15 Or LUBA 401, 408-09 (1987).

The identification of "other information" most commonly occurs during the first 30 days after an application has been submitted. This timeframe is when the Planning Official reviews the initial application to determine whether it is complete for review purposes. If the Planning Official asks the applicant to submit additional information, it can be for two purposes: (1) to provide planning staff with enough information to allow it to

review the application. *Sperber v. Coos County*, 56 Or LUBA 763, 770 (2008); see also *Frewing v. City of Tigard*, 59 Or LUBA 23, 31 (2009); or (2) "to allow or request that the applicant submit additional information believed necessary to satisfy the applicable approval standards." *Frewing* at 31.

In either case, the applicant may choose to provide all, some or none of the identified information. The failure to provide identified information is not grounds for denial of the application. If the applicant fails to provide additional information, or provides inadequate information, the issue then becomes an evidentiary matter. Once the application has been deemed complete (by staff or the applicant upon notification to county of refusal to submit additional information), staff reviews the application, based on the submitted information, and makes a determination or recommendation to approve or deny the application, based on whether the applicant has submitted substantial evidence sufficient to meet the approval criteria. This process is now codified for counties in ORS 215.427.

If the application is one that goes to the Planning Commission, it is the job of the planning commission to determine whether to approve or deny the application based upon whether the evidence submitted into the record during the hearing process demonstrates that the applicant has complied with each and every criterion for approval. The County's job as the trier of fact is determine whether a preponderance of the evidence supports approval under the applicable criteria. *Friends of Yamhill County v. Yamhill County*, 351 Or 219, 246-247 (2011).

On appeal, LUBA reviews a County determine to determine whether it is supported by substantial evidence in the record. "Substantial evidence in the record" is evidence that a "reasonable person" would rely on to make a decision when considering all of the evidence in the record including any conflicting evidence. See e.g., *Younger v. City of Portland*, 305 Or 346, 353-57, 752 P2d 262 (1988). LUBA will uphold the local government's evidentiary determination if it concludes that "a reasonable decision maker could decide as the local government did in view of all the evidence in the record," i.e., evidence that supports and detracts from the decision.

The workgroup could make recommendations regarding what "other information" would be helpful in a narrative to adequately describe the items listed BCC 77.310. However, any committee recommendations would have to be limited to information related to the applicable criteria and could not expand that criteria. "Additional information" required by the Planning Official does not become part of the applicable criteria. When the County adopts a Sustainable Materials Management Plan, it should amend BCC chapter 77 to add a criterion under BCC 53.215(3) to require compliance with any appropriate, specific provisions of an adopted SMMP. BCC 77.310 states only what the applicant's narrative shall include; it does not identify criteria for SWAC's review of a CUP application.

In the past, the Planning Official has used the statutory completeness review process to request additional information. However, in addition to the Planning Official's review of the information after the application has been submitted, the Board could amend the code to require that the Planning Official conduct a "preapplication conference" with the applicant to discuss the information that is required. It could also require a "neighborhood meeting" before the application is filed that requires the applicant to

present its proposal to the public and allow the applicant to obtain more information about the proposal. Public comment during a pre-application neighborhood meeting, as with other public comment submitted before the application is complete and notification is sent, is not part of the formal record of the land use review and cannot be considered by decision-makers. The record includes only public comment submitted after formal notification has been sent to affected parties stating that the comment period is open.

BCC 77.405 Review of DEQ Permits. *Copies of materials submitted to the Oregon Department of Environmental Quality as a part of any permit process shall be submitted to the Planning Official. If at any time the Planning Official determines that permit application materials or conditions of DEQ permit are judged to merit public review, a Public Hearing before the Planning Commission shall be scheduled.*

This provision is unusual and a bit unclear.[112] How the Planning Official would determination that "permit application materials or conditions of DEQ permit are judged to merit public review" is subjective and the kind of public hearing is not specified. Typically, a public hearing results from an application submitted by a property owner which is then reviewed relative to code criteria and approved or denied. But this code provision does not state that the property owner shall submit an application . The code may intend that a public hearing (more of a public conversation?) be held in which the terms of the DEQ permit are discussed but with no land use action to occur. Or the code may be obliquely stating that if the Planning Official determines that what the applicant proposes to DEQ or what DEQ permits is different from what the County has given land use approval to, then an application for a revised conditional use permit is required. This is already required by BCC 53.225[113], but the lack of cross-reference or use of similar terminology in section BCC 77.405 is confusing. The subcommittee's initial interpretation is that BCC 77.405 simply requires new review of a conditional use permit if, as described in BCC 53.225, the use originally approved has been modified. The Planning Official could make such a determination by means of a formal "Interpretation" pursuant to BCC 51.205(1). A Workgroup recommendation on how public review of DEQ permit requirements could most benefit the public would be helpful. A code amendment is recommended. For example, a code amendment could require that when DEQ issues a landfill permit, the Planning Official shall review the permit and conditions of approval and, if discrepancies with the County's land use approval are noted, determine whether this constitutes a "modification of a conditional use permit" (BCC 53.225) and, if so, require the applicant to submit application for such modification.

[112] The provision might have been codified before adoption of the current state agency coordination requirements, which now require a land use compatibility statement (LUCS) as part of any application for a state permit in which local land use is implicated.

[113] 53.225 Modification of a Conditional Use Permit. An original applicant or successor in interest may request that a conditional use permit be modified if a change in circumstance has occurred since approval which would justify a change in the permit. Such application shall be processed as a new request for a conditional use permit.

B. Land Use Process Questions

Question B1: Do statements in a land use application, in which the applicant says they will do certain things, become binding?

Answer: Statements made by the applicant do not become conditions of approval unless those statements are specifically included or incorporated, directly or by reference, into the final decision. While a statement that is not incorporated as a condition of approval is not part of the final *decision* it is still part of the *record*. Not everything in the record is part of the decision.

Discussion:

In *Hood River Valley Residents' Committee v. City of Hood River*, 33 Or LUBA 233 (1997) a Conditional Use application included a statement of how it would comply with a grading and contour approval criteria. While the specific assignment of error alleged the statement was not supported by substantial evidence, LUBA ruled that allegation was immaterial: "While the planning commission adopted a finding very similar to the quoted application statement, the city council did not incorporate that finding in its decision. Petitioner has not established that the statement it described as a finding is, in fact, a part of the city's final decision. Thus it is immaterial whether the identified statement is supported by substantial evidence in the record." *Id*. at 234-35.

Additionally, in *Todd v. Columbia County*, 24 Or LUBA 289 (1992), one question posed was whether a local code provision had been interpreted in the final decision. LUBA found that, yes, county staff had interpreted the code provision at issue, but that "portion of the staff report was not incorporated into the board of county commissioners' decision." *Id.* at fn 3. As a result, LUBA found "the county has not interpreted and applied [its code] and this decision must be remanded." *Id*. at 293.

A final decision must include all conditions the county wishes to impose on an applicant. Failure to include a condition, or finding, or interpretation in the final decision means the missing element is unenforceable or may not be relied upon when evaluating permit compliance. And, just to clarify: something can be included in the final decision either by direct statement or by reference. Both will suffice to bring a necessary component from the record into the decision. For example, a condition of approval requiring the applicant to establish the proposed use "as described in the application" binds the applicant to establishing the use in the manner they described in their application. That said, it is best practice for the approving authority to specifically identify parameters or other details which the applicant has proposed and which are particularly important to ensure that the use, over time, complies with the review criteria. For example, if limited hours of operation are necessary to mitigate interference with surrounding uses and the applicant states that the hours of operation will be 9am to 5pm, a condition of approval should specifically require those hours of operation.

In issuing land use decisions, Benton County decision-makers should:

a. Draft clear findings and be certain to incorporate into the conditions of approval the items that are intended to be binding.

b. State conditions of approval in clear and explicit terms and ensure that what is expected of the applicant in order to comply is clearly stated in the text of the conditions.

Question B2: How does the 2002 Memorandum of Understanding fit into the Workgroup considerations?

Answer: The 2002 Memorandum clarifies authorization for landfill activities within the Landfill Zone and establishes a point in time at which the landfill was operating in compliance with state and local requirements.

Discussion:

In 2002 Benton County and Valley Landfills, Inc. (VLI) executed a Memorandum of Understanding (MOU) Relating to Land Use Issues. The purpose of this document was to clarify the parties' understanding of how VLI could expand landfill activities into cells within the landfill area. That document can be found at: www.co.benton.or.us/sites/default/files/fileattachments/community_development/page/8136/landfill_mou_2002.pdf

The MOU was created because knowledgeable, involved personnel, at both Benton County and VLI had changed such that little institutional memory remained to guide land use issues at the landfill site. More specifically, without knowledgeable individuals familiar with the history of the various land use approvals, it was unclear whether VLI had authority to expand landfill disposal operations within either the landfill areas or the landfill zone. The MOU clarified those questions.

Specifically, the MOU states:

1. VLI "is entitled to conduct all forms of landfill activities, including but not limited to the placement of solid waste, consistent with State and local regulations with the 194 acres as designated within the Landfill Zone which is north of Coffin Butte Road." MOU, pg. 3, §(16)(a).
2. VLI "will not conduct, without the prior approval of Benton County and the State of Oregon, the placement of solid waste on the approximate 56 acres, within the landfill zone which it owns south of Coffin Butte Road." MOU, pg. 3, §(16)(b).
3. "Since 1996, Benton Co. has signed the Land Use Compatibility Statements, hereinafter referred to as (LUCS), indicating to DEQ that the landfill was being operated in compliance with Benton County Ordinances." MOU, pg. 3, §14.
4. "Based upon the LUCS statement, DEQ has reviewed and found that the operations of the landfill are in compliance with the state law. The last approval from DEQ was granted in 2000." MOU, pg. 3, §(15).
5. The MOU was reviewed by the Solid Waste Advisory Council (SWAC) on Aug. 27 and Sept. 24, 2022. The Benton County Board of Commissioners considered the MOU at its Nov. 5, 2002 meeting at which the MOU was "placed on the agenda * * * for public discussion prior to signature." MOU, pg. 4, §§(16)(g) and (h).

Thus, the MOU acknowledges VLI's authority to utilize existing or future cells within the 194-acre landfill area north of Coffin Butte Road without additional approval from Benton County.

Conversely, County and State approval are required before VLI may dispose of waste on the 56 acres in the Landfill Zone south of Coffin Butte Road. Related landfill activities such as collection and management of leachate are permitted, without additional County approval, on the 56 acres south of Coffin Butte Road. MOU, pg. 3, §(16)(c).

Additionally, section 14 states Benton County signed LUCS documents verifying the landfill was operating in compliance with local requirements. The MOU does not address whether the County's determination of "compliance with local requirements" includes compliance with all conditions of past land use approvals. DEQ acted upon that verification to find Coffin Butte was operating in compliance with local land use regulations and state laws and regulations as of 2000. In Sections 14 and 15 the MOU indicates that there were no known land use violations at the landfill as of November 5, 2002, when the Benton County Board of Commissioners executed the MOU.. The MOU does not describe the extent to which Benton County investigated the compliance status of any conditions of past land use approvals in preparing the MOU. The MOU did not negate or supersede conditions of past land use approvals.

The MOU was not a land use decision but did address the status of land use approvals at the landfill. As of the date of the MOU, "the landfill was being operated in compliance with Benton County Ordinances." It is not clear from the text of the MOU whether this statement includes both compliance with code ***and*** compliance with conditions of land use approvals. The land use compatibility statement (LUCS) signoffs referenced in the MOU *imply* that conditions as well as code were in compliance. A permit is not an ordinance; however, to operate in compliance with the ordinance requires being in compliance with the permit and conditions.

150-Day Time Limit on Land Use Application Review

The following was prepared to provide an understanding of the legal requirements for the County to process a land use application and to address the question that has arisen as to whether the public can provide input to the determination of whether an application is complete.

Legal Requirements.

In Oregon, the statutory time limit for a local government to reach a final decision on a land use application is specified by ORS 215.427[114] (That statutory requirement is restated in Benton County Development Code BCC 51.535.) That time limit is 150 days[115] from the time that an application is deemed complete. Pursuant to the Benton County Development Code, the determination of completeness is made by the Planning Official. The Planning Official must determine whether an application is complete within the first 30 days after the application was filed.

An application for land use action may be submitted at any time, following submittal procedures put in place by the County. Once an application is submitted, the Planning Official shall determine whether the application is complete and shall, within 30 days of the application's filing, notify the applicant either that the application is complete or that it is incomplete and exactly what information is missing from the application. If the application is

[114] The governing body of a county or its designee shall take final action on all other applications for a permit . . . including resolution of all appeals under ORS 215.422 . . . within 150 days after the application is deemed complete.

[115] The time limit is 120 days if the application regards mineral aggregate extraction or if the property is located within an urban growth boundary.

complete, the 150-day clock begins on the date the Planning Official provides that notification. If the application was deemed incomplete and the applicant subsequently makes the application complete, then the 150-day clock starts on the date the additional information was submitted. If the applicant submits in writing that they will provide no additional information, then the clock starts on the date of that submittal.

What constitutes a complete application is a factual determination, which can also involve subjective determinations, depending on the application and what impacts may need to be mitigated. Clearly, if the applicant fails to address one of the applicable criteria, the application is incomplete. Less clear is when the applicant addresses all the criteria but falls short of providing enough information for the County to fully evaluate whether the application satisfies the criterion. In either case, the Planning Official may determine that application is incomplete. If the applicant disagrees, there is no appeal process; the applicant may simply state that no additional information will be submitted. At that point, the application is deemed "complete" regardless of whether the Planning Official believes enough information has been submitted to evaluate the application; the land use review process must commence.

If the County does not take final action on an application within 150 days of the date the application is deemed complete, "the applicant may elect to proceed with the application according to the applicable provisions of the county comprehensive plan and land use regulations or to file a petition for a writ of mandamus." [116] In other words, the applicant "may either elect to continue with the application process or file a petition for writ of mandamus to compel the county to approve the application. Where the applicant elects to continue with the application process after the deadline, a subsequent county decision approving or denying the application is not void or moot because it is issued after the applicable deadline."[117] Upon filing a petition for writ, jurisdiction for all decisions regarding the application, including settlement, shall be with the circuit court.[118]

Of course, whether the application is "complete" or not, the absence of certain information from an application may lead to a determination by the decision maker (Planning Official, Hearings Officer, Planning Commission or Board of Commissioners) that one or more specific criteria are not met. The purpose of the 30-day completeness review is to attempt to provide the decision maker with the necessary information to make an informed decision; it does not *ensure* that the information provided is adequate.

The applicant may choose to pause the 150-day clock by stating in writing the time period for which they want the clock paused. The maximum allowable duration of any or all such pauses (or extensions of the 150-day time limit) is 215 days, for a total time of 365 calendar days from the time an application is deemed complete.

Question B3: Is there opportunity for public input to the determination of whether an application is complete?

Answer: The public may submit comments on the completeness of an application. However, the completeness process is not a review of the application's merits;

[116] ORS 215.429
[117] Oregon Land Use Board of Appeals opinion in *Davis v. Polk County, 58 Or LUBA 1 (2008).*
[118] ORS 215.429

only whether sufficient information has been submitted to the application's merits can be evaluated through the public hearing process. And there are no statutory or code requirements for incorporating public input on the county's administrative determination of whether an application is complete.

Discussion:

"Completeness" is a statutorily required process for the Planning Official to determine whether an applicant has submitted sufficient information for the decision maker to evaluate the application for compliance with the approval criteria during the evaluation and public hearing process. Completeness does not indicate that the applicant has satisfied the applicable approval criteria; and the completeness process is not intended for a review of the merits of an application. If information submitted is not adequate to demonstrate compliance with the approval criteria, the public hearing process is intended to ensure that the public can assert that position on the record before the decision maker. In addition, even if the Planning Official determined an application incomplete and requested additional information, the applicant is not required to provide that information if it does not believe it is necessary.

With a complex application, reviewing the submitted materials in sufficient detail to determine whether the application is complete often takes substantial time. This is an internal review process conducted by professional planning staff, augmented by input from other agencies relevant to a given land use application. The Development Code does not preclude the Planning Official from obtaining input from the public during this process; and information from the public related to whether the applicant has submitted the code-required information can be useful to the Planning Official's completeness review.

However, under state statute, the determination of whether an application is complete must happen fairly quickly. The statutory 30-day window for the completeness determination presents challenges to obtaining and meaningfully reviewing public input related to completeness and incorporating it into the completeness determination. And the Planning Official's ability to review and incorporate completeness-related input is significantly limited if evidence or argument related to the merits of the application is interspersed with evidence specifically directed to completeness.

Because the completeness process is based on state statute, the county could not legislatively build into its process a delay in the completeness determination process for the public to provide input on whether the applicant had provided enough information for the county to determine the application is complete. The county could, however, amend the Development Code to further clarify the elements of a "complete" land use application concerning a landfill expansion. The county staff could also build into its process (without a code amendment) the means for the public to more easily review the application materials, both to assess whether sufficient information has been submitted to evaluate the application (the completeness process) and for future evaluation of the merits of whether the application satisfies the approval criteria (the public hearing process.)

To facilitate the public's review of the application and participation in all phases of the application review, including completeness, the county could post all of the application materials on its website and provide email notification to the public that an application has been received and is available for review. To ensure that the public is fully informed of the process, that notification could describe both the completeness review process and the public

hearing review process; and describe the functions of each stage in the process. It could also set a time certain in which members of the public would be welcome to submit comments on the completeness of the materials.

That window for public comments would necessarily be fairly narrow. There would be no obligation on the part of the Planning Official to utilize or respond to such comments, but the comments could provide a useful, broader vetting of the application. Staff has concerns that the 30-day time frame may be too short for meaningful public review and comment and that public comments could range well beyond the question of completeness which would complicate making use of such comments in the completeness determination. For these reasons, staff encourages the BCTT workgroup to provide as much input as possible regarding what is needed for a complete application prior to County receipt of an application

Protocols for the timely and broad distribution of CUP-related information to the public, other governmental entities, and internal committees, groups, and divisions.

Legal Requirements and Past Practices

Note: The Legal & Land Use Subcommittee is limiting its input on this topic to legal requirements and past practices, understanding that the Charge E subcommittee will use that information to help in developing recommendations for future practice.

Required Notification. Requests for quasi-judicial land use decisions, such as an application for a conditional use permit, are subject to notification procedures mandated in ORS 215.146 and in Benton County Development Code Sections 51.605 through 51.630. The Benton County Development Code provisions reflect the statutory requirements and are designed to implement those requirements without need for reference to the statute.

Completeness Notification: Upon receipt of a land use application, the Planning Official must determine whether the application is complete and, within 30 days of the application's filing, must notify the applicant either that it is complete or exactly what information if any is missing from the application. There is no legal requirement for notification to the public at this stage in the process. (See above for a complete discussion of the 150-day time limit.)

Notice of Application: In the case of a conditional use permit or similar application, the Development Code requires physically mailed notice to the owners of property located within a certain distance of the property that is the subject of the land use application. The distance is measured from the perimeter of the subject property; any property that lies partially or fully within that distance is entitled to mailed notification. The distance of the measurement depends on the zoning of the subject property:

100 feet if located within an urban growth boundary

250 feet if outside an urban growth boundary and not within a farm or forest zone

750 feet if located within a farm or forest zone

If the County sends notice to only property owners within the specified distance, the law has been fulfilled. However, these distances are minimums. The Code states an intent to notify property owners who could be affected by the proposed land use decision and states that additional notice beyond the distances listed above may be provided "where the County in its discretion deems additional notice to be appropriate."

Additionally, notice is to be sent to any neighborhood or community organization recognized by the Board of County Commissioners and whose boundaries include the site. In Benton County, the recognized community organizations are the Community Advisory Committees (CAC), of which three are currently active.[119]

Public Hearing Notice: In the case of a land use request that involves a public hearing, the Code also requires publication of a notice in a newspaper of general circulation within the county as well, at least 10 days prior to the hearing.

Specifically in the Landfill Site zone, which encompasses the majority of the Coffin Butte landfill and the majority of the landfill expansion area proposed in 2021, a conditional use application for landfill expansion is subject to approval by the Planning Commission. Additionally, the code requires that "the Solid Waste Advisory Council [SWAC] shall review and make recommendations through the Planning Official to the Planning Commission regarding the Site Development Plan Map and narrative." The procedure for this review by SWAC is not specified in the Development Code, including whether any specific notification of the SWAC meeting should be sent out (beyond the standard public meeting notice that is sent to the newspaper) and whether SWAC should conduct a public hearing with testimony from the public or should review and discuss among SWAC members without public testimony.

Notice of Decision: When a decision is rendered on a land use request, notice of decision is required to be mailed to all people who submitted testimony. If the decision was made by the Planning Official, then notification is also required to be mailed to owners of property within a certain distance of the subject property as described above. The notice of decision describes the nature of the decision and how to appeal the decision.

Notice of Appeal: If a decision is appealed, then notice of the appeal hearing is distributed following the same procedure as for the notice of application.

Typical Practice. In addition to providing the notification discussed above, Benton County staff have typically utilized some or all of the following for a given land use application:

- Prior to receiving a land use application for a complex land use action, staff will encourage a **pre-application conference**. The public is not involved at this stage because an application has not been filed. The pre-application meeting is not a public meeting, is not part of the land use review process, and involves no notification to the public.

  In the case of an application for a subdivision, the pre-application conference is *required* by the Development Code. A pre-application conference is not required for a landfill-related request in the Landfill Site zone. A pre-application conference is a meeting between the applicant and County staff at which staff informs the applicant of the necessary applications to file, the review criteria that will be applied, and areas of concern to review, and provides an overview of the review process. Staff from external agencies with jurisdiction are invited to participate; for example, the Oregon Department of Transportation if the proposed land use is near or accesses a state highway.

[119] The North Benton CAC, which would encompass the Coffin Butte landfill and surrounding areas, is currently not active. Activating and maintaining a CAC is no small undertaking and doing so requires both action and capacity on the part of community members and the County.

- Staff may recommend to the applicant that they hold a **public informational meeting** prior to submitting an application. There is no requirement for this in the Development Code, so it is up to the applicant whether to hold such a meeting. These meetings can be helpful for informing members of the public about a pending application as well as for the applicant to obtain input from members of the public that the applicant may choose to address through modifications of their plans prior to submitting an application. Such meetings are not part of the land use review process.

  Upon receipt of a land use application, the Planning Official determines completeness. Once the application is deemed complete, a decision-making process and schedule are determined. At the appropriate time in the schedule, the legally required notification is mailed out as described above. Additionally, typical practice in Benton County has been to notify by email a list of people who have requested notification of all land use applications or certain categories of land use applications. The mailed/emailed notifications summarize the proposed land use action and inform people how they can find out more information and how they can provide input. Additional information is available by phoning or emailing staff. For certain land use applications, staff posts the application materials on the Community Development Department website. These are typically applications that require a public hearing before the Planning Commission or applications that otherwise may generate substantial public interest. Not all applications are posted to the website due to limited staff time and the logistics of maintaining such a webpage.

- Once a decision has been made, the legally required notification is mailed as described in the prior section. While the legal requirement is that notice of a decision made at a public hearing need be mailed only to those who testified, typical practice in Benton County has been to mail notice to owners of property in the vicinity as well.

Necessary Tasks to Start Planning Reopening of Existing Hauling Agreement

Section 2 of the June 7, 2022, collection franchise agreement between Benton County and Allied Waste Services of Corvallis ("Republic Services") contains a limited reopener provision. Specifically, the provision states:

> This agreement shall be amended by July 1, 2024 to include the same or similar terms as the forthcoming City of Corvallis collection franchise agreement, including, but not limited to, the same termination date, as well as concepts from the consensus-seeking process.

Contract negotiations are not conducted in public. With that said, there is enough public interest in a potential reopener negotiation that some believe a process should be implemented to allow public input, comment and feedback on any provisions subject to Section 2 that may be negotiated between the parties to the agreement.

One such process could be designed as follows:

> After the parties have begun discussing what specific terms may be amended pursuant to Section 2, but no more than 60 days prior to any amendment being approved by the Board of Commissioners, the County will publish a notice that it is

seeking suggestions from the public for negotiation topics generated from the "concepts from the consensus-seeking process."

Any input received would be presented to the Board of Commissioners at a work session at which time the Board would identify those ideas or suggestions that may be included as negotiation topics.

Following the work session and as part of the ongoing negotiations, Benton County Staff will discuss with Republic Services the topics and ideas identified by the Board of Commissioners.

At such time as Benton County and Republic Services reach a tentative agreement on the renegotiated terms, Staff would bring the proposed franchise changes to the board meeting, where consideration of the amended franchise agreement would be conducted in a public hearing pursuant to BCC 23.235, which will include an opportunity for the public to present testimony. The Board could approve the agreement as presented or may direct staff to resume negotiations with Republic Services to include specific topics as identified by the Board.

The renegotiated collection franchise agreement must be agreed upon, in its entirety, by both Benton County and Republic Services. At such time as the terms have been agreed upon, and the Board is satisfied that public input has been adequately included or addressed in the renewed agreement, the franchise agreement will be the subject of a public hearing and, ultimately, approval by the Board of Commissioners at a regular board meeting.

Future Timeline for Discussing any Needed Changes to the Benton County Code Flowing from WORKGROUP Recommendations

Code Changes Process & Timeline Generally

Process. Code changes to both the Benton County General Code and the Development Code are affected through enactment of an ordinance. An ordinance is the vehicle which carries code changes.

Benton County Charter Section 14 establishes the general procedure for enacting ordinances. That section allows the ordinance to be enacted by the Board of Commissioners following two readings by title, which occur no less than 13 days apart.

In practice, the following is the usual process for the Board to consider and enact an ordinance amending the Benton County General Code.

Typically, the responsible department will identify the need for a change to a particular code provision. Depending on the change, the department may choose from a number of processes to create new code language. For example, it may solicit feedback from outside agencies or citizens; or, it may convene a workgroup to work on and develop changes; or, it may contact other governmental entities for input and examples; or, as frequently happens if the amendments are to comply with statutory changes, staff may simply make the changes as required by the new laws.

Once the department has generated the code amendment language, it will schedule a work session with the Board of Commissioners (BOC). The purpose of this work session is to inform

the Board of the need for the code amendment, the process the department used to engage the necessary interested parties and to give the Board a chance to see and understand the proposed new language.

Following the work session discussion, the Board will take one of three actions: (1) direct staff to bring the proposed code change, and the ordinance, to a public hearing at a regular board meeting; or (2) direct staff to make changes to the proposed language, re-engage interested parties or both; or (3) decline to authorize staff to bring the proposal to a public hearing.

If the Board directs staff to move the proposed amendment forward, the ordinance, with the code changes, is scheduled for a public hearing at which public testimony is taken. If the Board votes to enact the ordinance effecting the code amendment, it will conduct a reading of the ordinance title. At that point, the ordinance will be scheduled for a second reading, no less than 13 days later. The second reading takes place at a regular meeting, but not a public hearing. Once the ordinance has been read a second time, it becomes effective 30 days later.

Timeline. Following development of proposed new code language, regardless of the process used, a standard timeline for enactment would look like this:

Day 1 – Staff submits proposed language, supporting documentation and rationale to the BOC office for placement on a work session agenda. This must occur at least 14 days before the scheduled work session.

Day 14 – Work session held. If BOC directs the proposal to move forward to a formal public hearing, staff must work with BOC staff to identify a date for the public hearing.

Day 21 – Staff submits proposed code amendment language, ordinance and supporting documentation to BOC staff for placement on a Board agenda.

Day 35 – Public hearing is held to consider enactment of the ordinance and adoption of the new code language. If enacted, a first reading is conducted.

Day 49 – The Board conducts the second reading of the Ordinance, formally adopting the proposed new code language.

Day 80 – Ordinance and new code language become effective.

Development Code Changes

Amending the Development Code generally follows the above process, once the matter reaches the Board of Commissioners. However, state statute and the Benton County Development Code prescribe additional process and review criteria for amendments to a county's land use regulations. The procedure for amending the Development Code text is contained in BCC 53.605 through 53.630.[120]

Initiating the Amendment. Changes to the Development Code may be initiated by the Board of Commissioners, as described above. Alternatively, the Planning Commission may initiate a text amendment, provided the Planning Commission notifies the Board of Commissioners. The BOC must then conceptually approve the amendment before the Planning Commission may hold a public hearing.

[120]The Development Code refers to this as a "text amendment," as opposed to a "zone change" which is the other amendment procedure associated with the Development Code.

Notification.

All text amendments: Notice of public hearings is published in the newspaper. The County notifies parties who, within the past year, have requested notification regarding the topic under consideration. The County also makes reasonable effort to notify parties who participated in previous legislative action on the same topic within the past four years. The County may provide notice to additional parties. The County must also provide notice to the State of Oregon Department of Land Conservation and Development not later than 35 days before the first evidentiary hearing on the proposed change (which would be the Planning Commission hearing, as noted below).

Text amendments that would limit or prohibit a use: In addition to the notification described above, individual property owners must be mailed notification if the amendment would re-zone their property or would limit or prohibit a land use currently allowed on the property. Notice must be mailed 20 to 40 days[121] before the first public hearing.

Text amendments to conform to changes in state law: No notification or public hearing pursuant to the Development Code is required. Notification and public hearing held by the Board of Commissioners, as required by the Benton County Charter and discussed above for amending the General Code, is still required.

Public Hearings. The Planning Commission conducts a public hearing, receives public testimony, deliberates, and makes a recommendation to the Board of Commissioners. The BOC then holds a subsequent public hearing to make the final decision, as described above for the Benton County General Code.

Decision Criteria. The Development Code does not list specific criteria for text amendments. However, the adopted Development Code must be consistent with the Benton County Comprehensive Plan and with applicable statewide planning goals, Oregon statute and administrative rules.

Timeline. In practice, the timeline for amending the Development Code varies depending on the complexity of the topic, the clarity of any applicable guidance from state statute, rules or goals, the level of public participation, and the staff time available for the endeavor. The quickest text amendments take approximately four months from initiation to the ordinance going into effect. Most text amendments take longer, typically six to nine months. Complex topics requiring significant research, public input, numerous drafts and revisions can take one to two years or longer.

Process for Proposing Changes to General Code or Development Code

1. Identify topic areas or code sections where amendments are desired.
2. Determine whether it is the County General Code or the Development Code that should be amended, as this determines the amendment procedure.
3. Articulate desired outcomes.
4. Identify any requests of the process (such as interest groups to involve, research to consult, public engagement processes) and level of urgency.

[121]Or, at least 30 days if the amendment results from a requirement of periodic review of the comprehensive plan pursuant to state law ORS 197.

Land Use File No. PC-83-7

1) Question: Were the site plan and narrative in PC-83-7 regulatory conditions of approval?

Answer: No.

Discussion:

The Board adopted the applicant's site plan and narrative in PC-83-07 as "findings" but did not specifically adopt them as conditions of approval. Findings are not conditions of approval. Rather, they explain how the decision was reached and the facts the decision maker relied on to determine compliance with a criterion. For compliance with specific findings to be enforceable they must be made conditions of approval.

The conditions that were adopted through the 1983 decision, described as "conditions of development", specified changes to be made to the applicant's site plan. Compliance with those revisions was not required as a condition of approval; the conditions required only that the revisions be submitted. The decision did not describe these revisions as necessary to establish compliance with any approval criteria and required only submission of additional documentation and a revised narrative.

Because a) the site plan and narrative, while relied upon as findings, were not made conditions of approval, and because b) the conditions imposed in PC-83-07 that required changes to the site plan did not require those changes on the basis that they were necessary to establish compliance with any criterion but rather required only that they be submitted, the site plan and narrative are not conditions approval of PC-83-07.

2) Question: Clarify when formal approval of landfilling Cell 6 (current quarry) was granted.

Answer: The subcommittee concludes that PC-83-7 included the quarry area in the area approved for landfills

Discussion:

Land Use File PC-83-7 has been interpreted by Benton County, including in the 2002 MOU, as authorizing landfilling of the area known as Cell 6, the current quarry. The record in PC-83-07 does not clearly specify that the portion of the property containing the current quarry is authorized for landfilling. However, the Board of Commissioners' findings in PC-83-7 state that 194 acres are approved for landfilling on the property north of Coffin Butte Road; that the total area of the property in the LS zone is approximately 266 acres; and that 59.23 acres of the LS zone are located south of Coffin Butte Road. That leaves approximately 207 acres north of Coffin Butte Road. Given that several areas are clearly shown on the 1983 site plan as being designated open space/buffer, there is no possible configuration of 194 acres out of the 207 acres total that does not include the current quarry area. Based on this analysis, this subcommittee concludes that quarry area was included in the area approved for landfills by PC-83-7.

Appendix C4: Subcommittee Reports: Past Land Use Application Conditions

Introduction

The subcommittee's report is intended to provide an overview of all the Coffin Butte historical documents, starting in 1974, relating to land use provided to the Subcommittee by Benton County as of November 2022. It provides the context needed to better understand how Benton County got to where it is now regarding the Coffin Butte Landfill. All files were reviewed in depth by, at a minimum, the public members of the subcommittee (Catherine Biscoe, Edward Pitera, Mark Yeager).

The subcommittee's report contains a summary and plain language evaluation of each of the historical files. Where possible, real-world examples are used to explain a review. Some situations point to a need for further information from the Oregon Department of Environmental Quality (DEQ). Other situations are annotated as possibly involving requirements stated in the 50-year long historical record that may have been superseded by legal interpretations of land use decisions or new laws or modified by subsequent decisions.

Table 2. Assessments of Land Use Application Conditions of the subcommittee's report provides an overview of 13 historical documents representing 85 conditions of approval or other information contained in the reviewed files. The 85 conditions include 17 associated with power generation and 12 associated with the quarry. Although all conditions were reviewed, the subcommittee's efforts focused on the 56 associated with the landfill. The public members and the County indicated their evaluation of each condition in eight clearly defined categories including "In Compliance", "Compliance Unclear", "Not In Compliance", "No Opinion" etc. The Republic evaluations tended to be as comments making it difficult to summarize how close to consensus the three parties were.

Evaluations of legal theories impacting the enforceability of past land use decisions can be found in the section authored by the Legal Subcommittee with commentary where appropriate from public members of this subcommittee. Some key situations where the Legal Subcommittee findings point to Land Use commitments that may no longer be enforceable are: 1) limitations on the geographical area sending solid wastes to Coffin Butte (1974 CP-74-01) due to legal precedents; 2) screening the landfill from view from County roads, plus how the site is to appear and be used after solid waste disposal operations stop (1983 PC-83-07 / L-83-07) due to how the County decision was structured; 3) A 2002 County/Republic Memorandum of Understanding which provides "evidence" that Conditions of Approval prior to 2002 have been met.

How To Use This Document

This report contains a list of land use actions that are associated with the Coffin Butte Landfill. The first table contains a comprehensive list of documents, with dates of approval and some key aspects of the document. The second table contains only those documents that were Conditional Use Permits, with one item containing two companion documents that represent map amendments to the comprehensive plan and the zoning maps along with text amendments to the comprehensive plan and the land use regulations. Each condition of approval for that application is listed. The subcommittee has provided comments for each condition and their opinions on whether the condition was completed or not by the applicant or if the condition is no longer relevant.

The titles of the land use documents contain different prefixes. The ones that are used are “CP”, “PC”, “L”, “LD”, “S”, and “LU”. This is because the naming convention used by the Planning Department has changed over time. There is no significance to the different prefixes. The second portion of the title is the year that the applicant was submitted, and the last portion is what number it is in the list of files. For example, CP-74-01. CP was the acronym for a conditional use permit at the time. The application was submitted in 1974 and it was the first application of the year, or the first conditional use application of the year depending on the naming convention at the time.

Understanding Conditions Of Approval And How They Are Applied.

Conditions of Approval are formulated with certain expectations that need to be met by the applicant.

One type of conditions is those that need to be completed before the applicant can begin the approved use (preliminary condition). The applicant normally has stated time frame, with the ability to extend, within which these conditions must be completed; if not completed, the approval is voided. There are other conditions that are meant to last the lifespan, or beyond, of the use (operating conditions). In most past land use applications, these two types of conditions have been lumped together under the title Conditions of Approval. The only way to distinguish lifespan conditions from preliminary conditions is in the wording of the condition.

More recently, planning staff have segregated the preliminary conditions from the operating conditions under the umbrella heading Conditions of Approval. If required, the segregation lumps conditions into Conditions of Preliminary Approval, or similar title, and Conditions of Operating Approval, or similar title.

One the Conditions of Preliminary Approval have been met, the applicant is granted Final Approval, a.k.a Operating Approval. This allows the applicant to proceed with development of the use. The applicant is required to comply with the lifespan, or operating, conditions but the County does not actively monitor the use to ensure that they are complying.

> An example of a preliminary condition is, “The applicant shall provide staff with a survey of the subject site.”
>
> An example of a lifespan/operating condition is, “The applicant shall be compliant with the State’s noise level standards.”

There are some conditions that cross-over from a preliminary approval to a lifespan/operating condition.

> An example of this is a requirement to plant a vegetative buffer. The requirement might be that the applicant plant a certain number of trees along the roadway, for example, and once planted that preliminary condition will be deemed complete by county staff. However, the applicant continues to have an obligation to maintain the plantings and replace any vegetation that is dead. It might not be explicitly stated, but the implicit intent of a landscape buffer condition is to shield a view and/or reduce noise, so the intent is that the applicant will maintain the landscape buffer in a healthy condition so that it continues to grow and provide a shield.

Table 1. Landfill Land Use Document Table

List of Land Use Documents associated with the Landfill

This is a list of land use applications and requests associated with the landfill. This list includes street vacations, Conditional Use Permits, Property Line Adjustments, an amendment to the comprehensive plan and zoning maps and text amendments, and Partitions. Street vacations are put forward by the county's Public Works department and approved by the Board of County Commissioners. The vacation is in effect upon approval. Property Line Adjustments and Partitions are approved by staff and there are conditions of approval required to be complete by the deadline stated in the approval, or the land use action is voided. There is nothing further to review once the conditions are completed. Only the conditions of approval in the Conditional Use Permits cited below are ones that may require long term review or actions beyond the time the applicant is given approval to proceed with the land use. A review of each condition of approval for each Conditional Use Permit is organized in the next table. Also included is the land use application amending the comprehensive plan map and text of the plan and amending the zoning map and text of the development code.

#	Date; Planning File #	Applicant Request	Result PC = Planning Commission BOC = Board of County Commissions CDD = Community Development Department	Key Aspects
1	1972; CP-72-09	Preliminary communication regarding proposed landfill site.	None	Unfinished review of the proposed solid waste landfill site No conditions or conclusions.
2	1974; CP-74-01	Conditional Use Permit	PC Approved March 5, 1974; PC Decision Appealed by George Dannen and H. G. Olson March 15, 1974 (page 159 of 2 62 of the CP-74-01 pdf)	Designating Coffin Butte Landfill as a regional sanitary landfill site as recommended in the Chemeketa Regional Solid Waste Program Report and Sanitary Landfill expansion. Note: 2-decisions/2-motions 1. designation of the Coffin Butte area as a regional landfill site

#	Date; Planning File #	Applicant Request	Result PC = Planning Commission BOC = Board of County Commissions CDD = Community Development Department	Key Aspects
			BOC Approved	2. a motion relative to conditions, use application from Robert and Daniel Bunn/Corvallis Disposal Company including any qualifications or stipulations Planning Commission decision Conditions of Approval: 5 1. Service area defined and confined to only areas MI, WS, VA, DA, KV, MI, CO, AL, LV, and MH (defined by map enclosed) Expanding should require re-review by BCPC; 2. Site management activities should be reviewed by the County Sanitarian. Report made at least annually to BCPC by the Sanitarian. 3. Efficient leachate collection and treatment maintained. (Test) wells should be established to monitor any seepage in underground aquifers (groundwater pollution) 4. Where feasible, scars that erode face of Coffin Butte should be filled, compacted and eventual visual reclamation including screening…of subject property abutting the county road. 5. By July 1, 1977, a solid waste resource recovery system be prepared and submitted. Planning Commission decision appealed

#	Date; Planning File #	Applicant Request	Result PC = Planning Commission BOC = Board of County Commissions CDD = Community Development Department	Key Aspects
				BOC upholds PC decision with following amendments and additions to conditions: Condition No.4: adds, “when plans meet DEQ approval” Condition No. 5: Date change to July 1, 1976 Condition No. 6 (new) The landfill operation shall be phased so that only a small acreage is used for fill at one time and then acreage shall be returned to grazing, another farm-type operation or other permitted use as approved by the PC and BoC Condition No.7 (new) Efforts be made to encourage voluntary separation of recoverable materials…to reduce the amount of landfill materials. What are the other file numbers if any? (post-appeal of PC#...looking for possible BoC number?) Presumed applicant/Property Owner: Bob Bunn, Corvallis Disposal Company based on 1972 pre-application correspondence Benton County Planner: Larry Bauer and Virgil Adams listed in 1972 docs

#	Date; Planning File #	Applicant Request	Result PC = Planning Commission BOC = Board of County Commissions CDD = Community Development Department	Key Aspects
				1972 Pre-application work included Chemeketa Regional Model Plan (name for 5-county study) by Chemeketa Regional Operations Committee.
3	1983; PC-83-07 / L-83-07	Comprehensive Plan and Map Amendments Zoning Ordinance (Development Code) and Zoning Map amendments	BOC Approved	Amendments to the Benton County Comprehensive Plan and Plan Map (Ordinance 251), and amendments to the Zoning Ordinance and Zoning Map (Ordinance 261). Amendments to the Comprehensive Plan Text and Map, amendments to the Zoning Ordinance and Zoning Map, and a Site Development Plan (M-48615-83, PC-83-07-C(1)).Ord 261 – July 6, 1983 Any proposal to expand the area approved for landfill must be reviewed and approved by PC. Criteria for review includes: Provision of screening of site from public roads and adjacent property egress/ingress, site plan and reclamation plan
4	1983; LD-83-40	Minor Land Partition	CDD approved	For Tax Lots 10-4-18-301 to create a 25.8-acre forest parcel and a 38.8-acre landfill parcel
5	1983; LD-83-41	Minor Land Partition	CDD approved	To create two forest parcels of 11.37 acres (zoned FC-40) and 59.23 acres (zoned Landfill Site) Created Tax Lot 1107 and Tax Lot 1100
6	1988;	Lot Line Adjustment	CDD approved	A transfer of 37.94 acres from Tax Lot 10-4-18-800 to Tax Lot 10-4-18-1106

#	Date; Planning File #	Applicant Request	Result PC = Planning Commission BOC = Board of County Commissions CDD = Community Development Department	Key Aspects
	LD-88-11			
7	1988; Board Order	Order to Vacate a portion of Tampico Ridge Subdivision	BOC Approved	Original subdivision BOC approved in 1979 with Conditions of Approval. In 1988 some conditions had not been met which appeared to support vacation order decision. Applicant/Property Owner: Valley Landfill Inc./Bill Webber, Pres. / Dan Bunn Director of Public Works: James E. Blair Vacation Order approval document is unsigned, footnote shows November 10, 1988 date. Confirmation of this decision not apparent in docs at this time
8	1988; LD-88-11	Lot Line Adjustment	CDD Approved	A transfer of 37.94 acres from parcel A to parcel B.
9	1992; LD-92-24	Property Line Adjustment	CDD Approved	To transfer 6.5 acres from 10-5-13-202/203 to 10-5-13-1000
10	1994; PC-94-03	Conditional Use Permit	CDD Approved February 16, 1994	For a 2.2 megawatt power generation facility. The facility would utilize the gas generated from the decomposing refuse in the landfill as the fuel source. Applicant: Mr. Bill Webber Property Owner: Valley Landfills, Inc.

#	Date; Planning File #	Applicant Request	Result PC = Planning Commission BOC = Board of County Commissions CDD = Community Development Department	Key Aspects
				Staff Contact: Bob Speaker
11	1994; PC-94-10	Zone change from Rural Residential to Landfill Site Zone, Comprehensive Plan change from Rural Residential to Landfill Site	BOC Denied Date of Decision: January 18, 1995	Involves approximately 26 acres including expansion south of Coffin Butte Rd. Property Owner: Valley Landfills, Inc Staff Contact: Jim Allen
12	1994; PC-94-11	Conditional Use Permit	PC Conditional Approval February 28, 1995 PC Decision Appealed March 13, 1995 Jeffery Morrell Application Withdrawn March 16, 1995	To expand the area approved for a landfill within the Landfill Site Zone and update the site development plan. Notice of Decision states PC-94-11 as "A conditional use permit to update the site development plan within the area that is currently zoned Landfill Site Zone." Property Owner: Valley Landfills, Inc. Staff Contact: Jim Allen
13	1994; PC-94-12	Application to Expand or Change a Nonconforming Use	PC Approved	A change of nonconforming use from a duplex to an office within the existing structure for on-site landfill management
14	1994; LD-94-26	Property Line Adjustment	CDD approved, applicant did not complete requirements to complete the transfer, file closed	Transferred 21 acres from 10-4-19B-1600 to 10-4-18-1107

#	Date; Planning File #	Applicant Request	Result PC = Planning Commission BOC = Board of County Commissions CDD = Community Development Department	Key Aspects
15	1997; S-97-58	Conditional Use Permit	Community Development and Parks Department Approved (the departments were briefly combined)	To expand the generating capacity of the existing electric generation plant that is served by the gas produced at the Coffin Butte Landfill. Phase I of the expansion would increase the capacity of the plant from the current 2.2 MW to 5 MW and Phase II would increase the capacity to 10 MW. Approval contingent on compliance with Noise Control Regulations for Industry and Commerce (OAR 340-0335-0035). "Applicant responsible for ongoing monitoring of noise levels, available upon request of Planning Official to determine compliance." Property Owner: Valley Landfills, Inc.
16	1999; PC-99-06	Conditional Use Permit	PC approved	For mining and processing of mineral and aggregate resources. The proposed area consists of 1.43 acres adjacent to the existing quarry operation. Update: quarry operations on this parcel have ceased
17	2002; PC-02-07	Conditional Use Permit	PC approved December 18, 2002	For landfilling of an area that will be excavated for mining of mineral and aggregate resources Approved by the Planning Commission with Conditions. (West Triangle Expansion). The proposed area consists of 1.43 acres adjacent to the existing quarrying and landfill operation, and is designed to fulfill the reclamation plan for the previously approved quarry on this site.

#	Date; Planning File #	Applicant Request	Result PC = Planning Commission BOC = Board of County Commissions CDD = Community Development Department	Key Aspects
				Condition of Approval: 10 (Obtain approval from DEQ for landfill operations, dust-free roads, permitted sound levels, on-site parking, security fencing, operational hours, maintain dual-access/emergency road system, landfill activity limited to 600-foot contour elevation, copies of water quality, stormwater runoff and air quality permits and data) Applicant: Valley Landfills, Inc. Staff Contact: Chris Bentley
18	2002; Resolution 2002-070	Vacation of a portion of Coffin Butte Road	BOC approved	0.65 miles of road vacated, vacated a bridge at the westerly end of Coffin Butte Road that was closed in 1999
19	2003; PC-03-11	Conditional Use Permit	PC approved October 3, 2003	For excavation and landfilling of 9.45 acres adjacent to the existing landfill operation, approved by planning commission with conditions. This portion of the landfill would represent an addition to the existing, previously approved, Landfill Site Zone. (East triangle). Conditions of Approval: 10 (Operate within DEQ approval, dust-free roads, permitted sound levels, on-site parking, security fencing, operational hours, maintain dual-access/emergency road system, copies of water quality, stormwater runoff and air quality permits and data,

#	Date; Planning File #	Applicant Request	Result PC = Planning Commission BOC = Board of County Commissions CDD = Community Development Department	Key Aspects
				landscape buffer plan to mitigate visual impacts, DSL approval for wetland activity) Property Owner: Valley Landfills Inc. Staff Contact: Chris Bentley
20	2011; LU-11-004	Pre-application meeting	Planning staff review	For placing recycling facility on Tax Lot 104180000801
21	2011; LU-11-016	Conditional Use Permit	PC approved April 6, 2011	For the construction of a new public recycling and refuse transfer facility at Coffin Butte Landfill. The request also includes enhancements to the stormwater conveyance and detention system, as well as a container and drop box storage area, and a landfill construction staging and storage area in FC zone Conditions of Approval: 1-4; also 1-10 below (Community Development Dept to determine compliance; approval valid for 2 years) Development shall comply with plans and narrative in applicant proposal, modifications require request and approval, record of declaratory statement of rights of adjacent/nearby property owners to conduct forest operations, compliance with siting standards (BCC60.405), comply with applicable facility code provisions.

#	Date; Planning File #	Applicant Request	Result PC = Planning Commission BOC = Board of County Commissions CDD = Community Development Department	Key Aspects
				PC 03-11 Conditions of Approval that remain applicable: 1-10 Obtain DEQ approvals for landfill operations, dust-free roads, maximum sound levels, on-site parking, security fencing, operational hours, dual-access/emergency road system, water quality, air quality, storm-water runoff permits and data available for public inspection. Property Owner/Applicant: Valley Landfills, Inc Staff Contact: Eric Adams/Chris Bentley Planning Official: Greg Verret
22	2013; LU-13-061	Conditional Use Permit	PC approved November 5, 2013	For "minor additions and modifications" at Coffin Butte Landfill to change the location of a construction staging and storage area in the vicinity of the existing office structure. Conditions of Approval: 1-4; also 1-10 below (Community Development Dept to determine compliance; approval valid for 2 years) Development shall comply with plans and narrative in applicant's proposal (Attachment 'A') except as modified by conditions below; all other modifications shall require review and approval by request, declaratory statement of rights of adjacent/nearby property owners

#	Date; Planning File #	Applicant Request	Result PC = Planning Commission BOC = Board of County Commissions CDD = Community Development Department	Key Aspects
				re: forest operations, any new/change to existing access shall require permit, NPDES permit requirement for construction disturbance of 1 acre or more. Conditions of Approval 1-10 from prior approvals that remain in effect: Obtain DEQ approvals for landfill operations, dust-free roads, maximum sound levels, on-site parking, security fencing, operational hours, dual-access/emergency road system, water quality, air quality, storm-water runoff permits and data available for public inspection. Property Owner/Applicant: Valley Landfills, Inc
23	2015; LU-15-001	Alteration of a nonconforming use to continue and enhance a stormwater treatment facility in the Exclusive Farm Use Zone, associated with Coffin Butte Landfill.	CDD Approved September 16, 2015	Conditions of Approval: 2 (Community Development Department will objectively determine compliance with all Conditions of Approval) Development shall substantially comply with the plans and narrative in the applicant's proposal; modifications require approval, applicant shall obtain/maintain compliance with necessary federal state and local permits for construction and operation of stormwater system described in application Property Owner/Applicant: Valley Landfills, Inc./Republic Services, Inc. Staff Contact: Chris Bentley

#	Date; Planning File #	Applicant Request	Result PC = Planning Commission BOC = Board of County Commissions CDD = Community Development Department	Key Aspects
				Planning Official: Greg Verret
24	2021; LU-21-047	Conditional Use Permit to expand Coffin Butte Landfill. Republic Services proposed: to create a new disposal cell for the Coffin Butte Landfill which will extend from the current cell south of Coffin Butte Road; close Coffin Butte Road to public traffic (vacate the right-of-way*) so the new cell can cover the road; relocate a replacement roadway (for landfill and quarry traffic only) around the area of the new disposal cell; relocate the leachate ponds south of Coffin Butte Road, and move some other structures. Closing Coffin Butte Road will likely require	PC Denied December 7, 2021; PC Decision Appealed; Appeal Withdrawn	Property Owner/Applicant: Valley Landfills, Inc./Republic Services Staff Contact: Inga Williams CAC Planning Area: North Benton (not active)

#	Date; Planning File #	Applicant Request	Result PC = Planning Commission BOC = Board of County Commissions CDD = Community Development Department	Key Aspects
		improvement of at least one other roadway in the area to accommodate increased traffic—potentially Tampico Road or Wiles and Robison Roads.		

Assessments Of Land Use Conditions

Definitions of the Compliance Phrases Used Within The Following Table:

In Compliance = Compliance demonstrated. Basis: cite basis e.g., In County Records

Not In Compliance = Basis: cite basis e.g., Need more specific information. Explanation: provide citations. References: provide when available. Suggestions or Open Items: for coming into compliance.

Compliance Status Unclear = Assessment not made due to one or more of the following: regulatory requirements not triggered, information sources not available, condition appears to have lesser environmental / ecological / economic / public safety, etc. impact, or insufficient information available.

County Requirement Superseded = Requirement no longer relevant. Cite over-riding County land use decision, DEQ reference, LUBA opinion, state statutes or administrative rules, county code, county comprehensive plan etc.

Compliance Not Demonstrated = Additional information from the County and/or DEQ needed to assess compliance.

Use Decision Provided for Background = Information in document provides useful insight of community/governmental perspectives at the time.

Note
The format for evaluation of more complex conditions by subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager is:

Subcommittee Members
Compliance Opinion:
Basis:
Explanation:
Notes:
Open Item(s)

Table 2. Assessments of Land Use Conditions

Date	File #	Request	Result
1974	CP-74-01	Designating Coffin Butte Landfill as a regional sanitary landfill site as recommended in the Chemeketa Regional Solid Waste Program Report[122] and Sanitary Landfill expansion.	PC Approved PC Decision Appealed BOC Approved
Conditions of Approval			
1. The service area to be served by the Coffin Butte Site should be defined and the approval should be confined to serving only areas MI, WS, DA, KV, MI, CO, AL, LV, and MH, as defined on the enclosed map[123]. Expanding Coffin Butte to service additional areas should require a re-review by the Planning Commission.			
Comments <u>County</u> County Requirement Superseded. This condition was rendered unenforceable by a 1998 Supreme Court decision that found that limiting areas to be served by a regional landfill were unconstitutional violations of the Commerce Clause (see memorandum prepared by Legal Subcommittee and appended to their report). Prior to that, it was superseded by the 1983 land use decision adopting the Landfill Site zone and text amendments to the Benton County Code and Comprehensive Plan. <u>Workgroup Committee</u> • Unable to accept this assessment until additional research is complete. • Modified in 1983, but still relevant as to intent – not sure how to rank this…with every land use application there has consistently been discussion about how much Benton County residents did not want out-of-county waste being deposited into the landfill; I believe the meeting minutes reflect that the applicant stated that the landfill was just for Benton County • Republic: Republic Services acquired Coffin Butte Landfill in 2008. Certain records prior to that date may be incomplete. We agree that the changes to the County's land use regulations and subsequent conditional use approvals mean that the analysis			

[122] The Chemeketa Regional Solid Waste Program Report was produced in 1974 as part of a regional collaborative effort between Benton, Marion, Linn, Polk, and Yamhill counties (Stevens, Thompson & Runyan, Inc., 1974a). This report details recommendations and options for disposal sites, collection strategies, and other materials management approaches.

[123] The Chemeketa Regional Solid Waste Program Report labels specific Chemeketa Region Service Areas, including the general areas of Monmouth/Independence (MI), West Salem (WS), Dallas (DA), Kings Valley (KV), Corvallis (CO), Albany (AL), Lobster Valley (LV), and Monroe/Harrisburg/Halsey (MH), which are **mapped and detailed on Figure IV-7 of the Report** (Stevens, Thompson & Runyan, Inc., 1974b).

Date	File #	Request	Result
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Conditions of Approval			

and the conditions in the 1974 decision are no longer relevant. Further, Republic Services[124] has reported the counties of origin and tonnage for the last 20 years to the Board of Commissioners under the terms of its franchise agreement.

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Compliance Opinion: Not In Compliance

Basis: RSI [Republic] Annual reports over multiple years indicate solid wastes outside of the geographical area defined in this 1974 Approval have been and continue to be disposed of at Coffin Butte e.g. (see RSI [Republic] annual report (add link to most recent report))

Explanation: Further searches of County and RSI [Republic] files are needed to establish if or when this condition was superseded to authorize landfilling materials outside of the 1974 defined area. Benton County Code 25I dated 1983 authorizes acceptance of material from Sweet Home and Lebanon. Alternatives to finding historical authorization may include BOC and Planning Commission action to void limitations on the geographic area allowed to bring material to Coffin Butte. A relevant concept is the DEQ definition of "regional" landfill. It is based on tonnage received. It does not refer to a geographic area. It is based on tonnage processed. Additional searches for State statues or regulations that prohibit counties from limiting the areas from which wastes can be received from is suggested.

Notes: Support for 1977 geographical definition found in:

- 1983 Code reference "BEFORE THE BOARD OF COMMISSIONERS FOR BENTON COUNTY, OREGON An Ordinance Amending the Benton County Comprehensive Plan and Specifically Amending the Public Facilities and Services and Environmental Quality Elements and Amending the Comprehensive Plan Map Ordinance 25I" Specific language to be inserted in the code under "Landfill and Solid Waste Policies" includes:

  "27. The Coffin Butte site shall have a landfill site designation and shall serve as a regional landfill servicing a geographical area including Linn, Polk, and Benton Counties."

[124] For ease of reference, "Republic Services" is used throughout this version of the document but depending on the topic the actual legal entity on the applicable permits documents or otherwise may be Valley Landfills, Inc.

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Conditions of Approval

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Note: 1974 Chemeteka report defines "regional" in physical geography terms, DEQ defines "regional" in terms of amount of tonnage received. DEQ Reference: 23) "Regional disposal site" means a disposal site that receives, or a proposed disposal site that is designed to receive more than 75,000 tons of solid waste a year from outside the immediate service area in which the disposal site is located. As used in this subsection, "immediate service area" means the county boundary of all counties except a county that is within the boundary of the metropolitan service district. For a county within the metropolitan service district, "immediate service area" means the metropolitan service district boundary. *From <https://www.oregonlegislature.gov/bills_laws/ors/ors459.html> per B Fuller to S Imperati email 110722*

Status of search for County business related documents mentioning geographic service area:

- Franchise Agreements prior to 2020 not found. Need to find this.
- No mention of geographic service area in 2020 Franchise Agreements (https://www.co.benton.or.us/sites/default/files/fileattachments/community_development/page/8136/valley_landfills_landfill_franchise_agrmt_2020.pdf
- There is a 2016 Benton County / RSI [Republic] Memorandum of Understanding the is an "…acknowledgement that Coffin Butte Landfill will be accepting municipal solid waste currently being delivered to Waste Management's Riverbed Landfill for a term of 1-2 years, beginning in January of 2017. (https://www.co.benton.or.us/sites/default/files/fileattachments/community_development/page/8136/republic_svcs_riverbend_landfill_500952_mou_120116.pdf)

Open Item: Search DEQ permits for information allowing geographic areas to use CB Landfill.

Subcommittee Member - Republic

Disagree with subcommittee members that conclude "not in compliance." This condition was superseded by the 1983 change to the County's regulatory structure as evidenced by subsequent decisions which did not carry forward this condition. It is also evidenced by the 2002 Memorandum of Understanding between Republic and Benton County, which concluded that the Republic was in full compliance with county regulations as of that date. In any event, such locational limitations were rendered

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Conditions of Approval

unenforceable by a 1998 Supreme Court decision, which found that such limitations were unconstitutional violations of the Commerce Clause. (This decision is discussed in detail in a memorandum prepared by Legal Subcommittee and appended to their report.) This condition has been long superseded and any attempt to impose a similar condition would be unconstitutional (and is also now outside the County's scope of review under the Development Code.)

2. The site management activities conducted at Coffin Butte should be reviewed periodically by the County Sanitarian (ex-officio member of the Planning Commission). A report of compliance to all state and local standards should be made at least once annually to the Planning Commission by the Sanitarian.

Comments

<u>County</u>

County Requirement Superseded. First, this condition is directed at the county to complete, not the applicant, and should not have even been included as a Condition of Approval for the applicant. Second, staff has come across minutes and other documents that reference annual reporting by the County Sanitarian to the Planning Commission. Third, subsequent to the Solid Waste Advisory Committee being instituted, this information was relayed to that group, not the Planning Commission. Fourth, currently, the County Sanitarian has been replaced by a Solid Waste and Water Quality Program Coordinator.

<u>Workgroup Committee</u>

- The report was supposed to be annual but this assessment only mentions one year. More information needed to confirm compliance.
- I see annual reports dating back to 2005. Were there annual reports submitted before then?
- Replaced by DSAC in 1983, but still relevant as to intent; if DSAC had been regularly informed of non-compliance with conditions of approval, perhaps the landfill would have been more compliant

<u>Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager</u>

Compliance Opinion: Compliance Status Unclear

Date	File #	Request	Result
1974	CP-74-01	Designating Coffin Butte Landfill as a regional sanitary landfill site as recommended in the Chemeketa Regional Solid Waste Program Report[122] and Sanitary Landfill expansion.	PC Approved PC Decision Appealed BOC Approved

Conditions of Approval

Basis: Reporting requirement may have been met by Disposal Site Advisory Committee in 1983 (Workgroup Committee Comments). DSAC records need review to ascertain if this condition is being met. SWAC reportedly receives annual landfill reports however neither the County Sanitarian not the Planning Commission are involved in reviewing the reports.

Note: Planning Commission review as PC and as Citizen Advisory Committee (CAC) per Oregon Statewide Land Use Planning Goal Number 1, is unclear at this time

Subcommittee Member - Republic

This condition was superseded by subsequent decisions that did not carry it forward.

3. Efficient leachate collection and treatment, including the old site, should be maintained by the applicant to insure against pollution of nearby waterways. In addition, wells should be established on the periphery of the solid waste site to monitor any potential seepage into underground aquifers (groundwater pollution).

Comments

County

County Requirement Superseded. This is an oversight function for DEQ. The applicant supplies a description of the leachate collection system and monitoring wells within their annual reports.

Workgroup Committee

- Disagree strongly with staff: "efficient leachate collection and treatment" is extremely relevant, a continuing problem, and in fact domestic wells have been contaminated, which should be noted in the "common understandings" document. Contamination of domestic wells has been a continuing concern of owners of parcels adjacent to the landfill, for good reason (see 1993 Coffin Butte Annual Report, the Helms Well, page 4). Current leachate treatment is impossible onsite, as promised in the most recent CUP (2003), it is certainly possible to argue that the intent of this provision was not to have landfill leachate treatment burden public facilities (the Corvallis water treatment facility is so overburdened by leachate that 15 million gallons/year +/- are trucked to a Salem facility). Let's have the discussion about whether it is "efficient" to import waste into

Date	File #	Request	Result
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Conditions of Approval

Benton County instead of diverting it to landfills with less precipitation (which consequently produce less leachate) and whether discharging dioxins/PFAS into the Willamette is "polluting…nearby waterways"

- These requirements are still relevant. Has the original collection-retention lagoon been maintained and was it effective in iterating leachate? Past members of SWAC assessed that it was not effective.
- Wells were required to monitor potential seepage of contaminants into groundwater. "Runoff" refers to surface waters, not groundwater, so this assessment does not address the original requirement.

<u>Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager</u>

Mark Yeager: The fate of leachate generated by the landfill should not simply be ignored by the County and delegated to DEQ. The requirement to "insure against pollution of nearby waterways" is very much still relevant. Trucking of leachate to Corvallis' sewage treatment plant does not result in effective treatment or insure against pollution of nearby waterways. Many of the toxic pollutants contained in leachate simply pass through the treatment plant with very little or no pollutant removal and end up in the Willamette River (PFAS, heavy metals, pesticides, pharmaceuticals, personal care products (PCP)). The Willamette River is a key recreation asset (boating, fishing, swimming, etc.) for residents of Benton County, and a source of drinking water supply for downstream residents (e.g., Adair Village).

Compliance Opinion: Compliance Not Demonstrated

Basis: A review of DEQ and RSI [Republic] records is needed. Evidence that "Efficient leachate collection and treatment…" is occurring is needed.

Explanation: It is understood from RSI [Republic] that leachate treatment no longer occurs at the landfill. Leachate is being trucked to the city sewage treatment facilities in Corvallis and Salem for treatment and discharge to the Willamette River. Evidence that treatment to levels suitable for discharge to the river is needed to confirm RSI [Republic] is in compliance.

Notes: The landfill generates about 25 million to 32 million gallons per year of leachate to be trucked off site to city treatment facilities. This volume equates to approximately twenty trucks per day traveling to Corvallis or Salem. Concerns include the impacts on county roads, road traffic, road safety and the Willamette River. Many of the toxic pollutants contained in leachate simply pass through the treatment plant with very little or no pollutant removal and end up in the Willamette River (PFAS, heavy metals, pesticides, pharmaceuticals, personal care products (PCP)). The Willamette River is a key recreation asset (boating, fishing,

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Conditions of Approval

swimming, etc.) for residents of Benton County, and a source of drinking water supply for downstream residents, e.g. Adair Village.

Open Items: Staff's comments on the applicability of "later conditions for run-off" to leachate need clarification. Caution to readers, "Leachate" is not the same as "runoff". [Note Out of BCTT Charge: A review treatment system performance records would be prudent.]

Subcommittee Member - Republic

Republic agrees with Staff. Leachate regulation is within the exclusive jurisdiction of DEQ. The County has no authority or expertise to regulate leachate or to adopt or impose environmental conditions or regulations that conflict or add to DEQ's regulations. Republic has permits with the City of Corvallis and the City of Salem. The cities handle the treatment of the leachate and have and must continue to comply with permits to discharge wastewater. Republic's disposal of Leachate is in compliance with its DEQ and City of Corvallis permits.

4. The scars that erode the face of Coffin Butte, when plans meet DEQ approval, shall be filled and compacted to a condition permitting re-seeding and eventual visual reclamation of the area and including screening with natural vegetation that portion of the subject property abutting the county road.

Comments

County

County Requirement Superseded. Subsequent expansions of the footprint and additions to uses on and adjacent to the site made this condition unrealistic to fulfill until the entirety of the landfill is completed. This specific condition is no longer relevant as new reclamation plans have been approved.

Workgroup Committee

- Disagree strongly with staff. "Temporary" cover of tarp-covered closed landfill cells sitting "temporarily" for a generation is clearly not the intent of this provision. Meeting minutes and applicant statements provide clarification as to the intent of this provision. This provision additionally requires "visual reclamation" of an area which has been so deformed by an accumulation of

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Conditions of Approval

garbage that is geographic in scope. This provision also addresses screening, which is also clearly a non-complied-with condition of approval.

- This was part of conditions of approval for a landfill that was then scheduled to close by 2000. The condition was not met. To date, no part of the site has been reclaimed by seeding with native vegetation. The "scars eroding the face of Coffin Butte" have in fact been increased by subsequent expansions, to a height well above the proposed grade for the currently permitted landfill design, even after expansions.

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Compliance Opinions:

A. Physical Design Requirements: In Compliance

B. Reclamation & Visual Requirements: Compliance Status Unclear

Basis: DEQ has oversight of the geotechnical design of the landfill and has issued permits for the landfill. DEQ also regulates both the timing and scope of reclamation through closure and post closure requirements. Cessation of dumping at the landfill triggers the application of these requirements.

The appearance of the facility is the purview of Benton County. It is unclear how the County has interacted with DEQ to ensure the County's requirements for the appearance of the closed landfill are reflected in closure and post closure plans approved by DEQ.

Explanations:

- "Scars" are not defined in the CUP condition. It is presumed that "scars" refer to areas where earth or rock has been excavated from the butte. Additional landfill cells are planned to be built along this rock face. It is unclear what type of plan needs to be submitted to DEQ for approval to meet this condition?
- While this land use action is nearly 50 years old, it sets the baseline expectations for how this industrial activity can be allowed to exist as a non-compatible land use in AG, forest, and rural residential lands.

Notes:

Date	File #	Request	Result
1974	CP-74-01	Designating Coffin Butte Landfill as a regional sanitary landfill site as recommended in the Chemeketa Regional Solid Waste Program Report[122] and Sanitary Landfill expansion.	PC Approved PC Decision Appealed BOC Approved

Conditions of Approval

Ref: County File: Reclamation Plan - Closure-Post Closure Plan_Report_Final. Report Title: "Worst Case" Closure and Post-Closure Plan, Coffin Butte Landfill, Benton County, Oregon, Prepared by GeoLogic, September 2020

Open Item(s): DEQ records concerning the landfill need to be reviewed.

Subcommittee Member – Republic

Republic agrees with Staff. The landfill has changed substantially since 1974 and certain areas of the landfill have been closed and covered and seeded over time per DEQ regulations. This condition is no longer relevant. Reclamation of the site will continue as cells close and will be part of the final Closure Plan.

5. That by July 1, 1976, a plan including detailed elements on design, location, management, and financing of a solid waste resource recovery system be prepared and submitted to the Planning Commission for further consideration. Until such a plan is completed, the conditional use approval shall be limited to only the sanitary landfill method of waste disposal.

Comments

County

In Compliance. The condition was completed with the creation of the 1977 Waste Control Systems, Inc. Solid Waste Management Plan

Workgroup Committee

- Needs detail, & relevant as to intent: This plan said that the landfill would close by the year 2000 and be replaced by a waste-to-energy facility. Approval of a landfill in 1974 was not a "forever landfill" – it was a bridge to a different way of dealing with solid waste. It is important to note that, in order to not repeat prior mistakes

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Compliance Opinion: In Compliance

Basis: Document (1977 Waste Control Systems, Inc. Solid Waste Management Plan)

Date	File #	Request	Result
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Conditions of Approval

Note: Not available via County records, subcommittee has procured and exists in appendix

6. The landfill operation shall be phased so that only a small acreage is used for fill at one time and then this acreage shall be returned to grazing, another farm-type operation or other permitted use as approved by the Planning Commission and the Board of County Commissioners.

Comments

County

County Requirement Superseded. Subsequent expansions of the footprint and additions to uses on and adjacent to the site made this condition unrealistic to fulfill until the entirety of the landfill is completed. This specific condition is no longer relevant as new reclamation plans have been approved.

Workgroup Committee

- DEQ approval of a reclamation plan does not supersede county conditions of approval. No part of the landfill has yet been restored to grazing, farming, or even natural alternatives such as native prairie vegetation.
- Disagree strongly with staff. Land use is land use, and is a County regulation. Unless specifically referred to in the land use language, DEQ has parallel, authority, not overriding authority. Land use policies deal with compatibility issues (i.e. generation of odors/dust); DEQ policies deal with environmental quality. Those are different regulatory bodies and one saying "this is OK" does not negate the authority of the other (Unless that is specified within the regulation itself, which in this case it is not)

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Compliance Opinions:

A. Physical Design Requirements: In Compliance

B. Reclamation & Visual Requirements: Compliance Status Unclear

A. Compliance Opinion for "small acreage" condition: In Compliance.

Date	File #	Request	Result
1974	CP-74-01	Designating Coffin Butte Landfill as a regional sanitary landfill site as recommended in the Chemeketa Regional Solid Waste Program Report[122] and Sanitary Landfill expansion.	PC Approved PC Decision Appealed BOC Approved

Conditions of Approval

Basis: Based on participant observations and company testimony during September 2022 County sponsored Coffin Butte Tour (see Site Tour Notes on BCTT website).

B. Compliance Opinion for "…shall be returned to grazing…" condition: Compliance Status Unclear
Basis: Per DEQ guidance, Closure of the landfill does not occur until all disposal operations cease. Potentially this is 15 or more years from now. RSI [Republic] is not required to submit a Closure Plan until 5 years prior to Closure. In the interim, if the landfill were to close today, RSI [Republic] provides a "Worst Case" Closure and Post-Closure Plan which describes the condition the site is to be left. The current "Worst Case" plan provides for a grass cover on slopes. There is no mention of visual screening.

Explanation: Landfill operations and closure are governed by DEQ requirements. Some of the landfill areas have not received wastes since the 1990s, others since 2011. RSI [Republic] has determined areas of the landfill are "In Closure" under Federal rules. Approximately 41.7 planimetric acres have already received Final Closure. This area should already have a 1.5 feet thick Vegetative Cover per Federal requirements and be suitable for reuse.

Notes: RSI [Republic] closure representations and DEQ position:

- RSI [Republic] Ref: County File: 5Reclamation Plan - Closure-Post Closure Plan_Report_Final. Report Title: "Worst Case" Closure and Post-Closure Plan, Coffin Butte Landfill, Benton County, Oregon, Prepared by GeoLogic, September 2020

  2.3 Areas to Receive Final Closure

  The present "worst case" closure scenario consists of constructing a final cover over the existing active landfill minus the areas that have already received final closures to-date. At present, landfill liner has been constructed through Cell 5C (see Figure 1), totaling 123.5 planimetric acres of lined waste footprint. Approximately 41.7 planimetric acres have already received final closure; therefore, the area still to receive final cover is 81.8 acres.

- DEQ

  Ref. From: FULLER Brian * DEQ <Brian.FULLER@deq.oregon.gov>, Sent: Monday, November 21, 2022 5:03 PM, To: Edward Pitera Subject: RE: Cells in Closure

Date	File #	Request	Result
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Conditions of Approval

Our interpretation of "MSWLF Unit" is that it applies to the entire landfill not individual cells. Being that the landfill is not yet full, the "clock" on final closure has not yet started. It is common for landfills to build new cells on top of older filled cells that are in temporary cover/closure. Final closure/capping under this scenario would occur when these uppermost cells are full or waste sequencing for an area is completed. This also allows for multiple cells to share leachate and gas collection and control systems. Approval could be considered granted via DEQ approval of the Site Development Plan and through the further refined final engineered closure plans.

CFR 258.2 Definitions

Municipal solid waste landfill (MSWLF) unit means a discrete area of land or an excavation that receives household waste, and that is not a land application unit, surface impoundment, injection well, or waste pile, as those terms are defined under § 257.2 of this chapter. A MSWLF unit also may receive other types of RCRA Subtitle D wastes, such as commercial solid waste, nonhazardous sludge, very small quantity generator waste and industrial solid waste. Such a landfill may be publicly or privately owned. A MSWLF unit may be a new MSWLF unit, an existing MSWLF unit or a lateral expansion. A construction and demolition landfill that receives residential lead-based paint waste and does not receive any other household waste is not a MSWLF unit.

Open Items: A pathway to achieve the County's expectations of what closure of the landfill will look like is needed.

Subcommittee Member – Republic

Republic agrees with staff. Republic notes that the active landfill area remains approximately the same size when the Landfill moves from one cell to another. This has been true for the life of the Landfill.

7. That efforts be made to encourage voluntary separation of recoverable materials such as tin, aluminum, paper, glass, etc. to reduce the amount of landfill materials.

Comments

County

In Compliance. The applicant has and is fulfilling this condition.

Workgroup Committee

Date	File #	Request	Result
1974	CP-74-01	Designating Coffin Butte Landfill as a regional sanitary landfill site as recommended in the Chemeketa Regional Solid Waste Program Report[122] and Sanitary Landfill expansion.	PC Approved PC Decision Appealed BOC Approved

Conditions of Approval

- Some efforts have been made but they have been largely ineffective. Benton County's ratio of recycling to landfilling has not improved appreciably since the 1970s.
- Presumably the intent of this provision was to have recycling efforts contribute to increasing the life of the landfill. Currently, Benton County could go to zero waste tomorrow, and presumably, the landfill would still take in the maximum volume cap within a short time, because of the new owner's vertical integration. This should be noted in the Common Understandings document.

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Compliance Opinion: Compliance Status Unclear

Explanation: RSI [Republic] is "In Compliance" in Benton County based on personal experience but Benton County contributes less than 10% of the total volume sent to the landfill and is only one of more than 20 counties RSI [Republic] draws material from.

Subcommittee Member – Republic

Republic is in compliance with this condition, and since 1974 has gone much further in encouraging and making it easier to recycle. Goals/targets for recycling are appropriate considered as part the LTMMP process but are not appropriately considered as part of the CUP process. The regulatory framework has changed significant since 1974.

Date	File #	Request	Result
1983	PC-83-07 L-83-07	Amendments to the Comprehensive Plan Text and Map, amendments to the Development Code and Zoning Map, and a Site Development Plan (M-48615-83, PC-83-07-C(1)).	BOC Approved.

Conditions of Approval

1. Cross reference the narrative and the map in both documents.

*<u>*Clarification On Content Needed. See Subcommittee Comments</u>*

Comments

<u>County</u>

In Compliance. The narrative was updated to provide information related to conditions 1 through 7. The updated narrative is found in the document titled “PC-83-07-C(3)” starting on Page 3 of 60

<u>Workgroup Committee</u>

- impossible to assess with missing narrative

<u>Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager</u> *Clarification Of Condition Content

Information in “PC-83-07-C(3)” includes requirements for terracing, post closure grazing and ”…will be consistent with the expected future use of these lands as indicated by the existing farm and forest land use designations.”

Note: County records incomplete although referred to in “PC-83-07-C(3)” no site plan is included.

Excerpts follow:
Reclamation, physical layout, and maintenance provisions: From pdf file pages 4 & 5 (original document page 4)

“ii. Reclamation (Conditions No. 2 and 6)
When completed the present landfill area (see site development map) will appear as a low terrace rising from Coffin Butte Road into the site. The expansion area, labelled " Additional Landfill Disposal Areas" on the site plan, will consist when completed of a series of terraces progressing up the lower south slope of Coffin Butte. Each
terrace in the expansion area will consist of a +/- 12 ft, high vertical " confinement berm" sloping3/ 1, and a 10 20 ft, wide horizontal surface at 2% slope. The overall slope of the terraced hillside will be similar to the existing slope. An upgradient cutoff drainage system see site plan will be provided to intercept seasonal surface drainage and route it around the new fill

Date	File #	Request	Result
1983	PC-83-07 L-83-07	Amendments to the Comprehensive Plan Text and Map, amendments to the Development Code and Zoning Map, and a Site Development Plan (M-48615-83, PC-83-07-C(1)).	BOC Approved.

Conditions of Approval

area. The feasibility of reclaiming the site in this manner is discussed in the attached letter dated May 23, 1983, prepared for Valley Landfills by Sweet, Edwards & Assoc., geological consultants.

All disposal areas, including the terraces, will be reclaimed for pasture. Portions of this landfill property including the completed disposal area site plan, as well as some of the outside lands in the vicinity of the landfill, are v.arrently use for this purpose. The area within the landfill reclaimed for pasture will be maintained by periodic regrading and replanting as required to compensate for settling. Otherwise, maintenance will consist of farming methods commonly used for pastureland."

Reclamation From pdf file page 4: (original document page 2)

"Reclamation of the: landfill in the manner described will be compatible with the existing predominant open space and resource lands characteristics of the adjacent and surrounding lands and the current uses of these lands, and will be consistent with the expected future use of these lands as indicated by the existing farm and forest land use designations."

Reclamation From pdf file page 18 (original document page 8):

… "Reclamation of the landfill in the manner proposed will be compatible with the predominately open space and resource lands characteristics of the adjacent and surrounding lands and the current uses of these lands, and will be consistent with the expected future use of these lands as indicated by the current farm and forest land use designations.
Based on the need to provide facilities for waste disposal, the lack of any other existing or planned disposal sites within this area, the environmental, economic, social and
energy benefits from maintaining the e fisting landfill, and the established compatibility' of the landfill with the adjacent land uses, changing the land use designation for the
Coffin Butte Landfill qualifies for an Exception to Goal 4."

Reclamation From pdf file page 16 (original document page 6):

"The long- term environmental consequences of this proposal to the region served by the landfill will be to have a recognized site for waste disposal operating under a D.E.Q.- approved development plan and meeting D.E.Q. standards."

End of quotations

Compliance Opinions:

Date	File #	Request	Result
1983	PC-83-07 L-83-07	Amendments to the Comprehensive Plan Text and Map, amendments to the Development Code and Zoning Map, and a Site Development Plan (M-48615-83, PC-83-07-C(1)).	BOC Approved.

Conditions of Approval

A. Physical Design & Geotechnical Requirements: Compliance Status Unclear
B. Reclamation Requirements: Compliance Status Unclear (Not triggered see CP-74-01 (6))

Compliance Opinion(s):

A. Compliance Opinion for Physical Design & Geotechnical Requirements: County Requirements Superseded
   Basis: Landfill design concepts conveyed in site plans from 1983 appear to be superseded by subsequent DEQ approved Site Development Plans.
   Explanation: DEQ requirements on landfill design, operation and closure have primacy over County requirements.
   Notes: County provided records are incomplete. Although referred to in "PC-83-07-C(3)", no site plan drawing is included.
   Open Item: Referred to site plan is needed since it may point to areas where DEQ approved plans incorporate County requirements.

B. Reclamation Requirements: Compliance Status Unclear (Not triggered per DEQ. See DEQ 2022 explanation in CP-74-01 (6))
   Basis: Closure not triggered see CP-74-01 (6)
   Explanation: Site is an on-going operation and not subject to DEQ reclamation requirements at this time.
   Notes: The reclamation requirements cited in 1983 need review. Current practices to manage the risks to human health and the environment posed by a closed landfill plus current practices for maintaining the integrity of the final cap need to be considered.
   Open Item(s): None

<u>Subcommittee Member – Republic</u>

Republic agrees with Staff. The 1983 Narrative is no longer relevant to the current operation given the subsequent CUP approvals have changed the operation.

2. Expand the narrative statement, section (1.a.ii), on reclamation to include the physical configuration of the completed landfill areas and method of maintenance of the proposed pasture uses. Include a statement regarding the effects of methane and internal heat generation on the long-term maintenance of the pasture, and include irrigation plans if proposed.

Date	File #	Request	Result
1983	PC-83-07 L-83-07	Amendments to the Comprehensive Plan Text and Map, amendments to the Development Code and Zoning Map, and a Site Development Plan (M-48615-83, PC-83-07-C(1)).	BOC Approved.

Conditions of Approval

Comments

County

In Compliance. The narrative was updated to provide information related to conditions 1 through 7. The updated narrative is found in the document titled “PC-83-07-C(3)” starting on Page 3 of 60

Workgroup Committee

- impossible to assess with missing narrative
- We have not been provided with the necessary information to assess whether the narrative was amended to fully address these issues, or whether the assessment of methane generation was adequate for purpose. As noted above, there is still no "pasture" on the site.

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: The first narrative is not included in the record. The revised narrative does, in fact, use the words methane, heat generation, screening, leachate, etc. Reading the narrative, it can only be concluded that none of the promises in the narrative have been completed. The most obvious of these are the restoration to pastureland, grazing, and screening. Leachate is not currently being used to irrigate the trash.

*See ‘Clarification Of Condition Content’ under Subcommittee Comments for PC-83-07 / L-83-07 Condition 1

Compliance Opinions: County Requirements Superseded

Basis: There are three aspects of this condition: Physical Configuration, Maintenance Method, and Methane Statement. Landfill design concepts conveyed in site plans from 1983 appear to be superseded by subsequent DEQ approved Site Development Plans and site closure requirements.

Notes:
“Methane Statement”

Date	File #	Request	Result
1983	PC-83-07 L-83-07	Amendments to the Comprehensive Plan Text and Map, amendments to the Development Code and Zoning Map, and a Site Development Plan (M-48615-83, PC-83-07-C(1)).	BOC Approved.

Conditions of Approval

From pdf file pages 5 (original document page 3) “The completed disposal areas will be covered by a minimum eight inch clay cap covered by twenty-eight inches of soil. The depth of the cover will minimize the effect of methane on the pasture grasses. Similarly the cover crop should not be affected by internal heat generation. Rather, warm subsurface temperatures have proved beneficial to root development.”

Explanation: None

Open Item(s): None

Subcommittee Member – Republic

Republic agrees with staff. The 1983 narrative is no longer relevant to the operation given subsequent approvals and changes over time.

3. Describe in more detail in the narrative, the method of screening: include a description of the location, height, width, depth and physical composition of the berm; and include the type and location of vegetative screening; and include a statement regarding the long-term maintenance of the berm and vegetative screens.

Comments

County

In Compliance. The narrative was updated to provide information related to conditions 1 through 7. The updated narrative is found in the document titled “PC-83-07-C(3)” starting on Page 3 of 60

Workgroup Committee

- For this and other statements regarding "updates of the narrative, the Solid Waste working group has not been supplied with sufficient information to evaluate compliance. This same comment applies to all entries below. We are being asked to opine on these things without adequate information. I suggest that we should not be giving a rubber stamp of approval to statements that we have not actually had opportunity to examine fully -- it's both meaningless and likely to be abused in future CUP applications.

Date	File #	Request	Result
1983	PC-83-07 L-83-07	Amendments to the Comprehensive Plan Text and Map, amendments to the Development Code and Zoning Map, and a Site Development Plan (M-48615-83, PC-83-07-C(1)).	BOC Approved.

Conditions of Approval

- impossible to assess with missing narrative

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: There is a very detailed description of the promised screening in the narrative. However, none of the promises have been kept, nor has the County taken any enforcement actions to ensure completion of screening requirements.

Compliance Opinions. There are three aspects of this condition:

Physical berm: County Requirement Superseded by subsequently issued DEQ Site Development Plans
Vegetative screening: Not In Compliance
Maintenance: Not In Compliance based on current appearance of site

Basis:

Screening Requirements: physical berm, vegetative screening, and their maintenance
From pdf file pages 6 & 7 (original document page 4 & 5)
It is recognized that these conditions are from a 1983 document. Actions may have been taken at that time but the County did not provide records to substantiate compliance at that time nor continued maintenance of screening requirements.

"iii. Screening (Condition No. 3)
Additional screening will be provided in keeping with the current site screening program used at the landfill. This program consists of a keyed berm with conifers planted 10' on center along Coffin Butte Road from 99W to the landfill entrance _road, and similar plantings extending north along 99W from Coffin Butte Road to the north landfill property line.

The permanent, fixed, keyed berm is represented. on the site development plan by the solid black line labelled " Approximate Solid Waste Disposal. Boundary." As shown, the berm encompasses the present landfill area and the existing development area. The berm is 10 - 12 feet high, 10 feet wide at the top and 60 - 70 feet wide at the base, and has an outside slope of 3/ 1. The depth of the key is three feet. The berm is composed of low permeability materials from on- site sources. The berm has been hydroseeded and will be grazed.

Date	File #	Request	Result
1983	PC-83-07 L-83-07	Amendments to the Comprehensive Plan Text and Map, amendments to the Development Code and Zoning Map, and a Site Development Plan (M-48615-83, PC-83-07-C(1)).	BOC Approved.

Conditions of Approval

Screening plants will consist of trees from the tree farm owned by Valley Landfills on their land south of Coffin Butte Road. Initial height of the plantings will range from 6 - 10 feet. Additional plantings can be made on the terraces to screen disposal operations on the slopes, as needed. The plantings will receive ongoing maintenance by the landfill operators."

Explanation: None

Notes: 1983 site plan drawing was not provided in the County documentation.

Open Item(s): None

Subcommittee Member – Republic

The landfill site has changed substantially since 1983, so it likely impossible to determine what was done or not done in 1983.

4. Include in the narrative the anticipated chemical composition of any leachate material to be used for irrigation south of Coffin Butte Road; and include documentation that the material to be utilized as irrigation meet federal and state standards for any run-off that may leave the property lines.

Comments

County

In Compliance. The narrative was updated to provide information related to conditions 1 through 7. The updated narrative is found in the document titled "PC-83-07-C(3)" starting on Page 3 of 60

Workgroup Comments

- For this and other statements regarding "updates of the narrative, the Solid Waste working group has not been supplied with sufficient information to evaluate compliance. This same comment applies to all entries below. We are being asked to opine on these things without adequate information. I suggest that we should not be giving a rubber stamp of approval to statements that we have not actually had opportunity to examine fully -- it's both meaningless and likely to be abused in future CUP applications.

Date	File #	Request	Result
1983	PC-83-07 L-83-07	Amendments to the Comprehensive Plan Text and Map, amendments to the Development Code and Zoning Map, and a Site Development Plan (M-48615-83, PC-83-07-C(1)).	BOC Approved.

Conditions of Approval

- impossible to assess with missing narrative

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager/

Mark Yeager: A rudimentary analysis of leachate composition is included in the revised narrative. It is now known that the chemical composition of leachate from landfills is far more complex and dangerously toxic.

Compliance Opinion: In Compliance

Basis: Analysis was provided and is still being performed on leachate sent offsite for disposal. Per RSI [Republic], leachate use for onsite irrigation ceased many years ago.

Subcommittee Member – Republic

This condition is no longer relevant because Coffin Butte no longer irrigates leachate on site. Leachate regulation has gotten stricter since 1983 and DEQ has exclusive jurisdiction over leachate. Republic continues to comply with DEQ requirements.

5. Include in the narrative review of the Environmental and Operational Factors in Art.XXX.05.A.1.(f) for the approximately 10 acres proposed for addition to the landfill area.

Comments

County

In Compliance. The narrative was updated to provide information related to conditions 1 through 7. The updated narrative is found in the document titled “PC-83-07-C(3)” starting on Page 3 of 60

Workgroup Committee

- For this and other statements regarding "updates of the narrative, the Solid Waste working group has not been supplied with sufficient information to evaluate compliance. This same comment applies to all entries below. We are being asked to opine on these things without adequate information. I suggest that we should not be giving a rubber stamp of approval to statements

Date	File #	Request	Result
1983	PC-83-07 L-83-07	Amendments to the Comprehensive Plan Text and Map, amendments to the Development Code and Zoning Map, and a Site Development Plan (M-48615-83, PC-83-07-C(1)).	BOC Approved.

Conditions of Approval

that we have not actually had opportunity to examine fully -- it's both meaningless and likely to be abused in future CUP applications.

- impossible to assess with missing narrative, where are the 10 acres proposed for addition? need drawings

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Compliance Opinion: County Requirement Superseded

Basis: Current DEQ permits supersede this condition
From pdf file pages 7 & 8 (original document page 5 & 6)

v. Other Information Required by the Development Director (Conditions No. 5 and 7)

A review of the Environmental and Operational Factors of Art. XXX . 05. A1 is contained in a report titled Coffin Butte Sanitary Landfill Expansion Plan prepared by Randy Sweet, Geologist, and Regional Consultants, Inc. in Oct., 1977. This report was submitted to the Benton County Commissioners, Health Department, and Solid Waste Advisory Committee. A copy of this report will be made available to the Development Department if requested.

The small ponds will remain as at present for the next ten years. At the end of this period the use of the ponds and surroundings will be reevaluated and, if anything is to be done, state of the art engineering practices will be employed in conformance with the standards in effect at that time. A modified site development plan will be submitted for County review when appropriate.

Open Item: Address DEQ primacy question

Subcommittee Member – Republic

Republic Agrees with staff for some of the reasons stated above.

6. Provide a detailed reclamation plan that sets form the anticipated physical characteristics of the “terracing” including an average height and width of the terracing, provide documentation that the site is physically available to be reclaimed in this manner.

Date	File #	Request	Result
1983	PC-83-07 L-83-07	Amendments to the Comprehensive Plan Text and Map, amendments to the Development Code and Zoning Map, and a Site Development Plan (M-48615-83, PC-83-07-C(1)).	BOC Approved.

Conditions of Approval

Comments

County

In Compliance. The narrative was updated to provide information related to conditions 1 through 7. The updated narrative is found in the document titled “PC-83-07-C(3)” starting on Page 3 of 60

Workgroup Committee

- For this and other statements regarding "updates of the narrative, the Solid Waste working group has not been supplied with sufficient information to evaluate compliance. This same comment applies to all entries below. We are being asked to opine on these things without adequate information. I suggest that we should not be giving a rubber stamp of approval to statements that we have not actually had opportunity to examine fully -- it's both meaningless and likely to be abused in future CUP applications.
- impossible to assess with missing reclamation plans (which would probably be in the form of drawings, not “narrative”)

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: There is a very detailed description of the promised screening in the narrative. However, none of the promises have been kept, nor has the County taken any enforcement actions to ensure completion of screening requirements.

Compliance Opinion(s): Compliance Status Unclear

Open Item: DEQ vs. County primacy. Which organization has primacy over what? A clear understanding is needed of DEQ’s and the County’s role in addressing aspects of the landfill such as design, operation, monitoring (including noise, light pollution, odor, etc.), appearance, and screening from public view, etc.

Subcommittee Member – Republic

Republic agrees with Staff.

Date	File #	Request	Result
1983	PC-83-07 L-83-07	Amendments to the Comprehensive Plan Text and Map, amendments to the Development Code and Zoning Map, and a Site Development Plan (M-48615-83, PC-83-07-C(1)).	BOC Approved.

Conditions of Approval

7. Submit for review by the Development Director a plan detailing the proposed method Valley Landfills shall use to protect the small ponds found in the Northeast corner of the property.

Comments

County

In Compliance. The narrative was updated to provide information related to conditions 1 through 7. The updated narrative is found in the document titled “PC-83-07-C(3)” starting on Page 3 of 60

Workgroup Committee

- For this and other statements regarding "updates of the narrative, the Solid Waste working group has not been supplied with sufficient information to evaluate compliance. This same comment applies to all entries below. We are being asked to opine on these things without adequate information. I suggest that we should not be giving a rubber stamp of approval to statements that we have not actually had opportunity to examine fully -- it's both meaningless and likely to be abused in future CUP applications.
- Impossible to assess with missing pond protection plans (note: presumably not in compliance since the small ponds currently appear to be buried below a large pile of waste)

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Compliance Opinion: Compliance Status Unclear

Basis:

Notes: From pages 6-8

“The small ponds will remain as at present for the next ten years. At the end of this period the use of the ponds and surroundings will be reevaluated and, if anything is to be done, state of the art engineering practices will be employed in conformance with the standards in effect at that time. A modified site development plan will be submitted for County review when appropriate.”

Date	File #	Request	Result
1983	PC-83-07 L-83-07	Amendments to the Comprehensive Plan Text and Map, amendments to the Development Code and Zoning Map, and a Site Development Plan (M-48615-83, PC-83-07-C(1)).	BOC Approved.

Conditions of Approval

Explanation: Pond location unclear.

Notes: None

Open Item(s): Address DEQ primacy question

Subcommittee Member – Republic

Republic agrees with staff.

8. The current DEQ operational permit will expire on January 31, 1984. Valley Landfills, Inc. has been requested to submit an updated, long-term leachate control plan as part of the permit renewal process. This plan must contain provisions for a leachate storage facility so leachate irrigation will not occur on pasture lands from November 1 through May 1 of each year. The control plan must also provide for a soil study that designates present and future leachate irrigation areas. This plan must show that the amount of irrigation area available is compatible with future leachate generation volumes so metal or nutrient accumulations in the soils will remain fat below any toxicity levels.

Comments

County

County Requirement Superseded. Leachate is an oversight function of DEQ.
The requirement is for a leachate control plan, there is no requirement that states that all leachate must be treated on-site. Planning staff would not have had enough expertise to be able to dictate how leachate is handled. A CUP application is a government review of a proposed use, hauling leachate is not a land use but an action that is dependent on a land use.
The soil study referenced above was in regard to leachate irrigation areas, not a general review of soil toxicity. Since leachate is no longer disposed of through irrigation, this condition is no longer applicable.

Workgroup Committee

- DEQ does not monitor soil toxicity
- request has been made of Brian fuller, DEQ to find out if DEQ monitors soil toxicity

Date	File #	Request	Result
1983	PC-83-07 L-83-07	Amendments to the Comprehensive Plan Text and Map, amendments to the Development Code and Zoning Map, and a Site Development Plan (M-48615-83, PC-83-07-C(1)).	BOC Approved.

Conditions of Approval

- there has never been a cup submitted to Benton County that included off-haul of all leachate generated at the landfill for treatment at municipal facilities & release into the Willamette. all cup's (1974/1983/2003) where documentation is available have contained, in the application, assertions that all leachate would be treated on-site.
- This statement is not adequate to confirm that these conditions were met, or that they were fully evaluated by DEQ. Certainly in the case of "irrigation area," any such plan did not work and as a result the leachate is being hauled to wastewater treatment plants rather than being irrigated. It would be more accurate to characterize this as a failure of design that led to non-compliance, which required alternative methods to maintain DEQ permitting.
- Republic: Republic Services maintains an active solid waste permit with the Oregon Department of Environmental Quality and is in compliance with that permit. Further, leachate irrigation ceased in the late 1990s, as a result of new regulatory rules. All leachate is sent to a local wastewater treatment plant.

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: The effort to absolve the County of any responsibility for ensuring proper management and treatment of leachate ignores the County's duty to ensure compatible land use in Benton County. Leachate generation is a by-product of approving the hosting a landfill in the County. Ignoring the fate of leachate generated by the landfill is akin to approving a residential subdivision without any consideration of how and where the sewage generated is safely disposed.

The fate of leachate generated by the landfill should not simply be ignored by the County and delegated to DEQ. Trucking of leachate to Corvallis' sewage treatment plant does not result in effective treatment or insure against pollution of nearby waterways. Many of the toxic pollutants contained in leachate (PFAS, heavy metals, pharmaceuticals, personal care products, etc.) simply pass through the treatment plant with very little or no pollutant removal and end up in the Willamette River. The Willamette River is a key recreation asset (boating, fishing, swimming, etc.) for residents of Benton County, and a source of drinking water supply for downstream residents e.g. Adair Village

Compliance Opinion: County Requirement Superseded (Specific requirement no Longer Relevant)

Date	File #	Request	Result
1983	PC-83-07 L-83-07	Amendments to the Comprehensive Plan Text and Map, amendments to the Development Code and Zoning Map, and a Site Development Plan (M-48615-83, PC-83-07-C(1)).	BOC Approved.

Conditions of Approval

Basis: Leachate storage exists on site for holding leachate prior to trucking to off-site locations. No leachate is currently being land applied on landfill properties. No soil study needed

Note: Leachate processing at a wastewater treatment facility may not be an appropriate or effective treatment for leachate and subcommittee recommends further evaluation

Open Item(s): Management and effectiveness of current leachate transfer/treatment at city treatment works.

Subcommittee Member – Republic

Republic agrees with Staff. This condition is no longer relevant because Coffin Butte no longer irrigates leachate on site. Leachate regulation has gotten stricter since 1983 and Republic continues to comply with DEQ requirements.

9. As the site expands eastward, additional monitoring wells will be required. Depending on DEQ budget limitations, the permittee may have to share in the responsibility for sampling and monitoring of these wells.

Comments

County

In Compliance. This is an item under the oversight of DEQ. The Comm. Dev. Department does not confirm and inspect records to ensure that conditions such as these are completed. It is a DEQ permit and if the DEQ does not approve the permit then the applicant could not continue the use and would be out of compliance.

Workgroup Committee

- Republic: Republic Services has added additional monitoring wells as required and continues to be in compliance with its DEQ permits.
- As above, there should be a check of whether DEQ has actually evaluated this. Just because DEQ approved a permit does not necessarily mean that this condition was met.

Date	File #	Request	Result
1983	PC-83-07 L-83-07	Amendments to the Comprehensive Plan Text and Map, amendments to the Development Code and Zoning Map, and a Site Development Plan (M-48615-83, PC-83-07-C(1)).	BOC Approved.

Conditions of Approval

- domestic wells have been contaminated. current subchapter part “d” dual landfill liners have been required since 1993. this technology is less than 30 years old, and may have to continue to perform for hundreds of years, during which time the liner can become brittle. the EPA has concluded that all landfills will eventually leak "no liner ... can keep all liquids out of the ground for all time. eventually liners will either degrade, tear, or crack and will allow liquids to migrate out of the unit. some have argued that liners are devices that provide a perpetual seal against any migration from a waste management unit. EPA has concluded that the more reasonable assumption, based on what is known about the pressures placed on liners over time, is that any liner will begin to leak eventually. "citation: EPA, 1988
- is any leachate collected in the secondary collection system? if so, the liner is already leaking

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Compliance Opinion: Compliance Status Unclear

Basis: Documentation unclear as to what wells involved and which organization is to provide it. Presumed in RSI [Republic] Annual Report.

Explanation: Presumed in RSI [Republic] Annual Report. Needs further information on how the reports are reviewed for compliance with site groundwater contamination goals.

Subcommittee Member – Republic

Republic agrees with Staff. Monitoring wells are within the jurisdiction of DEQ. The County can exercise no oversite of DEQ’s responsibilities. Republic has a DEQ approved Environmental Monitoring Plan that includes a map of all monitoring wells.

10. Screen the landfill operation with fencing or berms so it cannot be seen from the County Road or adjacent properties.

Comments

County

Date	File #	Request	Result
1983	PC-83-07 L-83-07	Amendments to the Comprehensive Plan Text and Map, amendments to the Development Code and Zoning Map, and a Site Development Plan (M-48615-83, PC-83-07-C(1)).	BOC Approved.

Conditions of Approval

Compliance Status Unclear. The screening may have been installed but has eroded or been removed during further site development. It should be recreated and maintained to be in compliance with the requirement.

Workgroup Committee

- Republic: Republic Services' records are incomplete, as this amendment is nearly 40 years old, and the company was neither the owner, nor the operator of the landfill at that time. However, Republic Services has planted trees to screen the landfill from Highway 99. Based on the age of the condition and the changing site conditions over the past four decades, Republic disagrees with the conclusion that this condition has not been completed.
- not in compliance document not included letter from the Oregon justice department regarding screening requirement per the 1967 highway beautification act
- There should be a more clear statement that the applicant is not in compliance with this requirement.

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: The revised narrative submitted by the applicant is very detailed. None of the requirements have been completed or maintained. The County has not taken any enforcement action to ensure that these requirements be met.

Compliance Opinion: Not In Compliance

Basis: Personal observations

Subcommittee Member – Republic

Our comments remain the same. The site has changed so much since 1983 it is impossible to determine what might have done and any screening requirements imposed then would no longer be relevant to the current operation. And required screening will be addressed at the time of the new CUP (as occurred in the 2021 process.)

11. Daily cover of refuse with earth is not possible at this site due to the clay soils. The current (and future) permit addresses requiring daily compaction of refuse and require exposed refuse areas to not exceed 2 acres during the periods of October 15 to June 1 and to not exceed ¾ of an acre during all other periods. This shall be adhere to.

Date	File #	Request	Result
1983	PC-83-07 L-83-07	Amendments to the Comprehensive Plan Text and Map, amendments to the Development Code and Zoning Map, and a Site Development Plan (M-48615-83, PC-83-07-C(1)).	BOC Approved.

Conditions of Approval

Comments

<u>County</u>

County Requirement Superseded. This is under the oversight of DEQ. The landfill uses an alternative daily cover approved by DEQ, which includes Covanta Ash material. The landfill also uses temporary cover.

<u>Workgroup Committee</u>

- Republic: Republic Services generally agrees with this assessment but would like the record to reflect that we do use site soils as daily cover, in addition to alternative daily covers.
- land use requirement not addressed by staff: this is a land use requirement; DEQ is not mentioned, and does not have override authority need more information: does the area of open fill exceed ¾ of an acre from June 2 through October 14? what is it now? does the area of open fill exceed 2 acres during the periods of October 15 through June 1?
- The statement here does not address whether exposed refuse areas have been limited to the acreages stated. There should be a more clear statement of whether this has been complied with, and whether the county has done any monitoring.

<u>Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager</u>

Mark Yeager: Using highly toxic Covanta Ash material to cover the garbage is another example of the County absolving itself from any obligation to protect Benton County residents from incompatible land uses. Oregon DEQ does not have a stellar record for effectively preventing pollution (air or water) through their permit processes.

Compliance Opinion: County Requirement Superseded by Subsequent DEQ Operating and Monitoring Permits

Notes: Unclear if there are environmental impacts of the alternative cover material used at the site such as leaching constituents in wet weather, airborne dust generation in dry weather, etc. An example issue of Covanta incinerator ash as alternate daily cover. Information on chemical composition and physical testing should be made available. Generally recognized assessments of leachable materials such as the Toxic Characteristic Leaching Procedure (TCLP) should be used.

Date	File #	Request	Result
1983	PC-83-07 L-83-07	Amendments to the Comprehensive Plan Text and Map, amendments to the Development Code and Zoning Map, and a Site Development Plan (M-48615-83, PC-83-07-C(1)).	BOC Approved.

Conditions of Approval

Subcommittee Member – Republic

Our comments remain the same. Regulation of landfill cover is within DEQ's exclusive regulation and the County no authority to differ from DEQ. This condition is no longer relevant because DEQ now requires the landfill to fully cover the waste each day with soil or approved alternative daily cover.

12. Occasionally, leachate seeps through the site berms during heavy rainfall periods. If these occur in the future, a requirement to channel these flows into the leachate collection system within a timely period (i.e., 3 days) may be added.

Comments

County

County Requirement Superseded. Overseen by DEQ. This condition appears to be no longer be applicable. If the condition were still applicable, it authorizes the County to add a requirement in the future if leachate seeps through the berms. The applicant is in compliance unless a) the County has subsequently directed the applicant to channel leachate flows and b) the applicant has failed to do so; there is no evidence that both a) and b) have occurred, therefore the applicant is not out of compliance. Whether the County should have done more monitoring is a question that can be discussed but is not relevant to determining whether this condition has been complied with.

Workgroup Committee

- Republic: This condition was put in place prior to today's highly-engineered landfill design requirements. At the time, landfill liners were not required. Republic Services complies with all current regulatory requirements, which include liners. Leachate does not seep through perimeter berms.
- disagree with staff: DEQ not mentioned, therefore DEQ does not have regulatory authority. question: does leachate seep through site berms? is not answered
- Whether overseen by DEQ or not, there should be a clear statement of whether this condition has been complied with, and whether the county has ever checked on this.

Date	File #	Request	Result
1983	PC-83-07 L-83-07	Amendments to the Comprehensive Plan Text and Map, amendments to the Development Code and Zoning Map, and a Site Development Plan (M-48615-83, PC-83-07-C(1)).	BOC Approved.

Conditions of Approval

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Compliance Opinion: Compliance Status Unclear

Basis: The locations the berms in question have not been provided. The berms may be along Coffin Butte Road between the road and three unlined areas (Old Closed Land, Cell 1, Cell 1A). It should be recognized that not all of the landfill cells constructed in the past 50 years were built to the same environmental standards and have different levels of leachate control.

Subcommittee Member – Republic

Republic complies the current DEQ requirements for leachate management.

13. DEQ permits are normally issued for a maximum of 5 years. As part of the permit renewal process, DEQ requires updated operational and construction plans to reflect the current permit period. As such, changes in environmental controls may be required to incorporate new technology into the landfill operation.

Comments

County

In Compliance. This is an advisory to the applicant rather than a condition that needed to be met.

Workgroup Committee

- As mentioned therefore it is appropriate to refer to DEQ compliance, although if the LUCS is not current, the permit may not be valid

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Compliance Opinion: Compliance Status Unclear

Basis: Compliance not demonstrated. Need DEQ solid waste permits from period 1983 to 2000.

Subcommittee Member – Republic

Date	File #	Request	Result
1983	PC-83-07 L-83-07	Amendments to the Comprehensive Plan Text and Map, amendments to the Development Code and Zoning Map, and a Site Development Plan (M-48615-83, PC-83-07-C(1)).	BOC Approved.
Conditions of Approval			
This condition is no longer relevant. There have been multiple iterations of subsequent DEQ permits since 1983.			

Date	File #	Request	Result
1994	PC-94-03	A conditional use permit for a 2.2 megawatt power generation facility. The facility would utilize the gas generated from the decomposing refuse in the landfill as the fuel source.	Community Development Department Approved

Conditions of Approval

1. The facility shall be housed in a structure approximately 50 by 100 feet or less in size, as described in the application materials.

Comments

County

In Compliance. Original generator building 3,900 square feet. Superseded by subsequent expansion approval.

Workgroup Committee

- missing information: application materials
- This is actually a really great way to answer a factual question. Allowable structure size, 5000 sf, built structure, 3,900 square feet, that's verifiable data. It would of course be good to have the application materials, since that is referenced (for example, were other building materials specified?)

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Compliance Opinion: None given as of 12/11/22

Basis: Low Priority

Subcommittee Member – Republic

Republic agrees with staff.

2. Noise levels shall comply with the New Industrial and Commercial Noise Standards (OAR 30403-355)-as measured at the nearest dwellings existing on the date of approval of this conditional use permit.

Comments

County

In Compliance. Noise testing completed in 1997.

Workgroup Committee

Date	File #	Request	Result
1994	PC-94-03	A conditional use permit for a 2.2 megawatt power generation facility. The facility would utilize the gas generated from the decomposing refuse in the landfill as the fuel source.	Community Development Department Approved

Conditions of Approval

- noise is an issue at the landfill and 1997 was a long time ago -- ensure the facility is still in compliance; verify that noise standards have not been updated
- Was there ever a follow-up study after the facility was expanded?

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: To ensure land use compatibility, compliance with noise requirements cannot be a snapshot in time. Periodic testing and monitoring to ensure continued compliance is required and the County does not monitor or enforce land use (e.g., noise impacts) requirements.

Compliance Opinion: Compliance Status Unclear

Basis: County staff represent that compliance with noise limits is driven by resident complaints. More detailed information on the County process for receiving, managing, and resolving complaints of this nature is needed to establish if this condition is being met.

Subcommittee Member – Republic

Republic agrees with staff. The condition required compliance at approval. Whether other members of the committee think the condition was inadequate can't be collaterally attacked after 18 years and isn't relevant to whether the power plant complied.

3. The applicant is responsible for ongoing monitoring of noise levels. Upon request of the Planning Official, the applicant shall provide the County with sufficient information to determine whether the facility is in compliance with Condition 2 of this permit.

Comments

County

In Compliance. The applicant is only required to provide documentation at the request of the Planning Official. Available records do not indicate any such requests by the Planning Official.

Workgroup Committee

Date	File #	Request	Result
1994	PC-94-03	A conditional use permit for a 2.2 megawatt power generation facility. The facility would utilize the gas generated from the decomposing refuse in the landfill as the fuel source.	Community Development Department Approved

Conditions of Approval

- Republic: Republic Services agrees with the County's assessment. Our available records do not indicate any such requests by the Planning Department.
- County has not monitored.
- noise is an issue at the landfill: ask the applicant to demonstrate that the facility is in compliance

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: To ensure land use compatibility, compliance with noise requirements cannot be a snapshot in time. Periodic testing and monitoring to ensure continued compliance is required and the County does not monitor or enforce land use (e.g., noise impacts) requirements.

Compliance Opinion: Compliance Status Unclear

Basis: County staff represent that compliance with noise limits is driven by resident complaints. More detailed information on the County process for receiving, managing, and resolving complaints of this nature is needed to establish if this condition is being met.

Subcommittee Member – Republic

This condition is only triggered if the Planning Official so requests. If there is no evidence that the Planning Official ever made such a request, then the power plant has been in compliance.

4. The applicant shall obtain and comply with all applicable permits from Oregon Department of Environmental Quality (DEQ). The applicant shall provide copies of all DEQ permits to the County.

Comments

County

In Compliance. The requirement is that the applicant send a copy of the DEQ permit to the county, so the county is simply a receiving body for this information. This is a standard type of condition that ties a county permit to a permit issued by another agency. The County does not actively monitor compliance with outside agency permitting requirements, but if the outside agency

Date	File #	Request	Result
1994	PC-94-03	A conditional use permit for a 2.2 megawatt power generation facility. The facility would utilize the gas generated from the decomposing refuse in the landfill as the fuel source.	Community Development Department Approved

Conditions of Approval

determines that their permitting requirements have not been met then the applicant is also out of compliance with the Benton County permit.

Workgroup Committee

- when was the most recent LUCS on file at DEQ completed?

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Compliance Opinion: Compliance Not Demonstrated

Basis: No record of required action provided.

Subcommittee Member – Republic

This condition was imposed on the power plant.

5. Expansion of the generating capacity of the facility is authorized under this permit as long as all conditions of approval, including those specifying building size and noise levels, are met. The Planning Official may require that the applicant obtain a new conditional use permit in order to expand the facility if, in his judgment, conditions existing at the time of the proposed expansion warrant a conditional use review.

Comments

Staff

In Compliance. The applicant submitted for a new CUP approval (S-97-58) for the expansion of the facility.

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Compliance Opinion: Compliance Not Demonstrated

Basis: No record of required compliance with noise levels provided.

Note: need to add CUP document reference as notated above in staff comment

Date	File #	Request	Result
1994	PC-94-03	A conditional use permit for a 2.2 megawatt power generation facility. The facility would utilize the gas generated from the decomposing refuse in the landfill as the fuel source.	Community Development Department Approved

Conditions of Approval

6. Lighting shall be located so that it does not face directly, shine or reflect glare onto an adjacent street or property.

Comments

County

In Compliance. Monitoring of this condition is complaint driven. Staff has no records of complaints regarding lights at the power generation facility.

Workgroup Committee

- County has not monitored
- Not enough information to determine if this condition is met.
- staff comment is non-responsive; check the facility at night
- While we are on the landfill tour on Saturday, I heard you [Ian] talking with Joel Geier, and the subject of the arc lamps on the scene came up (photo attached). You told Joel that the lamps were not used mornings, only in afternoons. However, I went out this morning at 6 am and saw that the lights were indeed already on atop Coffin Butte, and there appeared to be operations going on, as I could see the red taillights of trucks moving around up there also. So it seems you are mistaken about the use of the arc lamps, and have been for some time. All last winter, for example, the lights were on every workday morning. I know this because I can see them from where I live when I go out to get the paper, weather permitting. They were on even if I got up at 5 am.

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: Can the County describe the system for documenting, responding to, and resolving complaints received? A complaint driven system of enforcement is unsatisfactory, particularly when Benton County residents are unaware of specific requirements and certainly rely on Benton County staff to monitor and enforce land use requirements.

Compliance Opinion: Compliance Not Demonstrated

Basis: No record of addressing compliance with lighting complaints provided.

Date	File #	Request	Result
1994	PC-94-03	A conditional use permit for a 2.2 megawatt power generation facility. The facility would utilize the gas generated from the decomposing refuse in the landfill as the fuel source.	Community Development Department Approved

Conditions of Approval

Subcommittee Member – Republic

We note that this condition only applies to lighting at the power plant. There is no evidence that power plant has ever been in violation of this condition or that there have been any complaints. We would say "in compliance" or "no evidence of non-compliance."

7. Obtain all required septic, access, building, plumbing, mechanical, electrical, and other applicable permits prior to construction.

Comments

County

In Compliance. Staff was able to find the following permits: Electrical - C9500565, C9501197, C9600514, C9600852. No building permits were found but this does not mean that they were not submitted, it is more a function of the county's issues related keeping track of old records. Ultimately, if the permits had not been submitted and approved and the building inspected then the building could not have been put into use.

Workgroup Committee

- septic/ada/building/plumbing/mechanical? certificate of occupancy?

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Compliance Opinion: None given as of 12/11/22

Basis: Low Priority

Date	File #	Request	Result
1994	PC-94-10	Zone change from Rural Residential to Landfill Site Zone, Comprehensive Plan change from Rural Residential to Landfill Site.	BOC Denied

Conditions of Approval

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager believe that the record and rational of this land use proceeding is relevant to the evolution of the Coffin Butte Landfill.

Compliance Opinion: None given as of 12/11/22

Basis: Low Priority

Review of the record in this land use proceeding provides important historical context. The public comments and the Notice of Decision in this matter are critical to understanding the history of the landfill and the sentiment of the residents of Benton County at that time.

Open Items: need to review this documentation

Date	File #	Request	Result
1994	PC-94-11	A conditional use permit to expand the area approved for a landfill within the Landfill Site Zone and update the site development plan.	PC Approved; PC Decision Appealed; Application Withdrawn

Conditions of Approval

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager believe that the record and rational of this land use proceeding is relevant to the evolution of the Coffin Butte Landfill.

Review of the record in this land use proceeding provides important historical context. The public comments and the Notice of Decision in this matter are critical to understanding the history of the landfill and the sentiment of the residents of Benton County at that time.

Date	File #	Request	Result
1997	S-97-58	A conditional use permit to expand the generating capacity of the existing electric generation plant that is served by the gas produced at the Coffin Butte Landfill. Phase I of the expansion would increase the capacity of the plant from the current 2.2 MW to 5 MW and Phase II would increase the capacity to 10 MW.	Community Development and Parks Department Approved

Conditions of Approval

1. The Phase I generation facility shall be located in a structure approximately 75 by 85 feet; as shown in the application. The Phase 2 expansion shall be located in a building approximately 120 by 200 feet, as shown in the application materials. The Phase 2 expansion shall be located at least 300 feet from State Highway 99W, as shown in the application materials.

Comments

County

In Compliance. The expansion added 4,300 square feet to the original building.

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Compliance Opinion: None given as of 12/11/22

Basis: Low Priority

2. Both the Phase 1 and Phase 2 expansions shall be constructed in accordance with the application materials. In addition, the siting standards of BCC 60.405 (2) and (3) and BCC 60.415(4), (5), (9), and (11) shall be met.

Comments

County

In Compliance. Staff was able to find the following permits: Permit B0700147 Phase I expansion & Permits B0700323, B0700416, B0700415, F0600068, B1400497. Zoning Compliance review occurs concurrent with the construction plan review to ensure that the site plan submitted with the building permit meets county regulations and conditions of approval.

Workgroup Committee

- certificate of occupancy?

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Date	File #	Request	Result
1997	S-97-58	A conditional use permit to expand the generating capacity of the existing electric generation plant that is served by the gas produced at the Coffin Butte Landfill. Phase I of the expansion would increase the capacity of the plant from the current 2.2 MW to 5 MW and Phase II would increase the capacity to 10 MW.	Community Development and Parks Department Approved

Conditions of Approval

Compliance Opinion: None given as of 12/11/22

Basis: Low Priority

3. Noise levels for both Phase I and Phase 2 expansions shall comply with the Noise Control Regulations for Industry and Commerce in Oregon Administrative Rules 340-035- 0035 as measured at the nearest dwellings existing on the date of approval of this conditional use permit.

Comments

County

In Compliance. Noise Compliance Monitoring memorandum submitted on June 11, 1997, by Pacific Northwest Generating Cooperative. Subsequent to the compliance monitoring memorandum, the County would require additional testing only if there was reason to believe the noise standards were no longer being met, such as through a noise complaint received from an adjacent dwelling.

Workgroup Committee

- And were complaints received? Not enough information to determine if this condition was met.
- County has not monitored subsequent
- Is this document available to the public?
- noise is an issue at the landfill; ensure the facility is still in compliance; verify that noise standards have not been updated

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: Can the County describe the system for documenting, responding to, and resolving complaints received? To ensure land use compatibility, compliance with noise requirements cannot be a snapshot in time. Periodic testing and monitoring to ensure continued compliance is required and the County does not monitor or enforce land use (e.g., noise impacts) requirements.

Date	File #	Request	Result
1997	S-97-58	A conditional use permit to expand the generating capacity of the existing electric generation plant that is served by the gas produced at the Coffin Butte Landfill. Phase I of the expansion would increase the capacity of the plant from the current 2.2 MW to 5 MW and Phase II would increase the capacity to 10 MW.	Community Development and Parks Department Approved

Conditions of Approval

A complaint driven system of enforcement is unsatisfactory, particularly when Benton County residents are unaware of specific requirements and certainly rely on Benton County staff to monitor and enforce land use requirements.

Compliance Opinion: Compliance Status Unclear

Basis: County staff represent that compliance with noise limits is driven by resident complaints. More detailed information on the County process for receiving, managing, and resolving complaints of this nature is needed to establish if this condition is being met.

Subcommittee Member – Republic

The Power Plant was in compliance at the time of approval and there have been no complaints since.

4. The applicant is responsible for ongoing monitoring of noise levels. Upon request of the Planning Official, the applicant shall provide the County with sufficient information to determine whether the facility is in compliance with Condition 3 of this permit.

Comments

County

In Compliance. Available records do not indicate any requests for noise monitoring by the Planning Official.

Workgroup Committee

- Republic: Republic Services agrees with the County's assessment. Our available records do not indicate any such requests by the Planning Department.
- County has not monitored
- noise is an issue at the landfill; ensure the facility is still in compliance
- Not enough information

Date	File #	Request	Result
1997	S-97-58	A conditional use permit to expand the generating capacity of the existing electric generation plant that is served by the gas produced at the Coffin Butte Landfill. Phase I of the expansion would increase the capacity of the plant from the current 2.2 MW to 5 MW and Phase II would increase the capacity to 10 MW.	Community Development and Parks Department Approved

Conditions of Approval

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: Requiring the Applicant to self-monitor and regulate without any oversight by the County is ineffectual and a disservice to the residents of Benton County to whom County staff and the Board of Commissioners are accountable.

Compliance Opinion: Compliance Status Unclear

Basis: County staff represent that compliance with noise limits is driven by resident complaints. More detailed information on the County process for receiving, managing, and resolving complaints of this nature is needed to establish if this condition is being met.

Subcommittee Member – Republic

The Planning Official has never asked for additional information, so the Power Plant is in compliance or that there is no evidence of non-compliance.

5. The applicant shall continue to provide sanitation facilities for the generation plant employees that are located on site. The facilities shall include:

a) Drinking water within the generating plant building by a potable water container, refilled periodically;
b) A portable toilet located at the generating plant site;
c) Plumbed restroom facilities, with water closets and hot and cold running water shall be available for use by employees at the Coffin Butte Landfill office;
d) Generating plant employees shall have vehicles available for trips to the Coffin Butte Landfill office restroom facilities;
e) The maximum number of generating plant employees shall be five (5).

Comments

County

Date	File #	Request	Result
1997	S-97-58	A conditional use permit to expand the generating capacity of the existing electric generation plant that is served by the gas produced at the Coffin Butte Landfill. Phase I of the expansion would increase the capacity of the plant from the current 2.2 MW to 5 MW and Phase II would increase the capacity to 10 MW.	Community Development and Parks Department Approved

Conditions of Approval

In Compliance. An OSHA letter from September 29, 1997, relating to the toilet facilities and drinking water stated that the facility was compliant with OSHA standards for sanitation. The County does not monitor ongoing compliance with conditions such as this, unless there is reason to believe the operation may be out of compliance.

Workgroup Committee

- applicant "shall continue"…is the facility still in compliance? is potable water still available, are the other conditions complied with? portable toilet/available vehicles/5 maximum employees?

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Compliance Opinion: None given as of 12/11/22

Basis: Low Priority

6. The applicant shall obtain and comply with all applicable permits from the Oregon Department of Environmental Quality (DEQ). The applicant shall provide copies of all DEQ permits for the generation facility to the Community Development and Parks Department.

Comments

County

In Compliance. This is a standard type of condition that ties a County permit to a permit issued by another agency. The County does not actively monitor compliance with outside agency permitting requirements, but if the outside agency determines that their permitting requirements have not been met then the applicant is also out of compliance with the Benton County permit.

Workgroup Committee

when was the most recent LUCS on file at DEQ completed?

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Date	File #	Request	Result
1997	S-97-58	A conditional use permit to expand the generating capacity of the existing electric generation plant that is served by the gas produced at the Coffin Butte Landfill. Phase I of the expansion would increase the capacity of the plant from the current 2.2 MW to 5 MW and Phase II would increase the capacity to 10 MW.	Community Development and Parks Department Approved

Conditions of Approval

Compliance Opinion: Compliance Not Demonstrated

Basis: No record of required actions provided.

Subcommittee Member – Republic

This is a responsibility of the power plant.

7. Lighting shall be located so that it does not face directly, shine, or glare onto an adjacent road or property.

Comments

County

In Compliance. Monitoring of this condition is complaint driven. There are no records of any complaints. If there is current concern that the power plant lighting is out of compliance with this condition that could be investigated, but at this time there is no evidence of noncompliance.

Workgroup Committee

- check the facility at night
- County has not monitored
- Not enough information

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: Can the County describe the system for documenting, responding to, and resolving complaints received? A complaint driven system of enforcement is unsatisfactory, particularly when Benton County residents are unaware of specific requirements and certainly rely on Benton County staff to monitor and enforce land use requirements to ensure compatibility.

Compliance Opinion: Compliance Not Demonstrated

Date	File #	Request	Result
1997	S-97-58	A conditional use permit to expand the generating capacity of the existing electric generation plant that is served by the gas produced at the Coffin Butte Landfill. Phase I of the expansion would increase the capacity of the plant from the current 2.2 MW to 5 MW and Phase II would increase the capacity to 10 MW.	Community Development and Parks Department Approved

Conditions of Approval

Basis: No record of addressing compliance with lighting complaints provided.

Subcommittee Member – Republic

If there is no record of complaints and, ergo, no record that the power plant has failed to respond to complaints, then there is no basis for a conclusion that the Power Plant has done anything other than comply.

8. The property owner shall submit a declaratory statement to be recorded in the Benton County Deed Records for the subject property that recognizes the rights of adjacent forest uses, consistent with BCC 620.220().

Comments

County

In Compliance. The document was submitted and recorded.

Workgroup Committee

- provide copy in documentation

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Compliance Opinion: No compliance opinion

Basis: Low priority

9. The applicant shall prepare a site-specific development plan addressing emergency water supplies for fire protection. The plan shall be submitted to the local fire protection agency for review. The plan approved by the local fire protection agency shall be shall submitted to the Community Development and Parks Department prior to the issuance of building permits for the structure for Phase 1. A revised site-specific development plan shall be completed prior to issuance of construction permits for the Phase 2 expansion. The site development plan shall address:

Date	File #	Request	Result
1997	S-97-58	A conditional use permit to expand the generating capacity of the existing electric generation plant that is served by the gas produced at the Coffin Butte Landfill. Phase I of the expansion would increase the capacity of the plant from the current 2.2 MW to 5 MW and Phase II would increase the capacity to 10 MW.	Community Development and Parks Department Approved

Conditions of Approval

a) Emergency access to the local water supply in the event of a wildfire or other fire-related emergency;
b) Provision of an all-weather road or driveway to within 10 feet of the edge of identified water supplies which contain 4,000 gallons or more and exist within 100 feet of the driveway or road at a reasonable grade (e.g. 12 percent or less);and
c) Emergency water supplies shall be clearly marked along the access route with a Fire District approved sign.

Comments

County

In Compliance. This is a standard requirement for a building permit. The site plan and construction drawings are reviewed by the applicable fire agency. The agency supplies a review based on adopted fire requirements and state fire codes. The building permit for the addition could not have been approved without fire review.

Workgroup Committee

- Republic: Republic Services is also conducting further research.
- appears to be not in compliance. these (plus assurance of power generation in an outage) would be a good start at considering requirements for the LS zone in a potential revisit of chapter 77
- This explanation of status cannot be accepted until the topic has been researched.

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: Landfill activities have a high potential of igniting fires and there have been fires previously at Coffin Butte. The potential for starting a wildfire is also great given the location of this industrial activity. Further, the frequency of power outages and landfill operations (e.g., pumps for water supply, leachate management and methane gas extraction) are dependent on reliable power supplies.

Compliance Opinion: Compliance Not Demonstrated

Basis: No record of required action provided.

Date	File #	Request	Result
1997	S-97-58	A conditional use permit to expand the generating capacity of the existing electric generation plant that is served by the gas produced at the Coffin Butte Landfill. Phase I of the expansion would increase the capacity of the plant from the current 2.2 MW to 5 MW and Phase II would increase the capacity to 10 MW.	Community Development and Parks Department Approved

Conditions of Approval

Subcommittee Member – Republic

This condition was imposed on expansion of the power plant, not on the landfill. We note that the landfill maintains an onsite water truck and water stand approximately 1 mile from the landfill entrance and 1.5 miles from the power plant entrance. The landfill uses daily cover to keep the amount of waste that is uncovered and available to burn to a minimum. Operators are trained on what to do if a fire starts and how to contain it.

10. The applicant shall obtain all required septic, road approach, building, plumbing, mechanical, electrical, and other applicable permits prior to commencement of construction for both the Phase I and Phase 2 expansion. Contact the Permits Clerk and Building Official at the Community Development and Parks Department regarding permits and fees.

Comments

County

In Compliance. Standard advisory condition. Completed for Phase 1. Phase 2 of the expansion has not been utilized by the applicant.

Workgroup Committee

- CO for Phase 1? CO for Phase 2?
- Republic Services' records do not show any non-compliance issues with Phase II. While the owner/operator of Coffin Butte Landfill was the applicant for this CUP request, primary responsibility for compliance would have been with Pacific Northwest Generating Cooperative, an independent third-party contractor and not a Republic Services' subsidiary.
- What about Phase 2?

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Compliance Opinion: No compliance opinion

Date	File #	Request	Result
1997	S-97-58	A conditional use permit to expand the generating capacity of the existing electric generation plant that is served by the gas produced at the Coffin Butte Landfill. Phase I of the expansion would increase the capacity of the plant from the current 2.2 MW to 5 MW and Phase II would increase the capacity to 10 MW.	Community Development and Parks Department Approved
Conditions of Approval			
Basis: Low priority			

Date	File #	Request	Result
1999	PC-99-06	A Conditional Use Permit for mining and processing of mineral and aggregate resources. The proposed area consists of 1.43 acres adjacent to the existing quarry operation.	Planning Commission approved

Conditions of Approval

1. Obtain approval of a reclamation plan from the Oregon Department of Geology and Mineral Industries or the Oregon Division of State Lands. Operation and reclamation plan shall demonstrate consistency with the intended subsequent site use.

Comments

County

In Compliance. This is a standard type of condition that ties a County permit to a permit issued by another agency. The County does not actively monitor compliance with outside agency permitting requirements, but if the outside agency determines that their permitting requirements have not been met then the applicant is also out of compliance with the Benton County permit.

Workgroup Committee

- extraction believed to be completed, see next permit request, staff should verify. is there a CUP closeout process at Benton County CDD?

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: What is the mechanism whereby any State agency is informed of a County land use action to allow an activity that requires a permit from a State agency? If the County issues an approval for a land use prior to the landowner getting the required permits, how will the County ensure that all the required permits have been received since the County does no monitoring or enforcement.

Compliance Status Unclear. No record of required action provided.

Subcommittee Member – Republic

The reclamation plan for the quarry is governed by DOGMI and the operation cannot close the site until those permits are obtained. The current reclamation plan is eventually landfill in the quarry area and cap it when the landfill closes.

Date	File #	Request	Result
1999	PC-99-06	A Conditional Use Permit for mining and processing of mineral and aggregate resources. The proposed area consists of 1.43 acres adjacent to the existing quarry operation.	Planning Commission approved

Conditions of Approval

2. if the mining is the primary cause of traffic on the unpaved public road, that road shall be kept dust-free by the applicant if dwellings are located within 300 feet of the roadway. The applicant and lease-holding operator shall endeavor to use only those public roads designated for truck usage, unless making local deliveries of mineral and aggregate resources to residential areas serviced by roads not designated for truck usage.

Comments

County

In Compliance. This would be Coffin Butte Road and this road is paved.

Workgroup Committee

- extraction believed to be completed, see next permit request, staff should verify. is there a CUP closeout process at Benton County CDD?
- Is there no equivalent condition about dropping rocks which create road hazards on the highway?

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: This is a classic example of an unenforceable condition of approval – who or how will the "primary cause" of traffic be determined? Then the requirement that the applicant or quarry lease holder "endeavor" to use only roads designed for truck traffic, what does that mean? A meaningless condition that does not have any chance of being enforced. Issuing a land use approval to a property owner binds the property owner and that obligation cannot be transferred to the lease holder.

Compliance Status Unclear. No record of required action provided.

Subcommittee Member – Republic

There is no quarry traffic on any unpaved roads. The primary road that the quarry traffic uses is paved (Coffin Butte Rd). An occasional truck might use one of the roads to the north of the site to deliver gravel to a homeowner or if the county is doing maintenance on a gravel road, but is not very common. Rock trucks are not the primary traffic on any of the gravel roads surrounding the site. This condition has never been triggered.

Date	File #	Request	Result
1999	PC-99-06	A Conditional Use Permit for mining and processing of mineral and aggregate resources. The proposed area consists of 1.43 acres adjacent to the existing quarry operation.	Planning Commission approved

Conditions of Approval

3. The applicant or lease-holding operator shall provide screening to partially obscure the mining site from view by adjoining occupied property and public roads in Soap Creek Valley and north Benton County to the extent reasonable and practicable to do so. The screening shall consist of an ornamental fence or wall, a vegetated berm, or preservation of vegetated natural slope in character with the natural landscape of Soap Creek Valley.

Comments

County

County Requirement Superseded. The 1.43 acres is located along the north side of the quarry and the landfill. This is now part of a landfill cell so screening just this small piece of land is impracticable. The wording of this condition is unfortunately subjective, making determination of compliance not clear and objective.

Workgroup Committee

- Republic: Republic Services did not own Coffin Butte Landfill at this time. Therefore, we do not have detailed records about any screening that was done. While the owner/operator of Coffin Butte Landfill was the applicant for this CUP request, primary responsibility for compliance with these and other requirement would have been the third-party quarry contractor. It appears from Google Earth historical photos that the third-party contractor did make an attempt to construct some berms and screening, but Republic Services do not have access to those records.
- extraction believed to be completed, see next permit request, staff should verify. is there a CUP closeout process at Benton County CDD?
- Not in compliance. The quarry is visible for miles around.

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: As the property owner, RS or any previous landowner cannot delegate their responsibility to comply with conditions of approval to a third-party. It is the responsibility of the landowner to comply. Further, making an attempt to provide screening is not compliance. Again, County inability or unwillingness to monitor or enforce conditions of approval makes the whole land use review and approval process meaningless.

Date	File #	Request	Result
1999	PC-99-06	A Conditional Use Permit for mining and processing of mineral and aggregate resources. The proposed area consists of 1.43 acres adjacent to the existing quarry operation.	Planning Commission approved

Conditions of Approval

Compliance Status Unclear. Field verification needed.

4. The applicant or lease-holding operator shall ensure that the mining operation does not exceed the maximum sound level permitted by the Oregon Department of Environmental Quality. The applicant or lease-holding operator shall monitor noise generated by mining activities on one randomly selected day per month when noise complaints are received, notwithstanding a minimum of one time per year. Noise data and reports of findings from this monitoring shall be placed on file, in a timely way with the Benton County Community Development Department for public inspection. A berm, or other sound-absorbing construction materials such as acoustical cinder blocks or other similar methods may be used to reduce the sound off-site to levels at or below those permitted by the Oregon Department of Environmental Quality. Any sound-reduction construction will be consistent with the visual buffering required in Condition #3 above. The applicant or lease-holding operator shall limit blasting to the hours of 9:00 a.m. to 5:00 p.m., Monday through Friday.

Comments

County

County Requirement Superseded. This 1.43 acres is no longer being quarried.

Workgroup Committee

- Republic: As noted above, the owner/operator of Coffin Butte Landfill was the applicant for this CUP only because it was the property landowner. Primary responsibility for compliance with these and other requirements would have rested with the third-party quarry contractor.
- extraction believed to be completed, see next permit request, staff should verify. is there a cup closeout process at Benton County CDD?

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Date	File #	Request	Result
1999	PC-99-06	A Conditional Use Permit for mining and processing of mineral and aggregate resources. The proposed area consists of 1.43 acres adjacent to the existing quarry operation.	Planning Commission approved

Conditions of Approval

Mark Yeager: As the property owner, RS or any previous landowner cannot delegate their responsibility to comply with conditions of approval to a third-party. It is the responsibility of the landowner to comply. Again, County inability or unwillingness to monitor or enforce conditions of approval makes the whole land use review and approval process meaningless.

Compliance Status Unclear. No record of required action provided.

Subcommittee Member – Republic

As noted above, mining has long ceased at this site. There is some evidence that the berm was constructed but has since been removed. Conditions of this CUP relating to mining operation on site are no longer relevant.

5. Provide on-site parking for employees, customers, and visitors to the mining site.

Comments

County

County Requirement Superseded. This 1.43 acres is no longer being quarried.

Workgroup Committee

- Republic: As noted above, the owner/operator of Coffin Butte Landfill was the applicant for this CUP only because it was the property landowner. Primary responsibility for compliance with these and other requirements would have rested with the third-party quarry contractor.
- extraction believed to be completed, see next permit request, staff should verify. is there a cup closeout process at Benton County CDD?
- In compliance

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Date	File #	Request	Result
1999	PC-99-06	A Conditional Use Permit for mining and processing of mineral and aggregate resources. The proposed area consists of 1.43 acres adjacent to the existing quarry operation.	Planning Commission approved

Conditions of Approval

Mark Yeager: As the property owner, RS or any previous landowner cannot delegate their responsibility to comply with conditions of approval to a third-party. It is the responsibility of the landowner to comply.

Condition No. 5

No Compliance Opinion

6. Maintain a security fence between the mining operation and the public road when such road is located within 200 feet of the mining operation.

Comments

County

County Requirement Superseded. This 1.43 acres is no longer being quarried.

Workgroup Committee

- Republic: As noted above, the owner/operator of Coffin Butte Landfill was the applicant for this CUP only because it was the property landowner. Primary responsibility for compliance with these and other requirements would have rested with the third-party quarry contractor.
- extraction believed to be completed, see next permit request, staff should verify. is there a cup closeout process at Benton County CDD?
- In compliance

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: As the property owner, RS or any previous landowner cannot delegate their responsibility to comply with conditions of approval to a third-party. It is the responsibility of the landowner to comply.

No Compliance Opinion

Date	File #	Request	Result
1999	PC-99-06	A Conditional Use Permit for mining and processing of mineral and aggregate resources. The proposed area consists of 1.43 acres adjacent to the existing quarry operation.	Planning Commission approved

Conditions of Approval

7. Not excavate in a manner which would result in disturbance of perimeter fencing or screening, or would impair the intent of the reclamation plan.

Comments

County

County Requirement Superseded. This 1.43 acres is no longer being quarried.

Workgroup Committee

- Republic: As noted above, the owner/operator of Coffin Butte Landfill was the applicant for this CUP only because it was the property landowner. Primary responsibility for compliance with these and other requirements would have rested with the third-party quarry contractor.
- extraction believed to be completed, see next permit request, staff should verify. is there a cup closeout process at Benton County CDD?
- The provision for screening has not been met, as noted above.

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: As the property owner, RS or any previous landowner cannot delegate their responsibility to comply with conditions of approval to a third-party. It is the responsibility of the landowner to comply.

No Compliance Opinion

8. The quarry operation hours shall occur only between 7:00 a.m. and 5:00 p.m. Monday through Friday, and 7:00 a.m. and 3:00 p.m. on Saturdays. Quarrying operations shall not be conducted on Sundays.

Comments

County

Date	File #	Request	Result
1999	PC-99-06	A Conditional Use Permit for mining and processing of mineral and aggregate resources. The proposed area consists of 1.43 acres adjacent to the existing quarry operation.	Planning Commission approved

Conditions of Approval

County Requirement Superseded. This 1.43 acres is no longer being quarried.

Workgroup Committee

- Republic: As noted above, the owner/operator of Coffin Butte Landfill was the applicant for this CUP only because it was the property landowner. Primary responsibility for compliance with these and other requirements would have rested with the third-party quarry contractor.
- extraction believed to be completed, see next permit request, staff should verify. is there a cup closeout process at Benton County CDD?
- Generally in compliance (the quarry has been a better neighbor than the landfill, in this regard).
- "Operating hours" seem to be where there is most reluctance to make a clear statement that the landfill is out of compliance. Three or four special kinds of "operations" are mentioned that take place outside of the operating hours that were stated as conditions for the permits. On this last issue, for comparison I took a look at Lane County's Short Mountain Landfill. That landfill only serves commercial account holders, yet they seem to be able to restrict those haulers to their stated operating hours (7 AM to 5 PM weekdays and Saturdays). Seems like there's a lesson for Benton County our working group in there.

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: As the property owner, RS or any previous landowner cannot delegate their responsibility to comply with conditions of approval to a third-party. It is the responsibility of the landowner to comply. Again, County inability or unwillingness to monitor or enforce conditions of approval makes the whole land use review and approval process meaningless.

Limiting “quarry operations” to 7:00 am to 5:00 pm creates a potential conflict with prior condition #4.

In Compliance: Periodic County inspections are suggested to address resident concerns.

9. The applicant shall retain the dual-access road system to provide for emergency service access to the subject site.

Comments

County

Date	File #	Request	Result
1999	PC-99-06	A Conditional Use Permit for mining and processing of mineral and aggregate resources. The proposed area consists of 1.43 acres adjacent to the existing quarry operation.	Planning Commission approved

Conditions of Approval

County Requirement Superseded. This 1.43 acres is no longer being quarried.

Workgroup Committee

- Republic: As noted above, the owner/operator of Coffin Butte Landfill was the applicant for this CUP only because it was the property landowner. Primary responsibility for compliance with these and other requirements would have rested with the third-party quarry contractor.
- extraction believed to be completed, see next permit request, staff should verify. is there a cup closeout process at Benton County CDD?
- There is only one serviceable route in to the quarry site for emergency service. The bridge over Soap Creek is no longer passable for emergency vehicles (both structurally unsound and with barriers in place).

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: As the property owner, RS or any previous landowner cannot delegate their responsibility to comply with conditions of approval to a third-party. It is the responsibility of the landowner to comply. Again, County inability or unwillingness to monitor or enforce conditions of approval makes the whole land use review and approval process meaningless.

Compliance Status Unclear

10. The quarrying activity shall be limited to the 600-foot contour elevation and below, as shown by the applicant on Attachment 2 to the application.

Comments

County

County Requirement Superseded. This 1.43 acres is no longer being quarried.

Workgroup Committee

Date	File #	Request	Result
1999	PC-99-06	A Conditional Use Permit for mining and processing of mineral and aggregate resources. The proposed area consists of 1.43 acres adjacent to the existing quarry operation.	Planning Commission approved

Conditions of Approval

- Republic: As noted above, the owner/operator of Coffin Butte Landfill was the applicant for this CUP only because it was the property landowner. Primary responsibility for compliance with these and other requirements would have rested with the third-party quarry contractor.
- extraction believed to be completed, see next permit request, staff should verify. is there a cup closeout process at Benton County CDD?
- Google Earth images from 8/13/2020 show that quarrying activity extends up to approximately the 700 ft contour.

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: As the property owner, RS or any previous landowner cannot delegate their responsibility to comply with conditions of approval to a third-party. It is the responsibility of the landowner to comply. Again, County inability or unwillingness to monitor or enforce conditions of approval makes the whole land use review and approval process meaningless.

Compliance Status Unclear.

Subcommittee Member – Republic

The referenced Google Images are of the LS zoned area in which quarries are an outright permitted use, not the area of this CUP. The excavation in this area complied with the 600 foot limit.

11. Copies of water quality and air quality permits, and data produced from associated monitoring programs, required of the applicant by the Oregon Department of Environmental Quality, shall be placed on file, in a timely way, with the Benton County Community Development Department for public inspection.

Comments

County

County Requirement Superseded. This 1.43 acres is no longer being quarried.

Workgroup Committee

Date	File #	Request	Result
1999	PC-99-06	A Conditional Use Permit for mining and processing of mineral and aggregate resources. The proposed area consists of 1.43 acres adjacent to the existing quarry operation.	Planning Commission approved

Conditions of Approval

- Republic: As noted above, the owner/operator of Coffin Butte Landfill was the applicant for this CUP only because it was the property landowner. Primary responsibility for compliance with these and other requirements would have rested with the third-party quarry contractor.
- extraction believed to be completed, see next permit request, staff should verify. is there a cup closeout process at Benton County CDD?
- This explanation of status cannot be accepted until the topic has been researched.

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: As the property owner, RS or any previous landowner cannot delegate their responsibility to comply with conditions of approval to a third-party. It is the responsibility of the landowner to comply. Again, County inability or unwillingness to monitor or enforce conditions of approval makes the whole land use review and approval process meaningless.

Compliance Status Unclear. County records need to be reviewed

12. Copies of storm-water runoff permits and data produced from associated monitoring programs required of the applicant by the Oregon Department of Environmental Quality, shall be placed on file in a timely way, with the Benton County Community Development Department for public inspection.

Comments

County

County Requirement Superseded. This 1.43 acres is no longer being quarried.

Workgroup Committee

- Republic: As noted above, the owner/operator of Coffin Butte Landfill was the applicant for this CUP only because it was the property landowner. Primary responsibility for compliance with these and other requirements would have rested with the third-party quarry contractor.

Date	File #	Request	Result
1999	PC-99-06	A Conditional Use Permit for mining and processing of mineral and aggregate resources. The proposed area consists of 1.43 acres adjacent to the existing quarry operation.	Planning Commission approved
Conditions of Approval			

- extraction believed to be completed, see next permit request, staff should verify. is there a cup closeout process at Benton County CDD?
- This explanation of status cannot be accepted until the topic has been researched.

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: As the property owner, RS or any previous landowner cannot delegate their responsibility to comply with conditions of approval to a third-party. It is the responsibility of the landowner to comply. Again, County inability or unwillingness to monitor or enforce conditions of approval makes the whole land use review and approval process meaningless.

Compliance Status Unclear. County records need to be reviewed.

Date	File #	Request	Result
2002	PC-02-07	A Conditional Use Permit for landfilling of an area that will be excavated for mining of mineral and aggregate resources Approved by the Planning Commission with Conditions. (West Triangle Expansion). The proposed area consists of 1.43 acres adjacent to the existing quarrying and landfill operation, and is designed to fulfill the reclamation plan for the previously approved quarry on this site.	Planning Commission approved

Conditions of Approval

1. Obtain approval from the Oregon Department of Environmental Quality for landfill operations on this site.

Comments

County

In Compliance. This is a standard type of condition that ties a county permit to a permit issued by another agency. The County does not actively monitor compliance with outside agency permitting requirements, but if the outside agency determines that their permitting requirements have not been met then the applicant is also out of compliance with the Benton County permit.

Workgroup Committee

- Republic: Republic Services has obtained all the necessary approvals and permits from the Oregon Department of Environmental Quality and remains in compliance with these conditions and approvals.
- does the most recent LUCS on file with DEQ predate
- this cup application?

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: What is the mechanism whereby any State agency is informed of a County land use action to allow an activity that requires a permit from a State agency? If the County issues an approval for a land use prior to the landowner getting the required permits, how will the County ensure that all the required permits have been received since the County does no monitoring or enforcement.

Compliance Status Unclear. Site plan for area of interest needs to be provided.

Subcommittee Member – Republic

Republic Services has obtained all the necessary approvals and permits from the Oregon Department of Environmental Quality and remains in compliance with these conditions and approvals. Republic has to have both permits in hand to begin operation in

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Conditions of Approval

a new area, and the County will know because of the requirement that the Landfill file copies of the approved permits with the County.

2. In cases where landfill operations are the primary cause of traffic on unpaved public roads in the area, those roads shall be kept dust-free by the applicant.

Comments

County

In Compliance. No longer applicable. Coffin Butte Road is entirely paved. The county considers this condition to be completed.

Workgroup Committee

- See previous comment on this issue re: Robison Rd. and Wiles Rd.
- The public section of Coffin Butte Road is entirely paved.
- there continue to be unpaved public roads in the vicinity of the landfill. does the landfill contribute to traffic on those roads? if so, how much?

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: This is a classic example of an unenforceable condition of approval – who or how will the "primary cause" of traffic be determined? Many roads in the vicinity of the landfill are unpaved and are likely to receive traffic headed to the landfill.

No Compliance Opinion

Subcommittee Member – Republic

This condition is moot. There are no unpaved public roads serving the landfill; this condition is not applicable.

Date	File #	Request	Result
2002	PC-02-07	A Conditional Use Permit for landfilling of an area that will be excavated for mining of mineral and aggregate resources Approved by the Planning Commission with Conditions. (West Triangle Expansion). The proposed area consists of 1.43 acres adjacent to the existing quarrying and landfill operation, and is designed to fulfill the reclamation plan for the previously approved quarry on this site.	Planning Commission approved

Conditions of Approval

3. The applicant or lease-holding operator shall ensure that the landfill operation does not exceed the maximum sound level permitted by the Oregon Department of Environmental Quality.

Comments

County

County Requirement Superseded. This condition is only applicable to the 1.43-acre site, not the entire landfill. Since the site was incorporated into a cell, this condition is no longer relevant.

Workgroup Committee

- noise is an issue at the landfill; ensure the facility is still in compliance
- Not enough information.
- Not monitored by the county.

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: How and when does the County ensure that the maximum sound level has not been exceeded. Since this is another example of complaint-based enforcement, what system is in place to document, respond to, and resolve noise related complaints? The landowner cannot delegate regulatory compliance or accountability with these types of requirements to a lease-holding operator.

Compliance Not Demonstrated. No evidence of County process to capture / respond to action provided.

Subcommittee Member – Republic

There is no evidence that Republic is not in compliance.

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Conditions of Approval

4. Provide on-site parking for employees, customers, and visitors to the landfill site.

Comments

County

In Compliance.

Workgroup Committee

- truck traffic to the landfill begins backing up HWY 99 beginning before 4:30am; ensure that traffic to the landfill does not pose a safety hazard

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

No compliance opinion

Subcommittee Member – Republic

Republic has multiple parking spots at its office and scale house.

5. Maintain a security fence between the landfill operation and the public road when such road is located within 200 feet of the landfill operation.

Comments

County

In Compliance. Security fence is present

Workgroup Committee

Date	File #	Request	Result
2002	PC-02-07	A Conditional Use Permit for landfilling of an area that will be excavated for mining of mineral and aggregate resources Approved by the Planning Commission with Conditions. (West Triangle Expansion). The proposed area consists of 1.43 acres adjacent to the existing quarrying and landfill operation, and is designed to fulfill the reclamation plan for the previously approved quarry on this site.	Planning Commission approved

Conditions of Approval

- check fence perimeter to ensure fencing is intact and surrounds the entire perimeter; from a casual inspection, it appears deferred maintenance may be in order

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

No Compliance Opinion

Subcommittee Member – Republic

The subject property is more than 200 feet from any public road.

6. The landfill operation hours shall occur between 8:00 a.m. and 5:00 p.m. Monday through Saturday, and 12:00 p.m. through 5:00 p.m. on Sundays, with 24-hour access for commercial customers.

Comments

County

County Requirement Superseded. This condition only applies to the 1.43-acre site, not the entire landfill so cannot be enforced.

Workgroup Committee

- Republic: Republic Services is in compliance with this requirement, which governs landfill operations. However, it's important to note that internal operations, which include the arrival of field personnel on-site, begins at 4:30 a.m., Monday through Friday, and at 7:30 a.m. on Saturday. Additional operations not governed by the conditional use permit include work by third party contractors on landfill infrastructure, and commercial customers, who have 24-hour access to the Landfill.
- "Operating hours" seem to be where there is most reluctance to make a clear statement that the landfill is out of compliance. Three or four special kinds of "operations" are mentioned that take place outside of the operating hours that were stated as conditions for the permits. On this last issue, for comparison I took a look at Lane County's Short Mountain Landfill. That landfill

Date	File #	Request	Result
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Conditions of Approval

only serves commercial account holders, yet they seem to be able to restrict those haulers to their stated operating hours (7 AM to 5 PM weekdays and Saturdays). Seems like there's a lesson for Benton County our working group in there.

- How does 24 hour access work with compliance to noise complaints?
- Not in compliance
- Not in compliance. See previous note regarding operating hours.

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: Not in Compliance. Staff and RS do not get to interpret operating hours to mean something different than what was imposed as a written condition of approval. The words are the words. By definition the industrial activity of operating an active landfill is an incompatible use in an agricultural, forest and rural residential area. As such, operating hours are critical to mitigation of the numerous deleterious effects of the landfill operation. Requiring the landfill to limit operations to mitigate impacts "The landfill operation hours shall occur between 8:00 a.m. and 5:00 p.m. Monday through Saturday, and 12:00 p.m. through 5:00 p.m. on Sundays, with 24-hour access for commercial customers" means what it says, and the condition of approval was adopted by the Planning Commission. The public has a right to expect the operating hours to be enforced as approved and adopted. Beginning operations at 4:30 a.m. is a violation of this condition of approval. Under staff and RS interpretation, could the landfill operate 24 hours a day?

No Compliance Consensus for Subcommittee

Note: Condition is written poorly and would be improved with better clarification on Hours of Operation

Subcommittee Member – Republic

Republic agrees that the condition could be better written, but County's interpretation that "operating" means open to the public is at least as plausible as Mark's interpretation, particularly given the second part of the sentence which creates an exception for industrial customers. Text has to be interpreted in context, particularly given that some staff obviously have to be there 24/7.

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Conditions of Approval

Historically the site did operate 24 hours a day for commercial customers. That ceased in the early 2000s, but it was Republic's choice to do so and not a county requirement. We operate 5am-5pm for commercial customers. The landfill does have to have staff onsite from 4:30am-5:30pm to support the customers. This is no different than any other business that needs staff before and after their operating hours. Public customers are limited to 8am-5pm.

7. The applicant shall retain the dual-access road system to provide for emergency service access to the subject site.

Comments

County

In Compliance. Complete. The landfill is accessible from Tampico Road (via Soap Creek Road) and from Hwy 99W (via Coffin Butte Road).

Workgroup Committee

- Republic: Republic Services is in compliance with this requirement and has made a dual-access road system. Access is available via Highway 99 and Tampico Road.
- good candidate for Chapter 77 review
- This explanation of status cannot be accepted until the topic has been researched.

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

No Compliance Opinion

Subcommittee Member – Republic

Republic agrees with staff.

Date	File #	Request	Result
2002	PC-02-07	A Conditional Use Permit for landfilling of an area that will be excavated for mining of mineral and aggregate resources Approved by the Planning Commission with Conditions. (West Triangle Expansion). The proposed area consists of 1.43 acres adjacent to the existing quarrying and landfill operation, and is designed to fulfill the reclamation plan for the previously approved quarry on this site.	Planning Commission approved

Conditions of Approval

8. The landfill activity shall be limited to the 600-foot contour elevation and below, as shown by the applicant on the Site Development Plan in the application.

Comments

County

In Compliance. The applicant indicates they are in compliance with this condition.

Workgroup Committee

- Republic: Republic Services is in compliance and operating within the 600-foot contour elevation as specified in the Site Development Plan.
- applicant should provide lidar, coordinate & verify with county GIS
- Not in compliance. The south face of Coffin Butte is scarred/eroded by excavations above the landfill up to approximately 675 ft elevation, per GoogleEarth images dated 8/13/2020

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: Compliance Not Demonstrated. Did the staff do any independent verification that the landfill is operating within the 600-foot contour?

Compliance Opinion: Compliance Status Unclear

Subcommittee Member – Republic

Republic is in compliance with 600 foot limit; the condition does not apply to parts of the landfill outside of the 1.43 acres.

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Conditions of Approval

9. Copies of water quality and air quality permits, and data produced from associated monitoring programs, required of the applicant by the Oregon Department of Environmental Quality, shall be placed on file, in a timely way, with the Benton County Community Development Department for public inspection.

Comments

<u>County</u>

In Compliance. The condition only requires that copies of documentation are given to the County, not that the county review and ensure that the applicant is in compliance with DEQ conditions. The county regularly receives copies of these documents.

<u>Workgroup Committee</u>

- Are these available for inspection, and if so, where?
- landfill not in compliance with June surface emission methane monitoring required by DEQ; Benton County should obtain an independent assessment of overall methane emissions, arsenic levels in monitoring wells are high, odor: per public records requests, odor complaints to DEQ are not documented/investigated/logged to the extent that residents have given up on making complaints to DEQ. per testimony at CU-21-047, odors are significant enough at the landfill that people sometimes cannot leave their homes; DEQ is apparently unaware of this situation, suggested action: ask DEQ how better to communicate current odor problems at the landfill to DEQ, annual report to DEQ: for many years, the reports required by Benton County DSAC to DEQ "documenting local citizens' concerns and the manner in which the owner or operator [of the landfill] is addressing those concerns" (ORS 459.325) have not been completed and submitted as required by Oregon statute. even now, there is no DSAC meeting dedicated to this required activity. as a result, DEQ has not been informed of many of the problems that citizens experience at coffin butte landfill. dedicated DSAC meeting to which the public are invited to air landfill concerns, include the results of this meeting in DEQ annual report

<u>Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager</u>

Date	File #	Request	Result
2002	PC-02-07	A Conditional Use Permit for landfilling of an area that will be excavated for mining of mineral and aggregate resources Approved by the Planning Commission with Conditions. (West Triangle Expansion). The proposed area consists of 1.43 acres adjacent to the existing quarrying and landfill operation, and is designed to fulfill the reclamation plan for the previously approved quarry on this site.	Planning Commission approved

Conditions of Approval

Mark Yeager: Are the reports reviewed? Any independent verification by staff that the monitoring requirements for both air quality and water quality are being met and reported as required? The June 2022 report of methane exceedances and re-testing looks suspect – 7 hours to perform first test, just over an hour for the re-test?

Compliance Status Unclear. County records need to be reviewed

Subcommittee Member – Republic

Republic is in compliance with this condition. The condition does not require (nor does the County have the authority to require) oversight of DEQ's administration of its permits.

10. Copies of storm-water runoff permits and data produced from associated monitoring programs required of the applicant by the Oregon Department of Environmental Quality, shall be placed on file in a timely way, with the Benton County Community Development Department for public inspection.

Comments

County

In Compliance. The condition only requires that copies of documentation are given to the County, not that the county review and ensure that the applicant is in compliance with DEQ conditions. The county regularly receives copies of these documents.

Workgroup Committee

- Are these available for inspection, and if so, where?
- see CUP LU-15-001 the area zoned LS is inadequate to fully contain landfill operations and as a result ancillary landfill operations spill out onto properties not zoned for landfill operations (forest conservation/exclusive farm use/rural residential). this is why the landfill has had so many applications for non-by-right land uses over the past 50 years. this is a question that should be addressed holistically, not piecemeal. once landfill operations begin to be allowed on non-landfill parcels, those non-landfill

Date	File #	Request	Result
2002	PC-02-07	A Conditional Use Permit for landfilling of an area that will be excavated for mining of mineral and aggregate resources Approved by the Planning Commission with Conditions. (West Triangle Expansion). The proposed area consists of 1.43 acres adjacent to the existing quarrying and landfill operation, and is designed to fulfill the reclamation plan for the previously approved quarry on this site.	Planning Commission approved
Conditions of Approval			

parcels, over time, become indistinguishable from landfill parcels. this incrementally blights the neighborhood and should be addressed in a bcc code revamp

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: Are the reports reviewed? Any independent verification by staff that the monitoring requirements for both air quality and water quality are being met and reported as required?

Compliance Status Unclear. County records need to be reviewed

Subcommittee Member – Republic

Republic is in compliance with this condition. The condition does not require (nor does the County have the authority to require) oversight of DEQ's administration of its permits.

Date	File #	Request	Result
2003	PC-03-11	A Conditional Use Permit for excavation and landfilling of 9.45 acres adjacent to the existing landfill operation, approved by planning commission with conditions. This portion of the landfill would represent an addition to the existing, previously approved, Landfill Site Zone. (East triangle).	Planning Commission approved

Conditions of Approval

1. The applicant shall continue to operate within the approval of the Oregon Department of Environmental Quality Solid Waste Disposal Permit No 306.

Comments

County

In Compliance. The Comm. Dev. Department does not confirm and inspect records to ensure that conditions such as these are completed. It is a DEQ permit and if the DEQ does not approve the permit then the applicant could not continue the use and would be out of compliance with the County land use approval as well as DEQ rules.

Workgroup Committee

- Republic: Republic Services has obtained all the necessary approvals and permits from the Oregon Department of Environmental Quality and remains in compliance with these conditions and approvals.
- when was the most recent LUCS on file at DEQ completed?

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Compliance Opinion: In Compliance

2. In cases where landfill operations are the primary cause of traffic on unpaved public roads in the area, those roads shall be kept dust-free by the applicant.

Comments

County

In Compliance. Coffin Butte Road was paved.

Date	File #	Request	Result
2003	PC-03-11	A Conditional Use Permit for excavation and landfilling of 9.45 acres adjacent to the existing landfill operation, approved by planning commission with conditions. This portion of the landfill would represent an addition to the existing, previously approved, Landfill Site Zone. (East triangle).	Planning Commission approved

Conditions of Approval

Workgroup Committee

- See previous notes re: Robison Rd. and Wiles Rd.
- there continue to be unpaved public roads in the vicinity of the landfill. does the landfill contribute to traffic on those roads? if so, how much?

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: Compliance Not Demonstrated. Same comment as before – who and how is "primary cause" defined and enforced?

Compliance Opinion: Compliance Status Unclear

Subcommittee Member – Republic

Republic agrees with Staff. All county roads to and from the landfill are paved, so this condition is moot.

3. The applicant or lease-holding operator shall ensure that the landfill operation does not exceed the maximum sound level permitted by the Oregon Department of Environmental Quality.

Comments

County

County Requirement Superseded. County monitoring of this condition is complaint-based and this condition would only have applied to landfill uses on the 9.45 acre property which has been incorporated into a larger landfill cell.

Workgroup Committee

- County does not monitor.
- noise is an issue at the landfill; ensure the facility is still in compliance

Date	File #	Request	Result
2003	PC-03-11	A Conditional Use Permit for excavation and landfilling of 9.45 acres adjacent to the existing landfill operation, approved by planning commission with conditions. This portion of the landfill would represent an addition to the existing, previously approved, Landfill Site Zone. (East triangle).	Planning Commission approved

Conditions of Approval

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: Compliance Not Demonstrated. How and when does the County ensure that the maximum sound level has not been exceeded. Since this is another example of complaint-based enforcement, what system is in place to document, respond to, and resolve noise related complaints? The landowner cannot delegate regulatory compliance or accountability with these types of requirements to a lease-holding operator.

Compliance Not Demonstrated. No evidence of County process to capture / respond to action provided.

Subcommittee Member – Republic

Republic is in compliance, there is no evidence of any formal complaints about noise levels.

4. Provide on-site parking for employees, customers, and visitors to the landfill site.

Comments

County

In Compliance. Complied with.

Workgroup Committee

- truck traffic to the landfill begins backing up hwy 99 beginning before 4:30am; ensure that traffic to the landfill does not pose a safety hazard

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

No Compliance Opinion.

Subcommittee Member – Republic

Date	File #	Request	Result
2003	PC-03-11	A Conditional Use Permit for excavation and landfilling of 9.45 acres adjacent to the existing landfill operation, approved by planning commission with conditions. This portion of the landfill would represent an addition to the existing, previously approved, Landfill Site Zone. (East triangle).	Planning Commission approved

Conditions of Approval

Queuing onto 99 happens rarely, usually doing big projects. Our gates don't open until 5:00 a.m.

5. Maintain a security fence between the landfill operation and the public road when such road is located within 200 feet of the landfill operation.

Comments

County

County Requirement Superseded. This condition was only applicable to the 9.45 acre site. But, all landfill areas adjacent to public roads have a security fence. Complied with.

Workgroup Committee

- check fence perimeter to ensure fencing is intact and there are no deferred maintenance issues

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

No Compliance Opinion.

Subcommittee Member – Republic

This area is more than 1000 feet from any public road.

6. The landfill operation hours shall occur between 8:00 a.m. and 5:00 p.m. Monday through Saturday, and 12:00 p.m. through 5:00 p.m. on Sundays, with 24-hour access for commercial customers.

Comments

Date	File #	Request	Result
2003	PC-03-11	A Conditional Use Permit for excavation and landfilling of 9.45 acres adjacent to the existing landfill operation, approved by planning commission with conditions. This portion of the landfill would represent an addition to the existing, previously approved, Landfill Site Zone. (East triangle).	Planning Commission approved

Conditions of Approval

County

County Requirement Superseded. This condition only applied to the 9.45-acre site that has been incorporated into a larger landfill cell. No operating hour requirement has been applied to the entirety of the landfill.

Workgroup Committee

- Republic: Republic Services is in compliance with this requirement, which governs landfill operations. However, it's important to note that internal operations, which include the arrival of field personnel on-site, begins at 4:30 a.m., Monday through Friday, and at 7:30 a.m. on Saturday. Additional operations not governed by the conditional use permit include work by third party contractors on landfill infrastructure, and commercial customers, who have 24-hour access to the Landfill.
- not in compliance
- Not in compliance, see previous notes on operating hours.

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: Not In Compliance. Staff and RS do not get to interpret operating hours to mean something different than what was imposed as a written condition of approval. The words are the words. By definition the industrial activity of operating an active landfill is an incompatible use in an agricultural, forest and rural residential area. As such, operating hours are critical to mitigation of the numerous deleterious effects of the landfill operation. Requiring the landfill to limit operations to mitigate impacts "The landfill operation hours shall occur between 8:00 a.m. and 5:00 p.m. Monday through Saturday, and 12:00 p.m. through 5:00 p.m. on Sundays, with 24-hour access for commercial customers" means what it says, and the condition of approval was adopted by the Planning Commission. The public has a right to expect the operating hours to be enforced as approved and adopted. Beginning operations at 4:30 a.m. is a violation of this condition of approval. Under staff and RS interpretation, could the landfill operate 24 hours a day?

No Compliance Consensus for Subcommittee

Date	File #	Request	Result
2003	PC-03-11	A Conditional Use Permit for excavation and landfilling of 9.45 acres adjacent to the existing landfill operation, approved by planning commission with conditions. This portion of the landfill would represent an addition to the existing, previously approved, Landfill Site Zone. (East triangle).	Planning Commission approved

Conditions of Approval

Note: Condition is written poorly and would be improved with better clarification on Hours of Operation

Subcommittee Member – Republic

Republic agrees that the condition could be better written, but County's interpretation that "operating" means open to the public is at least as plausible as Mark's interpretation, particularly given the second part of the sentence which creates an exception for industrial customers. See further discussion above.

7. The applicant may relocate the eastern haul road, and shall retain the dual-access road system to provide for emergency service access to the subject site.

Comments

County

In Compliance. The landfill is accessible from Tampico Road (via Soap Creek Road) and from Hwy 99W (via Coffin Butte Road)

Workgroup Committee

- Republic: Republic Services is in compliance with this requirement. The eastern haul access road was relocated, per county regulations, during the construction of Cell 4 in 2012. Access is maintained today.
- good candidate for chapter 77 review
- This explanation of status cannot be accepted until the topic has been researched

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

No Compliance Opinion

Subcommittee Member – Republic

Republic is in compliance.

Date	File #	Request	Result
2003	PC-03-11	A Conditional Use Permit for excavation and landfilling of 9.45 acres adjacent to the existing landfill operation, approved by planning commission with conditions. This portion of the landfill would represent an addition to the existing, previously approved, Landfill Site Zone. (East triangle).	Planning Commission approved

Conditions of Approval

8. Copies of water quality, stormwater runoff, and air quality permits; and data produced from associated monitoring programs, required of the applicant by the Oregon Department of Environmental Quality, shall be placed on file in a timely way with the Benton County Community Development Department for public inspection.

Comments

County

In Compliance. The requirement for the county to receive copies of the documents and the county regularly receives copies.
Appendix I
https://www.co.benton.or.us/sites/default/files/fileattachments/community_development/page/8136/2021_cbl_site_development_plan_appendix_g_i.pdf

Workgroup Committee

- Are these documents available for public inspection, and it so, where?
- landfill not in compliance with June surface emission methane monitoring required by DEQ; Benton County should obtain an independent assessment of overall methane emissions, arsenic levels in monitoring wells are high, odor: per public records requests, odor complaints to DEQ are not documented/investigated/logged to the extent that residents have given up on making complaints to DEQ, annual report to DEQ: for many years, the reports required by Benton County DSAC to DEQ "documenting local citizens' concerns and the manner in which the owner or operator [of the landfill] is addressing those concerns" (ORS 459.325) have not been completed and submitted as required by Oregon statute. even now, there is no DSAC meeting dedicated to this required activity. as a result, DEQ has not been informed of many of the problems that citizens experience at coffin butte landfill. contamination: domestic wells have been contaminated

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Date	File #	Request	Result
2003	PC-03-11	A Conditional Use Permit for excavation and landfilling of 9.45 acres adjacent to the existing landfill operation, approved by planning commission with conditions. This portion of the landfill would represent an addition to the existing, previously approved, Landfill Site Zone. (East triangle).	Planning Commission approved

Conditions of Approval

Mark Yeager: Are the reports reviewed? Any independent verification by staff that the monitoring requirements for both air quality and water quality are being met and reported as required? The June 2022 report of methane exceedances and re-testing looks suspect – 7 hours to perform first test, just over an hour for the re-test?

Compliance Status Unclear. County records need to be reviewed

Subcommittee Member – Republic

Republic is in compliance, and you can review the County records at the link provided by staff. The condition does not purport to give the County any oversight role with regard with DEQ's administration of its owner permits and could not do so.

9. A plan for a landscape buffer to mitigate visual impacts shall be approved by the Community Development Department. Landscape screening in the form of deciduous trees between the east triangle and Highway 99W, and a mixed deciduous/evergreen buffer shall be planted and maintained in good health by the applicant.

Comments

County

Compliance Status Unclear. The applicant indicates they placed a screen between the triangle and Hwy 99W but it either died or was destroyed by subsequent development.

Workgroup Committee

- Republic: Republic Services was unable to find records relating to this requirement, nor does it have any indication that there was any enforcement action from the County. Republic Services did plant a mitigating/vegetative buffer in 2016.
- Not in compliance
- not in compliance

Date	File #	Request	Result
2003	PC-03-11	A Conditional Use Permit for excavation and landfilling of 9.45 acres adjacent to the existing landfill operation, approved by planning commission with conditions. This portion of the landfill would represent an addition to the existing, previously approved, Landfill Site Zone. (East triangle).	Planning Commission approved

Conditions of Approval

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: Not In Compliance. The County freely admits that it does no monitoring or enforcement of its adopted conditions of approval, and the County states that it relies on the applicant to comply with the requirements. Republic says they can't find their records related to the screening requirements and states further "nor does it have any indication that there was any enforcement action from the County." Review of this extensive record of land use actions for the landfill demonstrates this exact circumstance over and over. Apparently, the conditions of approval have absolutely no meaning and cannot be relied on to mitigate the impacts of incompatible land use activities performed at the landfill.

Compliance Opinion: Not In Compliance

Basis: Visual inspection.

Subcommittee Member – Republic

As noted previously, Republic did plant a buffer in 2016.

10. Approval shall be obtained from the Oregon Division of State Lands for any activities on the subject property that affect designated wetlands.

Comments

County

In Compliance. This is a standard type of condition that ties a County permit to a permit issued by another agency. The County does not actively monitor compliance with outside agency permitting requirements, but if the outside agency determines that their permitting requirements have not been met then the applicant is also out of compliance with the Benton County permit.

Workgroup Committee

Date	File #	Request	Result
2003	PC-03-11	A Conditional Use Permit for excavation and landfilling of 9.45 acres adjacent to the existing landfill operation, approved by planning commission with conditions. This portion of the landfill would represent an addition to the existing, previously approved, Landfill Site Zone. (East triangle).	Planning Commission approved

Conditions of Approval

- Republic: Republic Services has obtained all the necessary approvals and permits from the Oregon Department of Environmental Quality and remains in compliance with these conditions and approvals.
- Must be active monitor
- verification of compliance should be obtained. did the wetlands formerly include the small ponds that were slated for protection in the 1983 rezone

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: Compliance Not Demonstrated. Obviously there are or were wetlands on the property in the vicinity of the activity otherwise the County would not have added this condition of approval. It is again inexplicable that these types of requirements are not monitored or enforced. What is the point?

Compliance Opinion: Compliance Not Demonstrated.

Basis: No record of required action provided.

Subcommittee Member – Republic

Republic has obtained approval from DSL for any wetland disturbances on sit. Republic did construct mitigation wetlands as required and DSL gave their full approval that the wetlands met all requirements in 2017. That concluded Republic obligations under the permit

Date	File #	Request	Result
2011	LU-11-016	Conditional Use Permit for the construction of a new public recycling and refuse transfer facility at Coffin Butte Landfill. The request also includes enhancements to the stormwater conveyance and detention system, as well as a container and drop box storage area, and a landfill construction staging and storage area in FC zone.	Planning Commission approved

Conditions of Approval

1. Development shall comply with the plans and narrative in the applicant's proposal identified as Attachment 'A' except as modified by the approval or the conditions below. Modifications to the operation of the facility other than those addressed through this decision, including, but not limited to, the relocation of additional activities, or the configuration of relocated activities in a manner not substantially in conformance with the submitted conceptual site plan, shall require approval through a Modification of a Conditional Use Permit request (BCC 53.225).

Comments

County

In Compliance. Standard condition requiring the applicant to implement the conditional use permit as described in their application. Planning staff reviews the building permit to ensure that the site plan meets county code requirements and Conditions of Approval. The building permit would not have been issued without planning staff approval.

Workgroup Committee

- Republic: Republic Services believes it is in compliance with the terms of the 2011 conditional use permit.
- narrative not provided, attachment A not provided
- Why doesn't the county monitor compliance. considering that the county receives $X million per biennium which originally was supposed to be dedicated to issues associated with hosting a landfill?

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: Compliance Not Demonstrated. It is again inexplicable that these types of requirements are not monitored or enforced. What is the point of having this condition?

Compliance Opinion: Compliance Not Demonstrated.

Date	File #	Request	Result
2011	LU-11-016	Conditional Use Permit for the construction of a new public recycling and refuse transfer facility at Coffin Butte Landfill. The request also includes enhancements to the stormwater conveyance and detention system, as well as a container and drop box storage area, and a landfill construction staging and storage area in FC zone.	Planning Commission approved

Conditions of Approval

Basis: No record of required action provided.

Subcommittee Member – Republic

Republic is in compliance with this site plan.

2. As required by BCC 60.220 (2) the applicant shall record a declaratory statement acknowledging the rights of adjacent and nearby property owners to conduct forest operations consistent with the Forest Practices Act and Rules prior to issuance of building permits.

Comments

County

In Compliance. Completed. Issuance of the building permit is confirmation that the declaratory statement was signed.

Workgroup Committee

- has staff verified documentation

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: Compliance Not Demonstrated. No record presented. In a earlier condition of this nature, staff indicated they did not know whether this action was completed. Where is this statement in the record?

Compliance Opinion: Compliance Not Demonstrated.

Basis: No record of required action provided.

Date	File #	Request	Result
2011	LU-11-016	Conditional Use Permit for the construction of a new public recycling and refuse transfer facility at Coffin Butte Landfill. The request also includes enhancements to the stormwater conveyance and detention system, as well as a container and drop box storage area, and a landfill construction staging and storage area in FC zone.	Planning Commission approved

Conditions of Approval

3. The applicant shall demonstrate compliance with the applicable siting standards specified in BCC 60.405 through materials submitted for issuance of building permits.

Comments

County

In Compliance. Standard advisory condition. Issuance of the building permit is confirmation that the siting standards were met.

Workgroup Committee

- certificate of occupancy? ADA compliance?

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

No Compliance Opinion

4. All new facilities constructed under this approval shall comply with the applicable provisions of Building Code, Electrical Code, Plumbing Code, Mechanical Code, Fire Code, and rules and regulations imposed by state and federal agencies.

Comments

County

In Compliance. Standard advisory condition.

Workgroup Committee

- certificate of occupancy?

Date	File #	Request	Result
2011	LU-11-016	Conditional Use Permit for the construction of a new public recycling and refuse transfer facility at Coffin Butte Landfill. The request also includes enhancements to the stormwater conveyance and detention system, as well as a container and drop box storage area, and a landfill construction staging and storage area in FC zone.	Planning Commission approved

Conditions of Approval

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

No Compliance Opinion

Conditions of Approval from PC-03-11 that remain applicable and should be continued (as of the time of this decision):	*References Conditions #'s 1 through 8 of PC-03-11*

1. (5)Obtain necessary approvals from the Oregon Department of Environmental Quality for landfill operations on this site.

Comments

County

In Compliance. Standard advisory condition. The Comm. Dev. Department does not confirm and inspect records to ensure that conditions such as these are completed. It is a DEQ permit and if the DEQ does not approve the permit then the applicant could not continue the use and would be out of compliance.

Workgroup Committee

- Republic: Republic Services is in compliance with the DEQ requirement.
- DEQ permit approvals should be listed here. Are all of them up to date?
- when was the most recent LUCS on file at DEQ completed?

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Date	File #	Request	Result
2011	LU-11-016	Conditional Use Permit for the construction of a new public recycling and refuse transfer facility at Coffin Butte Landfill. The request also includes enhancements to the stormwater conveyance and detention system, as well as a container and drop box storage area, and a landfill construction staging and storage area in FC zone.	Planning Commission approved

Conditions of Approval

Mark Yeager: Compliance Not Demonstrated. How do state agencies like DEQ become aware of some pending or approved land use action by Benton County? Having these types of requirements with no monitoring or enforcement is inexplicable. (MARK YEAGER 121622)

Compliance Opinion: Compliance Not Demonstrated.

Basis: No record of required action provided.

Subcommittee Member – Republic

As noted above several times, Republic cannot proceed with any development requiring a DEQ until it has obtained the permit. And Republic cannot get the permit from DEQ until it has obtained the County permit. The County has no authority to enforce or have any oversight over a DEQ permit. This condition is self-enforcing.

2. (6)In cases where landfill operations are the primary cause of traffic on unpaved public roads in the area, those roads shall be kept dust-free by the applicant.

Comments

County

In Compliance. Coffin Butte Road is entirely paved.

Workgroup Committee

- The status assessment here does not address whether unpaved public roads were kept dust-free prior to paving. For example, Tampico Road has only been fully paved within the past 3 years, and received frequent landfill traffic. Did the applicant demonstrate compliance by performing dust suppression on that road prior to the recent paving by the county? Robison Road,

Date	File #	Request	Result
2011	LU-11-016	Conditional Use Permit for the construction of a new public recycling and refuse transfer facility at Coffin Butte Landfill. The request also includes enhancements to the stormwater conveyance and detention system, as well as a container and drop box storage area, and a landfill construction staging and storage area in FC zone.	Planning Commission approved

Conditions of Approval

Wiles Road, and Rifle Range Road still receives frequent traffic associated with the landfill, as well as frequent illegal dumping. All of these are still unpaved, except for small sections of Robison Rd. east of Military Rd and at the Soap Creek crossing.

- there continue to be unpaved public roads in the vicinity of the landfill. does the landfill contribute to traffic on those roads? if so, how much?

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: Compliance Not Demonstrated (121622) The comments above capture the concern – there are several unpaved roads in the vicinity of the landfill that receive landfill traffic. Who determines "primary cause" and what does the County do about it?

No Compliance Opinion Edward Pitera (112322)

Subcommittee Member – Republic

Republic agrees with staff; this condition is moot.

3. (7)The applicant or lease-holding operator shall ensure that the landfill operation does not exceed the maximum sound level permitted by the Oregon Department of Environmental Quality.

Comments

County

In Compliance. This condition only applies to the recycling and transfer station which is unlikely to create more noise than the landfilling activities.

Workgroup Committee

Date	File #	Request	Result
2011	LU-11-016	Conditional Use Permit for the construction of a new public recycling and refuse transfer facility at Coffin Butte Landfill. The request also includes enhancements to the stormwater conveyance and detention system, as well as a container and drop box storage area, and a landfill construction staging and storage area in FC zone.	Planning Commission approved

Conditions of Approval

- It should be stated more clearly that compliance cannot be confirmed, as the county has never checked.
- noise is an issue at the landfill; ensure the facility is still in compliance

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: Compliance Not Demonstrated (121622) How and when does the County ensure that the maximum sound level has not been exceeded. Since this is another example of complaint-based enforcement, what system is in place to document, respond to, and resolve noise related complaints? The landowner cannot delegate regulatory compliance or accountability with these types of requirements to a lease-holding operator.

Compliance Opinion: Compliance Not Demonstrated.

Basis: No record of County process to capture / respond to complaints provided.

Subcommittee Member – Republic

There is no evidence to indicate that Republic is not in compliance with this requirement. We note that this CUP is specific to the public drop off facility. It is only in operation M-S 8am-5pm. It consists of customers hand unloading material into trailers so it is relatively quiet compared to the main landfill operation.

4. (8)Provide on-site parking for employees, customers, and visitors to the landfill site.

Comments

County

In Compliance.

Date	File #	Request	Result
2011	LU-11-016	Conditional Use Permit for the construction of a new public recycling and refuse transfer facility at Coffin Butte Landfill. The request also includes enhancements to the stormwater conveyance and detention system, as well as a container and drop box storage area, and a landfill construction staging and storage area in FC zone.	Planning Commission approved

Conditions of Approval

Workgroup Committee

- truck traffic to the landfill begins backing up HWY 99 beginning before 4:30am; ensure that traffic to the landfill does not pose a safety hazard

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

No Compliance Opinion Edward Pitera (112322)

Subcommittee Member – Republic

Republic is in compliance; all staff and visitors have space to park on site.

5. (9)Maintain a security fence between the landfill operation and the public road when such road is located within 200 feet of the landfill operation.

Comments

County

In Compliance.

Workgroup Committee

- check fence perimeter to ensure fencing is intact and there are no deferred maintenance issues

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

No Compliance Opinion (Mark Yeager 121622 & Edward Pitera (112322))

Subcommittee Member – Republic

Date	File #	Request	Result
2011	LU-11-016	Conditional Use Permit for the construction of a new public recycling and refuse transfer facility at Coffin Butte Landfill. The request also includes enhancements to the stormwater conveyance and detention system, as well as a container and drop box storage area, and a landfill construction staging and storage area in FC zone.	Planning Commission approved

Conditions of Approval

Republic is in compliance. The closest public road (HW 99) is more than 200 feet away from the public drop off facility.

6. (10)The landfill operation hours shall occur between 8:00 a.m. and 5:00 p.m. Monday through Saturday, and 12:00 p.m. through 5:00 p.m. on Sundays, with 24-hour access for commercial customers.

Comments

County

This condition should have been revised to apply directly to the recycling and transfer station, not the entire landfill. This condition, as written, is unenforceable.

Workgroup Committee

- Republic Services: Republic Services is in compliance with this requirement, which governs landfill operations. However, it's important to note that internal operations, which include the arrival of field personnel on-site, begins at 4:30 a.m., Monday through Friday, and at 7:30 a.m. on Saturday. Additional operations not governed by the conditional use permit include work by third party contractors on landfill infrastructure, and commercial customers, who have 24-hour access to the Landfill.
- Clearly not in compliance. if landfill operations routinely start at 4:30 am M-F. Operations are operations, no way to spin this.
- Not in Compliance

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: Not In Compliance (121622) Staff and RS do not get to interpret operating hours to mean something different than what was imposed as a written condition of approval. The words are the words. By definition the industrial activity of operating an active landfill is an incompatible use in an agricultural, forest and rural residential area. As such, operating hours are critical to mitigation of the numerous deleterious effects of the landfill operation. Requiring the landfill to limit operations to mitigate impacts "The landfill operation hours shall occur between 8:00 a.m. and 5:00 p.m. Monday through Saturday, and 12:00 p.m.

Date	File #	Request	Result
2011	LU-11-016	Conditional Use Permit for the construction of a new public recycling and refuse transfer facility at Coffin Butte Landfill. The request also includes enhancements to the stormwater conveyance and detention system, as well as a container and drop box storage area, and a landfill construction staging and storage area in FC zone.	Planning Commission approved

Conditions of Approval

through 5:00 p.m. on Sundays, with 24-hour access for commercial customers" means what it says, and the condition of approval was adopted by the Planning Commission. The public has a right to expect the operating hours to be enforced as approved and adopted. Beginning operations at 4:30 a.m. is a violation of this condition of approval. Under staff and RS interpretation, could the landfill operate 24 hours a day?

In Compliance Edward Pitera (112322)

Subcommittee Member – Republic

Same comment as above; the Staff interpretation is more plausible than Mark's when read in context (and the County does in fact get to interpret its conditions in the first instance).

7. (11)The applicant shall retain the dual-access road system to provide for emergency service access to the subject site.

Comments

County

In Compliance.

Workgroup Committee

- Republic: Republic Services is in compliance with this requirement. The eastern haul access road was relocated, per county regulations, during the construction of Cell 4 in 2012. Access is maintained today.
- good candidate for chapter 77 review
- This assessment of status is not possible for the working group to confirm until research has been completed.

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Date	File #	Request	Result
2011	LU-11-016	Conditional Use Permit for the construction of a new public recycling and refuse transfer facility at Coffin Butte Landfill. The request also includes enhancements to the stormwater conveyance and detention system, as well as a container and drop box storage area, and a landfill construction staging and storage area in FC zone.	Planning Commission approved

Conditions of Approval

No Compliance Opinion (Mark Yeager 121622 & Edward Pitera (112322))

Subcommittee Member – Republic

Republic agrees with staff.

8. OMITTED	*N/A*

9. (12)Copies of water quality and air quality permits, and data produced from associated monitoring programs, required of the applicant by the Oregon Department of Environmental Quality, shall be placed on file, in a timely way, with the Benton County Community Development Department for public inspection.

Comments

County

In Compliance. The county regularly receives copies. Appendix I
https://www.co.benton.or.us/sites/default/files/fileattachments/community_development/page/8136/2021_cbl_site_development_plan_appendix_g_i.pdf

Workgroup Committee

- landfill not in compliance with June surface emission methane monitoring required by DEQ; Benton County should obtain an independent assessment of overall methane emissions, arsenic levels in monitoring wells are high, odor: per public records requests, odor complaints to DEQ are not documented/investigated/logged to the extent that testimony has been given that residents have given up on making complaints to DEQ, annual report to DEQ: for many years, the reports required by Benton County DSAC to DEQ "documenting local citizens' concerns and the manner in which the owner or operator [of the landfill] is

Date	File #	Request	Result
2011	LU-11-016	Conditional Use Permit for the construction of a new public recycling and refuse transfer facility at Coffin Butte Landfill. The request also includes enhancements to the stormwater conveyance and detention system, as well as a container and drop box storage area, and a landfill construction staging and storage area in FC zone.	Planning Commission approved

Conditions of Approval

addressing those concerns" (ORS 459.325) have not been completed and submitted as required by Oregon statute. even now, there is no DSAC meeting dedicated to this required activity. as a result, DEQ has not been informed of many of the problems that citizens experience at coffin butte landfill. contamination: domestic wells have been contaminated

- These have not all been made available for public inspection. Whether this is the fault of the applicant or the county is impossible to judge, as a member of the interested public. During the 2021 CUP process, I had to use Public Information Request procedures to obtain information from DEQ that was not available from Benton County.

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: Compliance Not Demonstrated. Are the reports reviewed? Any independent verification by staff that the monitoring requirements for both air quality and water quality are being met and reported as required?

Compliance Opinion: Compliance Status Unsure

Basis: Insufficient information provided to demonstrate compliance e.g. a documented work process, summary reports, etc.

Subcommittee Member – Republic

Republic is in compliance and the committee review the County records at the link provided by staff. The condition does not purport to give the County any oversight role with regard with DEQ's administration of its owner permits and the County has no jurisdiction to do so.

10. (13)Copies of storm-water runoff permits and data produced from associated monitoring programs required of the applicant by the Oregon Department of Environmental Quality, shall be placed on file in a timely way, with the Benton County Community Development Department for public inspection.

Comments

Date	File #	Request	Result
2011	LU-11-016	Conditional Use Permit for the construction of a new public recycling and refuse transfer facility at Coffin Butte Landfill. The request also includes enhancements to the stormwater conveyance and detention system, as well as a container and drop box storage area, and a landfill construction staging and storage area in FC zone.	Planning Commission approved

Conditions of Approval

County

In Compliance. The county regularly receives copies. https://www.co.benton.or.us/sites/default/files/fileattachments/community_development/page/8136/2021_cbl_site_development_plan_appendix_g_i.pdf

Workgroup Committee

- During the July 2022 DSAC meeting, Applicant's representative stated that runoff reports for the PRC composting facility were provided to DEQ but not to Benton County, because the county had never requested those explicitly. This needs to be clarified.

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: Compliance Not Demonstrated. Are the reports reviewed? Any independent verification by staff that the monitoring requirements for both air quality and water quality are being met and reported as required?

Compliance Opinion: Compliance Status Unsure

Basis: Insufficient information provided to demonstrate compliance e.g. a documented work process, summary reports, etc.

Subcommittee Member – Republic

Republic is in compliance and the Committee can review the County records at the link provided by staff. The condition does not purport to give the County any oversight role with regard with DEQ's administration of its owner permits and the County could not do so.

Date	File #	Request	Result
2013	LU-13-061	Conditional Use Permit for "minor additions and modifications" at Coffin Butte Landfill to change the location of a construction staging and storage area in the vicinity of the existing office structure.	Planning Commission approved

Conditions of Approval

1. Development shall comply with the plans and narrative in the applicant' s proposal identified as Attachment 'A', except as modified by the approval or the conditions below. Modifications to the operation of the facility other than those addressed through this decision, including, but not limited to, the relocation of additional activities, or the configuration of relocated activities in a manner not substantially in conformance with the submitted conceptual site plan, shall require approval through a Modification of a Conditional Use Permit request (BCC 53. 225).

Comments

County

In Compliance. This would have been checked through site plan review.

Workgroup Committee

- narrative not provided, attachment a not provided

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: This list of standard conditions that never get reviewed for compliance or enforced does not build confidence in the land use planning process in Benton County.

No Compliance Opinion

Subcommittee Member – Republic

In the absence of any evidence that Republic in not in compliance, the assumption should be that it is in compliance.

2. As required by BCC 60.220 (2), the applicant shall record a declaratory statement acknowledging the rights of adjacent and nearby property owners to conduct forest operations consistent with the Forest Practices Act and Rules prior to issuance of building permits.

Comments

Date	File #	Request	Result
2013	LU-13-061	Conditional Use Permit for "minor additions and modifications" at Coffin Butte Landfill to change the location of a construction staging and storage area in the vicinity of the existing office structure.	Planning Commission approved

Conditions of Approval

County

In Compliance. This was recorded as required.

Workgroup Committee

- Republic: Republic Services understands this requirement. At this juncture, no building permits have been issued for this area.
- This explanation of status cannot be accepted until the topic has been researched.
- unknown compliance

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: This list of standard conditions that never get reviewed for compliance or enforced does not build confidence in the land use planning process in Benton County.

No Compliance Opinion

3. Any new access to a county road or change to an existing access shall require a permit issued through the Benton County Public Works Department.

Comments

County

In Compliance. Standard advisory condition.

Workgroup Committee

- Republic: Republic Services has not added or requested additional access and understands the stated requirement.
- have changes in landfill access received a public works permit?

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

No Compliance Opinion

Date	File #	Request	Result
2013	LU-13-061	Conditional Use Permit for "minor additions and modifications" at Coffin Butte Landfill to change the location of a construction staging and storage area in the vicinity of the existing office structure.	Planning Commission approved

Conditions of Approval

4. Disturbance of 1 Acre or More. A National Pollutant Discharge Elimination System NPDES) permit is required for all construction activities that disturb one acre or more. The NPDES permit must be obtained through Benton County Public Works and the Oregon Department of Environmental Quality.

Comments

County

In Compliance. Standard advisory condition.

Workgroup Committee

- Republic: Republic Services has not added or requested additional access and understands the stated requirement.
- have there been construction activities that disturb one acre or more? if so, have NPDES permits been obtained?
- No evidence of compliance.

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: Compliance Not Demonstrated. This is a new requirement and will likely make the list of standard conditions of approval that will not be monitored or enforced.

Compliance Not Demonstrated. County records need to be reviewed.

Subcommittee Member – Republic

The access and NPES are independent permitting requirements; Republic must comply with these requirements regardless of whether they are imposed as a condition of approval. That is why staff call them “advisory.” The purpose of these kinds of condition is put the applicant on notice that could be additional permitting requirements. As noted above, Republic’s operation hasn’t triggered either of these permitting requirements, so we shouldn’t be expected to prove a negative.

Conditions of Approval from prior approvals that remain in effect *(as of the time of this decision)*:	*References Conditions #’s 1 through 8 of PC-03-11*

Date	File #	Request	Result
2013	LU-13-061	Conditional Use Permit for "minor additions and modifications" at Coffin Butte Landfill to change the location of a construction staging and storage area in the vicinity of the existing office structure.	Planning Commission approved

Conditions of Approval

1. (5)Obtain necessary approvals from the Oregon Department of Environmental Quality for Landfill operations on this site.

Comments

County

In Compliance. The Comm. Dev. Department does not confirm and inspect records to ensure that conditions such as these are completed. It is a DEQ permit and if the DEQ does not approve the permit then the applicant could not continue the use and would be out of compliance.

Workgroup Committee

- Republic: This is not part of the Landfill and DEQ permits are not required. If such approvals become necessary in the future, Republic Services will obtain them.
- when was the most recent LUCS on file at DEQ completed? if the landfill is not compliant with land use conditions of aprroval, would DEQ still approve all necessary permits?

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: Compliance Not Demonstrated. This list of standard conditions that never get reviewed for compliance or enforced does not build confidence in the land use planning process in Benton County.

Compliance Opinion: Compliance Not Demonstrated.

Basis: No record of required action provided.

Subcommittee Member – Republic

As noted, if DEQ permits are required, then Republic must obtain those permits to proceed. The County does not need to nor has the authority to enforce DEQ's permitting requirements. This condition is only violated if DEQ finds Republic in violation. This in turn would allow the County to consider revoking the CUP. That is the purpose of these "comply with state law" requirements. More to the point, there haven't been any landfill operations on this CUP area that would trigger any permit requirements.

Date	File #	Request	Result
2013	LU-13-061	Conditional Use Permit for "minor additions and modifications" at Coffin Butte Landfill to change the location of a construction staging and storage area in the vicinity of the existing office structure.	Planning Commission approved

Conditions of Approval

2. (6)In cases where Landfill operations are the primary cause of traffic on unpaved public roads in the area, those roads shall be kept dust -free by the applicant.

Comments

County

In Compliance. Coffin Butte Road is entirely paved.

Workgroup Committee

- No evidence of compliance.
- there continue to be unpaved public roads in the vicinity of the landfill. does the landfill contribute to traffic on those roads? if so, how much?

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: Compliance Not Demonstrated. Many previous comments submitted regarding this condition of approval. Many unpaved roads still exist in the vicinity of the landfill.

Mark Yeager: Compliance Not Demonstrated (121622) The comments above capture the concern – there are several unpaved roads in the vicinity of the landfill that receive landfill traffic. Who determines “primary cause” and what does the County do about it?
No Compliance Opinion- Edward Pitera (112322)

Subcommittee Member – Republic

Republic agrees with staff. The public roads are paved; this condition is moot.

3. (7)The applicant or lease - holding operator shall ensure that the Landfill operation does not exceed the maximum sound level permitted by the Oregon Department of Environmental Quality.

Date	File #	Request	Result
2013	LU-13-061	Conditional Use Permit for "minor additions and modifications" at Coffin Butte Landfill to change the location of a construction staging and storage area in the vicinity of the existing office structure.	Planning Commission approved

Conditions of Approval

Comments

County

In Compliance. This condition is only applicable to the staging and storage area which is unlikely to create noise greater than the landfill operation.

Workgroup Committee

- Republic: Republic Services has no record of complaints on this parcel.
- County cannot confirm compliance.
- noise is an issue at the landfill; ensure the facility is still in compliance

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: Compliance Not Demonstrated. Property owner cannot delegate compliance to 3rd party This list of standard conditions that never get reviewed for compliance or enforced does not build confidence in the land use planning process in Benton County.

Compliance Opinion: Compliance Not Demonstrated.

Basis: No record of County process to capture / respond to complaints provided.

Subcommittee Member – Republic

As noted above, there is no evidence complaint or violation of this standard.

4. (8)Provide on-site parking for employees, customers, and visitors to the Landfill site.

Comments

County

Date	File #	Request	Result
2013	LU-13-061	Conditional Use Permit for "minor additions and modifications" at Coffin Butte Landfill to change the location of a construction staging and storage area in the vicinity of the existing office structure.	Planning Commission approved

Conditions of Approval

In Compliance.

Workgroup Committee

- truck traffic to the landfill begins backing up HWY 99 beginning before 4:30am; ensure that traffic to the landfill does not pose a safety hazard

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

No Compliance Opinion -Edward Pitera (112322)

Subcommittee Member – Republic

Republic agrees with Staff.

5. (9)Maintain a security fence between the Landfill operation and the public road when such road is located within 200 feet of the Landfill operation.

Comments

County

In Compliance.

Workgroup Committee

- check fence perimeter to ensure fencing is intact and there are no deferred maintenance issues

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

No Compliance Opinion (Mark Yeager 121622 & Edward Pitera (112322))

Subcommittee Member – Republic

Republic agrees with staff.

Date	File #	Request	Result
2013	LU-13-061	Conditional Use Permit for "minor additions and modifications" at Coffin Butte Landfill to change the location of a construction staging and storage area in the vicinity of the existing office structure.	Planning Commission approved

Conditions of Approval

6. (10)The Landfill operation hours shall occur between 8: 00 a.m. and 5: 00 p.m. Monday through Saturday, and 12: 00 p.m. through 5: 00 p.ni. on Sundays, with 24 -hour access for commercial customers.

Comments

County

This condition should have been revised to only apply to the staging and storage area. As written, it is unenforceable.

Workgroup Committee

- Republic: This is not part of Coffin Butte Landfill operations. It is a material storage facility. There are no operating hours here.
- Clearly not in compliance
- not in compliance

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: Not In Compliance (121622) Staff and RS do not get to interpret operating hours to mean something different than what was imposed as a written condition of approval. The words are the words. By definition the industrial activity of operating an active landfill is an incompatible use in an agricultural, forest and rural residential area. As such, operating hours are critical to mitigation of the numerous deleterious effects of the landfill operation. Requiring the landfill to limit operations to mitigate impacts “The landfill operation hours shall occur between 8:00 a.m. and 5:00 p.m. Monday through Saturday, and 12:00 p.m. through 5:00 p.m. on Sundays, with 24-hour access for commercial customers” means what it says, and the condition of approval was adopted by the Planning Commission. The public has a right to expect the operating hours to be enforced as approved and adopted. Beginning operations at 4:30 a.m. is a violation of this condition of approval. Under staff and RS interpretation, could the landfill operate 24 hours a day?

In Compliance -Edward Pitera (112322)

Date	File #	Request	Result
2013	LU-13-061	Conditional Use Permit for "minor additions and modifications" at Coffin Butte Landfill to change the location of a construction staging and storage area in the vicinity of the existing office structure.	Planning Commission approved

Conditions of Approval

Subcommittee Member – Republic

Republic references our prior comments on the same condition.

7. (11)The applicant shall retain the dual - access road system to provide for emergency service access to the subject site.

Comments

County

In Compliance.

Workgroup Committee

- Awaiting additional research.
- Republic: Republic Services is in compliance with this requirement. The eastern haul access road was relocated, per county regulations, during the construction of Cell 4 in 2012. Access is maintained today.

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

No Compliance Opinion (Mark Yeager 121622 & Edward Pitera (112322))

Subcommittee Member – Republic

Republic is in compliance

8. *OMITTED*	N/A

9. (12)Copies of water quality and air quality permits, and data produced from associated monitoring programs, required of the applicant by the Oregon Department of Environmental Quality, shall be placed on file, in a timely way, with the Benton County Community Development Department for public inspection.

Comments

Date	File #	Request	Result
2013	LU-13-061	Conditional Use Permit for "minor additions and modifications" at Coffin Butte Landfill to change the location of a construction staging and storage area in the vicinity of the existing office structure.	Planning Commission approved

Conditions of Approval

County

In Compliance.

Workgroup Committee

- Republic: There are no permits or monitoring data as this relates to a material storage facility.
- As noted above, these are not available for public inspection as required.
- landfill not in compliance with June surface emission methane monitoring required by DEQ; Benton County should obtain an independent assessment of overall methane emissions, arsenic levels in monitoring wells are high, odor: per public records requests, odor complaints to DEQ are not documented/investigated/logged to the extent that testimony has been given that residents have given up on making complaints to DEQ, annual report to DEQ: for many years, the reports required by Benton County DSAC to DEQ "documenting local citizens' concerns and the manner in which the owner or operator [of the landfill] is addressing those concerns" (ORS 459.325) have not been completed and submitted as required by Oregon statute. even now, there is no DSAC meeting dedicated to this required activity. as a result, DEQ has not been informed of many of the problems that citizens experience at coffin butte landfill. contamination: domestic wells have been contaminated

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: Compliance Not Demonstrated Material storage areas can and do generate stormwater runoff unless they are completely covered. How and when does the County know if permits for this facility are procured from DEQ?

Compliance Opinion: Compliance Status Unsure

Basis: Insufficient information provided to demonstrate compliance e.g. a documented work process, summary reports, etc.

Subcommittee Member – Republic

The enumerated permits and monitoring information is on file at the link previously provided by staff, which is all this condition requires. The County has no authority to conduct oversight over DEQ's permitting requirements. Further, this condition is not currently relevant to this CUP because the subject property is a grassy field that Republic might need to use someday for storage.

Date	File #	Request	Result
2013	LU-13-061	Conditional Use Permit for "minor additions and modifications" at Coffin Butte Landfill to change the location of a construction staging and storage area in the vicinity of the existing office structure.	Planning Commission approved

Conditions of Approval

In addition, the way the methane monitoring works is that if a methane detector registers over a certain level, Republic has to complete remediation within a set period of time and then re-monitor several times at that location. As long as the landfill follows these prescribed steps it is not out of compliance. The whole point of surface monitoring is to try to find detections and fix them. This is why the permit is structured that way.

10. (13)Copies of storm -water runoff permits and data produced from associated monitoring programs required of the applicant by the Oregon Department of Environmental Quality, shall be placed on file in a timely way, with the Benton County Community Development Department for public inspection.

Comments

County

In Compliance.

Workgroup Committee

- Republic: There are no permits or monitoring data as this relates to a material storage facility.
- As noted above, these are not available for public inspection as required.

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Mark Yeager: Compliance Not Demonstrated. Material storage areas can and do generate stormwater runoff unless they are completely covered. How and when does the County know if permits for this facility have been issued by DEQ?

Compliance Opinion: Compliance Status Unsure

Basis: Insufficient information provided to demonstrate compliance e.g. a documented work process, summary reports, etc.

Date	File #	Request	Result
2015	LU-15-001	Alteration of a nonconforming use to continue and enhance a stormwater treatment facility in the Exclusive Farm Use Zone, associated with Coffin Butte Landfill.	Community Development Department Approved

Conditions of Approval	Current Status
1. Development shall substantially comply with the plans and narrative in the applicant' s proposal identified as Attachment A. Significant modifications to the construction or operation of the stormwater system other than those addressed through this decision shall require additional approval.	

Comments

<u>County</u>

In Compliance. This is a standard condition requiring applicant to implement the land use as they proposed it in the application. The County has no evidence that implementation was significantly modified from what was approved.

<u>Workgroup Committee</u>

- Republic: This development condition was at the County's discretion. However, as it relates to stormwater system construction and monitoring, Republic Services has all the DEQ permits necessary and is in compliance.
- attachment a is not provided
- We are missing a clear statement from the county on whether the site is in compliance, independent of DEQ. See previous comments.

<u>Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager</u>

Mark Yeager: Compliance Not Demonstrated. Nonagricultural uses in the EFU zone are specifically limited by ORS. Whether the continuation and alteration of a non-conforming use in the EFU zone is appropriate may be beyond the scope of this review. However, that fact that this action was approved at the staff level, and apparently at the behest of the department, requires further review. More time is needed to review the record. Was Oregon Department of Land Conservation and Development (DLCD) notified of this land use action?

Compliance Opinion: Compliance Not Demonstrated.

Basis: No record of required action provided.

<u>Subcommittee Member – Republic</u>

Republic is in compliance

2. The applicant shall obtain and maintain compliance with the terms of all necessary federal, state, and local permits for construction and operation of the stormwater system described in this application.

Comments

County

In Compliance. This is a standard type of condition that ties a County permit to a permit issued by another agency. The County does not actively monitor compliance with outside agency permitting requirements, but if the outside agency determines that their permitting requirements have not been met then the applicant is also out of compliance with the Benton County permit.

Workgroup Committee

- Republic: This development condition was at the County's discretion. However, as it relates to stormwater system construction and monitoring, Republic Services has all the DEQ permits necessary and is in compliance.
- the stormwater system is in an area identified as "wetlands" – does this trigger additional permitting requirements
- We are missing a clear statement from the county on whether the site is in compliance, independent of DEQ. See previous comments.

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

(Mark Yeager) Many previous comments regarding lack of system or follow up to ensure that applicant secures permits for approved activities. Meaningless condition with no follow up or enforcement.

Compliance Opinion: Compliance Not Demonstrated.

Basis: No record of required action provided

Subcommittee Member – Republic

Republic is in compliance.

Date	File #	Request	Result
2021	LU-21-047	Conditional Use Permit to expand Coffin Butte Landfill. Republic Services proposed: to create a new disposal cell for the Coffin Butte Landfill which will extend from the current cell south of Coffin Butte Road; close Coffin Butte Road to public traffic (vacate the right-of-way*) so the new cell can cover the road; relocate a replacement roadway (for landfill and quarry traffic only) around the area of the new disposal cell; relocate the leachate ponds south of Coffin Butte Road, and move some other structures. Closing Coffin Butte Road will likely require improvement of at least one other roadway in the area to accommodate increased traffic—potentially Tampico Road or Wiles and Robison Roads.	Planning Commission Denied; PC Decision Appealed; Application Withdrawn

Comments

Workgroup Comments

- Republic Services appealed the Planning Commission's decision, but voluntarily withdrew that appeal to engage with the community and participate in the Oregon Consensus process. Republic Services and Coffin Butte Landfill remain committed to the Oregon Consensus process and this group's work. We look forward to being part of Benton County's long-term solid waste management and diversion solution strategy.

Subcommittee Members Edward Pitera, Catherine Biscoe, Mark Yeager

Use Decision Provided for Background
Subcommittee believes that the record and rational of this land use proceeding is relevant to the evolution of the Coffin Butte Landfill.
Review of the record in this land use proceeding provides important historical context. The public comments and the Notice of Decision in this matter are critical to understanding the history of the landfill and the sentiment of the residents of Benton County at that time.
Open Items: Subcommittee needs to review this documentation

Subcommittee Member – Republic

Any new CUP application filed by Republic will be a new application accompanied the appropriate studies and justifications.

Conditional Use Permit land use applications that were NOT APPROVED

Date	File #	Request	Result
1994	PC-94-10	Zone change from Rural Residential to Landfill Site Zone, Comprehensive Plan change from Rural Residential to Landfill Site.	BOC Denied
There are no conditions proposed for a zone change.			

Date	File #	Request	Result
1994	PC-94-11	A conditional use permit to expand the area approved for a landfill within the Landfill Site Zone and update the site development plan.	PC Approved; PC Decision Appealed; Application Withdrawn

Planning Commission approved Conditions of Approval – as the application was withdrawn, these conditions hold no authority.

1. Limit the extent of the fill to be sited on the property to the north and east of the ridge line.
2. Limit the extent of the fill to be sited on the property to be no greater than the existing elevation of the ridge line.
3. Submit a copy of the final approved site plan map to the Development Department that shows the provisions of the site plan in BCC 77.310(2) have been met. The approved site plan shall be signed by the Planning Official when approved.
4. Submit documentation to the Development Department showing the existing fill and proposed plan would be in compliance with Department of Environmental Quality standards.

Date	File #	Request	Result
2021	LU-21-047	Conditional Use Permit to expand Coffin Butte Landfill. Republic Services proposed: to create a new disposal cell for the Coffin Butte Landfill which will extend from the current cell south of Coffin Butte Road; close Coffin Butte Road to public traffic (vacate the right-of-way*) so the new cell can cover the road; relocate a replacement roadway (for landfill and quarry traffic only) around the area of the new disposal cell; relocate the leachate ponds south of Coffin Butte Road, and move some other structures. Closing Coffin Butte Road will likely require improvement of at least one other roadway in the area to accommodate increased traffic—potentially Tampico Road or Wiles and Robison Roads.	Planning Commission Denied; PC Decision Appealed; Application Withdrawn

Planning Department designated Conditions of Approval – as the application was withdrawn, these conditions hold no authority.

Preliminary Approval Conditions

The following Preliminary Approval Conditions shall be met within four years of the date of decision; the Planning Official may grant one extension for up to a year prior to the expiration of the preliminary approval period if the applicant makes a written extension request stating the reasons preventing completion within the approval period. Failure to complete the Preliminary Approval Conditions within the period of validity shall render this Conditional Use Permit void.

Phase 1 Preliminary Approval Conditions – Only those activities necessary to complete the following conditions are authorized until all of these Phase 1 Preliminary Approval Conditions have been met.

PA-1 Wetlands. On Tax Lot 1200, the applicant shall prepare and obtain approval from the Oregon Department of State Lands of a wetland delineation. The applicant shall relocate any portion of the project that would disturb the wetland and required buffer of the wetland.

PA-2 Site Plan Map. The applicant shall submit to the Planning Official a final site plan map of the approved proposal. The map shall contain a scale, north arrow, assessor map numbers, location of existing landfill, access, proposed alteration, leachate treatment or monitoring areas surface water systems, and existing and proposed screening (location and types of materials). A statement shall be placed on the map that the site plan map and narrative together are considered as the Site Development Plan. A signature block shall be included for the date the approval is given and the signature of the Planning Official indicating approval.

PA-3 Archaeological survey. The applicant shall complete a professional archaeological survey of the proposed expansion area, the internal road location, and the location of the employee building and leachate ponds. The applicant shall consult with all

appropriate Native American tribes and the Archaeological division of the State Historic Preservation Office regarding the proposed project. The applicant shall include County planning staff in all correspondence. The final survey shall be submitted to the State Historic Preservation Office, with a copy sent to the Planning Official. The applicant shall comply with all state and Federal laws regarding archaeological surveys and subsequent processes.

PA-4 Great Blue Heron Rookery (GBHR). The applicant shall hire a wildlife biologist experienced in surveying GBHRs and the biologist shall follow an approved survey protocol to determine whether the rookeries, identified on the map on Page 12 of the staff report, are active or have been abandoned. An active rookery must be protected or mitigated. For a rookery to be considered abandoned it must be documented to have not been used in any of the previous three years.

(a) The wildlife biologist hired by the applicant shall map the perimeter of the rookery as defined by the outermost nest trees, and then identify a 300-ft buffer of trees around the rookery. Trees within this 300-ft buffer shall not be disturbed unless the disturbance will provide better nesting habitat for the herons, or it is determined by ODFW that the rookery is abandoned.

(b) The western rookery shall be surveyed for three successive years to determine if the rookery is abandoned. Should the western rookery be determined to be active (used within the last three years) based on the surveys, the applicant shall coordinate with the ODFW to determine an appropriate mitigation plan. Additionally, the applicant shall work with the Oregon Department of Forestry to ensure compliance with the Forest Practices Act when working in this stand.

(c) The applicant's biologist shall conduct follow-up surveys of both rookeries in accordance with the following survey methodology: During each visit, surveyors would observe each heron nesting site for a 2-hour observation period during daylight hours when weather conditions are mild. A heron nest would be considered active if it has known or inferred presence of a mated pair as indicated by observance of at least one of the following activity patterns:

- Two adult herons are present on or near a nest, which has recently been repaired with fresh sticks (clean breaks) or fresh boughs on top, and/or having droppings and/or molted feathers on its rim or the ground underneath
- One adult heron is sitting low in the nest, presumably incubating
- Either adult is carrying prey to nest
- Eggs are present
- Young in nest or fledglings are present A heron nest would be considered unoccupied for the year if no presence activity (as described above) is observed during three consecutive visits.

Surveyors shall note any key components associated with a nest site, such as perching trees, fledging trees, and replacement nest trees, by observing herons use during visits.

PA-5 Covenant. If not already completed, the property owner shall sign a declaratory statement to be recorded into the County Deed Records for the subject property on which the conditional use is located that recognizes the rights of adjacent and

nearby land owners to conduct forest operations consistent with the Forest Practices Act and Rules, and that recognizes the hazards associated with the area.

PA-6 Reclamation Plan. The applicant shall submit an updated reclamation plan to the Planning Official.

PA-7 Noise.

(A) The applicant shall have prepared by noise-mitigation professionals a noise mitigation plan with strategies designed to provide sound-level compliance with applicable Oregon Administrative Rules for truck traffic on the access road and operations within the new cell. The applicant shall seek input from adjacent property owners.

(B) Along Tax Lot 1200 property line adjacent to Hwy 99W, the applicant shall plant evergreen trees in the gap between the existing evergreens and the deciduous trees. The applicant shall then plant a second row of evergreens behind the first row to provide a thicker buffer. The applicant shall also plant a row of evergreen trees along the edge of the wetland to provide a second layer of buffering behind the deciduous trees. The trees shall be at least 8 feet tall upon planting and be of a species to reach a height of at least 40 feet upon maturity.

(C) The applicant shall plant a triple row of evergreen trees along the area highlighted in yellow in the picture. The trees shall be at least 8 feet tall upon planting and be of a species that will reach a height of at least 40 feet upon maturity.

Phase 2 Preliminary Approval Conditions – Upon completion of the Phase 1 Preliminary Approval Conditions, the applicant may initiate the ground-disturbing activities identified in the following Phase 2 Preliminary Approval Conditions. Elements of this phase that do not include ground disturbance may be initiated in Phase 1.

PA-8 Coffin Butte Road. The applicant shall obtain Board of County Commissioners approval of the vacation of Coffin Butte Road.

PA-9 Public Works.

(A) Traffic counts shall be updated by a Traffic Engineering consultant licensed in the State of Oregon. The applicant shall provide an integrated, comprehensive, traffic impact analysis based on current traffic counts, classifications, and turn movement studies to address all of the issues raised in the October 22, 2021 Public Works review. Intersections to be studied will be determined by ODOT and the County Engineer.

(B) Tampico Road.

(i) The applicant shall have a Professional Land Surveyor licensed in the State of Oregon establish the extents of the Tampico Road right-of-way between Hwy 99W and Soap Creek Road.

(ii) The applicant shall survey, design, and construct Tampico Road between Hwy 99W and a point 100 feet north of the Soap Creek Intersection to Major Collector standards, with a pavement/base-rock section meeting a minimum 18” Crushed Base

Equivalent (CBE) as specified in the TSP. Additional analysis may be required to determine if this section is sufficient for the proposed facility.

(iii) The applicant shall design and construct Tampico Road drainage ditches, stormwater conveyances, connections to off- right-of-way conveyances, and detention/treatment facilities to accommodate runoff using ODOT standards, details and methodologies.

(C) The applicant has proposed the Wiles/Robison corridor as an evacuation and emergency responder route. To effect that designation, the applicant, in coordination with County Engineering staff and representatives of the Adair Rural Fire Protection District, shall analyze the Wiles/Robison corridor to determine if it is suitable for such use. Improvement of this route to serve emergency responders will require the replacement of the existing Wiles Road Bridge. If the corridor is to be utilized as an evacuation/emergency responder route, at absolute minimum, the road must meet fire department standards for two-way traffic as defined in Fire Protection Standards, Guidelines for the Application of Oregon's Fire & Safety Regulations within Linn & Benton Counties (Jointly Adopted January 1, 2020). The corridor shall be analyzed using this guideline. The costs of any improvements are unknown and are dependent on the need determined by the analysis. Any work in the right-of-way is subject to a Permit to Perform Work in the county Right-of-Way as noted in the Advisories.

(D) The applicant shall survey, design, and construct a cul-de-sac at the proposed terminus of Soap Creek Road employing Major Collector standards, with a pavement/base-rock section meeting a minimum 18" CBE as specified in the current TSP.

(i) The Soap Creek Road cul-de-sac dimensions shall conform to the most rigorous requirements of the local fire protection district.

(ii) If necessary, the applicant shall dedicate right-of-way to the public to accommodate the Soap Creek Road cul-de-sac.

(iii) Access to the vacated segment of Soap Creek Road and the southern access road will be controlled by a locked gate at the northerly terminus of the Soap Creek cul-de-sac. The gate shall be fitted with a forest access, Knox, or multiple-lock box to facilitate emergency access by authorized personnel.

(E) The applicant shall provide emergency access and egress easements over the length of the proposed southern private access road and the vacated segment of Soap Creek Road. The width and alignment of the easements shall be as approved by the County Engineer and the County Surveyor.

(F) The applicant has proposed the Wiles/Robison corridor as an evacuation and emergency responder route. A segment of Robison Road does not meet current standards for right-of-way width. In order to complete improvements, acquisition of right of way may be necessary. The cul-de-sac bulb at the northeasterly terminus of Soap Creek Road may require dedication of additional right-of-way. The applicant shall be responsible for right-of-way acquisition, if needed, to meet the road improvement conditions of this land use action.

(G) [Revised]Depending on the extent of improvements to the Tampico and Wiles/Robison corridors, modification to the Tampico/Hwy 99W and Robison/Hwy 99W intersections may be necessary. The applicant, the County, and ODOT shall work cooperatively to analyze and address the need for modification of these intersections. The scope of the analysis will be defined by the proposed use and improvement requirements for each of the corridors. The costs of intersection improvements are unknown and are dependent on the need determined by the analysis.

(H) The applicant shall provide calculations, design, and specifications for all proposed public infrastructure to Benton County Public Works staff for review and approval.

(I) The applicant shall provide the County with a proposed detailed chronological sequencing plan for accomplishment of the conditions of approval and shall work with Public Works Engineering staff to arrive at a final sequencing plan that is consistent with County Code and the Conditions of Approval. The plan shall include specific sequencing and timeline requirements for the replacement of the Wiles Road Bridge. The conditions listed here involve a series of construction requirements and quasi-judicial actions that must be achieved in a manner to protect the interests of the applicant, the public and the County's transportation system. Prior to receiving operating approval of this conditional use permit, the applicant shall fulfill ONE of the following TWO options to meet the conditions for improvements noted above:

(i) The applicant shall construct the improvements noted above as required. OR

(ii) The applicant shall enter into an Agreement for Improvements (AFI) with the County. The AFI will require security for the full amount of the work to be performed plus a 20% contingency. The security may take the form of a bond, a conditional irrevocable line of credit, or a cash deposit. The security serves to assure faithful performance of the required improvements, as outlined above, within 18 months of execution of the AFI.

(J) In order to mindfully achieve an approved sequencing plan, the applicant shall enter into an Improvement Agreement (or other binding document) with the County that specifies the obligations of both parties prior to pursuing the vacation of Coffin Butte Road. The Agreement must include all conditioned improvements to County infrastructure. This Improvement Agreement is to be separate guidance agreement and shall be independent of the AFI noted in (I)(ii) above.

Operating Approval Conditions (to be met for the duration of the business):

OA-1 Trucks using the new internal haul route shall not use Jake brakes to slow or stop their speed.

OA-2 Operating hours for the new cell shall be as follows:

(A) Monday through Friday, internal operations shall not begin prior to 5:30 am. The site may open to commercial vehicles starting at 6 am and to public vehicles starting at 8 am. The site shall close to both commercial and public vehicles at 5 pm and internal operations shall be completed by 6 pm.

(B) Saturday internal operations shall not begin prior to 7:30 am. The site shall not open to commercial and public traffic prior to 8 am and shall close to both at 5 pm. Internal operations shall be completed by 6 pm.

(C) The site shall be closed on Sunday.

(D) During an emergency, and when requested by a State, Federal, or county agency, the landfill may be opened outside of these hours.

OA-3 All vehicles being used for operations on the new cell shall be outfitted with white noise back up alarm.

OA-4 The applicant shall implement the noise mitigation strategies within the noise mitigation plan.

OA-5 Upon the Planning Official's direction, in response to noise complaints being received from adjacent property owners, the applicant shall within 90 days:

(A) Provide an updated noise study prepared by appropriate professionals addressing the complaints and identifying mitigation measures to bring any non-compliant noise levels into compliance and

(B) Implement such measures and demonstrate noise-level compliance. Such a noise study shall not be required more than once every two years.

OA-6 The applicant shall maintain the tree buffer along Hwy 99W and replace any dead trees during the rainy season.

OA-7 The applicant shall maintain the tree buffer along the access road near Parcel 1103 and replace any dead trees during the rainy season.

OA-8 Great Blue Heron Rookery. Unless modified by written agreement issued by the Oregon Department of Fish and Wildlife and with approval by Benton County:

(A) No trees shall be removed from the stand of trees that encompass any active great blue heron rookery or from the 300-ft buffer unless the disturbance will provide better nesting habitat for the herons, or it is determined by ODFW that the rookery is abandoned.

(B) During the critical nesting period for the Great blue heron, which is from February 15 through July 31, neither construction to prepare the ground or build the leachate ponds, employee building, road bed, or landfill cell shall occur within a quarter mile of the boundary of the rookery.

(C) The applicant's biologist shall monitor, for 10 years after preliminary approval, the eastern great blue heron rookery throughout the nesting season to determine site specific nesting chronology, nest productivity, the degree of habituation to disturbance, and nearby foraging habitat. The applicant's biologist shall consult with ODFW on improvements that can be

made to the site, and the applicant shall incorporate those improvements, that will enhance nesting productivity, mitigate disturbance, and enhance nearby foraging habitat.

OA-9 On all outdoor lighting, the applicant shall install light shields or use lights with the correct beam angle encased above and to the sides in order to channel the light downward and reduce the amount of light pollution.

OA-10 The final grade of the new landfill cell shall not exceed 500 feet in elevation.

OA-11 The applicant shall construct and operate the expanded landfill as described in the application materials, except as modified by these conditions of approval.

OA-12 The applicant shall obtain and maintain all required federal, state and Benton County permits for construction and operation of the landfill.

Advisory Notices:

Advisory 1. Endangered Species Act. Federal law requires that the applicant comply with the federal Endangered Species Act and is responsible for obtaining any required permit approvals from the U.S. Fish and Wildlife Service. Failure to do so may be a violation of federal law.

Advisory 2. Oregon Department of Transportation. With the proposal of vacating Coffin Butte, it is the understanding of ODOT that properties to the west which currently use Coffin Butte Road will likely now use Tampico Road, and possibly Robison Rd, as their new route. If the applicant proposes, or the County requires, improvements to the OR 99W/Tampico Road intersection and/or the 99W/Robison Road intersection, the design of such improvements would need to be reviewed and approved by ODOT. A traffic study may be required. To help make the determination if a traffic study would be required with any proposed intersection improvements, we will want to know what the existing volumes and traffic classifications using the intersection(s) are and what the new proposed volumes and traffic classifications will be due to the vacation and disconnection of Coffin Butte Road.

Advisory 3. Public Works.

(A) Existing survey monuments must be preserved and protected. Any survey monuments disturbed during construction must be replaced at the expense of the applicant or the contractor.

(B) All public improvements shall be subject to a 3-year warranty period. At the start of the 3-year warranty period, the applicant shall provide Public Works with a warranty bond in the amount of 15% of the value of the work performed within the Benton County right-of-way.

(C) The applicant shall apply and obtain approval for a Permit to Perform Work in the County right-of-way for all work within County rights of way. The permit will be issued when construction drawings are approved and all supporting documentation has been provided to the County.

(D) The applicant shall provide the County with a unit price cost estimate for the work to be performed within Benton County rights of way. This estimate shall include trenching, backfilling, paving, striping, signing, grading/restoration, seeding, mulching, fence replacement, and any required landscaping. Permit fees will be 4.0% of the estimate provided.

(E) The applicant shall obtain a DEQ 1200-C permit, and a Benton County ESC permit prior to start of land disturbing activities.

(F) The applicant shall obtain approval for all required local, state and federal permits prior to start of land disturbing activities.

(G) Construction and post-construction storm drainage discharge shall conform to the standards and tenets established by Oregon Drainage Law and shall conform to all Oregon Department of Environmental Quality and Benton County stormwater quality standards using Oregon Department of Transportation erosion and sediment control details and best management practices.

Advisory 4. Wetlands. Prior to ground disturbance, the applicant shall prepare and obtain approval from Oregon Department of State Lands of a wetland delineation and removal fill permit. Any amount of disturbance to a compensatory mitigation area requires a removal-fill permit. A Federal permit may be required by the Army Corps of Engineers.

OBSERVATIONS AND RECOMMENDATIONS

Table 3. Suggestions to the County based on observations from the land use files

Document Number from Table 1	Observations	Suggestions and Recommendations to the County
2 1974 CP-74-01	Condition 3 About 30 million gallons per year of leachate (about twenty 5,500 gallon tank trucks per day) are trucked offsite to city treatment systems	Consider the impact of leachate management on traffic safety, road maintenance, and Willamette River (water, sediments, wildlife, etc.) in future assessment of the impact of landfilling in Benton County. Also consider the impact on the functioning of the wastewater treatment plant and impact on the service life of the facility. Financial considerations should be transparent. Republic Disagrees: The County has no authority to regulate leachate; that is within the exclusive jurisdiction of DEQ, as is wastewater treatment. The impact of truck traffic generated by the Landfill on the public street system has to be judged under the same criteria as applied to any other user and may not be based on the type of cargo.
2	Condition 6 Per DEQ guidance, Closure of the landfill does not occur until all disposal operations cease. Potentially this is 15 or more years from now. RSI [Republic] is not required to submit a Closure Plan until 5 years prior to Closure. In the interim, if the landfill were to close today, RSI [Republic] provides a "Worst Case" Closure and Post-Closure Plan which describes the condition the site is to be left. The current "Worst Case" plan provides for a grass cover on slopes. There is no mention of visual screening.	The issue of when the landfill is ready for reclamation and what that reclamation will look like needs to be clarified to appropriately manage community expectations for the ultimate disposition of the landfill. It is suggested the County bring some clarity to this condition by: 1. reevaluating the appropriateness of the …"shall be returned to grazing, another farm-type operation…". Questions to consider include: Given current public perceptions of landfills, does it make sense to expect grazing on top of a landfill to yield products for people? Given the steepness of the as-built landfill cover slopes, is it reasonable to expect grazing animals will not damage the cover system exposing wastes and allowing air to be drawn into the landfill mass? 2. giving nearby residents and travelers on Hwy 99 some sense of what can reasonably be expected under "…or other permitted use as approved by the Planning Commission and the Board of County Commissioners." e.g., a park with walking trails much like the Baylands Nature Preserve in Palo Alto, CA.

Document Number from Table 1	Observations	Suggestions and Recommendations to the County
		3. considering Franchise language that addresses the post closure condition of the landfill, 4. engaging with DEQ to understand what is possible for "Worst Case" and ultimate closure of the landfill. Republic Disagrees. Closure regulation is in the exclusive jurisdiction of DEQ. The County has no basis to regulate closure under the CUP requirements. Additionally, it is recommended the County consider: 1. the impact of ongoing landfill operation on community development programs such as the Bike Transit Corridor. Note the only east/west bike crossing of Hwy 99W for about 55 minutes is across from the landfill; 2. the compatibility of a landfill of this size with the County's Vision 2040. Republic disagrees: These plans may need to account for the landfill, but it has been in this location for fifty years.
2	Condition 7 Concerning recycling program. RSI [Republic] is "In Compliance" in Benton County based on personal experience but Benton County contributes less than 10% of the total volume sent to the landfill and is only one of more than 20 counties RSI [Republic] draws material from.	This should be addressed in next Vision Plan or Materials Management Plan. Flag this condition for BCTT SW Plan Subcommittee. Republic Comment: How to improve recycling is appropriately considered as part of the long-term materials management plan; it not relevant to a CUP.
3 1983 PC-83-07 / L-83-07	Condition 1 It is very important to note that the existing visual appearance of the landfill is a significant concern. The landfill is being constructed in ways that do not reflect the description	Consider clarifying the roles of the County and DEQ in future CUP actions. Which organization has primacy over what? A clear understanding is needed of DEQ's and the County's role in addressing aspects of the landfill such as design, operation, monitoring (including noise, light pollution, odor, etc.), appearance, and screening from public view, etc.

Document Number from Table 1	Observations	Suggestions and Recommendations to the County
	set out by the applicant and approved plan of 1983 (refer to PC-83-07; L-83-07). Republic Comment: It is very important to note that each CUP is an expansion of the landfill to a different cell area or to undertake a different activity in a different area. The purpose of the CUP process is to determine whether such a change will have undue additional impacts. It should be completely unsurprising that the landfill has changed since 1983; indeed, it is to be expected.	Republic Comment: We believe the distinction is clear: The County regulates the land use impacts of the landfill and DEQ regulates the environmental impacts. State law (ORS Chapter 197) requires all state agencies to coordinate their activities with local land use regulations, which is why DEQ requires Republic to first obtain the CUP from the County.
3	Decision text and "conditions" are sometimes difficult to easily determine especially in older County decision documents (See analysis by M Yeager (Dec 2022))	Future decisions clearly convey basis of Approval. Example: "Condition of Approval: This approval is based upon the application, site plan, and supporting documentation submitted by the applicant. Any substantial change as determined solely by Benton County in the approved plan will require a new application." Is there a written Benton County Compliance Policy & Process including a complaint lodging, tracking, and resolution process? Republic comment: Republic would also appreciate that any conditions of approval imposed on a potential CUP approval be clear.
7 1988 Board Order	1988 Board Order to Vacate a portion of Tampico Ridge Subdivision consolidated three lots and a portion of right-of-way into an 85 acre parcel.	In assessing the public burden associated with the landfill, it appears necessary for the County to understand how much land has been acquired by RSI [Republic] in pursuit of creating environmental or other buffers near the landfill. Address how these actions are consistent with Vision 2040. Republic Comment: Republic Services, Inc. is a holding company; it does not own and has never acquired any land around the landfill. Valley Landfills, Inc.

Document Number from Table 1	Observations	Suggestions and Recommendations to the County
	DEQ in the 2005 Record of Decision for the landfill specifies "Property purchases as buffer around the landfill." as one of the remedies for groundwater contamination. (See References)	and Pelletier Real Estate, Inc. own the land associated with the landfill. Regardless, the extent of Republic's (or any other person's) real estate portfolio is unrelated to any applicable CUP criteria (and arguably the County's regulatory jurisdiction). Ownership of the land does not change the underlying zoning designation of the land; unless the zoning is changed, it will continue to available for residential use even if the current owner doesn't put it to such use.
10 1994 PC-94-03	Condition 2 & 5 Noise	Establish and widely advertise a County process for receiving, tracking, and resolving landfill and power plant related noise complaints.
10	Condition 6 Lighting at Power Plant	Establish and widely advertise a County process for receiving, tracking, and resolving landfill and power plant related noise complaints.
15 1997 S-97-58	Condition 7 Lighting at Power Plant	Establish and widely advertise a County process for receiving, tracking, and resolving landfill and power plant related noise complaints.
15	Condition 9 "…applicant shall prepare a site specific development plan addressing emergency water supplies for fire protection. The plan shall be submitted to the local fire protection agency for review".	Establish if the applicant is in compliance with this 1997 condition. Reassess the emergency preparedness plan given the lessons learned from the nationally reported 1999 landfill fill fire and emergency services available to address new fire situations such as a hypothetical nearby forest fire. Consider integration with other plans such as Community Wildfire Protection Plan. See Adair Village Fire Chief Testimony (most recent CUP application).
General	Odor issues do not seem to be mentioned	Request feedback / discussion on how to address this especially for nearby areas undergoing development. (Logsdon Ridge, Santiam Christian School, Adair Village UGB expansion, North Albany). Reviews of Title V Permits are needed to determine if odor is addressed there.

Document Number from Table 1	Observations	Suggestions and Recommendations to the County
		Republic Comment: A landfill has been at this site since WW II. Any person considering developing close to a landfill needs to take that into consideration as with any other adjacent preexisting use. The CUP process is designed to ensure that any expansions do not have addition undue impacts.

GENERAL COMMENT BY REPUBLIC: [Table 3] should be deleted from the report; the policy recommendations go way beyond the Subcommittee's Charter. Members of the Committee are free to submit these to workgroup as their suggestions, but they should not be part of the subcommittee report. In addition, the references to Republic Services, Inc. ("RSI") throughout this entire section are inaccurate and should be removed. Valley Landfills, Inc. is the owner/operator of Coffin Butte.

Table 4. Monitoring and Compliance Enforcement Issues

Observations	Recommendations for Post BCTT Consideration
In assessing the status of compliance with past land use documents, there are numerous instances where supporting evidence may not or is not available in County records.	The Board of Commissioners update or establish an easily understandable policy concerning how the County is to require, manage, and interpret regulatory related information from RSI [Republic] and DEQ. Republic Comment: We note that in the almost 60 years that have elapsed since the 1974 decision the requirements for records retention and land use decisions have gotten significant more robust. (The Public Records Law was first enacted in 1973). We can't fix the past, but going forward, the current regulatory scheme should be sufficient to preserve the required records.
Over time the format and wording of what information is being requested has changed.	Establish consistent terminology for describing what an applicant is required to do to be considered in compliance. Republic Comment: As noted above, Republic would welcome clear and consistent wording of conditions. As with our comment above, the regulatory framework and terminology is not immutable; it evolves over time and will continue to do so.
Within Table 2, there are locations where County staff have stated that they do not actively review materials applicants provide as ongoing evidence of compliance with land use decisions. Confirmation of compliance is only made by the County after receiving a resident's complaint. *See Table 5 for a list of these occurrences*	The Board of Commissioners consider a proactive compliance confirmation program for facilities contributing to environmental burdens on the County such as a landfill, industrial scale composting, or direct dischargers to water bodies within the county. Republic Comment: This a county budgetary issue and much of it outside of the scope of the County's regulatory expertise and or authority.
Benton County relies on complaints to initiate action to review compliance with land use conditions of approval for the landfill and other land use decisions.	
Benton County did not and does not have a complaint tracking system in place to receive and record land use complaints for investigation and resolution. Staff Comment: the county has a Code Compliance division to track and resolve complaints from citizens. If complaints had	

been made prior to this division being created, the Director or a planner would have initiated a review of the complaint.	
Reports that are submitted as required per conditions of approval (e.g., Copies of water quality and air quality permits, and data produced from associated monitoring programs, required of the applicant by the Oregon Department of Environmental Quality) are not reviewed by Benton County.	
Applications, plans and proposals submitted by the applicant that describe the proposed use and applicant commitments for the development are not enforceable as conditions of approval unless expressly adopted into the findings of fact and notice of decision.	

Table 5. Supporting Information For Monitoring And Compliance Enforcement Issues

Summary: Instances of Unclear Compliance Monitoring by the County

PC-83-07/L-83-07	
Condition 9.	Staff Comment. In Compliance. This is an item under the oversight of DEQ. The Comm. Dev. Department does not confirm and inspect records to ensure that conditions such as these are completed. It is a DEQ permit and if the DEQ does not approve the permit then the applicant could not continue the use and would be out of compliance.
PC-94-03	
Condition 4.	Staff Comment. In Compliance. The requirement is that the applicant send a copy of the DEQ permit to the county so the county is simply a receiving body for this information. This is a standard type of condition that ties a county permit to a permit issued by another agency. The County does not actively monitor compliance with outside agency permitting requirements, but if the outside agency determines that their permitting requirements have not been met then the applicant is also out of compliance with the Benton County permit.
Condition 6.	Staff Comment. In Compliance. Monitoring of this condition is complaint driven. Staff has no records of complaints regarding lights at the power generation facility.
S-97-58	
Condition 3.	Staff Comment. In Compliance. Noise Compliance Monitoring memorandum submitted on June 11, 1997, by Pacific Northwest Generating Cooperative. Subsequent to the compliance monitoring memorandum, the County would require additional testing only if there was reason to believe the noise standards were no longer being met, such as through a noise complaint received from an adjacent dwelling.

Condition 4.	Staff Comment. In Compliance. Available records do not indicate any requests for noise monitoring by the Planning Official.
Condition 6.	Staff Comment. In Compliance. This is a standard type of condition that ties a County permit to a permit issued by another agency. The County does not actively monitor compliance with outside agency permitting requirements, but if the outside agency determines that their permitting requirements have not been met then the applicant is also out of compliance with the Benton County permit.
Condition 7.	Staff Comment. In Compliance. Monitoring of this condition is complaint driven. There are no records of any complaints. If there is current concern that the power plant lighting is out of compliance with this condition that could be investigated, but at this time there is no evidence of noncompliance.
PC-99-06	
Condition 1.	Staff Comment. In Compliance. This is a standard type of condition that ties a County permit to a permit issued by another agency. The County does not actively monitor compliance with outside agency permitting requirements, but if the outside agency determines that their permitting requirements have not been met then the applicant is also out of compliance with the Benton County permit.
PC-02-07	
Condition 9.	Staff Comment. In Compliance. The condition only requires that copies of documentation are given to the County, not that the county review and ensure that the applicant is in compliance with DEQ conditions. The county regularly receives copies of these documents.
Condition 10.	Staff Comment. In Compliance. The condition only requires that copies of documentation are given to the County, not that the county review and ensure that the applicant is in compliance with DEQ conditions. The county regularly receives copies of these documents.
PC-03-11	
Condition 3.	Staff Comment. County Requirement Superseded. County monitoring of this condition is complaint-based and this condition would only have applied to landfill uses on the 9.45 acre property which has been incorporated into a larger landfill cell.
Condition 8.	Staff Comment. In Compliance. The requirement for the county to receive copies of the documents and the county regularly receives copies. Appendix I https://www.co.benton.or.us/sites/default/files/fileattachments/community_development/page/8136/2021_cbl_site_development_plan_appendix_g_i.pdf
Condition 10.	Staff Comment. In Compliance. This is a standard type of condition that ties a County permit to a permit issued by another agency. The County does not actively monitor compliance with outside agency permitting requirements, but if the outside agency determines that their permitting requirements have not been met then the applicant is also out of compliance with the Benton County permit.
LU-11-016	
Condition 1.	Staff Comment. In Compliance. Standard condition requiring the applicant to implement the conditional use permit as described in their application. Planning staff reviews the building permit to ensure that the site plan meets county code

	requirements and Conditions of Approval. The building permit would not have been issued without planning staff approval.
Condition 3.	Staff Comment. In Compliance. Standard advisory condition. Issuance of the building permit is confirmation that the siting standards were met.
LU-13-061	
Condition 3.	Staff Comment. In Compliance. Standard advisory condition.
LU-15-001	
Condition 1.	Staff Comment. This is a standard condition requiring applicant to implement the land use as they proposed it in the application. The County has no evidence that implementation was significantly modified from what was approved
Condition 2.	Staff Comment. In Compliance. This is a standard type of condition that ties a County permit to a permit issued by another agency. The County does not actively monitor compliance with outside agency permitting requirements, but if the outside agency determines that their permitting requirements have not been met then the applicant is also out of compliance with the Benton County permit.

General Comments from Committee Members (October 2022):

- I understand that county staff might want to explain why, for many conditions (lighting, noise etc.) they have not been monitoring. But it makes the document less clear than it ought to be. "Complaint-based monitoring" really means "no monitoring" in practice. In such cases, I've suggested this more direct language.

  Republic Comment: As we have noted previously, complaint-based enforcement is very common for local governments in Oregon.

- Some of the responses really seem to be beating around the bush to avoid saying, "not in compliance." For example if screening is "not completed" even 20 years after a permit was issued, why not just state clearly, "Not in compliance."

  Republic Comment: It is not as simple as that. As we have previously noted, the landfill has changed significant over time; the 1983 plan is not relevant to the 2022 operation, so fencing or berms or screens could have been installed and moved or removed as new permits were approved and the site was modified.

- This is really a lot of applications to do things that are not allowed by right, 14 individual applications with many missing (Tampico vacation, coffin butte vacation, 1977 cup (?)). has any other business or individual in the history of Benton County been the applicant in so many land use actions? if the landfill is the record holder, is that overall situation something that should be considered when additional special permissions are requested?

  Republic Comment: The committee is looking at almost fifty years of permitting. This is not an untoward amount of applications, particularly since almost any change on the site requires a new land use approval.

References

Ref 1 DEQ Record of Decision 2005 Page 22:

7.1 DESCRIPTION OF THE SELECTED ALTERNATIVE

The remedial actions have already met the protectiveness standard since there were no unacceptable risks identified by the risk screening for the exposure pathways. However, to maintain this level of protectiveness and to provide for further improvement in groundwater quality consistent with the intent of groundwater quality protection rules, maintenance of the remedy as supplemented by additional actions was recommended. The remedy employs the following elements:

• Landfill closure and cover with engineered cap on Cell 1A and parts of Cell 1. The eastern slope of Cell 1 will retain interim plastic cover until it is covered with the base liner of Cell 3D. The Closed Landfill was covered with soil in 1977.

• Surface controls to prevent surface water run-on and infiltration of surface water through the waste, and to slow down the rate of cap erosion.

• Access restrictions to areas of waste by fencing around the landfill units.

• Leachate collection from Cell 1 and management by various strategies.

• Landfill gas collection from Cell 1 and use for supplemental electricity generation.

• Deed restrictions on property within the LOF to prevent development of groundwater resource.

• Decommissioning two water supply wells to prevent their future use.

• Property purchases as buffer around the landfill.

In addition to these actions, the solid waste permit requires groundwater monitoring downgradient of the landfill cells and LFG monitoring around the landfill cells and in structures to assess protectiveness between the landfill and potential receptors.

Appendix C5: Subcommittee Reports: Community Education & Outreach

Introduction and Themes

Community engagement "means having two-way communication with the public as plans are prepared, and decisions are made."[125] Benton County relies on community participation for all aspects of government policies and decisions that affect the lives of County residents. In June 2021, Republic Services applied for a Conditional Use Permit (CUP), a County-required regulatory step that would have allowed for the expansion of Coffin Butte Landfill. Some community members felt they had little opportunity to offer input, provide information, or otherwise use their voices during the County's land use decision-making.

The Benton County Planning Commission denied Republic's CUP request in December 2021, at which point Republic Services withdrew its appeal; the company is expected to file a new CUP request in 2023. The Solid Waste Management Workgroup was formed to make recommendations about this future process of the CUP and promote more knowledge and communication throughout the community. The County and other community volunteer-led groups like the Solid Waste Advisory Committee (SWAC) and the Planning Commission have legal criteria they must follow to make decisions about land use issues. To make these decisions, community participants are critical. This document provides outreach recommendations to ensure that community inclusion is actively promoted in the next CUP process and future land use decisions that are vital to community development and well-being.

The main themes identified so far during the process of developing this plan include the need to provide more inclusive and expansive community outreach for the next CUP process, update community outreach methods to include more young, low-income, and underserved populations, provide language accessibility and translation, organize in-person events that occur where community members already go, utilized websites and other online technology since smartphones are highly accessible to most residents and organization of community comments and concerns need to be clearly accessible and utilized. The consultation of the Benton County Diversity and Inclusion department will be utilized.

Goals and Objectives

- Best practice recommendations for Benton County communication and outreach with the public for the next CUP and future communications concerning the Sustainable Materials Management Plan (SMMP.)
- Review past CUP processes and standard Benton County Communication practices.
- Provide ideas and feedback for the BCTTC, SWAC, and the PC to help in Community Engagement.
- Develop an outreach plan that allows the Community more time to be involved in the CUP and other Land Use processes in the future and gives the County more access to Community input for decision-making.

[125] Oregon Department of Land Conservation and Development (DLCD). (2019). Putting the people in planning. https://www.oregon.gov/lcd/Publications/PPIP-Final_2019-06-30.pdf

- Develop FAQs for Community Education resources.

Review of Past and Standard Legal Requirements for County Communication and Outreach with the Community for Coffin Butte Landfill CUP application and the Usual CUP Process

Benton County's Solid Waste Advisory Council recommended approval of Republic Services' CUP request in October 2021, sending it on to the Planning Commission. That body held two public hearings in November 2021, and the public was given an additional 15 days to comment after the second hearing, which was held on Nov. 16. On December 7, 2021, the Planning Commission denied the CUP request, "saying the proposed closing of Coffin Butte Road would create an "undue burden" on the surrounding neighborhood and that Republic had not effectively answered questions from the community on noise, odor, and other public health impacts of the expansion as well as its effects on the environment and wildlife." Republic Services appealed the CUP permit application denial and stated that the Planning Commission misapplied the criteria guidelines for the CUP acceptance.[126]

This process ended with Republic Services withdrawing its appeal to work with Benton County and the community to try to come to a common understanding through the situational assessment and this workgroup process. During the CUP process, the community expressed that the County communicated ineffectively.[127]

The Community Education and Outreach Report workgroup recommends that the County take steps to improve communication and outreach before the next CUP application is made by Republic Services to improve community participation and education in the process. The workgroup recommends that the notification process for the CUP allows more time for community involvement and education.

The usual Benton County criteria for notification and communication for CUP applications are noted below:

Once the CUP application is submitted, County officials have 30 days to decide whether it is complete. During these 30 days, the community can be given an opportunity to comment on the completeness of the application; however, while there is NO legal requirement for public comment during this period, it is encouraged. The time frame of 30 days to decide if the CUP is complete is short, allowing minimal time for meaningful public input. The County has encouraged BCTT to create a list of things that would signify a complete application.[128]

The time limit for the final decision is 150 days from the time the CUP application is deemed complete; this process may be paused if the applicant states a reason in writing. The pause can last up to 215 days as an extension to the 150-day limit. Once this 150-day clock starts, all property owners located 750 feet from the property owned by the CUP applicant are legally required to be notified of the CUP per the Development Code. For Coffin Butte, this requirement is 750 feet from the property lines of the Landfill. Any property that lies partially

[126] Benton County Oregon. (n.d.). Planning commission home. https://www.co.benton.or.us/pc

[127] ICMresolutions. [n.d.]. *Benton County Solid Waste Situational Assessment Report* (Benton County) <https://www.co.benton.or .us/sites/default/files/fileattachments/planning_commission/page/2966/benton_county_solid_waste_assessment_7-12-22_final_report.pdf>

[128] Benton County Oregon. (2022). 150-Day Limit on Land Use Application Review. https://www.co.benton.or.us/sites/default/files/fileattachments/community_development/page/8384/150-day_time_limit_v3.docx

or fully in these 750 feet requirements is entitled to a mailed notification. The 750 feet requirement is a minimum, and the County is encouraged to send notifications to property owners who would be affected by the proposed land use decision even if these property owners aren't within the 750 feet requirement. However, this notification doesn't have to be physically mailed, as it does in the 750 feet requirement. Notices must also be sent to any neighborhood or community organization recognized by the Board of County Commissioners and whose boundaries include the site; an example is a Community Advisory Committee. When a hearing is required, there must be publication at least ten days before the hearing as a notice in a newspaper within the County. The CUP application must also be reviewed by the Solid Waste Advisory Council (SWAC); there is nothing stating that any specific notification of this SWAC meeting is required (beyond the normal notice that is sent out for regularly scheduled SWAC meetings.)[129]

When there is a decision on the land use request, there are also communication requirements, including a notice of decision mailed to all people who submitted testimony (if there is a hearing). If a Planning Official made the decision, notifications must be sent to property owners within the 750 feet requirement. The same requirements as stated above also apply if the application is appealed.[130]

County officials have provided a variety of community notifications beyond what is legally required. The notification plan includes staff encouraging the applicant to hold a public informational meeting before submitting the application. This can give the applicant beneficial public input as well as the applicant giving members of the public more information about the pending application. Once the application is complete and legal notifications have been fulfilled, the County often emails a list of people who have requested notification for land use applications. Sometimes, information on more extensive land use applications is posted on the Community Development Department website. These are often applications that require a public hearing before the Planning Commission. Once the decision has been made, the legal requirement for a decision made at a public hearing is to mail notice of decision for those who testified; however, often the County can mail notice to owners of property close to the land use applicant as well.[131]

Standard and Past Benton County Community Outreach

The County already has channels of communication that are used to notify the public, including email lists, the Benton County website and newsletter, and social media. Facebook accounts include The Sheriff's Office, BC central page, Natural Areas & Parks, Human Resources, Event Center & Fairgrounds, Developmental Diversity Program, WIC, Community Health Centers of Benton and Linn Counties, and the Health Department. The County also organizes and participates in Community events, advertising, mailers, and other communication tools are used when time and resources are available.[132]

[129] " "

[130] " "

[131] Benton County Oregon. (2022). 150-Day Limit on Land Use Application Review. https://www.co.benton.or.us/sites/default/files/fileattachments/community_development/page/8384/150-day_time_limit_v3.docx

[132] Benton County Oregon. (2022). Benton County Talks Trash solid waste process workgroup communication and outreach plan.

Benton County Standard Notification Channels and Examples:

1. Emails
    a. Interested parties list and organic subscribers list.
    b. Communication Partners (local network group)
2. Post in newsletters, both internal and external
    a. Benton County organic subscribers on Constant Contact
    b. Constant Contact Health Community Partner email English/ Spanish (PreK-12, Faith, Community Based Organizations (CBOs,) and HOPE, etc.)
3. County Website
    a. Website Banner
    b. Website English Press Release
    c. Website Spanish Press Release
    d. Website Traditional Chinese (Cantonese) Press Release
    e. Website Simplified Chinese (Mandarin) Press Release
4. Local radio and newspaper advertisements are occasionally used, LatinX Radio Partners
5. Flash Alerts, Media Partners
6. Social Media (These are all sites are self-selected/need following)
    a. Nextdoor
    b. Linktree
    c. Facebook Sheriff's Office, General BC Page, Health Department, Natural Areas & Parks, Human Resources, Event Center & Fairgrounds, Developmental Diversity Program, WIC, and Community Health Centers of Benton and Linn Counties.
    d. Twitter
    e. LinkedIn
    f. Instagram
    g. Flick

Recommendations by Subcommittee E for Considerations for Improved Outreach

There are many issues to consider with community engagement; one of these is community members being left out of notification channels. **This most frequently happens with engagement approaches based on interests, such as email lists and other channels, where community members are required to initiate contact**. When projects center on time and money instead of community member empowerment, disadvantaged residents are the most affected. To include these underserved community members (See CEO Appendix A), it is crucial that organizations prioritize reaching out rather than solely focusing on their own interests.

Studies have shown that underserved populations have reported never being asked to be involved in public decision-making.[133] There are two main ways to improve outreach to these underserved groups - widening public engagement and using multiple outreach methods.

Widening public engagement can include specifically targeting underserved groups, such as low-income and younger residents. One way to specifically target younger residents is by using notifications that are mobile-friendly, such as texts and ensuring that website pages and documents are mobile-friendly. Broader methods of social media outlets such as Snapchat, Reddit, and Tik Tok should be explored.

To widen public engagement, it is also crucial that the information is easily understood; this includes language inclusion. Community members with limited English proficiency need to be included: Spanish, (Mandarin and Cantonese), and Pacific Islander languages must be considered for informational materials and interpreter services.[134] While the County should focus on getting information to anyone with an interest in the land-use decision, the County should consider using an EJScreen - EPA to determine populations affected by environmental injustice and made be affected by land-use decisions.[135] [136]

Providing clearly defined procedures for how the community can get involved in easy-to-read language, including methods like infographics, is needed. It is also imperative that there is two-way communication and that the County listens to and incorporates voices from the community; this can include creating user-friendly access to public input documents and testimonies during the process to ensure the County, Planning Commission, SWAC, and other residents can access information.[137] This could be on a dedicated landfill website or an open house website. The County "Equity, Diversity, and Inclusion Coordinator" needs to be utilized to improve outreach efforts.

As mentioned in the Review of Past Communication with Public section above, it is legally required once the 150-day clock has started to notify individuals within 750 feet of the applicant's property lines. However, in order to widen communication, it is recommended that this radius be expanded based on the magnitude of the notification (see Table 1 and Figures 1 and 2). As mentioned in the table, these notifications are intended for all CUP applications, not just the CUP for Coffin Bute Landfill. Further discussion is needed regarding notifications for CUPs that affect the community less significantly and if they may have different notification standards.

Secondly, using multiple outreach methods is imperative to improving outreach to underserved groups. An essential aspect of this is utilizing notification styles that don't require to be followed or self-selected. The County should initiate communication on other social media

[133] De Weger, E., Baan, C., Bos, C., Luijkx, K., & Drewes, H. (2022). 'They need to ask me first'. Community engagement with low-income citizens. A realist qualitative case- study. *Health expectations: an international journal of public participation in health care and health policy*, *25*(2), 684–696. https://doi.org/10.1111/hex.13415

[134] Samaritan Health Services. (2022). Equity and inclusion plan. https://www.samhealth.org/-/media/SHS/Documents/English/001-General-Brand/001-SHS-Equity-and-Inclusion-Plan-0420.pdf

[135] Oregon Department of Land Conservation and Development. (2019). Putting the people in planning. https://www.oregon.gov/lcd/Publications/PPIP-Final_2019-06-30.pdf

[136] Public Input (2021). How do I get the word out? The first step of public engagement. https://publicinput.com/wp/get-the-word-out-first-step-of-public-engagement/

[137] Oregon.gov. (2022). Oregon's Statewide Planning Goals and Guidelines https://www.oregon.gov/lcd/OP/Documents/goal01.pdf

sites, such as the ones that these underserved populations frequent the most. The County needs to provide active outreach and seek out contact with the community on social media and other methods of communication.[138] [139] Posts in community groups on Facebook such as Corvallis Happenings, should be initiated by the County.

In addition to widening social media posts, social media advertisements would also allow the County to initiate contact and the user to then decide if they want to get further notifications on the topic. Social media advertisements are recommended due to allowing targeting of underserved populations and their cost-effective nature as governments and nonprofits can get low rates.[140] [141] Once the County has made a subsequent effort to initiate contact, it is essential to utilize email and online surveys.[142] The subcommittee also recommends that the County communicates and engages with the community before the CUP application is placed.

Other considerations can include recruiting members to the Planning Commission and the SWAC. The recruitment of members to these groups should be done through notification styles mentioned that widen community public engagement and use multiple outreach methods to ensure that as many groups as possible are being represented on the SWAC and the Planning Commission.[143]

Specific Plans for Communication have also been discussed and are shown below:

- Communicate via a Countywide postcard mailing that invites the community to an in-person Open House and/or Online Open House and provides a link and QR code to sign up to be on an email list for more information and to make comments. This method could also be used to create a survey for the public to comment on BCTT Workgroup recommendations. Then the results of this survey could be shared with the community to further inform the community of other residents' opinions and attitudes.[144]
- Connecting with the community online is now standard for projects and is recommended. An open house or a website page dedicated to the Landfill CUP could have links for comments, surveys, notices, and education and would provide easy and broad community access.[145]

[138] De Weger, E., Baan, C., Bos, C., Luijkx, K., & Drewes, H. (2022). 'They need to ask me first'. Community engagement with low-income citizens. A realist qualitative case- study. *Health expectations: an international journal of public participation in health care and health policy*, *25*(2), 684–696. https://doi.org/10.1111/hex.13415

[139] Oregon.gov. (2022). Oregon's Statewide Planning Goals and Guidelines https://www.oregon.gov/lcd/OP/Documents/goal01.pdf

[140] Public Input (2021). How do I get the word out? The first step of public engagement. https://publicinput.com/wp/get-the-word-out-first-step-of-public-engagement/

[141] Oregon.gov. (2022). Oregon's Statewide Planning Goals and Guidelines https://www.oregon.gov/lcd/OP/Documents/goal01.pdf

[142] Land Conservation and Development Commission. (2019). Land conservation and development commission public participation guidelines for policy development. https://www.oregon.gov/LCD/About/Documents/20190125_PublicParticipationGuidelines.pdf

[143] Benton County Oregon. (2022). Dissemination of Information Draft Memo.

[144] Oregon.gov. (2022). Oregon's Statewide Planning Goals and Guidelines https://www.oregon.gov/lcd/OP/Documents/goal01.pdf

[145] Oregon Department of Land Conservation and Development. (2019). Putting the people in planning. https://www.oregon.gov/lcd/Publications/PPIP-Final_2019-06-30.pdf

- If the mailer is too expensive, use multiple outreach methods and advertisements to provide outreach for an in-person open house and/or an online open house or website with interactions like surveys, notices, comments, and education. The community's interaction with the applicant is very important as well, so tours of the landfill, collaborative planning sessions, and further communication between the community and the applicant is suggested.[146]
- Managing controversy requires in-person approaches. Community in-person interaction will be needed for this process due to the different points of view and concerns about landfill expansion. Transparency and trust between all stakeholders is imperative. This County can achieve this through increasing community conversations and input at meetings and providing in-person opportunities such as an open house, hearing, and other events where the County can listen for concerns and solutions. Community input needs to be organized and accessible. The County Website link where the public input is being composed is a good start. The BCTT Workgroup, SWAC, Planning Commission, and other communities need to be able to access the main concerns for community decision-making.[147] [148] A community involvement advisory committee specializing in outreach and engagement for all land use policy decisions could improve future communication.[149]

Key Findings

Public engagement needs to be widened and become more inclusive. This is most likely to be achieved through the following measures:

CEO F-1 Insure language accessibility for at least the County's most used languages. (English, Spanish, Mandarin, and Cantonese)

CEO F-2 Use methods that help target underserved populations, particularly youth and low-income demographics.

a. This can be achieved through more SMS communication and ensuring all websites and surveys are mobile-friendly.
b. Increase social media communication and expand to more platforms. (Reddit, TikTok, Sub-Reddit, etc.)
c. Utilize social media advertising.

CEO F-3 Use outreach methods that do not require people to be pre-signed up or self-selected. This includes, but is not limited to, flyers in public spaces, paid advertising on social media, in newspapers, and on the radio, informational mailers, and other resources.)

[146] Department of Land Conservation and Development. (2022). Wildfire adapted communities' community engagement and stakeholders summary. https://www.oregon.gov/lcd/NH/Documents/20220930_DLCD_Wildfire_Community-Stakeholder-Summary.pdf#

[147] Oregon Department of Land Conservation and Development. (2019). Putting the people in planning. https://www.oregon.gov/lcd/Publications/PPIP-Final_2019-06-30.pdf

[148] Public Input (2021). How do I get the word out? The first step of public engagement. https://publicinput.com/wp/get-the-word-out-first-step-of-public-engagement/

[149] Land Conservation and Development Commission. (2019). Land conservation and development commission public participation guidelines for policy development. https://www.oregon.gov/LCD/About/Documents/20190125_PublicParticipationGuidelines.pdf

CEO F-4 Create user-friendly access to public input documents and testimonies during the process to ensure Benton County, Planning Commission, SWAC, and others.

Example of Possible Organizational Format for Community Discussions:

Community Comments

Issues/Concerns	Solutions

Examples of other Outreach Methods and Examples of other Community Engagement Campaigns

- Burnside Bridge Project in Multnomah County
  a. An online open house was provided.
  b. Instagram ads are used to reach the younger population.
  c. Project has its own website Earthquake Ready Burnside Bridge
  d. Provides community engagement survey results at several phases.
- SCORP (Statewide Comprehensive Recreation Plan) from OSU College of Forestry.
  a. Used a letter with a link to a survey (See Example 1).

Conclusion

Community education and extended outreach is a vital step of the land use application process. Making sure everyone in the community gets information about this process requires using two broad methods: specifically targeting underserved groups and using multiple outreach methods. Targeting underserved groups can include increased social media use and outreach methods that can be accessed with a phone. It is also imperative that communications are succinct and easily understood by the entire population as well as some communications that don't require community members to be pre-signed up. Using multiple outreach methods is also important, and during the process, the county should gauge the effectiveness of the communication strategy and change it if necessary.[150]

[150] Oregon. gov (2022). Public Involvement Process Checklist https://www.oregon.gov/lcd/About/Documents/Appendix_A-PI_Process_Checklist.pdf

Example 1.

Oregon State University

Forest Ecosystems and Society
Oregon State University
321 Richardson Hall
Corvallis, Oregon 97331
fes.forestry.oregonstate.edu

Para Español de vuelta a la página.

November 14, 2022

7311 T21 P1

[redacted]

About a week ago, we sent you a survey on outdoor recreation and other topics as part of the 2024-28 Statewide Comprehensive Outdoor Recreation Plan project. If you've already completed the survey, please accept our thanks. If not, then please take a few minutes to complete it now.

Your responses are important, regardless of where you live or how often you engage in outdoor recreation. Outdoor recreation includes a variety of things you may do outdoors in your free time. Activities such as walking your dog, cycling on sidewalks, trails, and roads, relaxing at your local park, picnicking with family and friends, fishing and hunting, boating, camping, bird watching, sightseeing, playing outdoor sports like golf and tennis, attending outdoor concerts, are some of the many examples of outdoor recreation.

Please complete the survey even if you have not engaged in any outdoor recreation activities in the last 12 months. Please complete the survey at the following link by December 31, 2022.

Go to **https://bit.ly/3NOMU6s** and enter the following ID number to complete the survey: **16281**

If you have any questions about the survey, please contact me at 541-737-4425, or by e-mail at r.rosenberger@oregonstate.edu. Please visit our SCORP website at **http://bit.ly/3flnjPV** for more information. If you have any questions about your rights as a survey participant, please contact the OSU Institutional Review Board (IRB) Human Protections Administrator at 541-737-8008 or by e-mail at IRB@oregonstate.edu and reference OSU IRB #2022-1605.

Thank you very much for your participation.

Dr. Randall S. Rosenberger, PhD
Interim Department Head and Professor of Applied Economics

Table 1.

Key Recommendations

- Overarching recommendation that says to follow the following recommendations and who is responsible for doing them.
- County Development Department and county PIO are responsible for conducting communication and outreach.

Key Recommendations

Generally, these recommendations focus on the landfill. However, we recognize that absent a change to the code, they could potentially apply to all CUP expansions.

CEO R-1 County Development Department and County PIO are responsible for conducting communication and outreach.

CEO R-2 The Board should consider changes to these notification recommendations based on the potential impact of other CUP applications.

CEO R-3 Notifications for the **BCTT Survey** for public input on the Workgroup Report should include an email blast, website post, and displays or presentations where people already spend time (i.e., Library, community events). Notifications should consist of a 10-Mile radius from the landfill and should go out ideally a month before the survey closes.

CEO R-4 Notifications for the **BCTT Report completion** should include an email blast to the Interested Parties List, Organic Subscribers, those who spoke at the meetings, the Soap Creek Neighbors Group, and other landfill neighbors. Notifications should also include a possible postcard to the entire county with a link to go to and/or scan to get on a list to be informed of further updates and/or have an open house event/public informational meeting. It should be on a weekend during the day so that most people can attend, and the link and email list should be readily available. A 10-Mile radius from the landfill is proposed, and notifications should be sent 72 hours after the report is finished.

CEO R-5 Notifications for **Board Hearings on the report** should include a postcard, an email blast, a newspaper notification, and social media posts and advertisements. The postcards should be sent to everyone in a 10- or 15-Mile radius of the landfill, and notifications should be sent 24 hours after the board hearing is scheduled.

CEO R-6 The County should notify the public **when Republic first notifies the County** that they are planning on filing a CUP application. This starts off any pre-filing public involvement. Notifications should include a postcard, email blast, newspaper notification, and social media posts and advertisements. Postcards should be sent to everyone within a 10- or 15-Mile radius of the landfill, and notifications need to begin 24 hours after the County is notified.

CEO R-7 Notifications for **CUP filings**, which includes **the application review process,** should consist of a postcard, email blast, newspaper notification, and social media posts and advertisements. Postcards should be sent to everyone within a 10- or 15-Mile radius of the landfill, and notifications need to begin 24 hours after the initiation of a CUP filing. During the "completeness" process, the Planning Official will consider whether the applicant's documents and information are sufficient for purposes of review of the application. A determination that an application is complete does not mean that the information satisfies the approval criteria.

CEO R-9 Notification when **County determines the application is complete** will include a postcard, email blast, newspaper notification, and social media posts and advertisements. They should be sent to the entire county and occur 24 hours after completion.

CEO R-10 Notifications for **SWAC Meetings** should include website posts and email blasts to interested groups and people already on the existing email list. The notifications should be sent one to two weeks before the meeting.

CEO R-11 Notifications of **the SWAC Recommendation** should include website posts and email blasts to interested groups and people already on the existing email list. The notifications should be sent out 24 hours after the recommendation.

CEO R-12 Notifications for **Planning Commission Meetings** should include website posts and email blasts to interested groups and people already on the existing email list. The notifications should be sent no later than two weeks before the meeting.

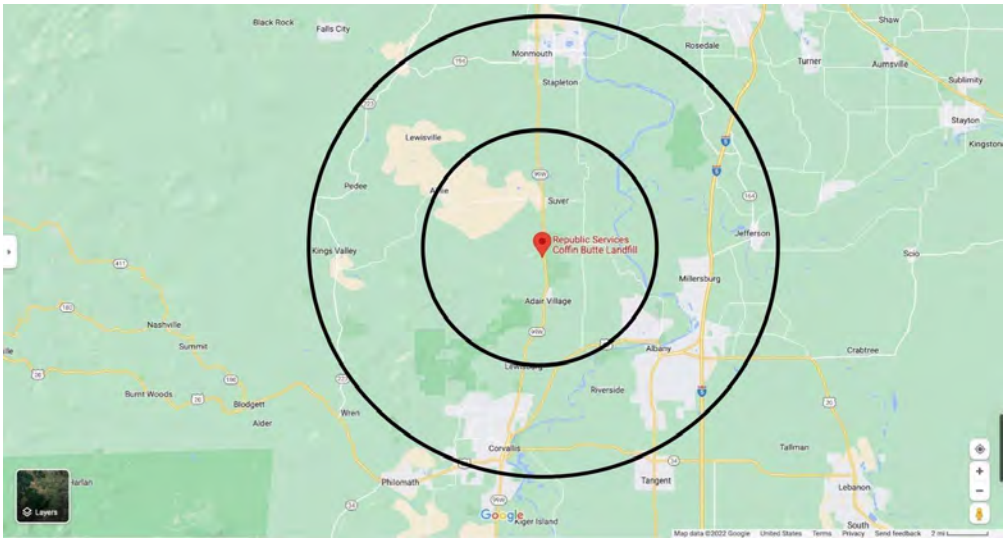
CEO R-13 Notifications of the **Planning Commission's decision on the application** should include website posts and email blasts to interested groups and people already on the existing email list. The notifications should be sent out 24 hours after the recommendation.

CEO R-14 Notifications of **when the Board is hearing the CUP application for approval** will include a postcard, email blast, newspaper notification, and social media posts and advertisements. They should be sent to everyone within a 10- or 15-Mile radius of the CUP site and occur 24 hours after scheduled.

CEO R-15 Notifications of the **Board's decision on the application** will include an email blast, website banner, newspaper notification, and social media posts. The notifications should be sent out 24 hours after the decision.

<u>Notification Radius Area Proposals:</u>

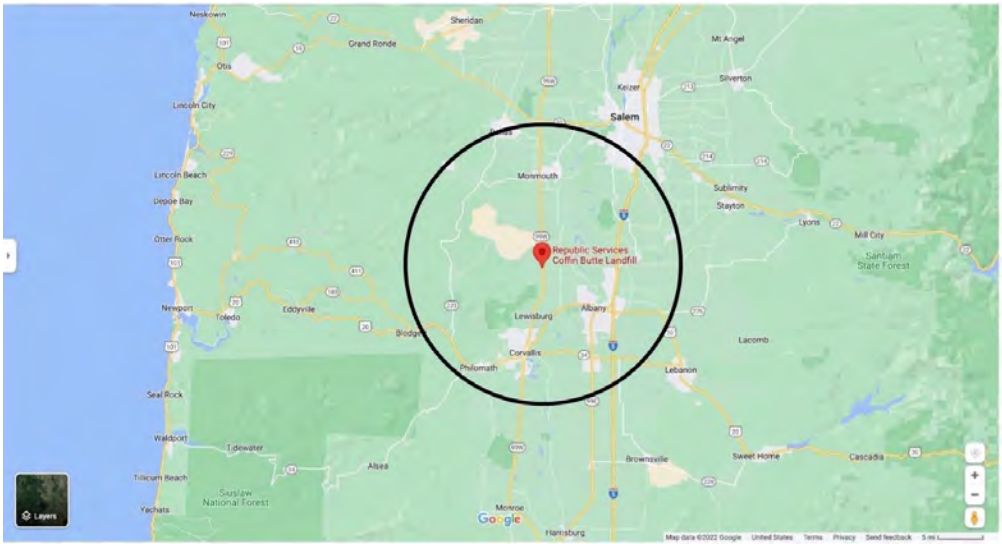
Figure 1.



Note: The center, smaller radius is a five-mile radius from Coffin Butte Landfill, and the other radius is 10 miles.

County	# within 5 mi	Note	# within 10 mi	Note	# within 15 mi	Note
Benton	2,543	Some overlap with Benton Addresses	4,441	The majority of the City of Albany included	8,991	All of the City of Albany included

Figure 2.



Note: 15-mile radius around Coffin Butte Landfill

Appendix D. Draft #3 Feedback from Planning Commissioners and members of the Solid Waste Advisory Council

Draft #3 of the BCTT Report was reviewed at public meetings of the Benton County Planning Commission (on 1/31/2023 and 2/7/2023) and the Benton County Solid Waste Advisory Council (on 2/8/2023). Members of those bodies provided feedback on the draft report. The individual comments were not consolidated into a document of feedback voted on and approved by the respective bodies; therefore, the comments are provided here as the informal comments of planning commissioners and of members of SWAC.

Benton County
COMMUNITY DEVELOPMENT DEPARTMENT

4500 SW Research Way
Corvallis, OR 97333
(541) 766-6819
co.benton.or.us/cd

MEMORANDUM

To: Benton County Board of Commissioners
From: Nicholas Fowler, Planning Commission Chair
Darren Nichols, Community Development Director
Date: February 24, 2023
Re: Planning Commission request to visit with Board of Commissioners

Dear Board Members:

The Benton County Planning Commission recently reviewed Draft #3 of the Benton County Talks Trash Work Group Report. During its review, the Planning Commission recognized that while it was pleased to offer input into the Draft Report, that input should not be considered a complete review of the report or its Findings and Recommendations because the Draft Report was still a work in progress.

Further, because the Work Group's eventual Final Draft Findings and Recommendations are anticipated to impact the Planning Commission's review and consideration of landfill issues going forward, we suggest that the Board and the Planning Commission meet as soon as reasonably practical in April after the Work Group delivers its final report.

To ensure that the Planning Commission is briefed on the Board's expectations, we recommend that the Board meet with the Planning Commission to:

- provide Board insight and direction to the Planning Commission,
- receive feedback from the Planning Commission's review of the Final Report, and
- foster continued constructive dialogue between the two bodies while the County has an open window for dialogue outside of the restrictions of any active land use application.

The Planning Commission and staff are pleased to support the Board's investment in understanding and exploring constructive paths forward on the critically important issues of solid waste and disposal.

Please let us know what date(s) could work best for the Board to meet with the Planning Commission as well as any additional agenda items the Board would like to discuss.

Respectfully,

Nicholas Fowler, Chair
Planning Commission

Darren J. Nichols, Director
Community Development Department

Planning Commissioners' Informal Discussion Comments on BCTT Work Group Report Draft #3 from 1/31 and 2/7/2023 Meetings

Section Title and Link	Page #	Feedback
I. Process Context and Background		
SECTION E: History of Coffin Butte; (click here for an updated version)	PDF pages 13-28, Word pages 13-30	• It has been helpful to hear the historic relationship with Coffin Butte and the community. • F2 – clarification on what is recommended • What is the scope of the phrase "character of the area" • Creating a condition of approval to address the process where DEQ only reviews the application once it is approved by the planning commission. Condition can be "approval by DEQ".
IV. Key Workgroup Findings & Recommendations		
SECTION A: Legal issues & Land Use Review	PDF pages 37-43, Word pages 39-45	• Page 43, table 2 – If/when the county receives another application for the landfill expansion – can it require things like groundwater, noise, odor, wetland restrictions? • Clarification on the role of SWAC in the BCTT report process. SWAC will not make a recommendation to the Planning Commission, but directly to the Board of Commissioners • Is the BCTT report going to recommend amending the Development Code to clarify the ambiguous terms in BCC 53.215 (Conditional Use Criteria). • Can compliance or lack of compliance with the conditions of a previous land use decision be part of the review of a new CUP application? • If a CUP application is submitted and comes before the Planning Commission for approval, the commissioners can add a condition of approval that it is approved once all DEQ requirements have been approved. DEQ does not review the application and discuss their conditions until the Planning Commissioners have made their decision. However, what if the Planning Commission determines that DEQ regulation of a particular parameter is inadequate or likely to be inadequate? • "Light pollution" is referred to in the conditions but not included in Table 2 on page 43.
SECTION B: Past Land Use Application Conditions	PDF pages 44-51, Word pages 46-53	Commissioner Biscoe stated that once the BCTT report is finalized, it will be a helpful historical document for the county moving forward. She serves on this subcommittee and reports that there is still discussion and effort to come to an agreement on the MOU between Republic Services and Benton County. • Page 44: The conditions regarding past land use applications has language that needs to be reviewed and edited. • To add "none" to the list of clarifications

Planning Commissioners' Informal Discussion Comments on BCTT Work Group Report Draft #3 from 1/31 and 2/7/2023 Meetings

		• Small edit to a word on page 50: "tracks" instead of "track".
SECTION C: Landfill Size/Capacity/Longevity	PDF pages 52-56, Word pages 54-58	• The need for clearer definition of terms in the franchise agreement (i.e. "CUP") • The 2000 and 2020 Franchise agreements do not have interpretation of terms and their meaning. (Such as limits vs threshold, limit on solid waste vs tonnage cap.) • Clarification that the existing quarry will be reduced and filled. • Benton County does not have jurisdiction over the landfill intake (other counties contributing by sending waste to Coffin Butte)
SECTION D: Sustainable Materials Management Plan (SMMP)	PDF pages 57-61, Word pages 59-63	• How will the SMMP impact waste outside of Benton County (other counties contributing to the landfill) • Suggestions: o Encourage Republic Services to implement the SMMP with other counties. o Encourage the workgroup to use the JSIP as a model of best practices when engaging with the community on the SMMP. o Reach out to neighboring counties (that contribute to the landfill) for feedback. o Incorporate the trucking and travel routes that will be impacted by the SMMP in the communication strategy. • The BCTT seems to be addressing two very different topics: sustainable materials management (how to reduce the environmental impact of the products/materials we use) and Coffin Butte Landfill (reducing its impacts). This could confuse the public.
SECTION E: Community Education & Outreach	PDF pages 62-67, Word pages 64-69	• Ensure that monitoring and compliance is communicated • Page 11 (LLU7-5) – "prior decisions" suggests the possibility that Benton County isn't always in compliance with commitments to monitor the landfill. Does the Planning Commission have the ability to add to the conditions of approval during an application to address this issue?
Feedback for sections not addressed above **Please reference section names and page numbers.** **Please put all of your additional feedback on a particular section in one place and use the A, B), and C) format for ease of sorting/tracking.**		
Section Name	**Page #**	**Feedback**
None		
General Feedback		
		The Planning Commission acknowledges this report is still in draft form and does not feel comfortable sending a recommendation to the Board of Commissioners until the draft is finalized. (The Planning Commission will

		not have another opportunity to give feedback on the draft report.) The commission does not want to delay the process and understands the time sensitivity of potential CUP applications. The Planning Commission agreed to be ready to engage with the BOC (if asked) once the report is complete.

BCTT Work Group Report Draft #3:
Comments by the Individual Members of the
Benton County Solid Waste Advisory Council
February 10, 2023

Submi ed to the BCTT Work Group. Aggregation by Ken Eklund.

Vetting completed: by BCTT Work Group staff ☐ by the Solid Waste Advisory Council ☐

Section Title	Page	Feedback	No.
		I. Process Context and Background	
THE OTHER SECTION E: History of Coffin Butte pp. 13–29			1
	all	Just noting here that it's evident that this section is a work-in-progress, and has too many issues extant for me to comment on individual ones here at this point. (which is not at all a slam on its authors, because the work is impressive; it's just a note on the current state of the document)	2
	all	Historical information about expected lifetimes of the landfill should be incorporated throughout; this information can be found in the A1 subcommi ee's work. The key issue is that at any point in time, the landfill's expected lifeme/ closure date was an important factor in how the area around the landfill developed. Someone who bought local land in 1985, for example, did so under an expectation the landfill would close in 2000, because that was the county's official narrav e at the time. (not sure those numbers are exactly correct, but you get the point) This is vital context when viewing the landfill history.	3
	all	A) what I learned from the background that there was good local, county, and state involvement from the '70s onward to clean up and get from 'dump' to managed landfill	4

		B) understand that historic decisions were made by county officials but can't reverse many of those decisions whether or not the public was properly informed	5
		C) disagree with the opinion that the franchise agreement sole purpose was to promote expansion. The tiered agreement was based on business sense related to waste inflow.	6
			7
	p. 24	If at all possible, I'd like to see a follow-up to the note about "SWAC being very active in the 2000s" – because it's my perception that SWAC/DSAC's level of activity diminished thereaj er. At some point in the 2010s, DSAC apparently stopped filing the citizen complaint compendiums with DEQ that it is required to do by state law, for example. That level of neglect extends to the present moment, when DSAC is being prevented from filing these compendiums by the County, and is also prevented from hearing complaints brought to them by the community.	8
	p. 25	On community tour #2 the firefighter spoke with participants at the Soap Creek Schoolhouse, not Santiam Christian School.	9
	p. 27	C) disagree with the opinion that the franchise agreement sole purpose was to promote expansion. The tiered agreement was based on business sense related to waste inflow.	10
	p.27	D) p27 pdf disagree with the case-closed comment. Just because an expansion was denied in the 1994 session, it does not mean case closed. I can speculate several reasons why Republic withdrew the appeal in 2022. I also speculate that Republic will apply again for an expansion so the county officials must have a policy and a strategy that meets county needs	11
	p.14	This timeline contains multiple errors and many misleading statements. **Native Kalapuyans inhabit Coffin Butte-Soap Creek area for over 14,000 years** comment #1: (1) Why the emphasis on Soap Creek? Coffin Butte faces into the main Willame&e Valley, and is part of the larger Luckiamute River watershed. The impact area for the current landfill includes areas that are even beyond the boundaries of that watershed.	12
	p. 14	Timeline notes. **Native Kalapuyans inhabit Coffin Butte-Soap Creek area for over 14,000 years** comment #2: (2) According to contemporary tribal historians, Kalapuya people moved through a larger area in a seasonal round, residing part of each year in the same places, in a practice referred to as placekeeping. The word "inhabit" makes them sound much more sedentary and does not reflect what tribal historians say about their own culture.	13

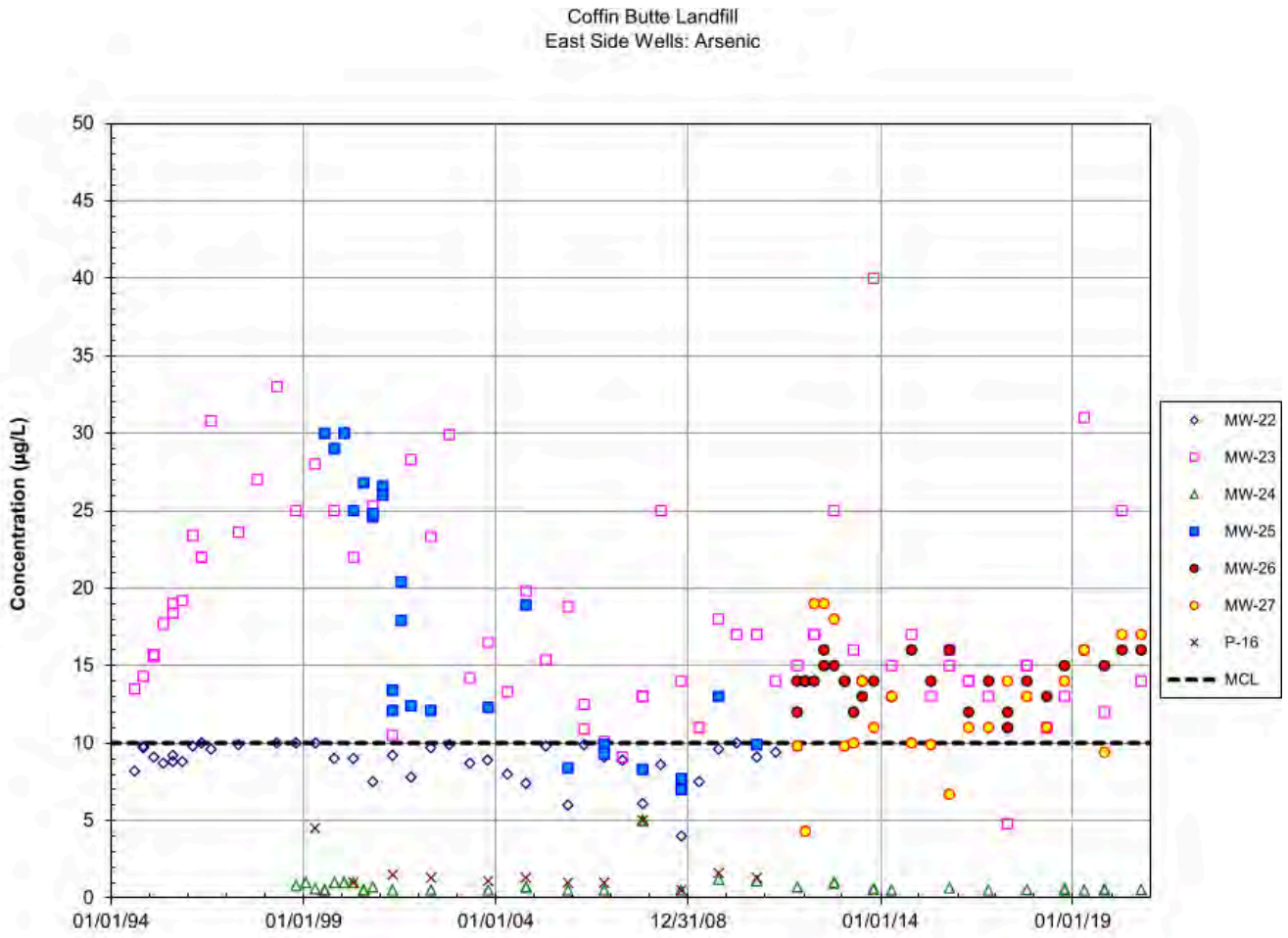
	p. 14	Timeline notes. **Native Kalapuyans inhabit Coffin Butte-Soap Creek area for over 14,000 years** comment #3: (3) The 14,000 year figure is debatable and has been a subject of contention between Nav e people and Anglo-American archaeologists, who have recently come to acknowledge that Nav e claims of much longer presence in western North America might be right, extending back as far as 23,000 years. See for example this essay by Nick Martin: hp s://www.hcn.org/issues/53.11/indigenous-affairs-archaeology-the-white-sands-discovery-only-confirms-what-indigenous-people-have-said-all-along	14
	p. 14	**Native Kalapuyans inhabit Coffin Butte-Soap Creek area for over 14,000 years:** I suggest stating more simply: "Nav e Kalapuya people have been resident in the area that includes Coffin Butte since time immemorial."	15
		Timeline notes. **Early 1900s: Farming begins…** European-style farming in the area began much earlier, starting with French-Canadian seler s in the French Prairie area in the 1820s, and by the 1840s, seler s from the eastern USA. Arguably the Kalapuya were "farming" long before that, but using Indigenous methods rather than European methods. I suggest just deleting the words "Farming begins" so this becomes "Roads built to transport produce to markets."	16
		Timeline notes. **1947: Coffin Butte Landfill is purchased … for waste disposal and incineration** (1) Was it really called "Coffin Butte Landfill" then? Or "the Coffin Butte dump site"?	17
		Timeline notes. **1947: Coffin Butte Landfill is purchased ... for waste disposal and incineration** (2) Was waste being "incinerated"? Incineration implies a controlled and relav ely complete combustion process. "Open-air burning" would be more accurate for what has been described in historical accounts of the burn dump.	18
		Timeline notes. **1950s: Illegal dumping leads to health and environmental issues include rats, vermin and odor** (1) Why is this at this point in the timeline? Were there no rats in Benton County prior to the 1950s? No illegal dumping? I thought there were news reports of problems all the way back to the 1800s.	19
		Timeline notes. **1950s: Illegal dumping leads to health and environmental issues include rats, vermin and odor** (2) "Rats and vermin" is redundant because rats in this context are a type of vermin.	20

		Timeline notes. **1950s: Illegal dumping leads to health and environmental issues include rats, vermin and odor** (3) Didn't "legal dumping" at Coffin Butte also produce odors affecting nearby residents?	21
		Timeline notes. **1950s: Illegal dumping leads to health and environmental issues include rats, vermin and odor** (4) It might be more relevant to mark this point in time as the advent of plastic trash and numerous toxic chemicals.	22
		Timeline notes. **1992: DEQ begins investigating…** Contamination was not limited to Teledyne Wah Chang, per DEQ's invesg aon, but included residue from the burn dump. Suggest giving Teledyne Wah Chang its own spot in the timeline higher up, and just stating here that DEQ begins invesg ating groundwater contamination from the older part of the dump/landfill.	23
		Timeline notes. **1994: CUP granted for 2.2 megawatt facility…** Should state clearly that this facility is using methane generated by the landfill.	24
		Timeline notes. **1994: Benton County Board of Commissioners [unanimously] deny VLI's expansion request** Should state clearly in this timeline that this request was to expand south of the road.	25

		Timeline notes. ***1994-1995:*** **Timeline is missing any mention of leachate seepage event significant enough to cause groundwater contamination** Per Republic's 2020 Annual Environmental Monitoring Report (AEMR) submitted to DEQ, seepage of leachate occurred from the newer, "modern" section of landfill and began to show up in monitoring well MW-23 soon aj er its construction. The date of construction of MW-23 is not stated, but according to the plot of arsenic for MW-23 and other "east-side wells" later in the same report (included below), this appears to have been during or shortly aj er 1994. Here is the relevant text from the 2020 AEMR: *Early in its history, detection well MW-23 had shown increases for bicarbonate alkalinity, chloride, hardness, total dissolved solids (TDS), for five of the major dissolved metals, and for arsenic. This had been attributed to localized seepage of leachate from the south side of the landfill; that seepage was remedied soon thereafter. Since 2000 to 2001, the upward trends for bicarbonate, chloride, TDS, calcium, iron, magnesium, manganese, sodium, and arsenic have peaked, and after about 2009 to 2011, most of these constituents declined to within or just above the range of background concentrations. With the exception of chloride, which is a few milligrams per liter higher than background, the concentrations in 2020 were at these lower values near or within background levels.* Note that the last sentence is not consistent with the plot of data for arsenic in east-side wells, as a sample in early 2020 showed arsenic concentrations of 25 micrograms per liter, similar to those noted in the late 1990s and early 2000s. A sample from early 2019 was even higher (about 32 micrograms per liter). (continues in Comment 27)	26

Timeline notes. ***1994-1995:*** **Timeline is missing any mention of leachate seepage event significant enough to cause groundwater contamination** (continued from comment 26)

27



		Timeline notes. **1999: '"Hot load' spurs large Coffin Butte Landfill fire** Is there any documentation (e.g. from an independent invesg ation by the fire marshall) that this was definitely caused by a "hot load"? Or is that just an explanation given by company staff from that time? I suggest just stating more factually "Adair Rural Fire responds to large fire on Coffin Butte Landfill," perhaps with a few more words on how long it took to bring it under control. This fire was discussed at length as part of the Neighborhood Tour.	28
		Timeline notes. **2005: DEQ issues record of decision on Coffin Butte groundwater remediation: site in compliance** DEQ's 2005 Record of Decision does not say anywhere that the "site is in compliance," so that phrase should be deleted. The record of decision does specify remedial actions that still needed to be completed aj er 2005, including decommissioning of the Helms well within a year, and prescription of a long-term monitoring plan to check that contaminated groundwater doesn't travel outside of the "compliance boundary."	29
		Timeline notes. **2021: Wildfire debris causes tonnage to increase again. Annual tonnage continues to be just under cap** The suggestion of "continuing to be just under cap" is misleading. Graphs later in the report (e.g. Figure 3.5 on p.160) indicate that the annual tonnage cap under the 2000 franchise agreement was violated in 2017, 2018, and 2019, then dipping below the cap in 2020 before continuing on the same upward trend. The tonnage for 2021 only stayed within compliance because the cap had been raised in the new franchise agreement. Thus there is no pa&ern of "continuing to be" just under the cap. The one recent year (2020) when the landfill was in compliance with the previous franchise agreement was an anomaly, apparently due to reduced consumer waste during the first year of the covid-19 pandemic. I suggest replacing this with "2021: Wildfire debris causes tonnage to increase again aj er reduced tonnage due to pandemic." And then delete the misleading statement, "Annual tonnage continues to be just under cap."	30
		Timeline notes. **2021: Republic files CUP ... then denied by Planning Commission.** Should note, "denied unanimously by Planning Commission" as this indicates there were significant problems with the CUP applicaon.	31
		Timeline notes. **2022: Republic Services withdraws CUP proposal. Benton County Talks Trash Workgroup formed** Add, "Regular meetings of SWAC and DSAC suspended."	32

	p. 15	p. 15 *Geography, Geology and Climate of the Coffin Butte Area* Should state that CBL is on the west edge of the main Willame&e Valley. Again, way too much focus on Soap Creek Valley.	33
		p. 15. "While the needs and concerns regarding waste disposal and associated issues affect the entire county, the area most impacted by Coffin Butte operations are the neighboring areas to the north and south along Highway 99W, Soap Creek Valley, the E.E. Wilson Wildlife Area, and agricultural areas to the east and north." There are not just "agricultural areas" to the east and north. This leaves out residential areas to the east (Palesne, Springhill, Skyline etc.) and north (Suver, Rolling Hills Rd.) which are in the "odor-shed," "litter-shed" and also in many cases, the viewshed of the landfill. Independence Hwy is also impacted. Why is Adair Village not mentioned specifically? This was all pointed out during the Neighborhood Tour.	34
	p. 16	*p.16 regarding earthquake hazards* The Corvallis Fault should be menoned, as another potential source of earthquakes very close to Coffin Butte. Surface ruptures were observed in the Lewisburg/Arboretum Road area aj er the Corvallis earthquake in the 1940s. See Chris Goldfinger's M.Sc. thesis (OSU), also a map posted on the Benton County sheriff's web page for emergency preparedness. The surface trace of this fault runs within 2 miles of the landfill. As part of an older regional thrust fault extending as far as Coos Bay, if still active it could potentially produce quakes up to around M 6.5 or 7. Although this is lower magnitude than the recurring M 9 quakes on the Cascadia Subduction Zone, it is also much, much closer with potential for an epicenter as close as Kings Valley -- so could produce stronger shaking than considered in seismic models based on a more distant source.	35
		p. 16 Coffin Butte Landfill meets state and federal requirements regarding seismic activity. Cited document not found. This appears to have been an analysis by the company's consultant. Has it been independently reviewed by a qualified seismological expert?	36

		p. 16 Republic Services hired a third-party consultant to conduct the study, and it is currently underway. Minor change in wording but significant: Republic Services hired a third-party consultant to conduct **a** study (not "the" study). Whether it meets the recommended level of invesg ation will need to be assessed. Also have all appropriate tribes been consulted, as recommended in 2022 by the Oregon State Archeologist, John Pouley?	37
	p. 17	*p. 17 Letitia Carson is one of the most notable pioneers to settle in Soap Creek Valley* Letitia Carson was one of the most notable pioneers to settle in what is now Benton County, period. Also in the enr ety of western Oregon, as she was the first Black woman to "prove up" a homestead claim in Oregon Territory. Please don't diminish her historical stature by relegating her to a Soap Creek Valley footnote.	38
	p. 18	*p. 18 The Coffin Butte Area Today: Wildlife Habitat and Protection* This section should also mention e.g. Adair Village and Palestine as local communities (alongside of Soap Creek Valley). McDonald Forest, Dunn Forest (OSU), and Luckiamute State Natural Area (OPRD) should also be mentioned at the top of this section as important wildlife habitat and human recreational areas, all within 2-3 miles of the landfill site. A couple of these are mentioned lower down, but note that LSNA is not a "refuge," but a designated "natural area." Landfill traffic (including leachate trucks) affects recreational access to LSNA via Springhill Drive, for North Albany residents.	39
		p. 18 The wildlife area covers approximately 1,788 acres of oak woodland, upland shrub and grassland habitats. Wetland habitats are integral to the wildlife area, and should be mentioned here, right up front. This becomes all the more significant in view of the "legal issues" subcommi ee's obfuscations regarding wetlands in the vicinity of the landfill.	40

	p. 21	*p. 21 Valley Landfills, Inc., Coffin Butte's owner and operator, purchased several properties around the existing Landfill site during the 1980s.* This should be restated as, "Valley Landfills, Inc., Coffin Butte's owner and operator, began to purchase properties around the existing Landfill site, starting in the 1980s." According to a map of property acquisitions later in the report, the Helms family's property was not acquired until 2001 -- long aj er contamination of their well by the landfill was discovered, and water treatment efforts proved inadequate. As described in the account in this dra, one could easily get the impression that contamination was only discovered aj er VLI purchased the property, and before the property's value was impacted by the threat of groundwater contaminaon.	41
	p. 22	*p. 22 Today, Coffin Butte is capable of powering 4,000 homes with clean energy* Landfill gas is not "clean energy." There are still carbon emissions and possibly also incomplete combustion of methane. Much of the methane is simply flared off, as can be easily observed by driving by the site at night. Not to menon, the volume of this potent greenhouse gas that leaks directly from the landfill to the atmosphere every year has yet to be quantified by aerial or satellite surveys. The biased phrase "with clean energy" should be deleted, or replaced by "with landfill-generated methane."	42
	p. 22	The gas-to-energy plant does not use "clean energy." Its output is carbon dioxide, same as a coal-fired plant in terms of greenhouse gases. Plus it also does not burn all its methane, especially when flaring, and methane is a very potent greenhouse gas.	42b

	p. 23	*p. 23 This fire, never a danger to local residents, was contained to the landfill site and was likely caused by a 'hot load' delivered to the landfill and no damage was reported to any property outside the landfill zone.* There are several dubious statements and/or outright whoppers in this sentence. (1) Local residents responded as volunteer firefighters with Adair Rural Fire. During the Neighborhood Tour, Kevin Higgins spoke at length about the conditions that they faced as they battled VLI's fire for more than 24 hours without relief. He mentioned that volunteers experienced respiratory problems for weeks aj erwards, and also that no one from the landfill company ever contacted them to ask how they were doing aj er their hazardous service. This was part of a Workgroup event, even if no one from Republic Services a&ended. Please ask Kevin Higgins for his notes to include in the record (the cursory notes by ICM staff did not capture any of the most significant parts of his account). (2) Local residents within at least a 2-mile radius were exposed to smoke of unknown composition for several days, depending on the wind direction. As one of those local residents (living 2 miles away at the time), I recall it well. The incident led to the phrase "Coughin' Bu e" gaining some currency on the limited social media at the time. (3) Evacuation plans for Adair Village were at least considered by local officials at the time, although thankfully the wind directions remained favorable to push smoke out toward less densely populated areas. Again, please contact Kevin Higgins (currently with the Benton County Sheriff's Department) for a first-hand description of this event and the risks faced by local residents, especially volunteer firefighters.	43
	p. 34	*p. 34 Neighborhood tour* Please use full names of the tour organizers, Joel Geier and Nancy Whitcombe. Elizabeth Pa&e's name is misspelled. The last bullet point is misleading.	44
	p. 35	*p. 35 Neighborhood tour* • archery range • We discussed visual impacts of the landfill even at 3+ miles distant, litter, and impacts on residential property values.	45

	p. 35	*p. 35 At the Santiam Christian School, Kevin Higgins, a firefighter with the Sherriff's office gave a talk on growing up in the area, landfill fires, types of items in landfill, and DEQ. This was followed by ... resident Elisabeth Pott. The discussion on the bus ride back focused on affordable housing and local buildings.* Soap Creek Schoolhouse, not "Santiam Christian School." Kevin Higgins was a volunteer with Adair Rural Fire, but works for the Sheriff's office. His talk was primarily focused on the landfill fires, their unpredictable aspects due to what goes into a landfill, and the resulting hazards faced by local volunteer firefighters. Elizabeth Pa&e's name is misspelled. Discussion on the ride back included mention of a house constructed by Habitat for Humanity.	46
		Priya Thakkar's name is misspelled.	47
IV. Key Workgroup Findings & Recommendations			
SECTION A: Legal issues & Land Use Review PDF page 37-43, Word page 39-45	all	What are the limiting Federal rules?	48
	all	I note that throughout this section, there is no reference made to Benton County's values such as the 2040 Thriving Communities Inia v e, which I believe are intended to apply context to situations described here, such as "seriously interfere" (LLU F-10) and SWAC deliberations about the "health, safety and welfare" of the community and residents, and so on.	49
	all	I note that throughout this section, there is the presumption that SWAC needs to be guided, it needs to have recommendations made to it, etc. This presumption is not correct. It has been chartered by the county (and DSAC, chartered by the state) to provide input from a different perspecv e than the county's – in particular, from a community perspecv e. It is capable of referring to the legislav e sources of its authority and defining its own mission. All of the language based on this "infanlizing " presumption should be deleted.	50

	all	I note that throughout this section, there is the presumption that SWAC needs to be guided, it needs to have recommendations made to it, etc. This is language that is designed to exploit the lack of institutional memory that the county has engineered in the Council in recent years. This sort of predation upon SWAC's autonomy are inappropriate, and all of the language based on this presumption should be deleted.	51
	all	I note that throughout this section, there is the presumption that SWAC needs to be guided, it needs to have recommendations made to it, etc. This sort of non-legal "guiding" language only appears in context to SWAC. This is the subcommi ee diverging from its charter into an a&empt to influence, and this language should be deleted.	52
	p. 37	Members: Note participation by additional Republic a&orneys besides Condit.	53
	p. 41 on	LLU F-3. Up-front and ongoing financial assurance to cover the cost of closure, post-closure, and corrective actions are required by DEQ. Where this preliminary line of defense fails, Oregon statute holds any person owning or controlling the disposal site liable for closure and post-closure maintenance. Republic Services has created a separate, stand-alone corporate entity (Valley Landfills, Inc.) as the owner of the landfill. As has happened many times throughout corporate America, VLI could easily declare bankruptcy in the event of a major environmental situation wherein the resources available were not sufficient and VLI would simply walk away.	54
		LLU F-3. What happens in the event of bankruptcy of the company holding the landfill aj er closure? This question was raised very specifically but never answered.	55
		LLU F-5. "Collaterally a&acked" -- what does this mean?	56
		LLU F-6. Add "...under the current terms of the franchise agreement. Such control has been ceded by the county."	57
		LLU F-9. Replace last sentence with "Coffin Butte thus meets the definition of a regional landfill per ORS."	58
			59

	p. 41	*p. 41 SWAC should review the proposal and provide input from a solid waste management perspective. The Planning Commission's role is to review the proposal from a land use perspective, relative to specific criteria listed in the Development Code, and to make a decision.* The position of this "legal issues" commi ee, comprised of Republic a&orneys, County Counsel, and one former Planning Official, to put sideboards on SWAC's role, is dubious at best. SWAC can and should review the proposal not just from a solid waste management perspecv e, but also from the broader aspect of sustainable materials management. We note that the "legal issues" commi ee discussed this extensively, with a very apparent bias toward limiting the role of SWAC.	60
		LLU F-5. In reviewing a CUP for landfill expansion, the County has jurisdiction over only the proposed expansion. Existing and past operations are not within the County's scope of review. Prior decisions are final and cannot be revisited or collaterally attacked as part of the CUP application for the expansion. Existing and past performance of Benton County in monitoring and enforcement of any proposed conditions of approval must be considered. The County readily admits that it did not and does not actively monitor and enforce conditions os approval designed to mig ate adverse impacts on adjacent land uses.	61

		LLU F-13. BCC 77.305 directs the Solid Waste Advisory Council (SWAC) to review and make recommendations on a landfill-expansion CUP; however, the code does not specify what criteria or considerations that recommendation should be based on. SWAC's overall role as articulated in its bylaws: "assist the Board of Commissioners (Board) in Planning and implementation of solid waste management, pursuant to BCC Chapter 23, the Benton County Solid Waste Management Ordinance." As such, SWAC should review the proposal and provide input from a solid waste management perspective. The Planning Commission's role is to review the proposal from a land use perspective, relative to specific criteria listed in the Development Code, and to make a decision. This is an inappropriate a&empt by the Legal Issues subcommi ee to muzzle the SWAC. Chapter 77.305 states "The Benton County Environmental Health Division and the Solid Waste Advisory Council shall review and make recommendations through the Planning Official to the Planning Commission regarding the Site Development Plan Map and narrav e." The Site Development Plan Map and narrav e include all aspects of the proposed development.	62
	p. 45	LLU F-13. I question the "should" in this section, as it appears to be suggesting one interpretation of BCC Chapter 23 over others. I suggest deleting the "should" statement, because what SWAC "should" do is refer to BCC Chapter 23 rather than rely on this subcommi ee's interpretaon.	63
	p. 45	LLU F-13. I question the phrase "from a solid waste management perspecv e," since it could imply that there is some expertise required in the discipline of solid waste management, which is not part of SWAC's mission. It brings up the specter of someone other than SWAC itself opining on what is "solid waste management" and what isn't, for purposes of limiting SWAC from outside.	64
		LLU F-13. "…sustainable materials management perspecv e", not solid waste management, here and throughout.	65
		LLU F-16. "…according to county officials, based on the degree of oversight at the time, whether or not they were fully informed."	66
	p. 45	LLU R-1: see above comments on LLU F-13 (63, 64, 65)	67

	p. 45	LLU R-1. SWAC's role in reviewing a landfill-expansion CUP should be from the perspective of solid waste management (see LLU F-13). The workgroup may wish to recommend specific areas of consideration by SWAC. For example: Is the proposed expansion consistent with long-term plans for the landfill site? Is the proposal consistent with principles of responsible solid waste management? What (solid waste management) benefits do you see to the proposed expansion? What potential (solid waste management) negative effects do you see? Are there ways to minimize or mitigate those effects? This is an inappropriate a&empt by the Legal Issues subcommi ee to muzzle the SWAC. Chapter 77.305 states "The Benton County Environmental Health Division and the Solid Waste Advisory Council shall review and make recommendations through the Planning Official to the Planning Commission regarding the Site Development Plan Map and narrav e." The Site Development Plan Map and narrav e include all aspects of the proposed development.	68
	p. 45	LLU R-2. Amendments to the Development Code may be needed in order to create a clear and legally consistent process for SWAC's involvement in review of a CUP. Pursuant to the Development Code as written, the only criteria that a CUP decision can be based upon are those of BCC 53.215, and the Planning Commission is the decision-making body; yet the code states an ambiguous role for SWAC in that process and seems to imply that other considerations beyond those of BCC 53.215 should go into the decision-making process. This needs clarification. Until any role modifications are adopted in Code, the existing role for SWAC described in Chapter 73 stands.	69

	p. 45	"For example: Is the proposed expansion consistent with long-term plans for the landfill site? Is the proposal consistent with principles of responsible solid waste management? What (solid waste management) benefits do you see to the proposed expansion? What potential (solid waste management) negav e effects do you see? Are there ways to minimize or mitigate those effects, or do you think the proposal should be rejected?" I note that an earlier draft of LLU R-1 contained the underlined phrase, but that aj er lobbying by Greg Verret it was deleted. With its deleon, all of the examples given in this paragraph would support a yes recommendation for a new CUP application. This evident bias questions the legitimacy of the enr e paragraph of LLU R-1; it should be deleted.	70
	p. 45	"For example: Is the proposed expansion consistent with long-term plans for the landfill site? Is the proposal consistent with principles of responsible solid waste management? What (solid waste management) benefits do you see to the proposed expansion? What potential (solid waste management) negav e effects do you see? Are there ways to minimize or mitigate those effects, or do you think the proposal should be rejected?" I note that an earlier draft of LLU R-1 contained the underlined phrase, but that aj er lobbying by Greg Verret it was deleted. In fact, about 15 minutes of the subcommi ee's time was devoted to this lobbying and deletion. My concern here is wheelspin: as a county taxpayer, I am paying for Greg Verret's time, for Vance Croney's time, for Sam Impera' s time, and for Ginny Lucker's time, all to make sure that none of the examples given in LLU R-1 explicitly inform SWAC that it has the power to recommend rejecting an application such as the next CUP. If the Board of Commissioners or the County are concerned with the cost of BCTT, they might want to look first at the time-wasting being created by their own employees.	71
	p. 45	"For example: Is the proposed expansion consistent with long-term plans for the landfill site? Is the proposal consistent with principles of responsible solid waste management? What (solid waste management) benefits do you see to the proposed expansion? What potential (solid waste management) negav e effects do you see? Are there ways to minimize or mitigate those effects, or do you think the proposal should be rejected?" I note that an earlier draft of LLU R-1 contained the underlined phrase, but that aj er lobbying by Greg Verret it was deleted. My question is: where was the community representation during this episode? Where is the example language that actually reflects what the community is thinking, or what examples would be good to pass on to the citizens on SWAC? Until there actually is that sort of representaon, I ask the subcommi ee to withdraw this biased example language or the Workgroup to ask for its deleon.	72
	p. 46	LLU R-3. As written, it seems the Planning Official can require other information in the applicant's narrav e, and this other information thus becomes part of the "applicable criteria." Therefore, the workgroup has wider latitude with its recommendations for "other information" than is conveyed here. If so, the last sentence should be deleted.	73
	p. 46	Topics which Benton County can and cannot regulate: it's unclear what these results mean in the context of land use operation and oversight, because it's unclear what it means when Benton County regulates a topic area (or not). If you mean "topic areas that enable Benton County to regulate the landfill (or not)" then maybe you should say that.	74

	p. 47	Table 2. The wetlands topic is not clearly written. It would be clearer to say that the wetlands on and in the vicinity are not currently designated as "significant". The E.E. Wilson Wildlife Area is a significant wetland by any common understanding of that term, and included as such in wetland inventories; what you mean to say is that it has not been put on the specific inventory that gives the County to regulate it.	75
		Table 1: Rights and Obligations Relative to Franchise Agreements 10.5 | Section 4(c), 4 (c)(i), and 4(c)(ii) describe how the host and franchise fees will be modified ONCE the expansion is approved. Contrary to the wording in these sections, Republic has no right to an expansion, and Benton County is under no obligation to grant an expansion. | Landfill Franchise Agreement §4(c), 4(c)(i), 4(c)(ii) | The language in these sections is written such that the decision regarding granting of an expansion has been pre-judged and it is only a matter of timing as to when it will be granted. Add the above row below Row 10 in this table.	76
	p. 45	CUP F-1 C.1: *Condition #3, establish efficient leachate collection and treatment and wells to monitor any potential seepage into underground aquifers.* The fate of leachate generated by the landfill should not simply be ignored by the County and delegated to DEQ. The requirement to "insure against pollution of nearby waterways" is very much still relevant. **Compliance Assessment:** yet to be determined. Seepage into groundwater resulting in significant contamination has occurred, including Helms well and MW-23.	77

	p. 45	CUP F-1 F.1: *Condition #6, Phase landfill operations so that only a small acreage is used for fill at one time and return to grazing.* Landfill operations and closure are governed by DEQ requirements. Some of the landfill areas have not received wastes since the 1990s, others since 2011. RSI has determined areas of the landfill are "In Closure" under Federal rules. Approximately 41.7 planimetric acres have already received Final Closure. This area should already have a 1.5 feet thick Vegetative Cover per Federal requirements and be suitable for reuse. **Compliance Assessment:** yet to be determined. Nav e species? grazing land?	78
	p. 46	**CUP F-2 D.1:** *Condition #8, Submit an updated, long-term leachate control plan as part of the DEQ permit renewal process.* Leachate storage exists on site for holding leachate prior to trucking to off-site locations. No leachate is currently being land applied on landfill properties. No soil study needed. **Compliance Assessment:** yet to be determined. Leachate was formerly applied to land but resulted in groundwater contamination that has only gradually a&enuated, some contaminants still detectable in monitoring wells.	79
	p. 46	**CUP F-2 F.1:** *Condition #10, Screen the landfill operation with fencing or berms so it cannot be seen from the County Road or adjacent properties.* The screening may have been done but has eroded or died in the interim. It should be recreated and maintained to be in compliance with the requirement. **Compliance Assessment:** yet to be determined. This is clearly not in compliance. Frequently visible from County Road and properties as far away as 3 miles.	80
	p. 46	CUP F-2 G.1: *Condition #11, Adhere to daily compaction of refuse and limit exposed refuse areas to 2 acres during the periods of October 15 to June 1 and to ¾ of an acre during all other periods.* The landfill uses an alternative daily cover approved by DEQ, which includes Covanta Ash material. The landfill also uses temporary cover. **Compliance Assessment:** yet to be determined. Google Earth images show that this has been exceeded.	81

	p. 46	**CUP F-2 H.1:** *Condition #12, Channel occasional leachate seeps into the leachate collection system within a timely period.* Republic Services complies with all current regulatory requirements, which include liners. Leachate does not seep through perimeter berms. **Compliance Assessment:** yet to be determined. Refer to 2000 leachate seepage event that resulted in long-term contamination of groundwater as detected in MW-23.	82
	p. 47	**CUP F-3 C.1:** *Condition #3, The applicant is responsible for ongoing monitoring of noise levels.* Available records do not indicate any noise monitoring requests by the Planning Official. **Compliance Assessment:** yet to be determined. But applicant is "responsible" whether or not the Planning Official requested it.	83
	p. 48	**CUP F-5 B.1:** *Condition #2, Keep unpaved, main access roads dust-free.* Coffin Butte Road is now paved, **Compliance Assessment:** yet to be determined. Dust and mud from landfill now spreads to paved roads up to a mile from site.	84
	p. 48	**CUP F-5 F.1:** *Condition #6, The landfill operation hours 8:00 a.m. and 5:00 p.m. Monday through Saturday, 12:00 p.m. through 5:00 p.m. on Sundays, 24-hour access for commercial customers.* Condition is written poorly and would be improved with better clarification on Hours of Operation. **Compliance Assessment:** yet to be determined. "Operation hours" are clear enough. Access by commercial customers outside of operation hours seems pointless.	85

		Legal Issues Table 2: ***Topic:*** *Wetlands* ***County Allowed to Regulate?*** *Yes, if the County has identified significant wetlands at the site in a wetland inventory adopted through the Statewide Planning Goal 5 procedure.* ***Notes*** *No significant wetlands are identified in the vicinity of the landfill on the County's adopted inventory.* A wetlands expert sent me these comments: The National Wetland Inventory shows many wetlands in the vicinity of the landfill but does not address their significance. That responsibility legally belongs to the cities (with approval by the associated County) whenever a city opts to prepare a more detailed Local Wetland Inventory (LWI) using procedures prescribed by Oregon Department of State Lands. The "cities" of Corvallis (2004) and Adair Village (2012) did choose to prepare LWI's and identified Locally Significant Wetlands (LSW's) as part of their LWI using a now-superceded procedure. HOWEVER, neither plan covered anything close to the landfill, so the situation should be described as NO DATA, not "no significant wetlands". Clearly the commi ee's statement is disingenuous. Even if Corvallis or Adair Village's LWI or some subsequent inventory I don't know about had extended to include areas closer to the landfill, according to updated regulations (OAR 141-085-0685), cities are no longer legally allowed to use the procedure that was prescribed in 2004 and 2012 to idenf y LSW's. see item (g) at hp s://secure.sos.state.or.us/oard/displayDivisionRules.acon? selectedDivision=350) In most cases they must now use the more science-based ORWAP procedure as adopted by the Department of State Lands to determine what is a "significant" wetland. Although federal (Corps of Engineers) regulations under section 404 of the Clean Water Act also apply, they include no provision for distinguishing which wetlands shall be identified as "significant" so their silence on that topic does not imply insignificance. Further clarification could be sought from the Department of State Lands who are responsible for reviewing LSW determinaons.	86
SECTION B: Past Land Use Applica9on Condions PDF page 44-51, Word page 46-53			*87*

		Key Findings The listing of Key Findings highlighting specific land use actions beginning on page 47 with CP-74-01 were chosen by Benton County staff without any input from subcommi ee members. The rationale for why some actions were chosen and some actions were left out is unclear. In several cases, the manner in which the findings are excerpted and summarized mischaracterize the subcommi ee discussions.	*88*
		A review of the extensive number of land use decisions and associated conditions of approval reveals some overarching key findings with regard to how land use decisions are implemented in Benton County: These overarching key findings are presented for subcommi ee consideraon.	*89*
		CUP F-1 A.1 This is a main concern to me. When was the county not allowed to limit where landfill could come from? Who were the county commissioners? Why? I saw when Lincoln County was allowed to bring trash here but missed how local control ended.	*90*
		Condition #1 defined the original area to be served by the landfill. Current federal rules prohibit the county from limiting access to the landfill. **Compliance Assessment:** yet to be determined. This is a finding the County staff added without consultation with the subcommi ee. This federal limitation (Commerce Clause court ruling) was not in effect at the time of the 1974 land use action. The County and Republic could mutually agree to limit landfill service area. Republic has the right to limit access to the landfill.	*91*

		CUP F-2 A.1: *Condition #1, Cross reference the narrative and the map in both documents; Condition #2, Expand the narrative statement on reclamation; Condition #3, In the narrative, describe the method of screening in more detail; Condition #4, Include in the narrative the anticipated chemical composition of any leachate material to be used for irrigation; Condition #5, Include in the narrative review of the Environmental and Operational Factors for 10-acre addition.* The narrative was updated to provide information related to all of these conditions. The updated narrative is found in the document titled "PC-83-07-C(3)" starting on Page 3 of 60. **Compliance Assessment:** yet to be determined. This is a complete and total misrepresentation of the opinion of the majority of members of the subcommi ee. The County and Republic are taking the position that all the applicant had to do was submit a narrav e and that the operator was not required to complete any actions outlined in the narrav e, or to complete any of the required visual screening. The Board of Commissioners order expressly adopted these requirements and they have not been superseded by subsequent land use approvals. Further, the County has never taken any enforcement action against the operator to have the required screening completed.	*92*
		Condition #6, Provide a detailed reclamation plan. There is a very detailed description of the promised screening in the narrative. There is no evidence in the record that any screening was ever done, and clearly there is no screening existing today. **Compliance Assessment:** yet to be determined. See immediately preceding comment. Also applicable here.	*93*

		CUP F-2 H.1: *Condition #12, Channel occasional leachate seeps into the leachate collection system within a timely period.* Republic Services complies with all current regulatory requirements, which include liners. Cells 1 and 1a, the oldest cells are unlined and are still generating leachate. **Compliance Assessment:** yet to be determined. This excerpt does not represent the depth and breadth of the subcommi ee review and narrav e. It completely ignores the rest of the discussion in the assessment of compliance completed by members of the subcommi ee. This statement was made by Republic Services and was not ve&ed by other members of the subcommi ee. No evidence has been presented to confirm leachate seep claim. This is not in the subcommi ee findings and this statement has not been verified.	94
		CUP F-3 (PC-94-03) ***Approved in 1994. A Conditional Use Permit for approval of a 2.2-megawatt gas generated power facility.*** **CUP F-3 A.1:** *Condition #1, The facility shall be housed in a structure approximately 50 by 100 feet or less in size.* None This should not be here as a "Key Finding" since there is no finding whatsoever. What does None mean?	95
		CUP F-3 B.1: *Condition #2, Noise levels shall comply with the New Industrial and Commercial Noise Standards.* Noise testing completed in 1997. **Compliance Assessment:** yet to be determined. "shall comply" does not mean the operator can test once and then proceed to violate the Standards. Benton County did not and does not monitor or enforce ongoing conditions of approval.	96
		CUP F-3 C.1: *Condition #3, The applicant is responsible for ongoing monitoring of noise levels.* Available records do not indicate any noise monitoring requests by the Planning Official. **Compliance Assessment:** yet to be determined. See comment immediately above	97

		CUP F-3 F.1: *Condition #6, Lighting shall not impact streets or adjacent property.* There is no record of complaints received by the County. **Compliance Assessment:** yet to be determined. Benton County did not and does not monitor or enforce ongoing conditions of approval. There is no "system" in place in Benton County to track and follow up with any complaints that may have been filed.	*98*
	p. 50	**CUP R-2** CUP R-2: Consider the impact of leachate management on traffic safety, road maintenance, wastewater treatment plant, and the Willamette River (water, sediments, wildlife, etc.) in future assessment of the impact of landfilling in Benton County. Yes. These are hidden costs that must be accounted for	99
	p. 50	**CUP R-11** CUP R-11: Benton County should actively monitor and enforce prior land use decision conditions of approval for the landfill or any other land use decisions. How much revenue has Benton County received as a host site? Why was none of this used to "actively monitor"?	100

CUP F-3 F.1. "No record" does not mean that complaints have not been received. This complaint was submitted to Republic and to the BCTT in September and to the County in December. The county placed it into the backlog of complaints received by SWAC but apparently did not record it. Full document here: hp s://www.dropbox.com/s/48k2zdgk3duqyjg/CBL-lightspill-lightsout.pdf?dl=0

101

The complaint: Coffin Butte Landfill turns bright lights on atop the landfill in the early morning, and this light pollution is causing environmental damage, especially to migrating birds.

While on the workgroup tour of the landfill I saw generator-fed light towers stationed at work areas atop the landfill (Exhibit 1). Previously, from afar I had seen lights on up there in the early morning, and the environmental manager for the landfill, Ian Macnab, later confirmed that these lights come on at about 4:45 am to support weekday operations at the landfill's active cell (Exhibit 2).

That morning I had seen a post on social media asking neighbors in the Willamette Valley to turn out their yard lights at night, to prevent undue mortality in the population of migrating birds. That post is part of a national program called Lights Out (Exhibit 3), which is trying to prevent the bird deaths that result when bright lights at night disorient the birds, so that they go off course, fly into things, and otherwise perish along the way. An estimated one billion birds are killed this way during migration in the U.S. every year, according to the New York Times and other sources (Exhibit 4). On the day I saw the light towers, there were over 5 million birds migrating through Oregon.

The light towers atop the landfill (there are at least 4) sit on a plateau about 270 feet above the surrounding terrain. These are big industrial units, throwing half a million lumens each from masts which are 30 feet tall. As you can see from the photograph in Exhibit 1, the light they produce is not necessarily down-directed but instead spills across the landscape. The lights are bright even from five miles away.

The lightspill problem at Coffin Butte Landfill is not new; mitigation for light pollution has been a condition for landfill use in its permits; "downhoods" and other less intrusive lighting was discussed during Republic's permit application last year. The lights may be in violation of the Migratory Bird Treaty Act, which holds industries accountable for the incidental take of birds due to operations. The lights may be in violation of the landfill's current use permit, as they come on every weekday morning at 4:45 am, well before official operating hours. Yet still the bright lights come on even at the height of bird migration. When will the landfill's operators address this situation and implement mitigations to lessen the landfill's risk to wildlife?

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		CUP F-4 C.1: *Condition #3, Noise levels for both Phase I and Phase 2 shall comply with the Noise Control Regulations for Industry and Commerce.* Noise Compliance Monitoring memorandum submitted on June 11, 1997, by Pacific Northwest Generating Cooperative. **Compliance Assessment:** yet to be determined. "shall comply" does not mean the operator can test once and then proceed to violate the Standards. Benton County did not and does not monitor or enforce ongoing conditions of approval.	*102*
		CUP F-4 E.1: *Condition #5, Provide sanitation facilities for the generation plant employees.* None **CUP F-4 F.1:** *Condition #6, The applicant shall obtain and comply with all applicable permits from the DEQ.* None There are no findings much less any Key Findings Please remove all these similar statements with no findings	*103*
		CUP F-4 H.1: *Condition #8, Declaratory statement to be recorded that recognizes the rights of adjacent forest uses.* None There are no findings much less any Key Findings Please remove all these similar statements with no findings	*104*
		CUP F-4 I.1: *Condition #9, The applicant shall prepare a site-specific development plan addressing emergency water supplies for fire protection.* No information related to this condition has been found. **Compliance Assessment:** yet to be determined. Fire protection in and around the landfill site is a key fire-life-safety requirement and there is no evidence in the record as to whether this has ever been or is being complied with today	*105*

		CUP F-5 A.1: *Condition #1, Obtain approval from the DEQ.* None. The County has no mechanism for ensuring that any required permits are actually procured.	106
		CUP F-5 B.1: *Condition #2, Keep unpaved, main access roads dust-free.* Coffin Butte Road is now paved, **Compliance Assessment:** yet to be determined. Here is the actual condition: In cases where landfill operations are the primary cause of traffic on unpaved public roads in the area, those roads shall be kept dust-free by the applicant. There are many unpaved roads that lead to the landfill for which this condition has not been monitored or enforced.	107
		CUP F-5 C.1: *Condition #3, Ensure that the landfill operation does not exceed the maximum sound level permitted by DEQ.* Available records do not indicate any noise monitoring requests by the Planning Official. **Compliance Assessment:** yet to be determined. O -repeated condition of approval that is never monitored or enforced.	108

		CUP F-5 F.1 – **Subcommittee Member** – Not in Compliance. Staff and RS do not get to interpret operating hours to mean something different than what was imposed as a written condition of approval. The words are the words. By definition the industrial activity of operating an active landfill is an incompatible use in an agricultural, forest and rural residential area. As such, operating hours are critical to mitigation of the numerous deleterious effects of the landfill operation. Requiring the landfill to limit operations to mitigate impacts "The landfill operation hours shall occur between 8:00 a.m. and 5:00 p.m. Monday through Saturday, and 12:00 p.m. through 5:00 p.m. on Sundays, with 24-hour access for commercial customers" means what it says, and the condition of approval was adopted by the Planning Commission. The public has a right to expect the operating hours to be enforced as approved and adopted. Beginning operations at 4:30 a.m. is a violation of this condition of approval. ~~Under staff and RS interpretation, could the landfill operate 24 hours a day?~~ This was a note, not a finding	109
		CUP F-6 (PC-03-11) ***Approved in 2003, A Conditional Use Permit for excavation and landfilling of 9.45 acres adjacent to the existing landfill operation.*** Placement of solid waste in the FC zone is a conditional use, but must be approved by the Board of Commissioners (60.215(11)): "Disposal site for solid waste approved by the Benton County Board of Commissioners and the Oregon Department of Environmental Quality together with equipment, facilies, or buildings necessary for its operation." This land use action was never approved by the BOC.	110
		CUP F-6 B.1: *Condition #10, Obtain DSL approval for activities that effect wetlands.* Advisory. The County has not a system in place to track or verify that the applicant obtains and maintains required State agency permits.	111

SECTION C: Landfill Size/ Capacity/ Longevity PDF page 52-56, Word page 54-58			112
		A) disagree with the climate crisis sections in the Subcommi ee A.1 Landfill Size/Capacity/Longevity document. Methane generation can be captured and turned into energy. The reported effort of climate activists to close Riverbend Landfill in Yamhill County did nothing to achieve the goal that the climate activists set out to do. It merely added to the cost and energy required to move the waste to a different landfill. What should be learned from this is to not repeat the same mistake with Coffin Butte.	113
		B) disagree with section of theorec al flood event at the landfill. This point was hypothec al and not realistic based on geography and weather data. The landfill has a leachate capture design that has been through significant rain events. There has not been a disastrous rain event at the site.	114
		C) Post-operational policy is driven at the state level. The state has post-closure monitoring and protocols for leakage. The county can and should be involved in the post-closure future use of the facility. Other states have made nonoperational landfills into parks and winter recreation sites	115
		C2) Citing the Yamhill litigation on landfill closure shows the unintended consequences of abruptly passing short-sighted legislation. Had there been a realistic strategy with the landfill owner, then both owner and community could have come to common ground. Let us hope Benton County does not make the same mistakes proposed by the Yamhill activists.	116
	p. 53	**LSCL F-10.** LSCL-F-10: In an official 2018 presentation to Benton County Board of Commissioners, Benton County represented the 2000 Franchise Agreement intake threshold as "Annual Maximums Specified in Franchise Agreement." However, the 2000 Franchise agreement does not describe the tonnage threshold as a "limit" or "maximum", and allows for exceedances over the listed threshold. Who is/was "Benton County" -- was this County Counsel or the Development Division staff, or who???	117

	p. 54	**LSCL F-14.** LSCL-F-14: The 2000 Landfill Franchise Agreement imposed a ramping intake threshold to be applied during the term of the agreement (CY2001-2019), giving the County the option to perform an updated impact assessment if the threshold was exceeded, denoted in the chart by the blue line ("Threshold to update Baseline Study") , which then could result in increases to the landfill fees paid to the county. The County did not perform an updated impact assessment as a result of the 2017-2019 tonnage threshold exceedances. Exceedances or violations of the contract?	118
	p. 54	**LSCL F-15.** LSCL-F-15: Due to an expected additional influx of volume in 2017 resulting from the disruption onset of the closure process for Riverbend landfill in Yamhill County, in December 2016 the franchisee and Benton County executed a MOU acknowledging an expected increase in Coffin Butte intake volume "for a term of 1-2 years." Was there any public process for this MOU, as a modification of the Franchise Agreement?	119
	p. 54	**LSCL F-16.** LSCL-F-16: The 2020 Landfill Franchise Agreement states that the total tonnage deposited at the Landfill shall not exceed 1.1M tons per calendar year until "application to expand the Landfill on to the Expansion Parcel are granted (following any and all appeals to final judgement)." The 2020 intake limit is denoted in the chart by the dashed red line ("2020 FA Limit.") UNLESS and unl	120

	p. 54	**LSCL F-18.** LSCL-F-18: The drop in volumes to Coffin Butte in 2020 is due to the global COVID-19 pandemic, coupled with diversion of tonnage from Riverbend Landfill to other landfills besides Coffin Butte. However, tonnage volumes increased again in 2021 due in part to changes in lifestyle/development/at home shopping patterns as a result of the pandemic, as well as debris from the Oregon wildfires. What role did Republic's contracts play?	121
	p. 55	**LSCL F-23.** LSCL-F-23: Benton County received approximately $3.1M of incremental revenue from the increased intake volumes over the 2017-2019 period. Of this, approximately $1.08M was the result of intake volume in excess of the annual limits over the three-year period. This equates to roughly $11.50 total per Benton County resident for the three-year period. What portion goes to enforcement/monitoring?	122
		LSCL F-32. LSCL-F-32: The quarry dynamics are construction of the needed cells for future disposal areas. The herculean construction task is to excavate basalt rock to form the excavated design dimensions for construction of future disposal cells. The assumption is that the excavated rock and the construction of future cells keep pace with the demands of increased volumes of refuse needed for disposal without interruption. Herculean? Seems like normal mining to me.	123

SECTION D: Sustainable Materials Management Plan (SMMP) PDF page 57-61, Word page 59-63			*124*
		SMMP: This project is way too big to be a part of common understanding for the tight current time frame. Perhaps this section say "County will continue to develop SMMP with cooperation from landfill franchisee."	*125*
		A) diverting waste needs to balance the effort with economic benefit.	*126*
		B) The SMMP should state that any mandate to divert waste should show a cost vs benefit to the consumer (customers of landfill). Many regulations push the cost burden to the consumer. Material diversion actions should be self-funding.	*127*
		with regard to the environment, resource conservation and the climate problem, things cannot go on like they have been. According to the current international level of knowledge, the only solution to this problem is a circular economy with an IWMS (Integrated Waste Management System) in connection with an energy supply based on renewable energies. The SMMP should have that as an underlying understanding.	*128*
		the RFP should proceed with the understanding that a SWMS (Solid Waste Management System) with the technology available today can be a major step towards a&aining a CO2-free (waste) economy.	*129*
		planning the financial effort associated with a progressive approach to waste should be a key part of the RFP. This includes an analysis of how this financial effort compares to landfilling the waste. You want the entity that will work on the RFP to have the necessary international experience and knowledge.	*130*
		Benton County seems to be in a struggle between business as usual and a new path forward, a path of benefit to the county and its ciz ens, and the RFP applicant should be able to assist the County in navigating that struggle.	*131*

		SMMP-R-4. SMMP-R-4: Bring "lessons learned" into the process from other sources, including feedback from other counties, lessons from past Benton County experiences, examples from California, Washington, or international examples. See full report for more sources. (green highlight) and, not or. Important that lessons learned come from beyond our region	*132*
SECTION E: Community Educa9on & Outreach PDF page 62-67, Word page 64-69			*133*
	p. 63	**CO F-1** Insure language accessibility for at least the County's most used languages. (English, Spanish, and Chinese.) "Chinese" is a not a language, but a group of languages. Do you mean Mandarin? Or Cantonese?	*134*
Feedback for sections not addressed above **Please reference section names and page numbers.**			
Section Name	**Page #**	**Feedback**	**135**
SECTION A: Legal issues & Land Use Review pp. 393–456			136
	p. 419	"…Is the proposed expansion consistent with long term plans for the landfill site, with responsible solid waste management? What are benefits, negav e effects and mitigating opportunities?" – I understand that SWAC must make recommendations based on the limits of our role.	137

	p. 447	**Comments regarding Legal Issues Subcommittee assertions re: 2002 MOU:** **Question:** How does the 2002 Memorandum of Understanding fit into the Workgroup considerations? **Answer:** The 2002 Memorandum clarifies authorization for landfill activities within the Landfill Zone and establishes a point in time at which the landfill was operating in compliance with state and local requirements. Nowhere in the 2002 MOU does it state that the landfill was operating in compliance with all past land use decisions and/or applicable conditions of approval. The sole purpose of the agreement was to establish that Valley Landfills can move within the landfill boundary (north of Coffin Butte Road only) without getting land use permits.	138
	p.447	**Comments regarding Legal Issues Subcommittee assertions re: 2002 MOU:** **Discussion**: In 2002 Benton County and Valley Landfills, Inc. (VLI) executed a Memorandum of Understanding (MOU) Relating to Land Use Issues. The purpose of this document was to clarify the parties' understanding of how VLI could expand landfill activities into cells within the landfill area. The MOU was created because knowledgeable, involved personnel, at both Benton County and VLI had changed such that little institutional memory remained to guide land use issues at the landfill site. More specifically, without knowledgeable individuals familiar with the history of the various land use approvals, it was unclear whether VLI had authority to expand landfill disposal operations within either the landfill areas or the landfill zone. The MOU clarified those questions. On page 3, Item 13.1 of the Meeting Minutes for November 5, 2002, it states: "Croney provided a staff report. He explained that this agreement is for the sole purpose of establishing that Valley Landfills can move from cell to cell within the landfill boundary without getting any land use permits." **Execution of the MOU was not a land use decision**. No discussion of review and/or evaluation of prior land use conditions of approval is contained in the MOU or in the staff report.	139

	p. 447	**Comments regarding Legal Issues Subcommittee assertions re: 2002 MOU:** 4. "Based upon the LUCS statement, DEQ has reviewed and found that the operations of the landfill are in compliance with the state law. The last approval from DEQ was granted in 2000." MOU, pg. 3, §(15). Sections 14 and 15 of the MOU only reference compliance with Benton County ordinances and state law. No mention of land use decisions or conditions of approval.	140
	p. 447	**Comments regarding Legal Issues Subcommittee assertions re: 2002 MOU:** 5. The MOU was reviewed by the Solid Waste Advisory Council (SWAC) on Aug. 27 and Sept. 24, 2022. The Benton County Board of Commissioners considered the MOU at its Nov. 5, 2002 meeting at which the MOU was "placed on the agenda * * * for public discussion prior to signature." MOU, pg. 4, §§(16)(g) and (h). This paragraph adds no additional heft to the "conclusion" drawn at the end of this memo. The SWAC has no role in monitoring of or determining compliance with Planning Department conditions of approval.	141
	p. 447	**Comments regarding Legal Issues Subcommittee assertions re: 2002 MOU:** Thus, the MOU acknowledges VLI's authority to utilize existing or future cells within the 194-acre landfill area north of Coffin Butte Road without additional approval from Benton County. Conversely, County and State approval are required before VLI may dispose of waste on the 56 acres in the Landfill Zone south of Coffin Butte Road. Related landfill activities such as collection and management of leachate are permitted, without additional County approval, on the 56 acres south of Coffin Butte Road. MOU, pg. 3, §(16)(c). This, in fact, was the sole purpose of the MOU as stated in the staff report presented by Mr. Croney.	142

		Comments regarding Legal Issues Subcommittee assertions re: 2002 MOU: Addionally , section 14 states Benton County signed LUCS documents verifying the landfill was operating in compliance with local ordinances. DEQ acted upon that verification to find Coffin Butte was operating in compliance with local land use regulations and state laws and regulations as of 2000. Sections 14 and 15 of the MOU provide evidence that as of 2000, there were no land use violations at the landfill as of November 5, 2002, when the Benton County Board of Commissioners executed the MOU. The final paragraph of the document is without merit. One cannot determine a lack of violations from the prior contents of the document. It should be pointed out that the issuance of Land Use Compatibility Statements (LUCS) is almost universally pro forma. It involves no invesg ation or review. It is almost never a land use decision. There is almost never a notice or public process unless citizens sniff it out and send comments. The fact that this document was discussed at a public meeting is meaningless. You can be certain that Benton County simply rubber stamped the LUCS upon receipt from the landfill operator and sent it in to DEQ. DEQ review upon receipt of a LUCS is just about as cursory, as one would expect. Thus, ***no reasonable person with knowledge of these processes would draw the conclusions presented in this memo prepared by Vance Croney***	143
SECTION B: Past Land Use Applica9on Conditions pp. 236–392			144
	p. 360	I agree that many past compliance/non-compliance issues are irrelevant now. Instead, county issued permits need to specify what monitoring means. No franchise permit should prevent the county from requiring sustainable materials management decisions.	145
	p. 391	"The county may impose conditions of approval to CUP application". I agree that the wording is so vague that it can be interpreted too many ways. What is "seriously interfere" and "undue burden"?	146

SECTION C: Landfill Size/ Capacity/ Longevity pp. 105–192			147
	all	Just noting here that it's evident that this section is a work-in-progress, and has too many issues extant for me to comment on individual ones here at this point. (which is not at all a slam on its authors, because the work is impressive; it's just a note on the current state of the document)	148
	p. 112	Figure 4: 2008 aerial view, from the 2008 Coffin Butte Landfill Annual Report, Republic Services, Inc. Not 2008. This must be much older.	149
	p. 149	"Unknown Impacts to Landfill lifespan" (Question Mark symbol) – this is water-muddying/decepv e. All of the factors listed here are unknown in individual ways, so strictly speaking the symbol should apply to each one. Instead the symbol is applied selectively, and seems to be done expressly to influence the reader to think that a particular item is more unknown than it actually is, for partisan reasons. "Landfill Expansion" (p. 149) is queson-mark ed, for example, even though a Landfill Expansion is one of the most well-defined factors in this array: we know for near-certain an application to expand will be filed, for example, and zoning factors put a definite shape to what volume will be sought, and the effect of the removal of the tonnage cap is a business opportunity that is readily modeled. This sort of skewed data presentation occurs throughout the "D. Events and Factors with Potential Lifetime Impact" array.	150
	p. 151	"Natural Disasters." This item is a good example of a problem that characterizes many items in this array: it groups things together which are actually quite separate factors. In this case, it lumps together a natural disaster in the region that generates debris (a very likely event over the next 20 years) and a natural disaster to the landfill itself that is serious enough to cause a loss of waste intake for a while but not so serious as to prevent the landfill from closing enr ely, which is a much less likely event. But yet those two very different possibilities/events are presented as being equal and related, because of this array's choice of content aggregation & formatting. This sort of muddying data presentation occurs throughout the "D. Events and Factors with Potential Lifetime Impact" array.	151

	p. 156	"Legal Action." This item is a good example of a problem that characterizes many items in the "D. Events and Factors with Potential Lifetime Impact" array: it contrives a counterindicator which is presented as equivalent to the other, but in fact is not. In this case, one item is environmental lawsuits, which exist already and are gaining prevalence and power statewide, nationally and internaonally . The other item is settled law and has been for some time, so it is no change over the status quo. Yet through selective formatting and aggregaon, this array implies that the two counterbalance each other, a misrepresentation seemingly meant to diminish the potential of environmental lawsuits. You can contrast how this is handled versus the source material in the "E. Additional Events and Factors with Potential Lifetime Impact" array, which is the original source material: it's on page 165.	152
	pp. 148–166	"D. Events and Factors with Potential Lifetime Impact" and "E. Additional Events and Factors with Potential Lifetime Impact" – conflicting versions. There appear to be two iterations of the same basic material?	153
SECTION D: Sustainable Materials Managemen t Plan (SMMP) pp. 193–235			154
	p. 181	Why isn't the SMMP prioritized more in the BCTT report as a whole? It seems to me to be the most important part of the BCTT process over the long term?	155
	p. 183	Page 183 Table of Findings: SMMP-F-1: Many best practices and model SMMPs exist in Oregon and beyond. When we say 'best practices' I think we should be specific that we are talking about best practices at a level beyond regional.	156
	p. 183	Important for buy-in: The plan should be developed with active participation of citizens, including modifications introduced by the ciz ens.	157
	p. 184	Page 184: SMMP-R-8: Recruitment for the RFP needs to be extensive, and selection of successful proposal should be careful and thorough. Qualities of a successful applicant should include those listed in the full subcommi ee report. Comment: Bid evaluation should not depend solely on the bid price, the qualification of the bidder should be decisive.	158

	p. 185	Page 185: SMMP-R-16: Applicants should include various scope/cost options for one year, two years, and three-year timelines. The report should be released in sections, based on timeline and content priorities. Working out the basic concept, which should be a holistic approach possibly with different opons/v ariants, shouldn't take longer than 1 year (the planned budget doesn't really afford more than that IMO). However, the implementation of the individual steps may take several years.	159
	p. 187	This whole page doesn't make a lot of sense.	160
	p. 188	Page 188: Benefits and costs were covered throughout the _____ as it related to various topics and discussions, Word missing.	161
		Page 188 cont.: Benefits and costs were covered throughout the ____ as it related to various topics and discussions, and are largely included in the overall approach of sustainable materials management approach, which evaluates the impacts across the full life cycle of materials, weighing the “costs and benefits” in the decision-making process. Biogenic materials have life cycles; the lifespan of other materials is basically unlimited if they can be recovered, ideally in circular economy. Landfilling is not circular; it is not material management, but material disposal.	162
		Overall, the current document is incomplete, and we believe lacks proper focus on the SMMP.	163
SECTION E: Community Educa9on & Outreach pp. 457–474			164
			165
			166
			167
			168
OTHER SECTIONS			169

	p. 5	*p. 5. Sections labeled "Key Findings" and "Key Recommendations"* Note for the record: We are being asked to comment on an incomplete document, without even a first draft of the key findings / key recommendations that will go here. I suggest that SWAC/DSAC should be given an opportunity to review a more mature version of this document.	170
	p. 6	*p. 6. Workgroup members* Affiliations of workgroup members should be noted here, and throughout (whether Republic staff/officers, DEQ, representav es of Planning Commission or SWAC/DSAC, or Benton county residents at-large). This should be right at the front of the document so that the composition of the workgroup is clear, rather than leaving it for later.	171
	p. 6	Nancy Whitcombe's name is misspelled.	172
	p. 6	For county staff, departments and positions should be noted.	173
	p. 6	Facilitation team is missing Adam Meyer, who a&ended the Neighborhood Tour and several other early meengs.	174
	p. 7	*p. 7 Land acknowledgement* Good to have this up front in the document, but some of the language is awkward, particularly the references to "Kalapuya Tribe" since there are multiple Kalapuya tribes, see e.g.: hp s://en.wikipedia.org/wiki/Kalapuya Why not "Kalapuya People" or simply "the Kalapuya"? As an example of alternav e wording, here is what the Marys Peak Alliance has been using: "*I live within Champinefu, the traditional homeland of the Ampinefu Band of Kalapuya. Following the Willamette Valley Treaty of 1855 (Kalapuya …Treaty), Kalapuya people were taken to Corvallis and concentrated into an encampment along the Marys River for 5 months and then forcibly removed from Corvallis to the Grand Ronde.. Today, Kalapuya live within tribal lands or tribally-ceded lands throughout the region. Many Kalapuya are active members of the sovereign nations of the Confederated Tribes of the Grand Ronde or the Confederated Tribes of Siletz Indians. Kalapuya culture is alive.*"	175
			176
	p. 9-10	Chuck Gilbert should be listed as the Alternate for SWAC	177

	p. 9-10	SWAC (only) sent representav es to the Workgroup, not DSAC	178
	p. 11	*p. 11 Scope & Charge: "The WORKGROUP, with concurrence of the County staff, prioritized the following topics..."* This statement is misleading. The workgroup did not decide on these priorities. These were assigned as part of the "charge," and enforced by the facilitator. In fact the original workgroup, when polled, twice indicated an interest in higher prioritization of planning for an SMMP. It would be more honest to say that these priorities were set by the Board of Commissioners acting on the recommendation of ICM.	179
	p. 14	*p. 14 Timeline labeled "Coffin Butte: Key dates and ownership changes"* This timeline has many problems. I have sent detailed comments separately.	180
	pp. 43 etc.	Under Key Findings, the mechanism of “bookmarks” is introduced, such as LLU F-1. This mechanism is not explained and can be mysf ying to the reader, as a bookmark often takes you to a page that has no clear reference point back to the original point. Also, to the reader, this may look like a type of footnote or legal citation which would take them out of the document enr ely.	181
	pp. 43 etc.	The bookmark mechanism is not fully implemented, which is user-unfriendly. There should be a “landing” reverse-bookmark or other mechanism by which a reader who jumped from a Key Findings page to an interior page can jump back. As it is, the reader is left somewhere else in the document, often with no idea of whether to scroll up or down to get back to the Key Findings page they were on.	182
General Feedback			
		Large sections of the text are incomplete. Others are sprinkled with editorial notes.	183
		Whole thing seems like a moving target -- how do we know what we're reviewing? Do we need to review the post-it notes suggesting changes, as well as the current text?	184
		This document is too long to be considered “common understandings.” A lot of repetition and some not very useful charts. I recognize the huge volunteer and staff time and effort involved.	185
		This document is still a mess, and not in a mature stage for review. What's the rush, and whose purposes does it serve?	186
		Some text that Republic objected to has already been replaced, in some cases with wholesale revisions rather than adjustments in wording -- what was the process?	187

		I think the county officials need to make strategic vision and plan for current operation and eventual closure of the landfill. I think this plan needs to have a north and a north-south scenario. What I understand from this document is the south expansion is still on the table.	188
		If I heard correctly, there was discussion in a commi ee meeting of spending $0.5M for a climate study. I think this is wasted money. Would this not be duplicate work already regulated or at least monitored by the state? This proposed spending should be revisited.	189
		My conclusion: If indeed Benton County has relinquished its ability to limit where the landfill operator can bring trash from, then DO NOT ALLOW THE TONNAGE CAP TO BE LIFTED.	190
		This document is weirdly organized. I go from Process Background to History to Workplan, for example. It seems to not appreciate that readers may want to find all the process documentation in one (skippable) place, actual findings and reports all together and in a logical order, etc.	191
		This document is difficult to navigate due to poor formatting. Example: on page 48 an enr e new section begins; however, the header for it is in 12 point type, scarcely differena table from body subheads.	192
		The document is difficult to navigate because the footer has not been correctly installed. On page 47 for example, it reads “BCTT Subcommi ee A.1” but that is not which subcommi ee report is being looked at.	194
			195
		Note: some feedback was not able to be forma&ed before collection deadline; some but not all of that feedback was able to be included in this table before aggregation deadline.	

Ken:

Howdy there, Chuck. Hey, Chuck. Can you hear me? Possibly not. Good evening everyone. We're just standing by for a minute or two more, see if Joel Geier is going to be joining us. Welcome Chuck and Brent and Marge.

Chuck:

Hi. How you doing this evening, Ken?

Ken:

Good, good.

Chuck:

Good. I always get anxieties trying to get on this thing. I'm about ready to get out my rubber hammer and beat it.

Ken:

Yeah, we have a computer repair tool here. I have one here in my office. It's a hammer but it's not rubber.

Chuck:

Yeah. Yeah, I know. So, yeah. Wow.

Ken:

And how are you doing, Chuck?

Chuck:

Oh, pretty good. Pretty good. Yeah, pretty good and stuff like that. I got to get glasses one of these days.

Ken:

Oh, yeah.

Brent:

This is Brent. I'm going to apologize in advance for potential lost signal and dropping off and where I am. And so I'll just put that out there here in advance. That when I might drop off, I told Dan I'll follow up watching the recorded version. Then who's collecting the feedback? I said I think by Friday at 10:00 AM?

Ken:

Yeah, that's me.

Brent:

And then the other thing I might negotiate is why the 10:00 AM if I were to beg for 24 hour grace period by getting my feedback. Are you trying to get everything turned into the county by Friday afternoon or ...

Ken:

Yeah, that's correct. They have given me a hard deadline.

Brent:

Okay. Well, I saw the air control then.

Ken:

Yeah, I'm afraid.

Brent:

All right, thanks.

Ken:

So Brent, where are you today?

Brent:

Well, I'm just coming off a work meeting, traveling to another event. And this is going to take me out of, I'm just triple booked. This is going to take me out of the cell range potentially.

Ken:

Okay, sure. Well appreciate you tuning in as long as you can. Okay, I think we have everyone on that we need to, Debbie Gile is not going to be with us because she's in Tasmania, New Zealand and Tasmania at the moment. So she has sent in her comments already though for her review. So I'm going to gavel the meeting into session. What is today? Today's Wednesday, February 8th, 2023.

We are convening another special session of SWAC and DSAC and this is really a SWAC session. We'll be reviewing the draft of the work groups and subcommittees reports so far. I did want to mention that under normal circumstances we would be talking about elections for chair and vice chair in this group, but these are not normal circumstances, so that's going to be put off until such time as we can indeed attend to those sorts of things. Anything more from members before we go into review of the document?

Joel:

Hi, I just got here, had some problems getting logged in. Who all is here? Should we have the members on screen?

Ken:

Yeah, if they can, that would be nice. So right now I think everyone is here except for Debbie Gile, who is out of the country.

Mark:

So I could turn myself on screen, but I'm going to keep myself off because I'm going to be packing and blowing my nose and I've got COVID, so I'm hunkering down here.

Ken:

Indeed.

Mark:

So I will turn my camera off and [inaudible 00:11:09]

Ken:

Yes, well-

Marge:

So I can keep my camera on, but I'm going to be eating my dinner.

Ken:

So I think that cameras are optional this time around folks and that's perfectly fine. So I don't want to try to force that sort of thing unnecessarily.

Joel:

Okay. I was just trying to find out what we were doing, so I might tune out too if I start losing my video, my bandwidth, so.

Ken:

Yes indeed. Which is another consideration, I know. Okay, so let's go into review of the document I had proposed in the agenda in order that we would look at the different sections. So we'd be starting off with the Legal Subcommittee, then the SMMP Subcommittee's report, then the Community Education Report, the Past Land Use Subcommittee, and then finally the A1 Subcommittee on Landfill Size and Life. Is that okay with everyone? We could certainly move something up if people have something that they would like to make sure that we see. Yeah, Joel?

Joel:

Yeah, can we have some top level comments first?

Ken:

Sure, that would be great.

Joel:

Yeah, because I'm bothered by the shape that this document is in that we received and it seems like it's a moving target. There are big sections that are incomplete still and some of them are sprinkled with editorial notes. I noticed Ginger Ruff has a whole lot of notes in one section, couple sections and recommending very small changes and big changes in wording. And the question is how much is that going to change in the final report compared to what we're reviewing and should we review those notes also? Then there's also been some, just comparing between versions, there's been some changes that seem to be made outside of the subcommittee meetings as far as I understand. So I just wonder what we're working with really and if this is a mature document.

Ken:

Well, yeah, I don't think that it's been represented to be a mature document. It's been represented to be a document in process and I think that you can indeed see just how much in process it is through just the observations that you've made. I think some parts of it seem more mature and then other parts of it really seem to be still in process. We were provided with the version that has all of the ongoing discussions, editing, re-editing, et cetera, all the back and forth, and notes. So I think all of that is a fair game for us to comment on. And I think that it's appropriate for us to just note exactly what we see in front of us and what our observations about it are, including what you just laid out. I mean that is indeed feedback on the document, which I think is very appropriate for us to do.

In my point of view, the public doesn't really have much access to this document. It exists and the public can see it, but knowing where to even begin, it would just be totally daunting for me if I were just coming to it cold. So I'm just backing you up, I think, on those observations. And the thing that I wanted to emphasize for us all is that we are taking our own notes at this meeting. They're not being recorded elsewhere. And so if people could please jot down the points that they've made, I will try to remember some of them. I'm terrible at taking notes while the meeting is actually going on, so don't really rely on that and supply me that feedback afterwards because otherwise we're just kind of speaking to ourselves in that feedback has not actually getting to the work group.

I guess I'll also mention, part of the dynamic here is that we're providing feedback to the work group so that the work group can then get back to the subcommittees and say, "Hey, we've received feedback about this particular point." This really seems to be whatever that particular feedback is, we're providing that to the work group to then get back to the subcommittees so that some of the really messy areas can be cleaned up. Are there other very top level reactions that people have to the document? Yeah, Marge. Oops.

Joel:

Looks like you're muted, Marge.

Ken:

Marge, you're muted. I see you're trying to get your sound to go, okay.

Marge:

Sorry. Okay, so now I have my sound. I'm sorry. This new registration, it caused me to lose the actual screen with the people in it, so ... Now I've forgotten what I was ... Oh, what I was going to say is that if no one has comments, can you read what Debbie Gile's comments were?

Ken:

Yes, I could. Her comments are very particular. Let me see if I ... I'm sorry, I'm going to have to find them here on my desk somewhere.

I'm going to go ahead and read you Debbie's comments. I should just mention that the comments that we are going to be submitting to the work group are not identified by person. They are just comments which are coming from SWAC in general. I wanted to be a representative of Debbie in the meeting since she can't be here and she didn't object to that. So I don't really want to single her out.

Marge:

Yeah, yeah.

Ken:

That much. Yeah, but maybe that would be without her explicit permission, that would be a little too much to just kind of bring that up.

Marge:

Yeah. Okay. I withdraw my suggestion.

Ken:

Okay, that's fine. But I'll just say just she has comments which are kind of directed to subcommittees or reports very much in general, just very overarching questions. She has comments which are directed to specific places in the text, particularly if there's something which is incorrectly stated, she is pointing those out. And then she has a number of statements which really are about, I would characterize them as being about values, where she's just saying, "This seems wrong to me." It's really that kind of language where she runs into something, some bit of news or something in the report that she feels that are against the values of the county, its community, that sort of thing.

So I'll stop there essentially in talking about that. I think those are all really relevant when we're talking here. And like I said, I think we are indeed kind of representing the public here, the best access the public has is us as representatives when we're looking at the document. So if we don't have any more general comments. Any more general comments or shall we start with the Legal Subcommittee report? Yeah, Mark.

Mark:

Thanks, Ken. I'll go first on the Legal Issues Subcommittee because I'm not sure how long I'm going to last here this evening. And so just four specific things I have in, I don't know where the versions are now with their final report or where they are in their body, but I know that there is a section within their subcommittee report that talks about the rights and obligations of the county and Republic Services as it relates to franchise agreements and other things. And I would like to speak to two items. The first is in the 2020 franchise agreement, a reading of that agreement would give, I think most people the impression that this proposed future expansion request has already been decided, because there is a financial incentive that's built in to the franchise agreement. And the franchise agreement basically says not if an expansion gets approved, but when, and so I am trying to put some thoughts together with regard to rights and obligations getting back to that table.

What I would like to say is that one of the observations that should be made is that Republic Services does not have a right to an expansion. So there's nothing in the franchise agreement that guarantees them an expansion. Then the corollary to that, because the way they have set it up in their table is Republic Services, Benton County rights obligations, all that sort of stuff. The corollary to that is Benton County is under no obligation to grant an expansion. So that's the first thing relative to the rights and obligations.

The next area that I am concerned about in the Legal Subcommittee's report is I know there is a section in the Legal Issues Subcommittee report, where they are trying to restrict what the Solid Waste Advisory Council can consider when making a recommendation to the planning commission. There's quite a bit of discussion in there about SWAC can't do this and they can't do that and they can't do this and they can't do that. Well, that's totally contrary to what the language is that's in the Benton County development code. It says that the SWAC makes a recommendation. It doesn't have those guardrails on that the Legal Issues Subcommittee is trying to impose upon SWAC. So that's the third thing.

Then the final thing is they have, I think some discussion in there about the importance of, or their perceived importance of 2002 Memorandum of Understanding that speaks to whether or not the operator in the landfill needs special permission to place garbage on the north side of the road. And what I've read in their discussion of that is they are trying to assert that in fact that 2002 MOU negates any previous obligations by the landfill operator to comply with conditions of approval that have been put into land use actions. They're trying to say that that document says that at that point in time, November 5th, 2002, that the landfill was in complete compliance with all prior conditions of approval. And no way does that document say that. So those are the four items that I'd like to put onto the table for the Legal Issues Subcommittee.

Ken:

Okay, excellent. And I'll just add at this point in time that the document that I'm turning over regarding these comments really wants to refer to specific pages or at least get as specific as we can as to what we're referring to. So if in the written comments-

Mark:

I'll try to do that.

Ken:

Yeah. And that applies to everyone throughout in their comments. I think it'll be helpful for us to do that because otherwise we're turning over kind of a big burden to the work group. So Chuck, did you have something?

Chuck:

Sorry, Chair, I find there's two buttons to touch here, and I'm a little off second base today. Okay. Let me just say in the report, are we going to redo it tonight or could you give us a little outline what we are going to do tonight in regards to reviewing it or whatever? That's just a leading question.

Ken:

Okay, sure. Well, my process here is I'm really kind of assuming that people have looked at the document already and have particular notes that they would like to refer to. And that might also include questions because heaven knows there are a lot of questions that come up when you're looking at this document. And of course some of us here are on subcommittees and kind of begin to answer those questions or at least to shape them into what is going on. So Daniel is standing by and I presume with the document at hand, so we can certainly call it up onto the screen to look at those things. That's basically the process as I've seen it come up. We're going to go down the list to kind of subcommittee by subcommittee their reports. And of course certain of us have expertise with those. We've started with the Legal Subcommittee, which none of us are on. I mean, no member of the public is on really. But when we move to other of the subcommittees, there are people here who have more experience with those. Does that answer your question?

Chuck:

Yes, thank you.

Ken:

Okay, cool. So yes, I mean, I had the same comment as Mark just regarding Slack's role, kind of as talked about in the Legal Subcommittee. And again, I think that SWAC is a representative of the community in this process. And in particular, I think we're a representative of the values of the community. And so that is really something which I think it falls upon SWAC to represent in these meetings. And of course, that's a value that SWAC holds to the county. So that would be my comment about that. Did anyone else have any other thoughts going through the report by the Legal Subcommittee? Joel, are you shaking your head? Yeah, go ahead.

Joel:

Yeah, there is, well, a couple of things. One of them also with regard to our own role and the discussion of what the side boards that were being given to us, this. We understand now that we're responsible for looking at sustainable materials management and not just solid waste. And the entire document has some problems with inconsistency regarding what's meant by solid waste management versus sustainable materials management. It's only really in the section where we are scoping the SMMP, where it's really treated correctly. But I think one big thing is that we should clarify this role of sustainable materials. In my mind, that's what we should be looking at, whether this is conforming to what the county needs to do for sustainable materials management and not just solid waste management.

And then the very specific issue is one of wetlands. And there's a couple odd things in this document, not in this section, but in the history section or the site setting. There's actually no mention of wetlands in EE Wilson Wildlife Area, which might have just been an oversight, but there's discussion of upland habitats. But this is a little strange because it was known as the original Camp Swampy. So wetlands are sort of the main thing around this area. In fact, I've got one in my yard. But then when the legal issues committee dealt with this, there's a really surprising statement in there in this table too, which says, okay, primary jurisdiction is Department of State land, which is correct. Of course, Army Corps of Engineers also has some jurisdiction. Whether the county is allowed to regulate is only if the county has identified significant wetlands at the site in a wetland inventory adopted through blah, blah, blah.

And then there's a note that no significant wetlands are identified in the vicinity of the landfill on the county's adopted inventory. And this was so surprising to me that I contacted a local wetlands expert who, he's recognized internationally in this, and he said, this is very misleading. In fact, the county would only designate wetlands as significant if they were asked to do so by a municipality under the procedure that's been in place. So either Adair Village would say, "We'd like to designate this wetland as significant at the county level," or Corvallis would say, "We want to designate this wetland as significant at the county level."

Otherwise there's no procedure for the county actually to identify wetlands as significant. And so really this was just never done. And the county has never looked at wetlands in this area with the idea of identifying their own significant wetlands. But there are many wetlands that show up in the National Wetland Inventory. So that's really important, that the Planning Commission is not given this information, which is really deceptive about the possibility for the county to say something about wetlands and impacts on wetlands because as far as I understand, there are more things to look at here, but this is really a misleading part, so that should be corrected.

Ken:

Okay, great. Yeah, thank you very much for that. Very good close reading. That is surprising. I don't know that much about it, but I do know that the EE Wilson is a wetland and it's right next to the landfill. There are wetlands actually on the land in the landfill property as well.

Joel:

And those are identified also on the National Wetlands Inventory. So I'll include actually a map with my comments.

PART 1 OF 4 ENDS [00:33:04]

Joel:

I'll include actually a map with my comments when I send my regular comments.

Ken:

Yes, very much appreciate that. Any other comments from anyone about the legal subcommittee report? Let's move on then. Perfectly free to go back to things or to jump around as the conversation takes us. Next up, we have the SMMP subcommittee. The subcommittee which is indeed talking about helping to identify the request for a proposal for developing a sustainable materials management plan when the county does that, which we hope is going to be soon. I'm going to look to you, Marge, do you have any thoughts to kick us off on what's going on in this subcommittee?

Marge:

Sorry, I'm having a problem staying on course and trying to also look at the document. Well, I think that the version of the SMMP document, in this version that you're seeing, I think is improved to what it was before. I think it more clearly delineates some of the values that VIN County drives in a sustainable materials management plan. I think it has more fidelity to the Benton County core values, which I am very much in favor of. I think the idea of the circular economy and cradle to cradle, or making the beginning of materials responsible for all the way through life cycle, like that, and that Benton County is uniquely targeted to values like that, sustainability and environmental values like that. I don't know if that's what you expected me to say, but that's what I'm thinking. I'd like to hear other people's points of view. Having read it, what do you think?

Ken:

Joel, if you got something.

Joel:

I'm going to have a lot of detailed comments on this, but they're more of the nitpicky level I think at this point. A big one is, why isn't this more front and center in the report? There is a statement early in the report that talks about the priorities for this whole process, and it says, it's way up front on page 11, the work group with the concurrence of the county staff prioritized the following topics. As I recall, the work group actually was pulled twice and wanted to put the SMMP higher up in the priorities.

We were basically told back when I was still on the work group, we were basically told, "No, we're not going to do that." Because the charge from the commissioners is that we're going to focus on the land use criteria and these kinds of things. That in itself is a little bit deceptive, but really the work group did not have a voice in this, it was set for us. I think it certainly would be nice to see the SMMP brought farther forward in the report, and that is one comment I'll have. I don't have other major ones right now.

Ken:

Well, I look forward to the detailed comments, but those I think are just appropriate to send in writing, your nitpicky comments. I do remember, there's so much that's happened, it's all kind of a blur. I remember in the first schedule, the very first schedule published for the work group, there was two hours of discussion time for the SMMP total. It very much was a de-emphasized portion. I think there was a lot of feedback from the public members engaged in that process, so things have definitely changed. We now have an entire subcommittee working on it, but it has been clawing its way up into significance. I have some just observations about the actual process that the SMMP subcommittee has gone through, which I've just found off target. By which I mean, early on in the process there was a nice moment when the subcommittee was looking at other past reports that other counties have done, for example.

Then from that, there was this long period where we were essentially just copying what other counties had done. There really was just an entire focus on going through each of those reports and making sure that we had something in our table of contents that corresponded to whatever it is that they had in their table of contents. Even when those things had to do with transfer stations, which we don't have any, that still appeared in our timeline. It was very much this detail, looking for a purpose. I think that approach has led us to a document that the values part, which I is think really what was the prime thing for us to contribute, seemed to make its way actually into the report late. To me, it still looks like an early draft of those things. It's not really organized well.

I apologize, because I haven't really kept up with the latest iterations of that one, just because I've been rather mired in other subcommittee work. That's just part of the process where I felt that it would've been better for me if we had looked at those other ones, called the parts that we really liked, and started building from the things that were very important to us in the county, and then fleshed it out later with whether or not you're going to have a section on transportation or whatever. There was such an attention to detail, inappropriately I thought, it was a bottom-up process that was going on. Let's see, I had some other observation also. Then in the subcommittee we spent a lot of time, we were directed to spend a lot of time specifying things that aren't really appropriate for us to be specifying.

There were questions like, what is the time period that the SMMP should cover, for example. I mean, I can answer that question from a values point of view, but I don't really know what $500,000 buys you, if it buys you a 20-year plan. For that matter, how long is the process going to be for the SMMP? I don't know how much time $500,000 buys you in terms of consultant time, or what's their burn rate? Is it typically six months, a year? I mean, that's how long it's going to take then, if that's what the budget is going to be. There were a lot of nitpicky questions about that, about what's the grading matrix of the report? Which I can answer in a very general way. If you're asking me actually to specify what the percentages are actually going to be, one, I don't feel entirely qualified to do that, because I don't understand how the whole package comes together.

Two, presumably the county is going to hire someone who actually does indeed assemble those packages. Talking with people who actually have more experience about this particular, the way the county operates, they're just saying, "Well, these are inappropriate questions for you to be asked." I just am regretting now all the wheel spin spent digging up those levels of detail. I wish, I guess that I had spoken up more at the time because I feel like this was out of my wheelhouse, if you will, out of our wheelhouse. Of course, I'm not the entire committee. There are other people there that know more, et cetera, that sort of direction. When I look at the document, there are parts that I just wish, and maybe this will be actually part of what happens is, where they just get shrunk. Because although we had conversations about them, I'm just not certain that those conversations really carry much weight or should carry much weight.

Marge:

To be honest, I also felt that the written documents that were turned in did not have fidelity with the conversations that we had, and we didn't always get a chance to comment on what was being brought forward in a written form.

Ken:

Yes, I very much felt that also. It's funny, in my experience on subcommittees, one, I've been very active in writing stuff, which is the other subcommittee I'm on. Then on this subcommittee, I really wanted just to not do that. I didn't want to impose. In both subcommittees, the results have been disappointing. In both cases, I've really met with resistance, resistance in actually getting things that we talked about into the document in a way that we're trying to express. Then in the other subcommittee just experienced disrespect for the things which I actually contributed in writing. It's hard to negotiate this process as a member of the public, is the experience that I'm having. I'm sorry, Chuck, have you had your hand up for like ever?

Chuck:

Well, it keeps falling down, so somebody's slapping my hand. I just want to say, for me, it's been a learning experience. It's not that I'm the expert and so forth, but I value the community and the county and everybody, even the facilitators' work on this. This is not to say that this is going to resolve everything. The county has already given us a letter as a path forward with consultants, so there will be times now with our accumulated knowledge that we can ask pertinent questions to the experts in this. Especially on all the resources that are out there. First, all the landfill and if you will, all the other natural resources that are out there and how they can cooperate. If they can't cooperate, then what alternatives we have. That way, the experts can look at it from an economical standpoint.

If you want to shift waste, if you will, a refuse from point A to point B, what's the cost of that in highway dollars? The economics starts playing out with the experts where you can look at supply and demand and demand curves, and so forth like that. This has given me time with everybody else there to put ideas. I sometimes can put better ideas in paper. I'm not a very good orator, nor do I have a photogenic base for this camera here either and stuff like that. I just want to reassure everybody, this is not the stopping point, this is the starting point. We just got over the bridge now and will be a transition, especially with the sustainable materials. I look at that as really in a box there with the sustainable materials may be on top of the box, but there's a relationship just like salt and pepper.

We're not going to do away with solid waste either and so forth, so they have to go hand in hand. It's just like the landfill out there. The landfill is really finite on the resources that the disposable site has, and so of forth. There's an expansion there and there may be other economical benefits not to expand, but the experts, fortunately, the county has the foresight to see that with the director's letter there giving us there. It's coming into focus, what it really is now with everybody else joining in and getting comments in. It's not the end of the game, it's just the starting of the game. I'm sure it will be in the long-run a net benefit for the county.

Ken:

Sure. Now, Chuck, you were talking about the SMMP specifically, or were you talking about the document or the work group process as a whole?

Chuck:

Yes. I just want to pick ideas around a little bit. What I like is when Joel says something, or Mark says something, or Ginger says something, what are they saying? What's the perspective there? Sometimes I put on my rolls of Rosie glasses and it's nice to look from their points too, so we can get the best points in this document, so the experts can sit down. That way, they're way ahead of the game. They don't have to repeat all this process. They've got the communities and everybody else into this equation. We're deep down in the defensive field to the 20 right there where the field goal is, is the way I'm looking at it, just another metaphor.

Ken:

Yes, I certainly, I don't know, I think maybe I've diverged too much here into problems that I have with the process. I mean, I'm still thinking through exactly what happened. I'm talking about the SMMP process in particular and how exactly it got, from my point of view, ended up spending so much time on stuff which was not really what I wanted to be talking about. I'm sorry if I took a long time to say that very simple point. I certainly appreciate what you're saying, Chuck, about the process in general. There are a lot of person-hours going into this. There are a lot of people who are engaged with it. There are a lot of people bringing forward a lot of different perspectives in the various groups that we have. There's a lot of truth emerging about this particular subject. Clearly there was some catching up to do that the county needs to do, and it seems like that catching up is actually being accomplished. Okay, back on track. We're talking about the SMMP process. Were there any other... Oh, Joel, I'm sorry. Go ahead.

Joel:

It's okay. I just raised it a second ago. There is one big point, I think. The issue of best practices, and I reminded that in the key findings, there's this statement that many best practices in model SMMPs exist in Oregon and beyond, which is a little strange. I mean, best is a superlative, it's not a comparative. You expect that it'll only be one or two really good best practices. When we're talking about best practices in Oregon, I know during the work group we had emphasized also looking at international models. This really seems to downplay the idea, which I thought was agreed on by most people in the work group, that actually we should be looking at international examples and out-of-state examples and to put Oregon upfront in that is a little concerning, compared to where I thought we were headed with that. That was my main.

Ken:

I think that's a very good observation. I think that's important to take back to the work group and then for that to come back to the subcommittee. Anything else? Anyone else on the SMMP? We can come back to it. Well, thank you for those comments. We're going to move on from there to community education. Marge, that's you, isn't it?

Marge:

Okay. Well, I think that community education, the aspect of the subcommittee, I actually spent most of my time working on the history part, buy I think a lot of really good work went into the community education part. I think that we had really good cooperation from Cory Grogan, our County Public Information Officer. Tonight, the Justice System Improvement Project is holding a big open house. I'm sorry that we scheduled this meeting against that meeting, because I think that in the manner of holding an open house, that's just the kind of feedback we needed for this project in order, because that's what we are going to eventually want to do with the product of this work group, this report, is hold an open house and talk to the community about, what do you think? Have we hit the right spots? Et cetera.

However, the other thing that I found in writing this history, in assisting in writing this history part, is that over time, SWAC and the community had lots of influence on solid waste practices.

The SWAC continually put notices, they call them tombstones for the way that they're shaped. Constantly had information out there soliciting input from the community saying, "At this meeting, we're going to talk about this and this, public comment welcome, and this and this time." That did not happen in this process. However, I think that the community outreach part of the subcommittee has made a lot of progress towards identifying. I mean, of course, we still have a newspaper and there's no excuse for not having some notices in that newspaper. Today, we also have many, many other communication paths that people get information through. This subcommittee and working with Cory, I think did a real good job of identifying what some of those paths might be, and beginning to make progress towards reaching the community. Kudos to the other half of our subcommittee.

Ken:

Thanks for bringing that up, Marge, because I did also want to talk about, just to jump back to SMMP for a bit, I feel like that is something that is in the SMMP, is really talking about public outreach. It's really talked about in 20th century terms. For example, the conversation has been about, well, how many public meetings will the SMMP process have? That is just not really modern thinking about how public outreach can be conducted. Again, that's looking backwards. I mean, one of the problems looking at old materials management plans of other counties is, they did their management plan in 2014, they did their management plan in 2007. Well, we're doing ours in 2023 or thereabouts. We should be careful to be more current and not backwards looking but forwards looking.

I'm just, again, jumping back to SMMP. I'm really glad to hear essentially that it's been a good experience and it seems like a lot of really good, valuable work has been done. The history component I think is really important too, especially to us here at SWAC. I mean, we don't have any institutional memory. Our institutional memory is currently vacationing in Tasmania, and her memory goes back to, what, 2020 or 2019 or something like that. It's very easy for us in SWAC and DSAC to really lose the thread of what we should be doing, what we can do, what we should be empowered to do. The history is really important. I think, Joel, you had your hand up and then I think, Chuck, you also. No? Okay. Chuck, did you want to?

Chuck:

Oh, thank you, Chair. Let's see. I just want to make a comment on the SMMP. I read them over the shoots and everything like that. I just want to say that even though they've had their SMMPs, Benton County is, if you will, somewhat unique. In other words, it has, of course, the county, and then of course it has a landfill, but which just is important, the lessens with other counties too, when together to utilize Cotton Butte when the other ones were closing and so forth. That impacted them, Benton County was good enough to look at that to the Chemeketa Plan or one of those plans too.

I think that's really the focus too, is all the time we talk, if you will, we look at Benton County, but really the solid waste management and the waste streams are more on a regional perspective. Even if you would, the landfill closes today, Benton County stands shoulder to shoulder with everybody else that was going there were to go next. I think that one eye, if you will, needs to be at Benton County. Then another eye also is on the regional waste streams though, because they collectively come together and they still need to focus on everything that Benton County is doing.

Ken:

You remind me, Chuck, of course, that we wanted to start up, we did start up a subcommittee here in SWAC, which was really in re-engaging SWAC with exactly that, to start conversations with other SWACs in other counties just to get the line of communication open. That is another process, which has been shut down essentially by our curfew.

Chuck:

Well, I'm counting my blessings there because we got enough on our plate right now. That might be a blessing in disguise to keep us focused, Chair.

Ken:

Well, I think that's a very good point, Chuck, yes. I think your point, yes. Yeah, very well taken. I'm sorry, Joel.

Joel:

I was just going to say, with Chuck and I here, we almost, we have the quorum of that subcommittee, I think.

Ken:

Well, I think actually it's 100%, isn't it? Because wasn't John McEvoy a member?

Joel:

Yeah, that's right.

Ken:

Yeah, so 100%. Did anyone else have any other comments? I must confess that I have not really dived into the community outreach part, the education and outreach committee work. In part, that's because it just seemed to be going along just fine. If there are any more comments on community education, we'll certainly... Oh, I'm sorry, Joel.

Joel:

I can make a positive comment. I thought I was really encouraged by the idea that came from this subcommittee on notifying people within a certain radius of the landfill, and apparently even including Polk County residents who've been pretty much left out of things in the past. It's not clear to me the recommendations to come out, how much of those be taken on board, but I thought it was very thoughtfully done.

Ken:

Excellent. I'm very glad to hear that. We move on to the past Land Use Committee. I'm wondering if Mark can, I think, as our representative in that subcommittee. Sorry to tap on you there, Mark.

Mark:

Yeah, thanks, Ken. Well, let's see. I guess you can see me. All right. The past Land Use Committee has been an incredible amount of work to try to sort through. I think there are 86 different conditions of approval since 1974. We have been working through a number of those things. There have been several

times in which we've had to respond to assertions and input from the legal issues, subcommittee. We spent many, many hours just discussing the introductory few paragraphs to the section. That still has not yet been resolved.

I think that from my perspective, I think the most we can expect anyone to do is to read the findings or recommendations that are in the main body of the report. I have developed and submitted, and they are not before you because they have not been put into this draft number three, a half a dozen overarching findings. I think those are significant, both considering where we are now and moving forward. That's going to have, well, I hope that comes out in the future version of this draft report, but I'm happy to hear what other people's thoughts are there. I'm way deep into the weeds and I don't really have anything to share with the group at this point.

Ken:

Sure.

Mark:

I'll try to answer questions. Likely after this section is discussed, I'm going to go back to bed.

Ken:

Yes, as you should. Thank you very much for hanging in there, Mark. I'll just open it up. Does anyone have observations from reading over that portion? Yeah, Joel.

Joel:

I seem to have caught Mark's cold or COVID through the wires here. My main concern about this is, every...

PART 2 OF 4 ENDS [01:06:04]

Joel:

My main concern about this is everything is unresolved. There's all these conditions of compliance and all I see in this document remains to be resolved. I remember the exact phrasing, but almost in fact, I think every single one, they've just all been left unresolved. Even the ones that seem like they should be fairly obvious, where for instance, screening, I mean it's obvious the landfill is not being screened. It's obvious that the Cliffs of Coffin Butte have not been restored to anything looking like what was expected. There's no grazing on the landfill, so even things that seem extremely obvious have not been resolved so far. So we're not seeing the output of this committee yet, and I'm wondering when that's going to happen and if we'll have a chance.

Ken:

Yeah. Mark?

Mark:

Yeah. So the application of that sort of coverall assessment phrase that's in each of the conditions of approval was put in there really as a placeholder. There are a number of different things at play. I think I mentioned earlier the 2002 MoU in which the Legal issues committee is asserting that it doesn't matter what happened prior to 2002, compliance or no compliance because they have asserted that 2002

memorandum of understanding wipes all of that out. And so therefore, from their perspective, the landfill is in compliance with all prior requirements to 2002. There are some members of the subcommittee that are not in agreement with that, and so I don't know how it's going to be resolved. There are some that seem to be quite obvious with regard to things like screening and as you mentioned Joel, there's a lot of discussion and debate about what closure means.

The landfill says that certain cells are closed, they're not really closed from DEQs perspective, and so therefore they're not going to see any grass growing or any of those sorts of things. What we've learned in this process is that, and I think we're seeing this happen up in Riverbend at the "almost closed landfill", that essentially the landfill operator gets to decide when they're really closed and work with DEQ. So until the landfill stops accepting waste, the landfill is not in a closure condition even though they will tell you that certain cells, cell two, three, cell one and one A, that they are closed, but they're not technically closed from a DEQ perspective and closure requirements relative to grazing and all that sort of stuff don't kick in until everything is closed. That's what I've learned in this process. So I am sorry that we are where we are.

I do think there is a diversions of opinion. If you go into the main body of the report, you'll see that in many cases the staff believes that the operator was in compliance and Republic Services agrees with staff. You can look at the comments, staff says In Compliance Republic says that we agree with staff. And then in the middle section there's a lot of discussion and commentary that were put together by both myself, Catherine Bisco and Ed Pitera, because we really researched and read each and every one of the conditions of approval and tried to make some judgment as to whether or not there was any evidence in the record relative to compliance. And one of the overarching things that hopefully will be in the findings is that Benton County has stated that they did not and do not have the resources necessary to monitor and enforce compliance with conditions of approval. That is the responsibility of the applicant. And unless there are any complaints filed by [inaudible 01:10:52], the county will not and they do not monitor or enforce any conditions of approval.

Ken:

Yeah. Joel?

Joel:

Yeah, thanks Mark. That was very enlightening. Just one question that's been on my mind is we know that we're getting a franchise fee from this landfill and this substantial. Has there been any discussion of whether some of that franchise fee should have been or will be devoted in the future to actually actively monitoring compliance?

Mark:

Well, of course that's not part of this subcommittee's charge, but I think there is a draft recommendation, something to that effect. But again, I'm not sure. There's a lot of discussion and debate about whether or not some of the older conditions of approval like screening for example, which were supposed to be imposed in 1983, whether or not anyone's ever going to require the landfill to do any screening. And so there is an observation that is quite clear that the county does not monitor or enforce conditions of approval. And I think that's contrary to what people think happens when you go through a land use review process and conditions of approval are imposed. The idea is that the conditions of approval are imposed in order to mitigate adverse impacts of a particular land use. However, if they're not monitored or enforced, it seems like it's pretty hard to ensure that compliance is done.

Ken:

Yeah. Let me just note that although spending a franchise fee, money may not be part of the charter for this particular group. It is a charter for us and [inaudible 01:13:15]. I mean, that is a thing which is specifically called out in the [inaudible 01:13:21], the bylaws, and I think the county code essentially is that we are to advise how franchise fees are to be spent. So that certainly seems to me to be relevant as a [inaudible 01:13:39] response essentially to what we're hearing here is that it would be very appropriate to begin spending money to actually... 'Cause otherwise conditions of approval are clearly just ink on paper. They don't have any effect. And I'll just pick up on what Mark was talking about. I mean, it's a thing that I got from reading over what the past land use subcommittee has been looking at is just that there are so many things that were or are complaint driven and there's absolutely no pipeline about that.

It's kind of only emerging through this process that these things actually exist as a complaint item. And so where is the complaint page on the county website, for example. It does not exist. I don't know if it's ever existed. Where is the notification for people like something in the paper that, hey, if you think the landfill is ugly, then you should write a letter or whatever. There's really been no pipeline for letting the public know that they're empowered. And clearly part of this, I mean to me it's just a very inadequate law making or condition making or whatever to say, well, for example, we won't require screening unless the public complains that the landfill is ugly.

I don't think you drive by the landfill and are motivated to say, Hey, the landfill is ugly because you drive by it tomorrow and it's still ugly and you drive by the next day and it's still ugly, et cetera, et cetera. So what are you supposed to file a complaint every day about that? That clearly is something where you need some sort of representative who can really say, I think most people looking at this would say that this is really an eyesore of a view. And I don't know, the other day I drove by Short Mountain, the landfill down by Eugene. I had never noticed it before because they take care. It's right by the freeway. Very similar circumstance to Coffin Butte, but they take care to essentially maintain that side of... That view shed is not really as confrontational as what we've got. So I mean, that's just one example.

But they're certainly looking at what has happened with past [inaudible 01:16:52], it seems like the pipeline by which complaints are even registered has been broken. I mean, when was the last time that we submitted the required report to DEQ? It seemed to me last year. When I asked Daniel for an example of what that report should look like, he couldn't come up with one, which I found surprising at the time. So that was again, something that we were pursuing, but then the curfew descended and so that's kind of all on hold. I'm sorry, I'm going on and on. And Chuck, you've got your hand up.

Chuck:

Yeah. I am almost forgot what the question was and what the answer was, but bear with me. If I understand it correctly, correct me if I'm wrong with the... There's two themes here, condition and complaint. Now, the conditions of history are real good in a sense, it's from a history perspective, although that they draw for just the sake of argument they've been negated from the future franchise or the existing franchise. But his historical perspective doesn't mean that later if another CUP comes forward, that if there's a consensus of a condition that cannot be brought back into the new one, do you understand what I'm saying? It doesn't. The new one starts new with where we're at and it's just like other laws, if you will. Some are proceeding, you can bring them forward, but we find that laws in the 1858 for crossing jaywalking and spinning gum on the curb, we may not want to enforce that.

Just as a ludicrous example, but what I'm trying to get at is the history is really important to have those, even though that they're not impinging right now front and center, but if it is a relevant condition, I think the county attorney says, or even a director, those conditions can be brought forward if they're

relevant and so forth like that. So don't give up hope on the history. Fortunately, everybody's time has brought that in now, so you've got a regular reference to it and can come back to it and so forth. And sometime technology even changes that you don't need the conditions too. So everything has to be looked at in today's perspective looking back or forward and so forth like that. And it's hard to do, but we've got a lot of information and I still look at it that everybody's help has brought it down to the 20 yard line, if you will keep with that analogy.

Ken:

So Mark, I see your cameras come back on.

Mark:

Yeah. I'd just like to respond to Chuck to say that want to make sure that there is clarity that the current franchise agreement has nothing to do with prior land use decisions. Those are two separate processes. Land use decisions, they're in their own legal bailiwick, quasi-judicial decisions that cannot be wiped away by the franchise agreement or cannot be modified by the franchise agreement. So just want to clarify for everyone that there's no relationship between a franchise agreement and land use decisions.

Ken:

Thank you very much for that, mark. Yeah, I have not really understood that. Chuck, go ahead.

Chuck:

Yeah. Thank you, Mark. There's also, hand in hand with that is a DEQ permit process, and that can sometimes bring conditions into it too, but I think everything is open to public opinion and the conditions that they want to put onto it and so forth like that. So I don't want to lose hope of that.

Ken:

Let's see. I wanted to just take a moment right here. Brent, it seems like you're still with us. I know it can be hard to break in when your camera is off, so I just wanted to give you an opportunity to, if you have had thoughts kind of in the past in...

Brent:

No real thoughts, I'm pretty technically focused and so maybe more view of the document, but no [inaudible 01:21:50] comments. I'm letting lots by listening to veterans on the committee.

Ken:

Yes, indeed. Okay, that's fine. I don't want to put you on the spot, but I did want to give you a spot and you bring up a really good point because I certainly know that I'm going to go back to the document to the whole thing and just reread everything and because I've learned a lot about what the salient issues are, and so I encourage everyone to do that with a pen in your hand or the keyboard in your hand to jot down your thoughts. And again, to get them to me by Friday at 10:00 AM so that I can put them into a document.

Brent:

And then my focus personally is what I'm trying to glean from it is there's a lot of information in there as far as on the advisory committee, I'm going to very [inaudible 01:22:53], what's in within my or the

county's control and whether it is not. And so that's what I see a lot here is that there's a lot at state level and county that holds a lot of cards [inaudible 01:23:08]...

Ken:

So unfortunately, Brent, I think we just lost your signal. So at least I was hearing you essentially more or less like an alien. So we lost the last part of your comment, but it sounds like you have got up a plan of action going forth from this meeting, which I think is really valuable. Are you still with us or [inaudible 01:23:44]?

Brent:

Sorry for that. I'm still with this if you can near me [inaudible 01:23:48]...

Ken:

Yeah, unfortunately you're completely breaking up. I think he just passed out a range or is about to. So Daniel, you had your hand up or... I guess that, okay.

Daniel:

Oh, thanks, Ken. I just wanted to briefly, it seemed like a good opportunity just to mention that for folks sending in those comments to you, if you could also copy bentoncountyttalkstrash@co.benton.or.us just to keep those records public. We'd really appreciate it.

Ken:

Okay, sure. You can also remind me, Daniel, and so I can check and make sure that if there's anything with it doesn't have that CC on it, I can forward that on.

Daniel:

Thank you.

Ken:

Okay. Any more comments about past land use? So I'm very much going to go back to that section and reread it. I think Mark's analysis is really helpful about what the dynamics are there. So now let's move on then to the A one subcommittee, which is the landfill size and life. And so let's see, who wants to kick that off? Not Mark. I think Mark has gone to bed, which is good. Did you want to talk about what's going on with the landfill size subcommittee there? Chuck? You can say no.

Chuck:

Well, [inaudible 01:25:56] there's 174 acres as we know, there's six cells. That's pretty explicit. But when it gets down to longevity, now that's the tricky question right there. If it's relative to Coffin Butte, if you will, the cell life and the landfill life is contingent on or part of the land reserve if it can be converted to a landfill. So if it can't be converted, then we're right back to the 14 years capacity in cell six. So it's pretty explicit for the first two steps, but there's a lot of conditions or if you will, working through credible scenarios, if you will. And Ginger brought some forward there too and stuff. So maybe we'll have a good conversation here next week or next time we meet and kind of close everything out and stuff. So I appreciate it, really is hard work, anyway.

Ken:

Yes, yes, indeed. So, yes, I mean, I'll just echo what Chuck said. So the three things are finding out the size, the capacity, and the longevity, right?

Chuck:

Yeah.

Ken:

And so those actually are kind of amazingly complex subjects, the first two, whereas I would expected them to be a little bit more straightforward. There's a lot going on with those. And of course, what Mark was referring to about cells not being exactly closed. I mean settlement goes on. There are new ways to kind of, I'm not going to bore you with all that, but...

Chuck:

No, but excuse me.

Ken:

Yeah, go ahead.

Chuck:

Just from a technical, I think Republican DEQ says when they're done, they're capped. They use a different terminology there. So when it's closed, it's not really closed, but when it's capped, it's capped. And that means if I understand them correctly, it's not currently putting any solid waste into it. Sorry, okay.

Ken:

Right.

Chuck:

Yeah.

Ken:

So the first two parts about actually defining kind of the envelope. So there is the size of what has been created already, and then there's the envelope of what is available of still within the present land use permit in terms of accepting more waste. And like Chuck said, now you get to the part where you try to figure out how much the inflow of garbages, so how quickly that remaining envelope is going to fill up. And of course when you look at that over time in the past, you can see it varies quite a bit. There are cycles that kind of go through it, depending on economic activity, bunch of other things. And then when we're looking forward, there are even more factors that possibly come into play because life is getting much more complex for the landfill. [inaudible 01:29:42]. Go ahead, Chuck.

Chuck:

Yeah, chair, I'm sorry to interrupt. I just want to state also that Ginger put a good array together there and which is real good. And that parallels what you written up too, which goes into more detail, but at

least the array works good with economical principles where you can look at one and two. On the positive side, is that enough to negate or stay, if you will, in equilibrium with the negative sites. So at least we have some parameters there with you defining them. And then with Ginger's work on that array that if we don't get at it, the array is there for the experts to say, yeah, economically we can look at that. And we look at supply and demand and demand curves and so forth, if you will, there that have give credence to it.

Ken:

Yes. So what check has... So let me just orient people who aren't as familiar with what's going on. So we are really talking about in the A one subcommittee's report, when you get to section three is where that is the one that's actually dealing with intake of waste and especially intake of waste and factors influencing it into the future. So what Chuck was referring to is there is a table there, it's a very nice communicating device because it shows essentially what some of the factors are influencing the landfill. And it just shows that there's a positive influence, which means the landfill life is extended, there's a negative influence, which means that the landfill life is shortened.

So we have to apologize a bit for the document in section three because if you go there, it kind of looks like a hand grenade went off in a room full of text. There is duplicate material, which is not quite the same, but very similar. And it's very confusing because a lot of material essentially has kind of arrived at the same time and has not been sorted out into actually a workable narrative in the form that you got. So that's kind of the first part of section three is kind of talking about factors and kind of giving you arrows pointing that they're either lengthening landfill life or they're shortening landfill life. So something like population growth would shorten landfill life because if there's more population in the service area for the landfill, that generates more garbage per year. But of course there's a cap on how much the landfill takes in.

So that only if influences a certain amount. So things get complicated very quickly. And so we've tried to identify in this section a number of those factors and to characterize them, whereas for example, if recycling rates were to continue, or if a recession happens and economic activity slows down, then there is less garbage produced in that population, and therefore less garbage means not as much going into the landfill per year, which means a lengthening of the landfill's expected life. So we've tried to isolate those factors and just identify kind of what you can expect from them and whether or not it's expected to be a significant number and significant number, that sort of thing.

I mean a lot of the significance of the impact, the amount of the impact really has to do with how much you believe that factor is actually going to be present in the future. Is it going to be a factor at all? Is there going to be a recession? Is there going to be economic growth? Is there going to be a landfill fire? Is there going to be... There are just a number of factors, and we tried to do some brainstorming and kind of come up with a list and treat them.

So a part which is relatively readable is the next part down, which is talking about various scenarios. And so those have graphs kind of attached to them to communicate visually what each of those scenarios means in terms of landfill life, and you can kind of see it playing out because the graphs go year by year. So there is a baseline operating, which is the official, I don't know if official is the right word, Republic services, they have their own forecast essentially about what is going to be happening at Coffin Butte in the lifetime. And their forecast says that they will be putting in as much as they can. So there's an income, an intake cap of 1.1 million, and I'm simplifying, and they say they all be able to... They'll have that demand essentially going through the remainder of life in the landfill.

And so we talk about the factors and the scenarios that we draw out are really about, well, what happens with that scenario? So what happens if the cap goes away, for example? Or what happens if an

expansion is approved? Or what happens if there's climate change legislation and the amount going into the landfill is reduced as a result? Because high methane producing material is diverted, there's an incentives to divert it from the landfill, et cetera. So that is relatively accessible to people. And so you can certainly look and kind of comment on that.

It certainly is appropriate to just talk about the fact that it's very hard to parse out the beginning part because it is hard to parse out, and that's quite legitimate feedback. Okay. I'm sorry, I've kind of gone on and on about that. There's also a section four, which kind of has to do with, there was initial skepticism I would say, about some of the scenarios that were coming forward. And so section four really kind of lays out what the signals of these possible futures signals that we can discern now that indicate that these are actual viable possible futures. That's really what Section four has to do with, so enough for me. Chuck, did you have anything to add?

Chuck:

Thank you, chair. Yes. Some of the stuff that is really out, I remember Sam talking about the Portland airport and landings and stuff like that, but you never know what technology would bring. Just with Zoom alone, they've cut down on a lot of their takeoffs and landings because we have a technology here. So also in the mix of solid waste, there are new technologies coming out. It's hard to look in a crystal ball, but they're starting to get some momentum behind them. Instead of sending all our resources over to China or Japan in particular, the [inaudible 01:38:30]. Now, a lot of them are converting that plastics to energy, so we could go on, but they're just unfolding. And obviously as a capital market takes over a little bit and entrepreneurs come in. I think there's even one being developed. I heard here in Albany looking at that stuff too, so that that'll be unfolding. It's just hard to unfolded in this document now without just talking generally about it instead of specifics. But our experts, when they get on board too, they...

PART 3 OF 4 ENDS [01:39:04]

Chuck:

Instead of specifics. But our experts, when they get on board too, they probably will have more in depth on that that can educate, least myself on it, if you will.

Ken:

Yeah, and I mean, that's a really good point, Chuck. I mean, we really are... This is a very future oriented section of the report, and so it clearly has kind of a relationship with the SMMP, where the SMMP is also very future oriented. But I think, so like considerations that we had with the SMMP, like looking internationally, for example, I mean, you can see technologies which are already in place elsewhere, and this is not just technology technologies, but social technologies about how waste is done. And of course, Oregon is moving in this direction by being one of the leaders and producer responsibility for items that are produced. You begin to enable these sorts of systems that prevent things which have a higher use from entering the landfill. So that's what that whole section is about. So I think that it's really relevant to us here in this advisory council to feel free to comment on those and to review the work of the subcommittee in terms of representing Matt. Yeah, Joel.

Joel:

Yeah, thanks, Ken. In just glancing through this, I think it is an interesting section, especially the scenarios you've gone into. One question that comes to my mind, and I'm thinking of the analogy to

water resources and river allocation, and the problem of over allocation, in particular, we... The analogy with rivers is that if you have a certain number of users that are all drawing from the river and that works in good years, but then you get a bad event and suddenly the river's overallocated and you have a problem. With the landfill, how this seems to work out is that there's been lots of contracts signed up that provide a certain annual flow of garbage, but then we have these stochastic events like a COVID crisis or [inaudible 01:41:39], Beachie Creek Fire, and suddenly there's more garbage coming in. And we get these either... If you want to call them violations or exceedances of what was expected.

Is there any discussion of that type of planning that... We've seen some patterns of what I would call stochastic variation in the inflows of the random variability on top of sort of what's expected, how that is accounted for in the overall airspace budget?

Ken:

Yeah. I don't... I'm struggling to understand your point-

Joel:

Okay.

Ken:

... entirely. It's a little over my head perhaps, but I think that... We're up against a wall in many regards in that there's a lot of proprietary data about the inflow to the landfill. And so for example, business contracts, nothing about that has been divulged. So we can't really... We can certainly speculate about them, we can make our own best guess faced with lack of information, that's all we can do really. And a lot of those, you can... I mean, in some cases, of course, those things can be found out quite readily if you just call Marion County and ask them what their business relationship is with, they may indeed just tell you. Just as one example. But there just are a number of other things, which Republic has been reluctant to divulge their projection, saying that they're going to be able to maintain that high rate of intake for the next 20 years or 17 years, whatever it plays out to be.

We can't really examine the assumptions. We don't know what assumptions underlie that. So what assumptions about population growth or whatever. There are certain things that don't seem to be in that assumption, but kind of what exactly is in just hasn't been divulged. Yeah, Chuck.

Joel:

Okay.

Chuck:

Well, let me understand this correctly. The common denominator coming into Coffin Butte is the scale ticket. Last time I was there, they scaled it. And then it's attributed to where you're coming from too, which identifies what county it's coming from and municipality. So if the common denominator is tons, which it is, then everything else is density, and capacity has changed from the tunny. So to answer the question, there is a lot of data that's probably available to the county just from the scale tickets loan by saying... Matter of fact, I think [inaudible 01:44:47] seen it there sometimes, which county it's coming from. And then over the years you can see a pattern from the county. But I think... It is just to talk about it here, so when the experts get on board, and I'm sure... Hopefully they'll have some economists on board that they can look at those dynamics of, "Washington County has grown this much. Yamhill County has grown this much."

So they can start putting those different arrays together, just like you put this one array with Ginger and you together and stuff. So I think it's within the realm, it's just a matter of getting more resources and if you will, professional staff on so they can dive into it and divulge it a little bit better than... In a better timeframe than we can, I should say.

Ken:

Well, I think our role is really... Yes. So I agree with you entirely, Chuck. We're not going to answer these questions. I mean, nobody is saying that we have the resources or the time, really, to do that. But I think... What's important, and I think what's important for this advisory council is to ask the right questions. So just kind of exactly the question that Joel was putting forward, that is the one that will actually inform what experts do, as a matter of fact, get hired. So for example, the Beachie Creek fire, I mean, just brought the prospect of a wildfire coming into the vicinity of Coffin Butte. So what exactly happens if there's a wildfire in that immediate area with the landfill? I mean, how likely is the landfill a catch fire, and what happens to the landfill if it does? I mean, that is something that someone, I hope, is really paying attention to.

And I think an expert can say, "These are the things that should be done to best protect her." To respond or whatever is going on. But it requires someone to actually come forward with that question to just say, "Well, what about a fire?" Asking that question is really what gets that sort of preparation in place. And I don't want to be sensational. I just pull that off the top of my head.

Chuck:

No, it's not sensational.

Ken:

I don't want to be dooming and glooming here, but asking the questions is very important. And that's something that anyone can do. You don't have to be an expert to ask those questions. [inaudible 01:47:33].

Chuck:

It's relative. What you're on point is today we have a waste stream tomorrow we have an energy stream. It's just a matter of is the economics there and technology now to change that from the other, and the next great fire, that looks like charcoal to me. It has a price for it. So I'm being somewhat facetious, but it's just a way of looking at the waste streams and can we turn it into a resource stream, if you will.

Ken:

Okay.

Chuck:

But the good thing about the county bringing on experts that... They're knowledgeable on that. If we can help the county, and... And the director is looking at assistant with information to pick the right one, make sure they got economists on board, make sure they got civil engineers on board, make sure they've got... I hate to say this, a geologist on board.

Ken:

Yeah. I'm sorry, Joel, go ahead.

Joel:

Yeah, I just wanted to clarify. We're talking about experts, but I wonder what we're really talking about here, because they were talking about the SMMP process, which is going to come sometime pretty far in the future perhaps, or at least maybe a year in the future or several years in the future before that's resolved. But the capacity issue for the current landfill is something that's going to come up in the, as I understand, in the land use process, which could be in March of this year. So I feel like we can't really defer some of these things out until some other experts come in. We are... For better or worse, we're sort of what we have. And us, the people. Yeah.

Ken:

That's really a good point. Whoops, go ahead.

Chuck:

Well, yes, also, the county's bringing on legal professionals too. So with legal professionals, that brings experts into the field. And at that time, the experts in waste management and sustainable management. So in the introductory letter he put out January 13th, that mix is in there, if you would. It's just a matter of addressing it as occurrences come up. And that's what's hard to forecast right now, what occurrence is going to come first.

Ken:

Yeah. But I'll just refer to an example. And so this is an SMMP example, and of the SMMPs that we looked at of other counties, there was no county that had... Well, I think... I'm not sure if that's exactly true. Of the counties we looked at, I think only Metro had something in there about climate change. I think all the other counties did not actually have anything in their table of contents of their materials management plans having to do with climate change actually being a factor in their waste future. And so there is in the table of contents that our subcommittee put together, but that's because, essentially, there are citizens who are... Us, who insisted that it be there.

So that's the sort of... What we're talking about is bringing forward those ideas. I mean, that's what these subcommittee reports going to the work group and then going on from there really are going to hopefully shape, essentially, who gets calls at the table and what they talk about if and when a new expansion proposal comes forward. So I hope that's helpful in reviewing the landfill size, particularly sections three and four. Any other questions about that? Chuck, did you...

Chuck:

Oh, chair. That's a good point to bring it. It's just a matter of... We're not an oracle of knowledge, but it is to bring in thoughts and perspectives and interpretations of them. And if I don't understand them, that's the reason I send to Daniel, so he does understand. Give us some insight-

Ken:

Good

Chuck:

... insights there.

Ken:

Yeah. Well, I think, Chuck, you and I, we differ about how oracular we are.

Chuck:

Yeah.

Ken:

I mean, this is just a thing. I mean, you like to rely on experts, whereas I like to rely on my own imagination. I feel that I have A-class imagination, I can match with anyone imagination wise, but that's why we get along so well, Chuck.

Chuck:

Yeah, I know, but it's good, as long as... It's good. And Sam does his dues, no matter how bleak the day is, a little humor will bring out the sunshine.

Ken:

Excellent. Okay, so we have 10 minutes left.

Joel:

History hasn't been...

Ken:

I'm sorry, go ahead, Joel.

Joel:

Were we going to talk about the landfill history or the history part of the document, or did I miss that somehow?

Ken:

Let's see. We should do that now. I'm sorry we glossed over that part.

Joel:

Yeah, because I actually have an awful lot of comments on that.

Ken:

Okay, cool.

Joel:

And probably the most important thing is the timeline. And I think... I'll probably just mark that up because it's going to be a lot of detail there. But I think the timeline is really important. This is something that everyone's going to look at. It's a picture, and there are inaccuracies, misstatements, things that are outright wrong, some things that are just kind of silly, suggesting that farming only started in the 1900s, but that's pretty harmless. But saying, for instance, that the 2005 DEQ Record of Decision stated that the

site was in compliance is just actually wrong there. I went through that entire document and there's nowhere in it where it says that the site was in compliance. What it did was lay out conditions to meet compliance, things that VLI would have to do... I think it was VLI or Allied Waste at the time. They would have to, for instance, decommission a well in order to come into compliance.

And they were given a deadline of a year to do that. And they were supposed to put set up monitoring wells. And so that process of compliance is still ongoing, but it's been misrepresented in the timeline and also in the main text. Yeah. Another comment was... To me, there's this an over-emphasis on Soap Creek Valley. I don't even live in Soap Creek Valley, and I'm a neighbor, but there's this Soap Creek Valley here and Soap Creek Valley there, and it makes it seem like the only people who actually live anywhere near the landfill are in Soap Creek Valley. And I thought we sort of tried to cover that in the neighborhood tour. We made a point of going over towards North Albany, looking at Palestine, all the houses up in the hills there. We didn't manage to get to Suver, to the north of us, and we didn't get to Lewisburg, we drove past it.

But there's a lot of... I think it's 10% of the population of Benton County lives within this more or less five mile radius where they're in the view shed, they're in the odor shed, they're in the litter shed, if we could come up with coin terms. And there's no mention of that in the document. It says there's Soap Creek Valley people, and then there's farmland, and E.E. Wilson. So that's kind of a major overarching point and I think it... And where it becomes important is that it's been stated that Soap Creek people are just being NIMBYs, but there's a lot more people that have this in their backyard. So it is actually a pretty important point.

Ken:

No, I... Yeah.

Joel:

Sorry [inaudible 01:56:31]. I shouldn't rant too much. So yeah, if there's any feedback on those things, I do have more things to...

Ken:

Well, I certainly appreciate that. I wasn't really paying very much attention when the history part came together. I was more focused on the future end. So those points all seem really good to me. So Marge, and then Chuck.

Marge:

Yeah, Joel, I think that that's a really good point. And I wish you brought it up earlier so that we could have addressed it because I can see now that there has been an emphasis on Soap Creek Valley in the document, partly because there's so much information available because of Zybak's work. And I think that that is how we got sidetracked to Soap Creek Valley is because there's such an excellent stream of information about that area. But it is a wider area. And as you point out, the whole corridor... I mean, there are people in Polk County who are affected. There are people in North Albany who can see the landfill from the Albany Road. So yeah. And now what I do want to say though is that the Soap Creek area, I think what we were trying to do there, that is all very early in the history... We're not talking about Soap Creek Valley Valley in 1983 or in 2000. We're talking about it in the 1800s and the early 1900s because that is the area that Coffin Butte exists then, right? I mean...

Joel:

Yeah, it's one side of it. I appreciate... What I'll do is I'll send in comments and hopefully there's still time to fix things. And I think really the important document that... Unfortunately, it wasn't documented very well, the neighborhood tour, there were some notes taken by ICM staff, and I'll have comments on those too. They didn't really accurately capture what we did, where we went, what we talked about. And that was really... It was a meeting, actually, of the working group, and what went on in the work group in the neighborhood tour, a big part of that never really came into this document. So I'll have some input on that. But it was part of the process and it should be represented, and I'll try to give you some constructive words on that. Yeah, and there's some things missing. There's a couple of leachate incidents that are left out of the timeline.

There was a 1996 issue where they had to dump 3 million gallons into the river directly. There was a 2000 incident that shows up in the monitoring reports, still being detected and monitoring Well 23. These things, I don't know if they ever came up, they were events in the landfill operation that show there have been some problems. And also, there was the issue of the Helms Well being decommissioned was taken out somehow that was in there in one draft.

Marge:

No, it's back in the draft... It's back in. It's not in the timeline because the timeline is kind of upleveled. I mean, I see that what is in the timeline is that Allied Waste purchases the landfill from the Bun Brothers. I mean, we've got, what, 36... Oh, well, the Ginger has a comment. She hasn't said anything yet, so I'd yield to Ginger.

Ken:

It's got to be brief though, we only have four minutes left. Ginger, go ahead.

Ginger:

Yeah, I'll be really, really fast. I don't want to interject too much into this meeting because I know this is your purview, but I just wanted to convey to Joel that part of the weakness of this process is that what you're seeing is old already in that Marge and Mark Henkels and I have already gone back and done revisions on the history that have not yet been provided to SWAC. And so I feel like, especially when we're talking about the Helms Well, for example, Marge provided me with some additional information. And so that did end up back into the text as well as the leachate issues that you were talking about. And so just to try to clarify that and keep it in mind that that document is still evolving and that some of the points you're bringing up are being addressed because Marge and Mark have already brought them to our attention. So that's all I want to say.

Joel:

Okay. Is there... Thanks, Ginger. Yeah. Is there something more recent that... I mean, I have until tomorrow. I'm leaving for a couple memorial services over the weekend, but if there's something that I could see tomorrow that would help me to be more efficient in my comments.

Ken:

So I'm just going to... To me, that's like crazy making. We have been really tasked with responding to draft three, and so we should respond to draft three. Even if those comments... If those comments have indeed been taken care of in future iterations, then I think that's all good. But to hold anything back and

try to check more recent... Believe me, that's just a paper chase that you'll never get out of. So our charter is really to respond to this draft that's been put forward. And so I would really just want us to focus on that. So, Chuck, I know you've been having your hand up there, but it's got to be quick because we only have two minutes left.

Chuck:

No, I just-

Ken:

[inaudible 02:03:06] things to

Chuck:

Say. Yeah, I just want to thank Marge and everybody on that history thing. And what I really appreciate is learning about Greenbury who actually burnt the town down. And on the... Conversely, speaking south of Corvallis, there's a siding there, that's Greenbury, and that's been there for quite a while, and they only name a siding from Southern Pacific after somebody who was shipped a lot and he cut down the forest to ship out. So there's irony in that if you read into it, and I really appreciate what they're saying because it brought a chuckle out.

Ken:

Okay. Cool. All right. Well, it's time for us to wrap up, you guys. Thank you so much. It's been a great conversation. Again, please go back to the document, kind of knowing what we do know now, and get your comments down in writing. So you might want to have... So having page numbers for the comments that you put in, when you're on a certain page, to note that page is really going to make my job a lot easier. And I really encourage you to submit the comments, kind of of all kinds that are going to be helpful, you think to the people who... For the work group, and then going back to the subcommittees in terms of tightening up their product. And I can just speak from my own experience that being on a subcommittee, you really lose the perspective of how it looks from outside.

And so for comments to be something like, "This is really tight, this is really good." That's a good thing for people to hear. That'd be a good thing for me to hear. But also the comments just like going, "This is impenetrable." Or whatever. I mean, that sort of very general sort of comments, I think, would be helpful. And again, we are kind of the public representative, so if you think about interested public people coming to this document, they're kind of relying on us to give a pushback for them. But also, those specific comments, like the ones that you were just describing, Joel, those are even more valuable, right? Because we want things to be factually accurate. So last statements by anyone. Yeah, Joel?

Joel:

Yeah, I just wanted to say I did appreciate all the work that, Marge, she put into the history document, but I just-

Marge:

Well, and Mark Henkels.

Joel:

Yeah. And Mark. Yeah. Yeah. I don't want to be too negative. I just... These were just some things that popped up for me, but I'll try to be helpful and constructive.

Marge:

Okay. Now Darren Nichols has his hand up.

Ken:

Oh, thank you. Yes, Darren.

Darren Nichols:

Hey, good evening, Mr. Chair. Thank you for the robust discussion and the feedback. I appreciate it. I'm sorry you can't see my cameras, it doesn't seem to be working. But I just wanted to double check the process whereby SWAC members will send their comments to you. I thought I heard early on that you were asking for them to send them to you privately. And I just want to remind SWAC that any writings that members make that are leading towards a decision by the body are public record and must be disclosed publicly. So otherwise, SWAC is having, essentially, a serial meeting that's outside the public view. If we can help find a way for that process to happen, I'd like to just make sure we protect the integrity of SWAC's feedback into the Benton County talks trash.

Ken:

Okay, great. Yes. So Daniel had... He read us that right act a little earlier in the program, so we have heard that. But we'll emphasize again, so CC... The comments do come to me because I am compiling them. But you should CC the trash talk and work group. Yeah.

Darren Nichols:

Thank you. Yeah, thank you for that. I just want to remind the members that we're trying to protect the deliberations here for so they're valid and not subject to attack later.

Ken:

Sure. Yes. Yeah. Thank you very much for-

Darren Nichols:

Okay. And thank you.

Ken:

... bring that up again.

Darren Nichols:

Thank you for the discussion.

Ken:

Yep. Okay members, thank you so much. It was very good to hear from all of you, and your engagement is very inspiring.

Joel:

Yeah. Yeah. Thank you, Ken. And Mark's gone, but [inaudible 02:08:04], I guess.

Ken:

Yes. Quite the trooper for us.

Chuck:

Yeah, chair. I just glad to see that Ginger is back up and going. I know she had a battle with COVID there, but it's good that she's up and going, so appreciate that.

Ginger:

[inaudible 02:08:28]. I [inaudible 02:08:29] Mark and if Joel's getting the funk too, I hope everybody's back to full speed our next meetings. So...

Ken:

For me, it's just a cold, I think. It's... Or a bit of rain. Yeah.

Ginger:

Yeah. You've already had it, haven't you, Joel?

Ken:

Yeah. Yeah, a couple times.

Ginger:

That's what I thought.

Ken:

Yeah.

Ginger:

So, all right. Have a good night everybody. Thanks.

Ken:

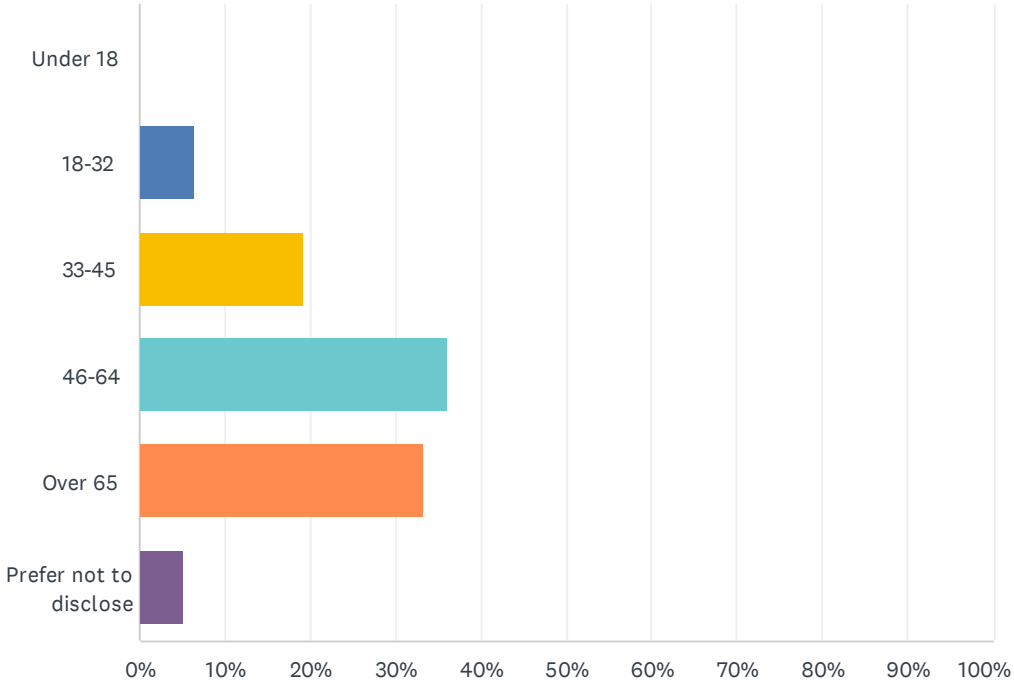
Yes, indeed. Good night everyone. Thank you. All the public out there participating, we appreciate you tuning in with us. [inaudible 02:09:03].

PART 4 OF 4 ENDS [02:09:09]

Appendix E. Public Survey Results

Q1 What is your age range?

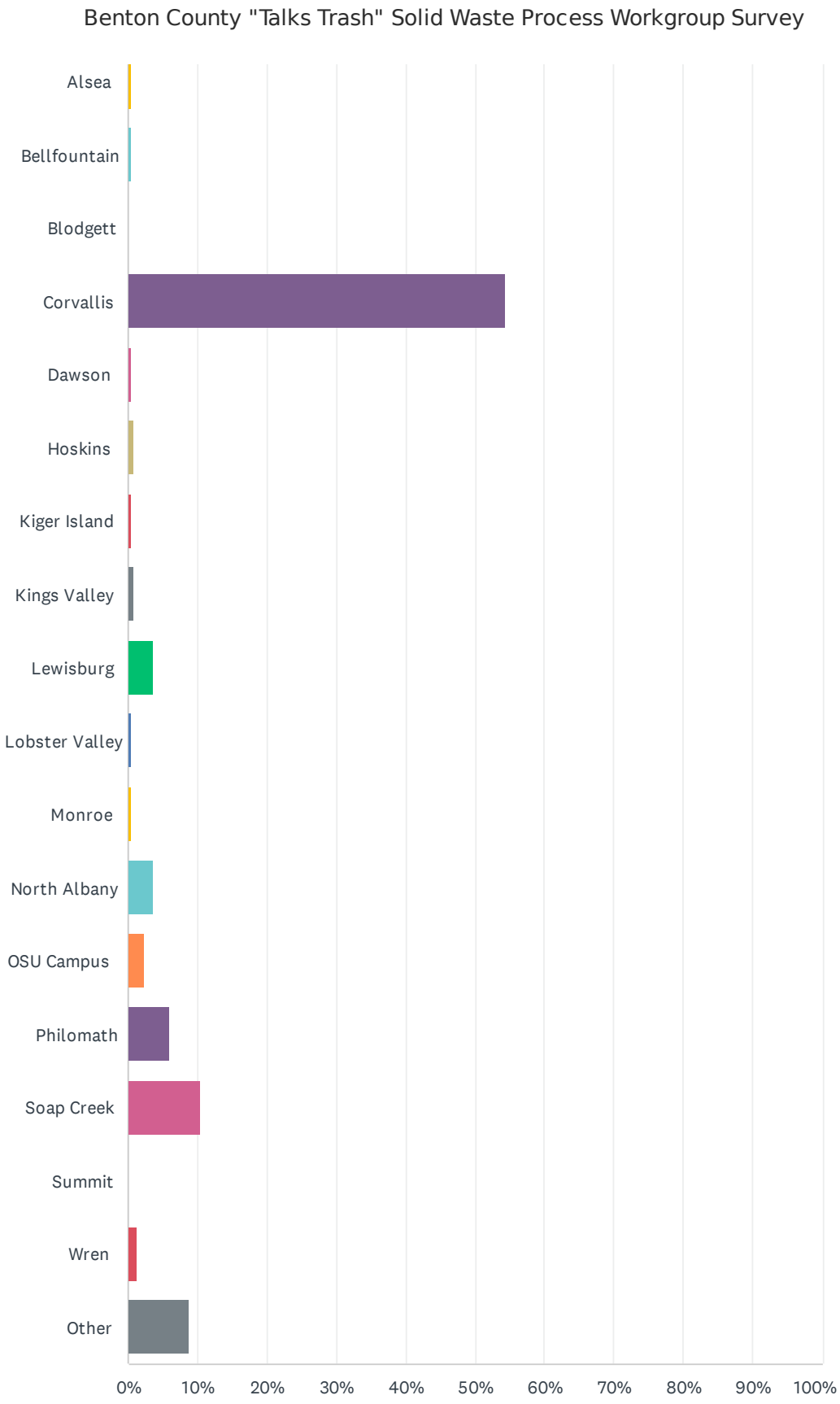
Answered: 219 Skipped: 0



ANSWER CHOICES	RESPONSES	
Under 18	0.00%	0
18-32	6.39%	14
33-45	19.18%	42
46-64	36.07%	79
Over 65	33.33%	73
Prefer not to disclose	5.02%	11
TOTAL		219

Q2 In which community or area of Benton County do you live? (Check one)

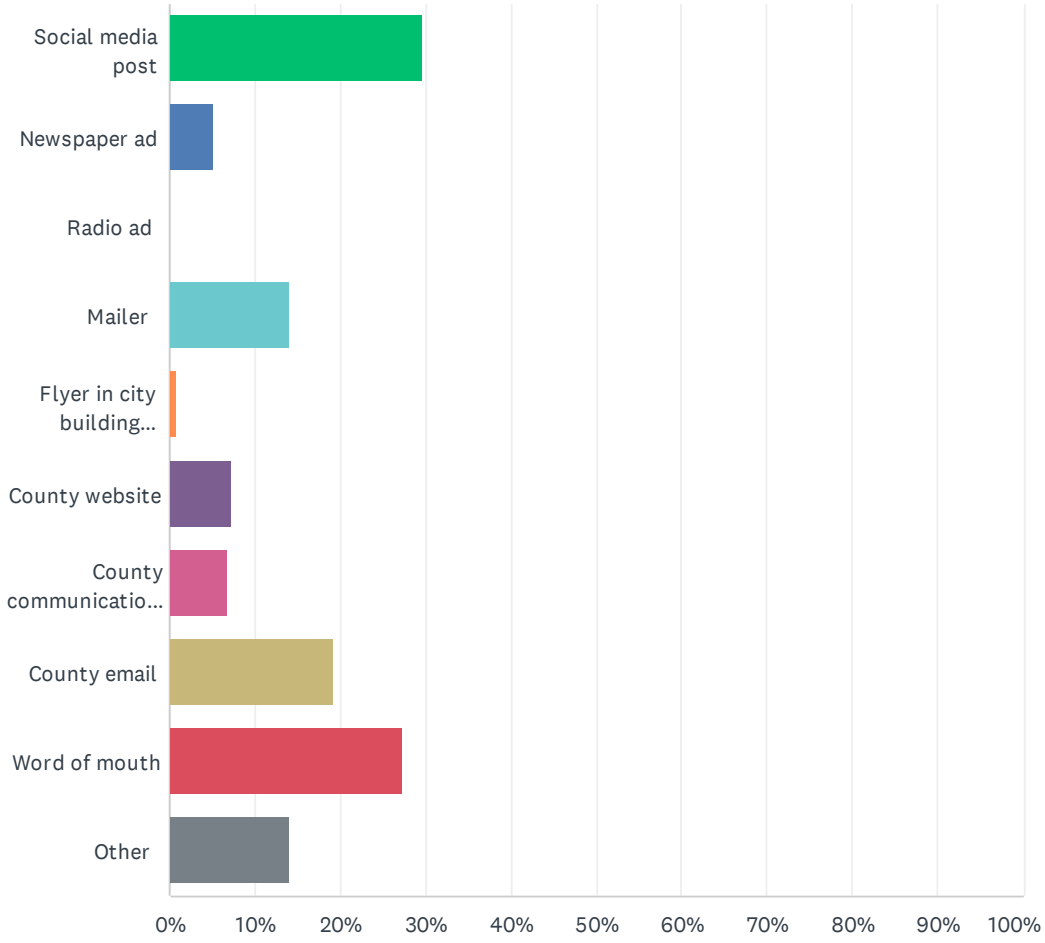
Answered: 219 Skipped: 0


Benton County "Talks Trash" Solid Waste Process Workgroup Survey
Alsea
Bellfountain
Blodgett
Corvallis
Dawson
Hoskins
Kiger Island
Kings Valley
Lewisburg
Lobster Valley
Monroe
North Albany
OSU Campus
Philomath
Soap Creek
Summit
Wren
Other
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%

ANSWER CHOICES	RESPONSES	
Adair	4.57%	10
Alpine	0.46%	1
Alsea	0.46%	1
Bellfountain	0.46%	1
Blodgett	0.00%	0
Corvallis	54.34%	119
Dawson	0.46%	1
Hoskins	0.91%	2
Kiger Island	0.46%	1
Kings Valley	0.91%	2
Lewisburg	3.65%	8
Lobster Valley	0.46%	1
Monroe	0.46%	1
North Albany	3.65%	8
OSU Campus	2.28%	5
Philomath	5.94%	13
Soap Creek	10.50%	23
Summit	0.00%	0
Wren	1.37%	3
Other	8.68%	19
TOTAL		219

Q3 How did you learn about this survey? (Check all that apply)

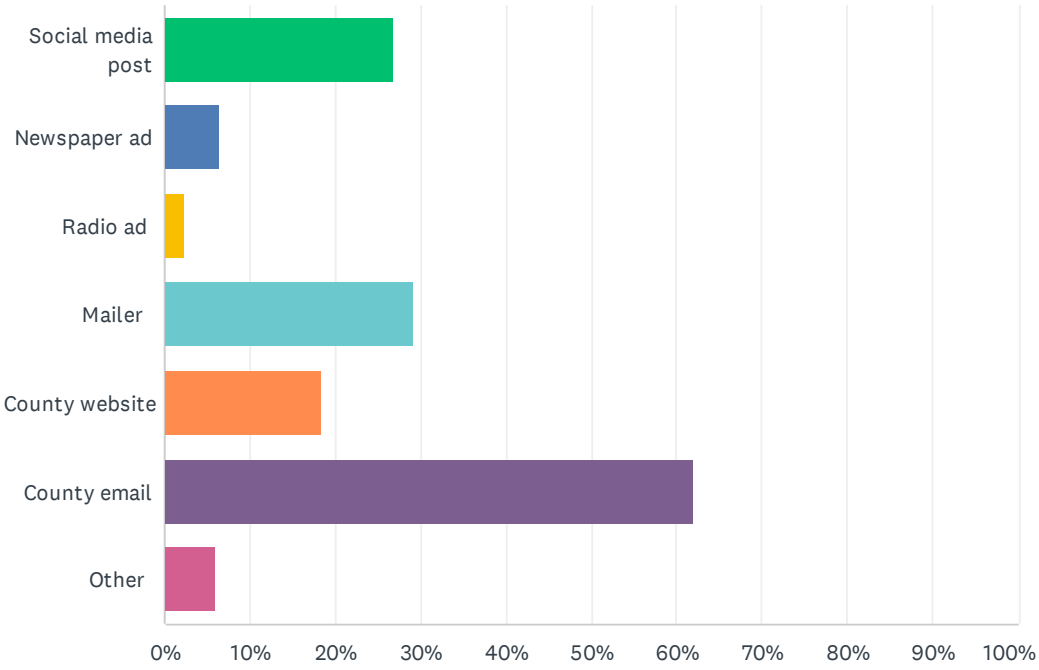
Answered: 219 Skipped: 0



ANSWER CHOICES	RESPONSES	
Social media post	29.68%	65
Newspaper ad	5.02%	11
Radio ad	0.00%	0
Mailer	14.16%	31
Flyer in city building (library, etc.)	0.91%	2
County website	7.31%	16
County communication for something else I am involved in	6.85%	15
County email	19.18%	42
Word of mouth	27.40%	60
Other	14.16%	31
Total Respondents: 219		

Q4 What is your preferred method of communication from the County? (Check all that apply)

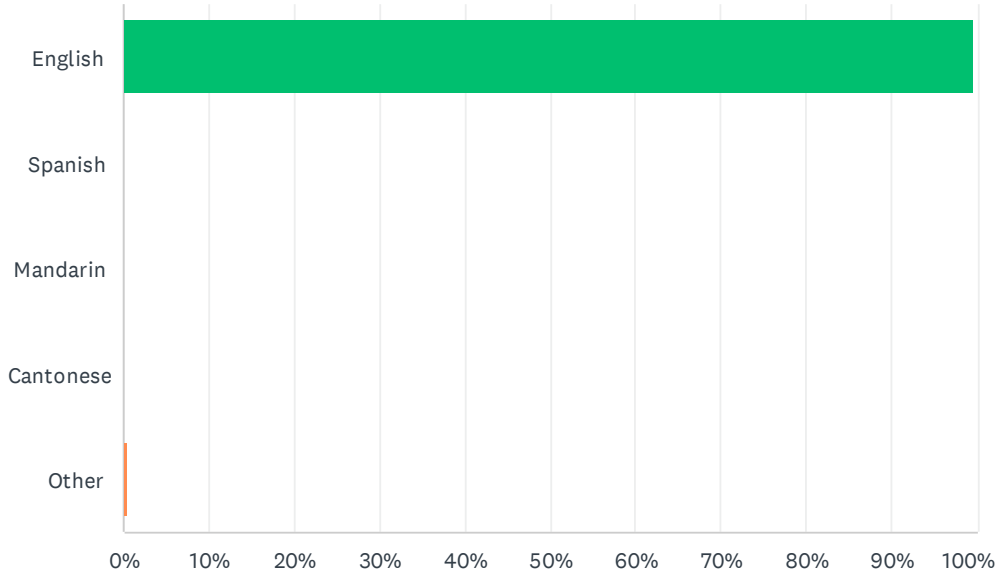
Answered: 219 Skipped: 0



ANSWER CHOICES	RESPONSES	
Social media post	26.94%	59
Newspaper ad	6.39%	14
Radio ad	2.28%	5
Mailer	29.22%	64
County website	18.26%	40
County email	62.10%	136
Other	5.94%	13
Total Respondents: 219		

Q5 What language do you prefer to receive County communications?

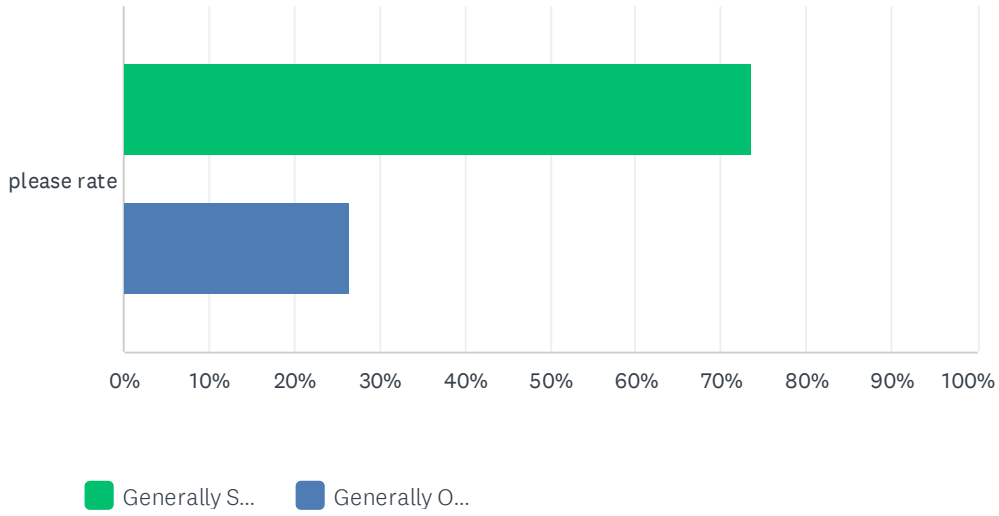
Answered: 219 Skipped: 0



ANSWER CHOICES	RESPONSES	
English	99.54%	218
Spanish	0.00%	0
Mandarin	0.00%	0
Cantonese	0.00%	0
Other	0.46%	1
TOTAL		219

Q6 SMMP Recommendation 1 A Benton County SMMP should be developed within a Sustainable Materials Management framework, reflecting full lifecycle impacts. The development of a SMMP should consider:1) the 2040 Thriving Community Initiatives and our communities' Core Values, 2) national, state and local goals, vision documents (The Dept. of Environmental Quality's (DEQ's) Materials Management in Oregon 2020 Framework for Action), plans, policies, ordinances, etc. relating to materials management and climate change, 3) examples of values and goals expressed in state and local jurisdiction materials management plans, and 4) long-term strategies (to 2040) with short-term action items (5 years or less).

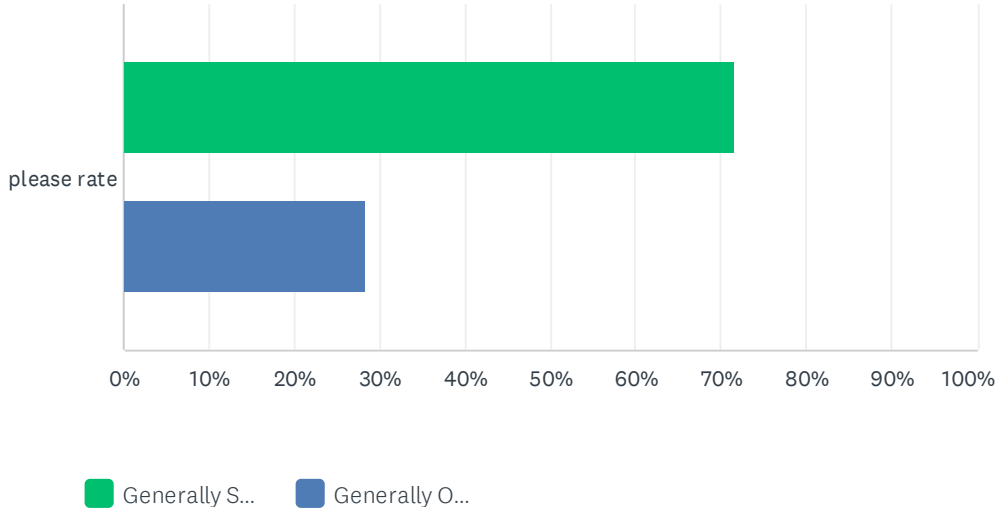
Answered: 132 Skipped: 87



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	73.48% 97	26.52% 35	132	1.27

Q7 SMMP Recommendation 2 Benton County (County) should use the 2040 Thriving Community Initiatives as a high-level lens to frame our communities' Core Values in developing the SMMP.

Answered: 127 Skipped: 92

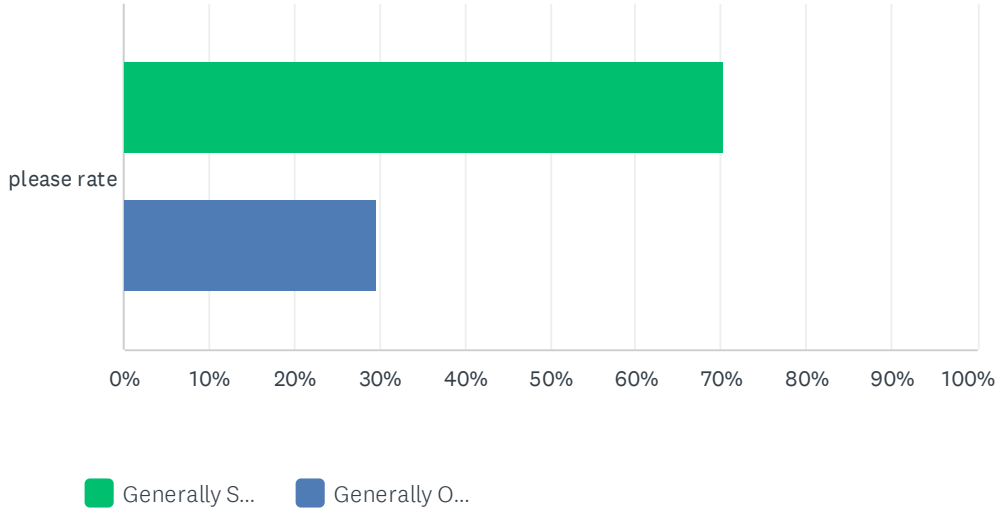


	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	71.65% 91	28.35% 36	127	1.28

Q8 SMMP Recommendation 3 The SMMP should not just be about how the County can better manage materials, but to also address how to

approach inter-county collaboration from a regional perspective. The request for proposal (RFP) should indicate the need for researching and exploring opportunities for a regional multi-county approach to achieve the goals of sustainable materials management. RFP firms with experience with Oregon's materials management legislation, policies and other county materials management plans may have the capability to address this need.

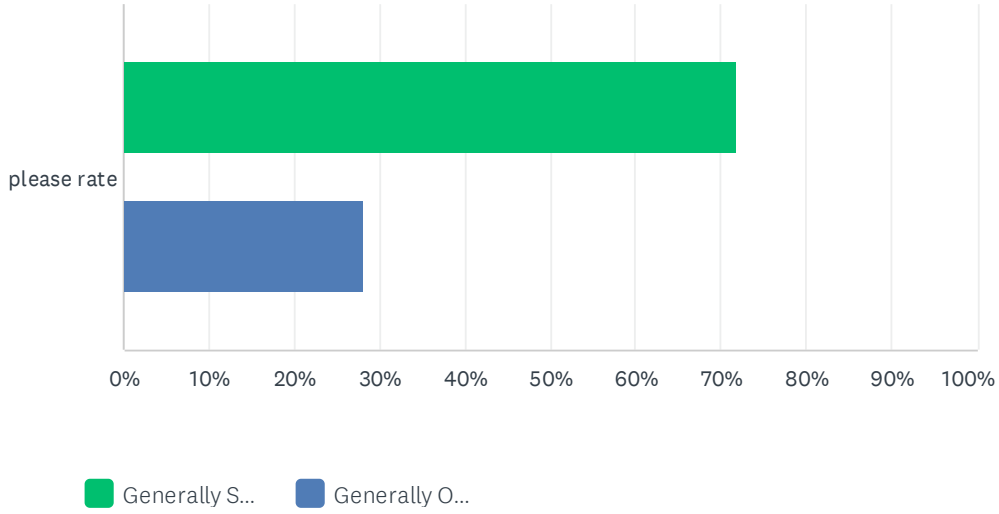
Answered: 128 Skipped: 91



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	70.31% 90	29.69% 38	128	1.30

Q9 SMMP Recommendation 4 Counties impacting Benton County through their materials management practices (including by contributing materials to Coffin Butte Landfill) should have an SMMP in place. The SMMP should have a perspective on how to strategize this.

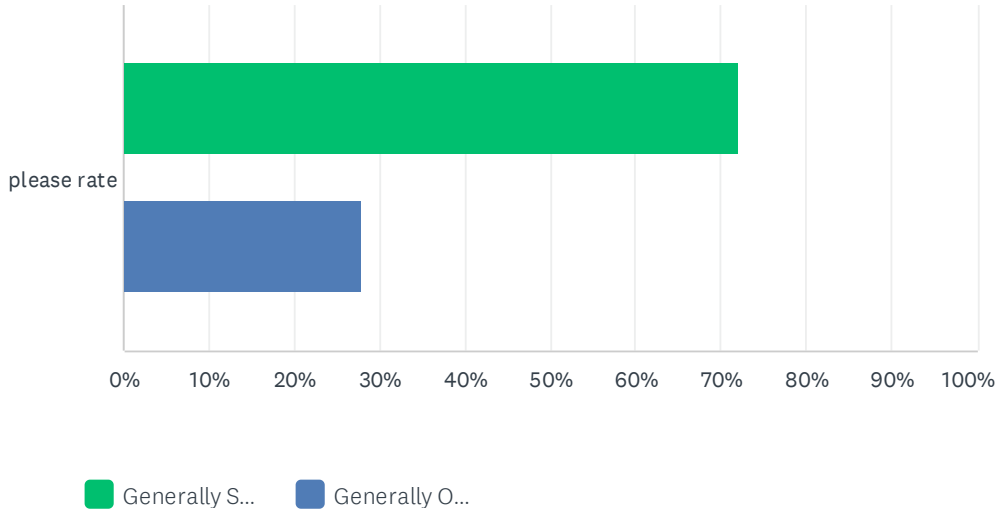
Answered: 128 Skipped: 91



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	71.88% 92	28.13% 36	128	1.28

Q10 SMMP Recommendation 5 SMMP content should incorporate the sustainability of materials management strategies/tactics. The result of the process should give us a method of measuring costs and benefits to evaluate the impact on economic, social, and environmental indicators. Specific goals should be included of how materials in the County can fit within a circular economy, cradle-to-cradle, or similar framework.

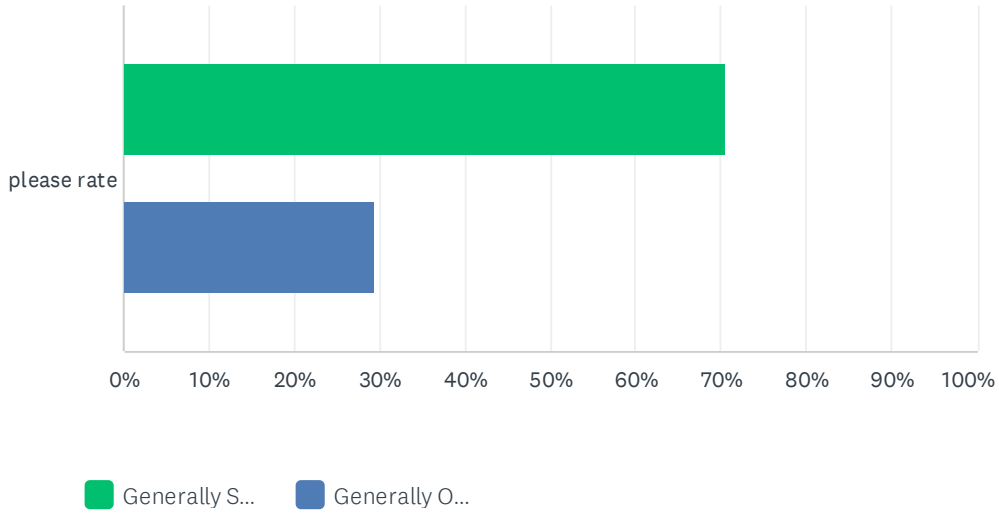
Answered: 125 Skipped: 94



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	72.00% 90	28.00% 35	125	1.28

Q11 SMMP Recommendation 6 The SMMP should clarify Benefit-Cost perspectives being addressed through an equity analysis, including:1) financial cost impacts associated with materials management and outcomes, 2) the equity of circular economy, how it engages and impacts consumers, 3) a perspective that goes beyond landfilling, and 4) a “who’s at the table” list of stakeholder perspectives.

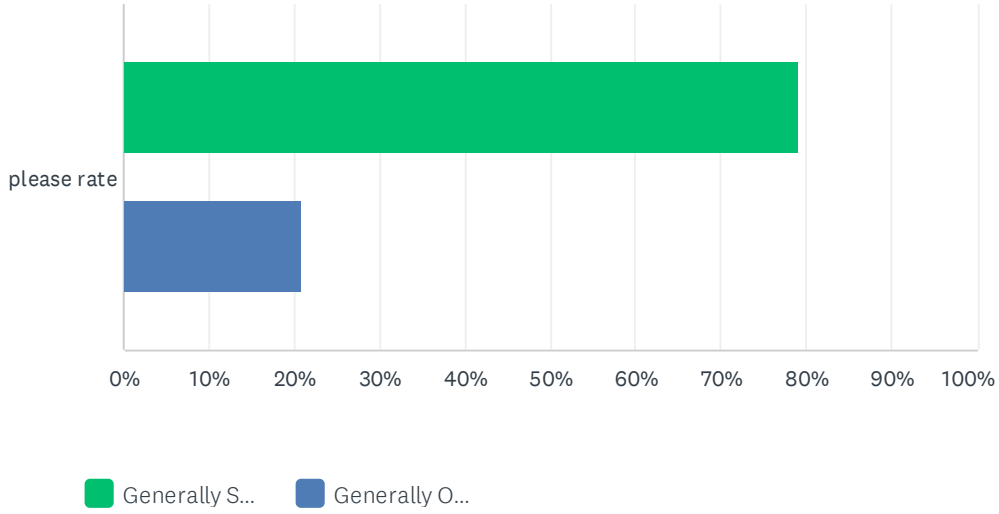
Answered: 126 Skipped: 93



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	70.63% 89	29.37% 37	126	1.29

Q12 SMMP Recommendation 7 Bring “lessons learned” into the process from other sources, including international examples as well as other counties, lessons from past Benton County experiences, and West Coast states.

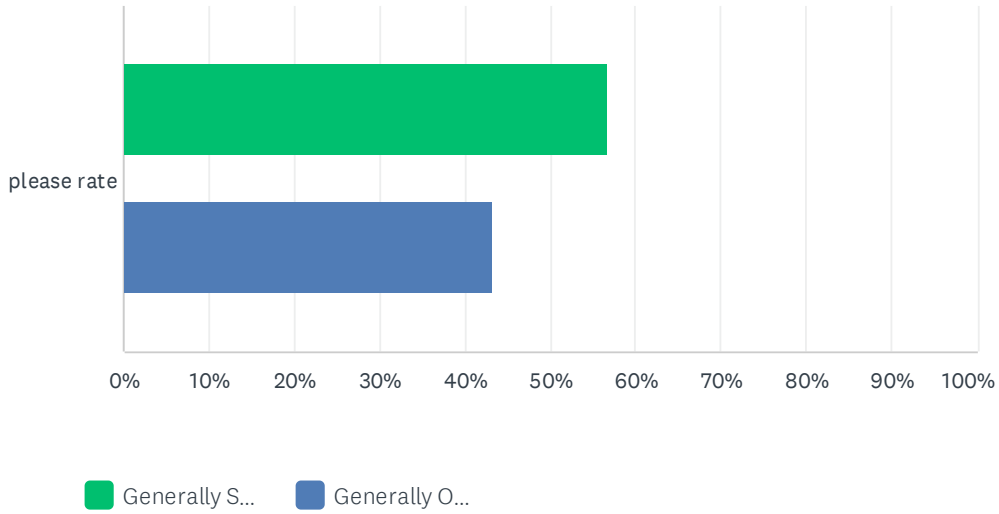
Answered: 124 Skipped: 95



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	79.03% 98	20.97% 26	124	1.21

Q13 SMMP Recommendation 8 Beyond those in the County, a wide assortment of stakeholders should be brought to the table. Stakeholders include community members, advocacy groups, businesses and industry, local and state government, and resources for innovation. The consultant should provide recommendations based on analysis and extensive outreach and engagement with community stakeholders from the “who should be at the table” list. These stakeholders should represent a broader area than Benton County.

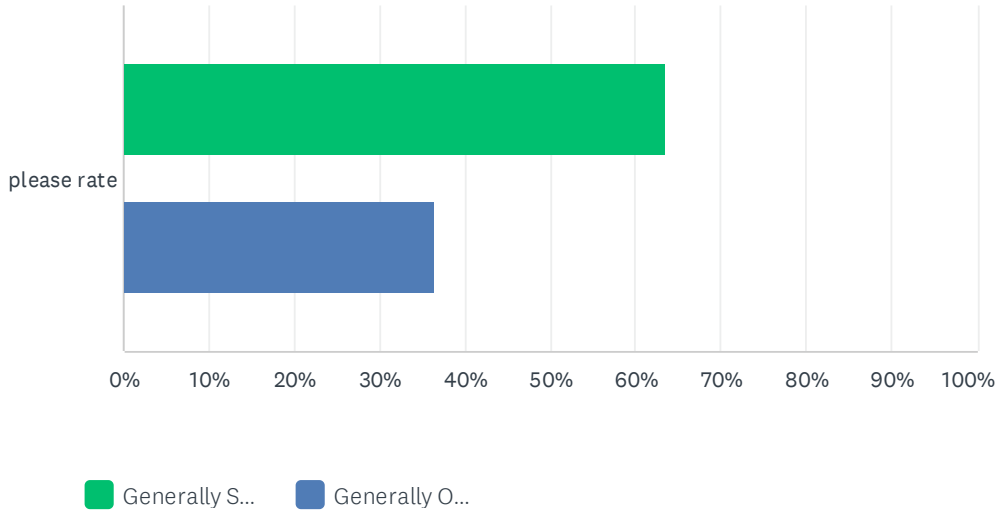
Answered: 120 Skipped: 99



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	56.67% 68	43.33% 52	120	1.43

Q14 SMMP Recommendation 9 The County should use an RFP to find consultant(s) for developing a SMMP.

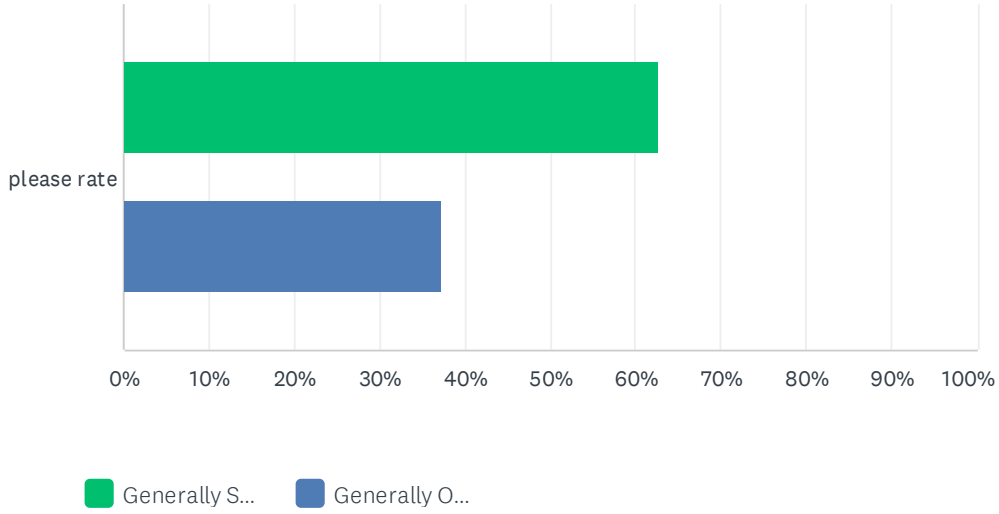
Answered: 115 Skipped: 104



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	63.48% 73	36.52% 42	115	1.37

Q15 SMMP Recommendation 10 The SMMP subcommittee researched other jurisdiction's plans, compared and aggregated a list of subjects, and the SMMP should evaluate and address the subjects listed in the full subcommittee report, answering the 117 questions listed as RFP priorities allow, and include recommended courses of action.

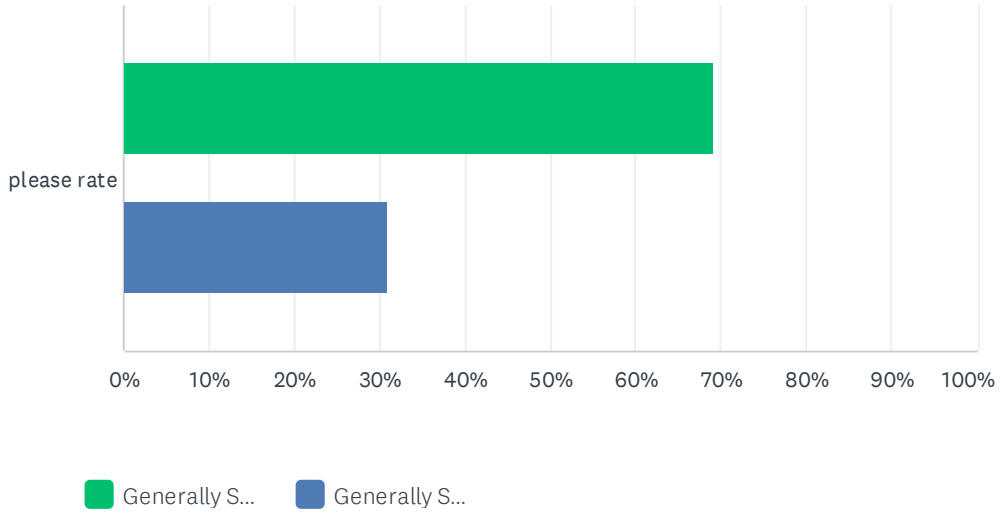
Answered: 110 Skipped: 109



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	62.73% 69	37.27% 41	110	1.37

Q16 SMMP Recommendation 11 Recruitment for the RFP needs to be extensive, and selection of successful proposal should be careful and thorough. Qualities of a successful applicant should include those listed in the full subcommittee report.

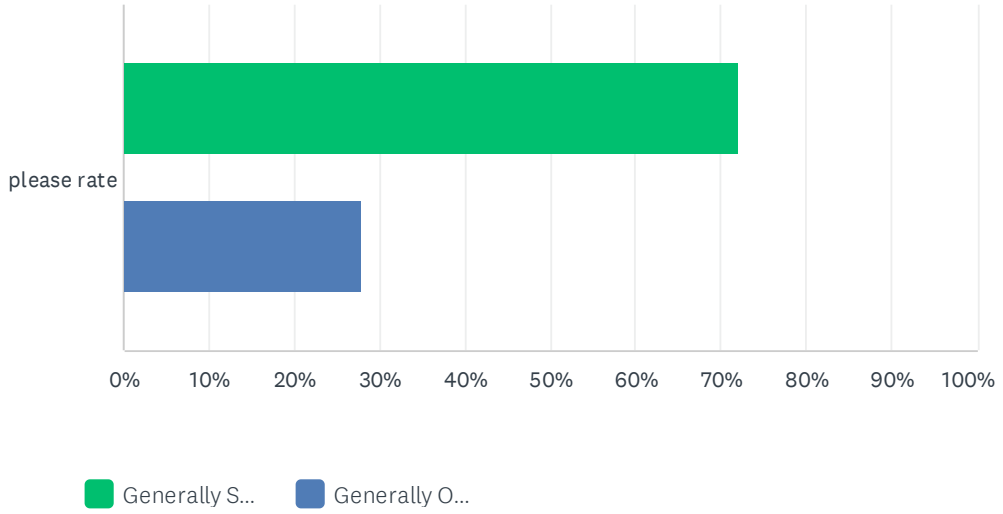
Answered: 110 Skipped: 109



	GENERALLY SUPPORT	GENERALLY SUPPORT	TOTAL	WEIGHTED AVERAGE
please rate	69.09% 76	30.91% 34	110	1.31

Q17 SMMP Recommendation 12 The scope of work for this project is expected to be broad and comprehensive, with specific goals recommended for the County to consider as milestones.

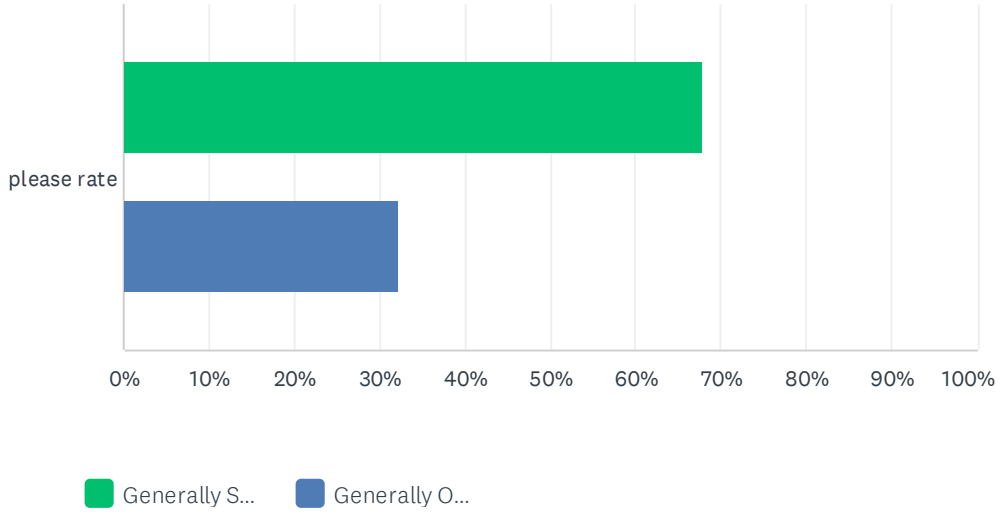
Answered: 122 Skipped: 97



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	72.13% 88	27.87% 34	122	1.28

Q18 SMMP Recommendation 13 The RFP development process should: 1) provide details about the Workgroup process and its findings to RFP applicants, 2) prioritize topics, adding additional topics that are important to consider, and 3) communicate accurate priorities to applicants.

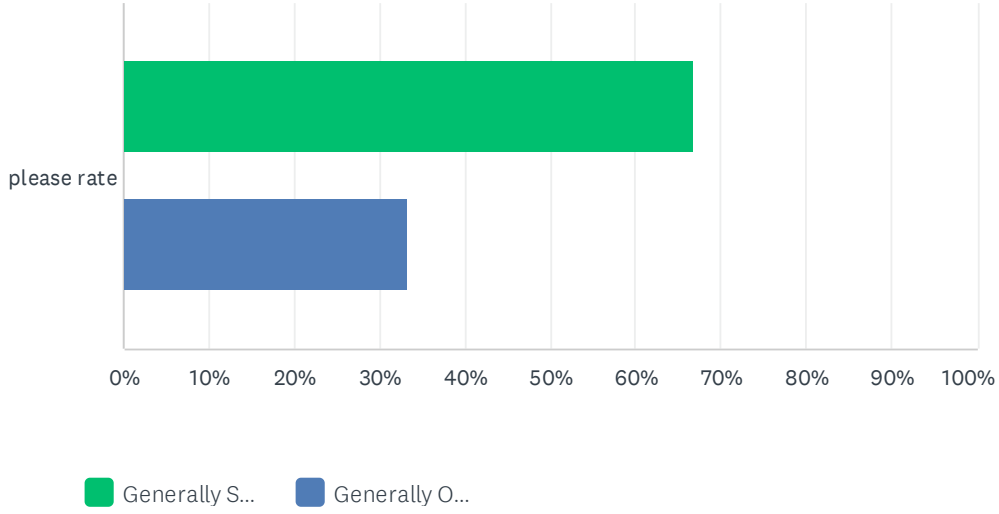
Answered: 115 Skipped: 104



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	67.83% 78	32.17% 37	115	1.32

Q19 SMMP Recommendation 14 Members of this Benton County "Talks Trash" (BCTT) SMMP subcommittee should be offered to participate in subsequent stakeholder group meetings for RFP development and review. The County's Advisory Committees related to SMMP work should have an advisory role during the development of the plan.

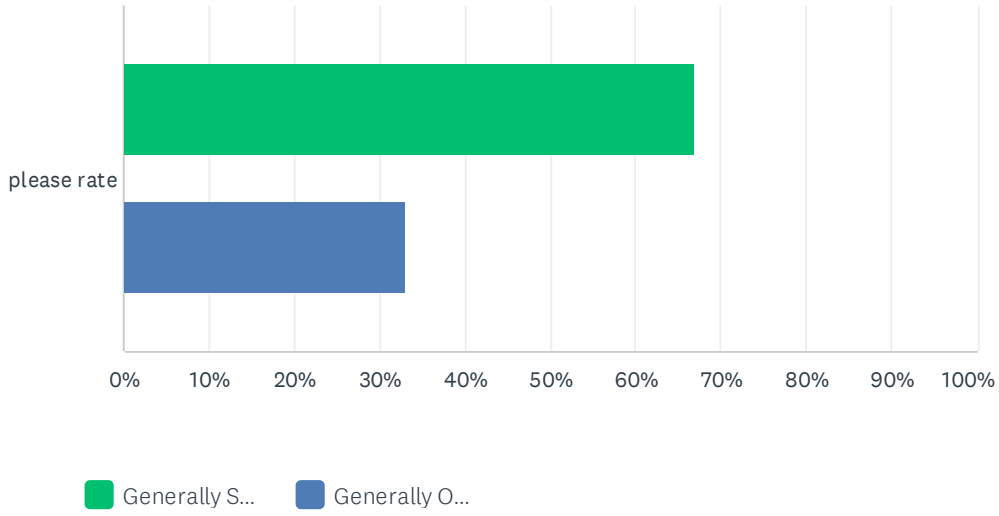
Answered: 120 Skipped: 99



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	66.67% 80	33.33% 40	120	1.33

Q20 SMMP Recommendation 15 The RFP Release/Announcement should:1) communicate an expectation that this plan can be approached by teams (multiple firms), instead of just single firms, 2) put guidelines on the size/length of proposals and sections of proposals, and 3) be distributed to allow enough time for it to be posted to various trade groups, shared with underrepresented groups, and internationally minded outlets.

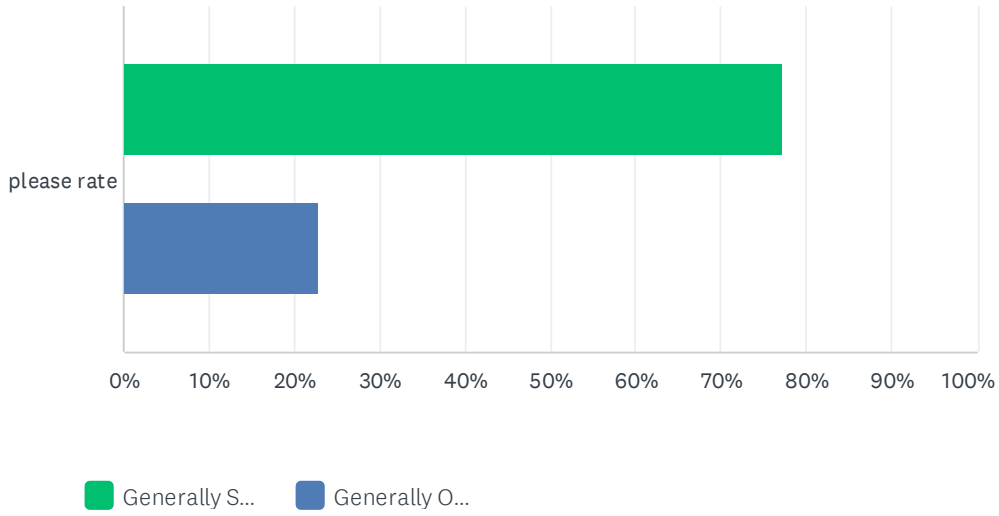
Answered: 118 Skipped: 101



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	66.95% 79	33.05% 39	118	1.33

Q21 SMMP Recommendation 16 The County should share the various steps of the process with the public, making updates available, and demonstrating transparency.

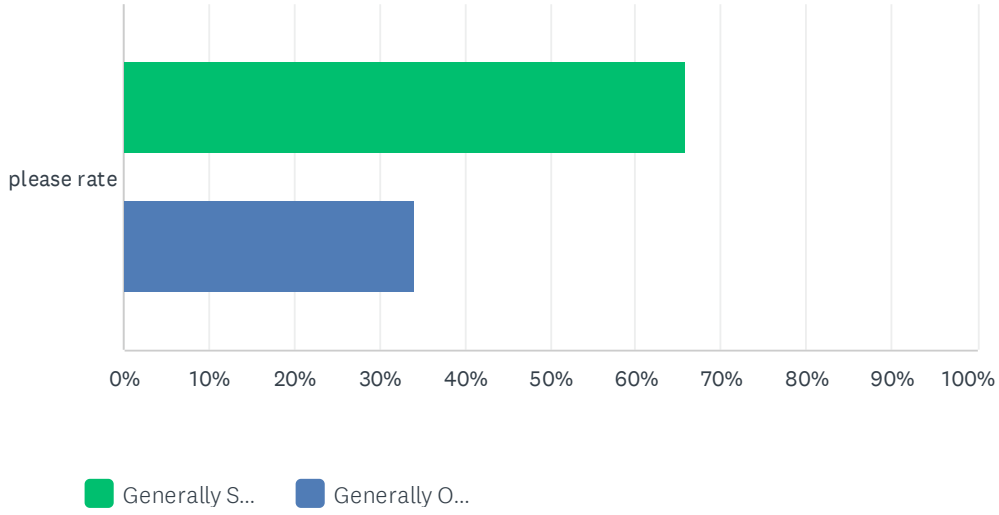
Answered: 127 Skipped: 92



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	77.17% 98	22.83% 29	127	1.23

Q22 SMMP Recommendation 17 The RFP should demonstrate flexibility in allowing further work plan development after applications are reviewed and accepted.

Answered: 117 Skipped: 102

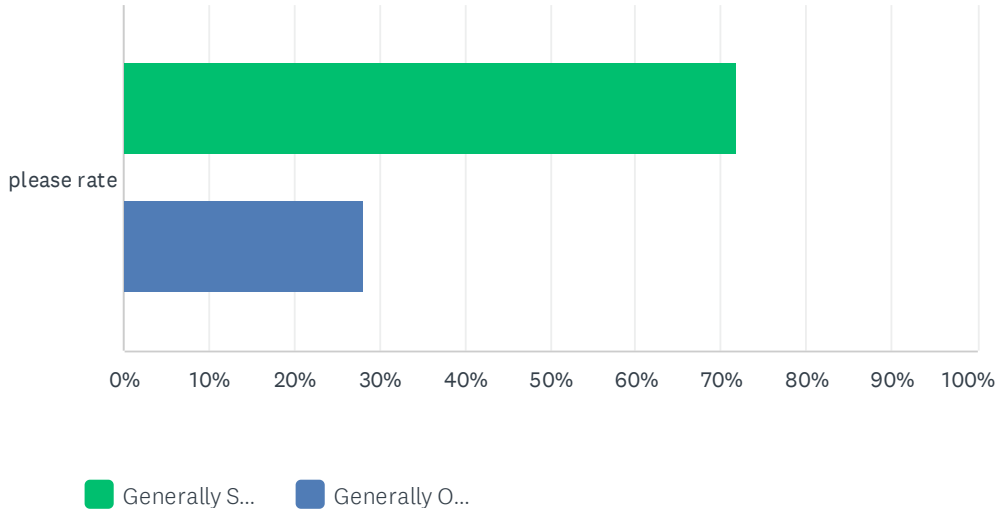


	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	65.81% 77	34.19% 40	117	1.34

Q23 SMMP Recommendation 18 The SMMP timeline should allow for extensive public interaction and engagement. In order to expedite the

process, procedural elements should be done concurrently as possible. The timeline should generally be defined throughout the process.

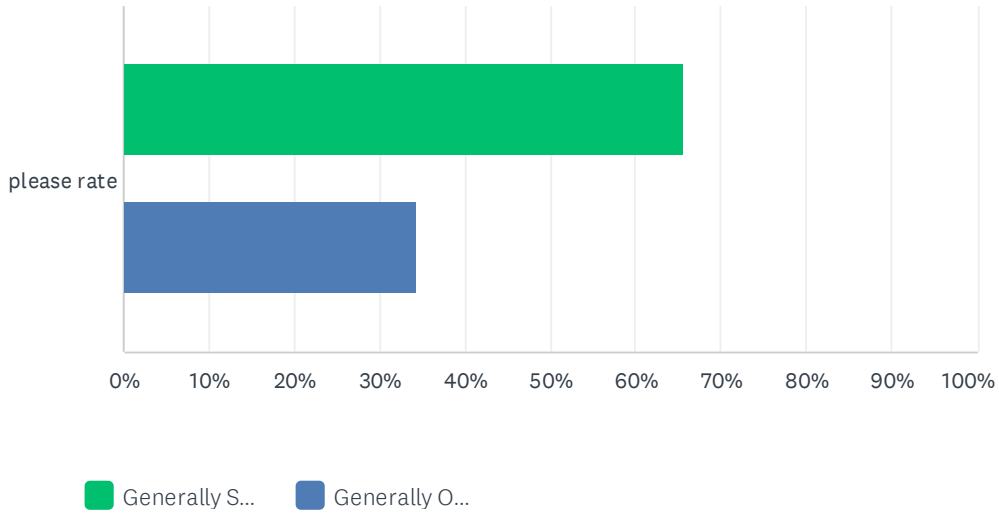
Answered: 121 Skipped: 98



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	71.90% 87	28.10% 34	121	1.28

Q24 SMMP Recommendation 19 Applicants should include various scope/cost options for one year, two years, and three-year timelines. The report should be released in sections, based on timeline and content priorities.

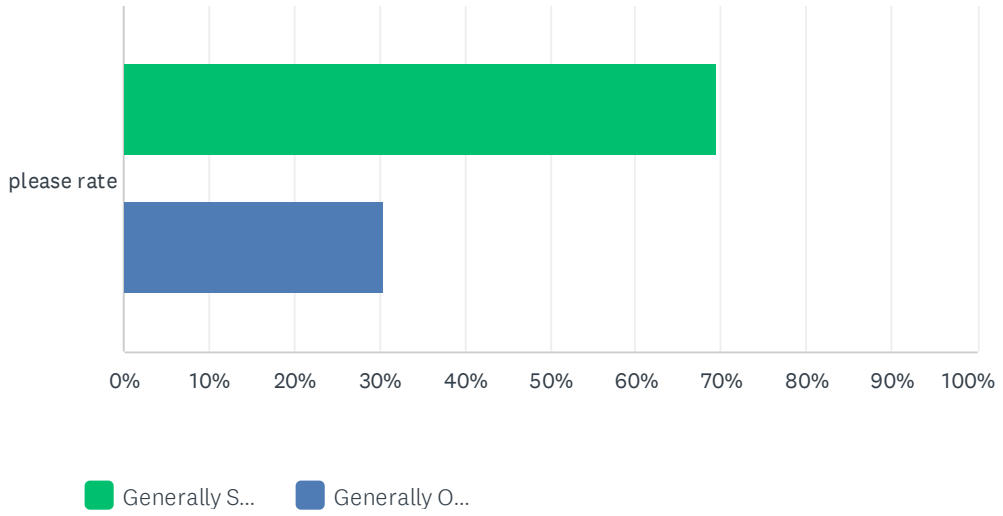
Answered: 111 Skipped: 108



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	65.77% 73	34.23% 38	111	1.34

Q25 SMMP Recommendation 20 It's important that the SMMP process include extensive public outreach and engagement. In addition, a Technical Advisory Committee (TAC) should vet the consultant's technical work (SMMP development) and a Community Advisory Committee (CAC) to provide more general review. SMMP subcommittee members should be included in the CAC. The TAC should include subject matter experts from Oregon State University, and other regional academic institutions. Many of the subject areas of central importance to the SMMP are characterized by fast-moving science, and a TAC could help the SMMP consultant to navigate to the best available data and knowledge.

Answered: 118 Skipped: 101

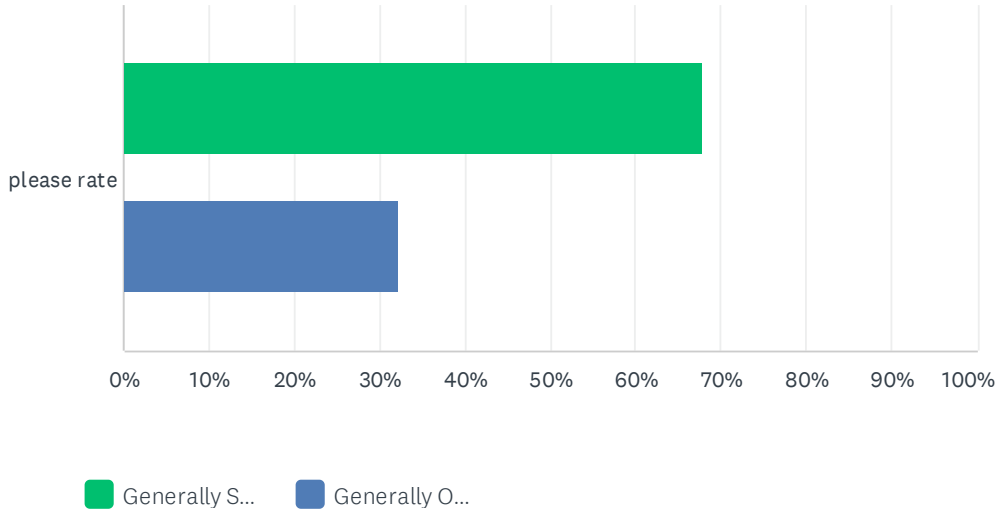


	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	69.49% 82	30.51% 36	118	1.31

Q26 SMMP Recommendation 21 Proposals contain the following information, with parameters around each of these items in terms of document length. Requested information includes project team experience and qualifications, understanding of the project, approach to the scope of work, cost of the proposal, the project schedule, social/environmental

responsibility, and references. Each criteria includes a total set of points the proposal can be awarded.

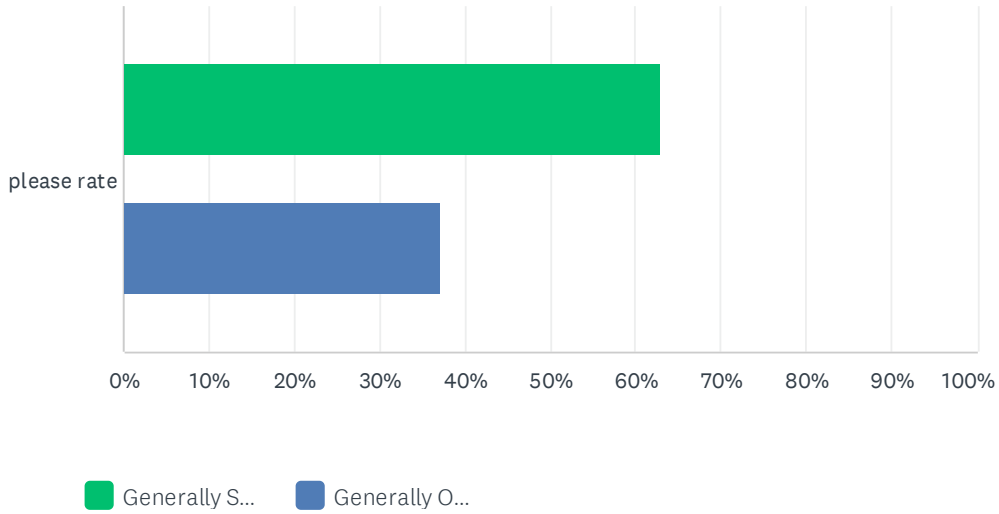
Answered: 112 Skipped: 107



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	67.86% 76	32.14% 36	112	1.32

Q27 SMMP Recommendation 22 An evaluation team consisting of County staff and members of the stakeholder group should determine the best proposal deemed most qualified based on the above criteria.

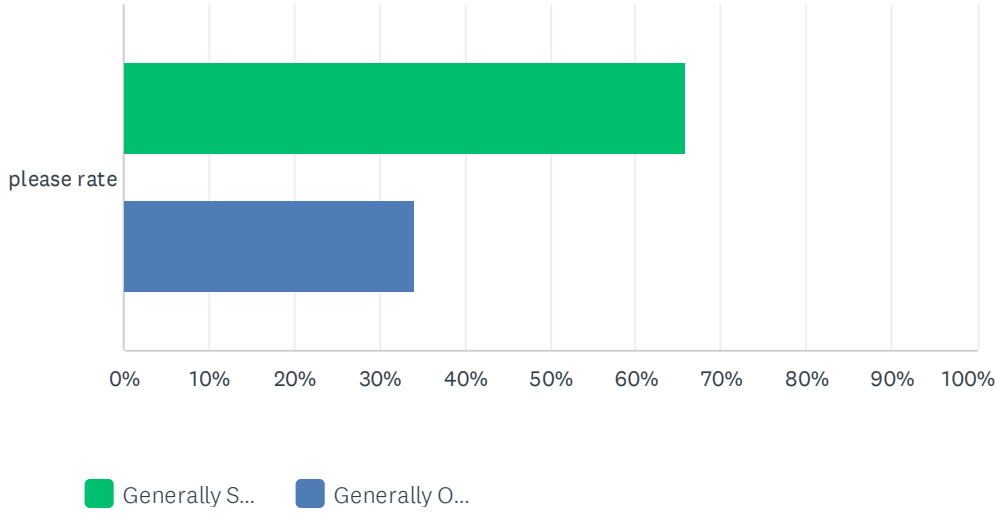
Answered: 116 Skipped: 103



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	62.93% 73	37.07% 43	116	1.37

Q28 SMMP Recommendation 23 The SMMP should emphasize impacts of the results of the RFP on social equity and innovation, to understand and emphasize the upstream aspects of material sustainability and creative solutions that provide pathways for tangible long-term outcomes.

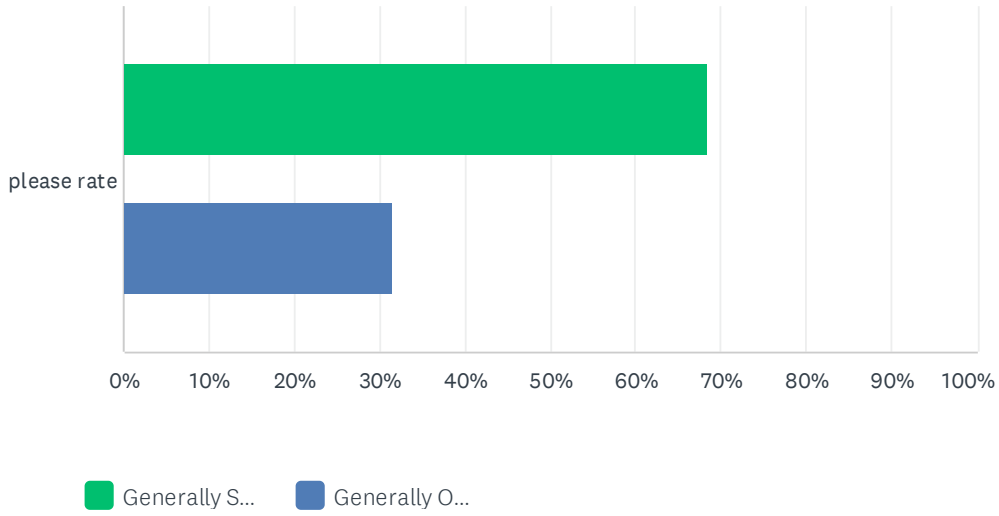
Answered: 117 Skipped: 102



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	65.81% 77	34.19% 40	117	1.34

Q29 SMMP Recommendation 24 The workplan should include ongoing adaptive management and refinement and include a timeline for completion. The sections of the workplan outline include RFP development and release, a webinar for prospective consultants, a pre-proposal Q&A period, a period for application submittal, and the selection committee to identify shortlisted firms who are given time for additional presentation. The committee then evaluates proposals, selects a consultant, and develops a workplan with selected consultant.

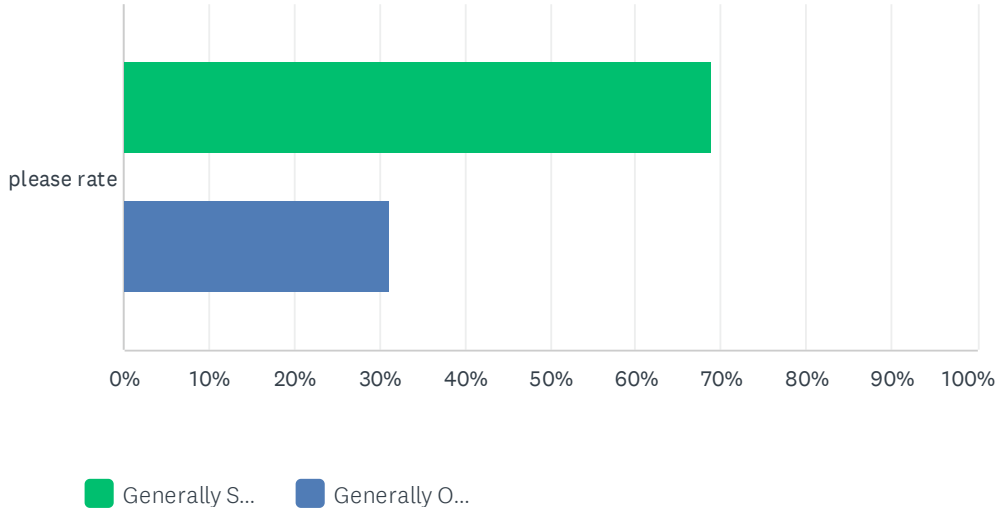
Answered: 117 Skipped: 102



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	68.38% 80	31.62% 37	117	1.32

Q30 SMMP Recommendation 25 The County should evaluate if it would be in their best interest to have a SMMP in place prior to any major materials management decisions.

Answered: 119 Skipped: 100

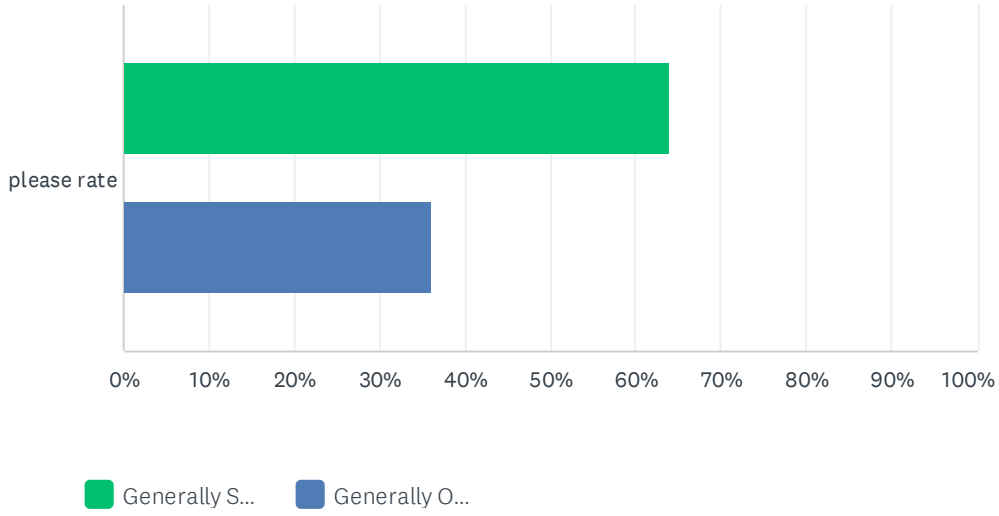


	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	68.91% 82	31.09% 37	119	1.31

Q31 SMMP Recommendation 26 The County should consider using alternative funding mechanisms, including landfill revenue, to support the

SMMP recommendations.

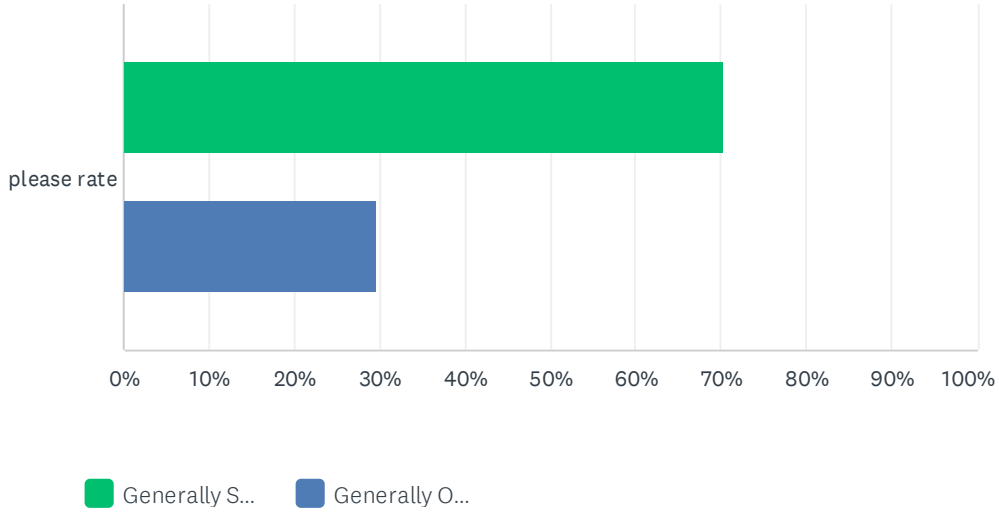
Answered: 119 Skipped: 100



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	63.87% 76	36.13% 43	119	1.36

Q32 SMMP Recommendation 27A complete materials audit is highly recommended as both a benchmark and a way to measure progress. The County should initiate a Waste Audit to characterize more precisely what is in the waste stream of Coffin Butte Landfill. The SMMP consultant can use this audit information when formulating this plan, and there is no up-to-date information specific to the landfill currently available. The benchmark audit should be completed as soon as possible, along with recommendations for follow up audits.

Answered: 115 Skipped: 104



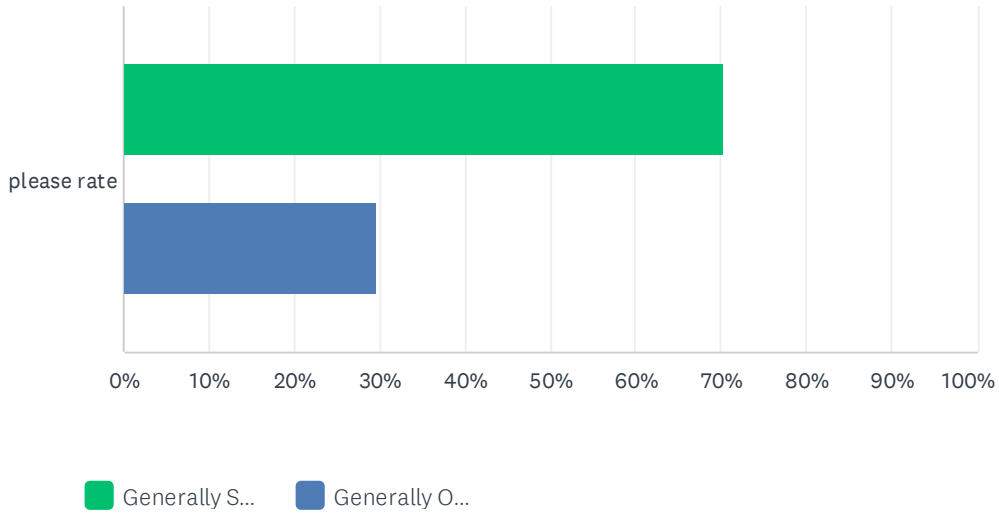
	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	70.43% 81	29.57% 34	115	1.30

Q33 Please provide the Workgroup with your additional comments in the box below.

Answered: 58 Skipped: 161

Q34 LSCL Recommendation 1 The Sustainable Materials Management Plan (SMMP) should further develop scenarios and factors that may impact the landfill lifespan, including detailed analyses of likely projections. The Board of Commissioners (Board) and Benton County (County) staff should keep the questions about these factors and their effects in mind when making decisions affecting the landfill.

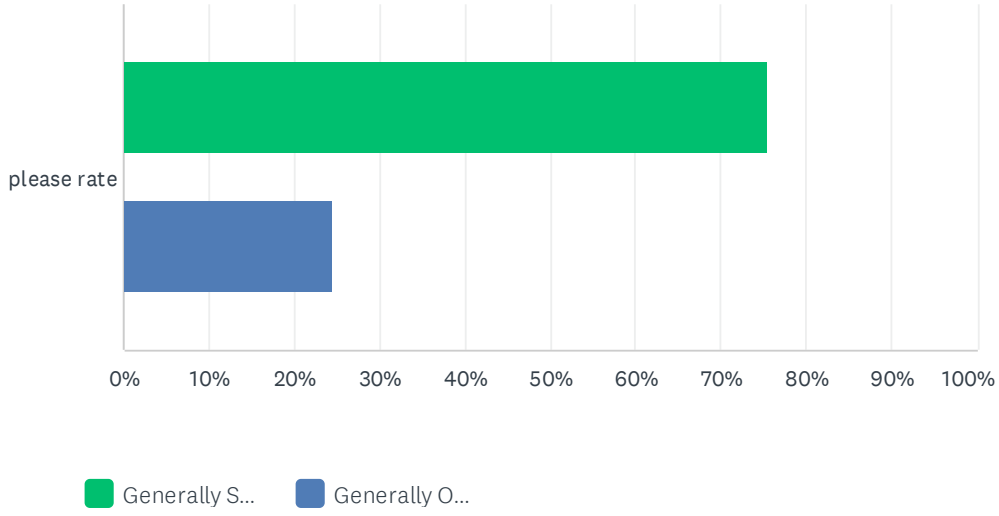
Answered: 108 Skipped: 111



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	70.37% 76	29.63% 32	108	1.30

Q35 LSCL Recommendation 2 The County should create and share a plan for the enforcement of all franchise agreements.

Answered: 106 Skipped: 113

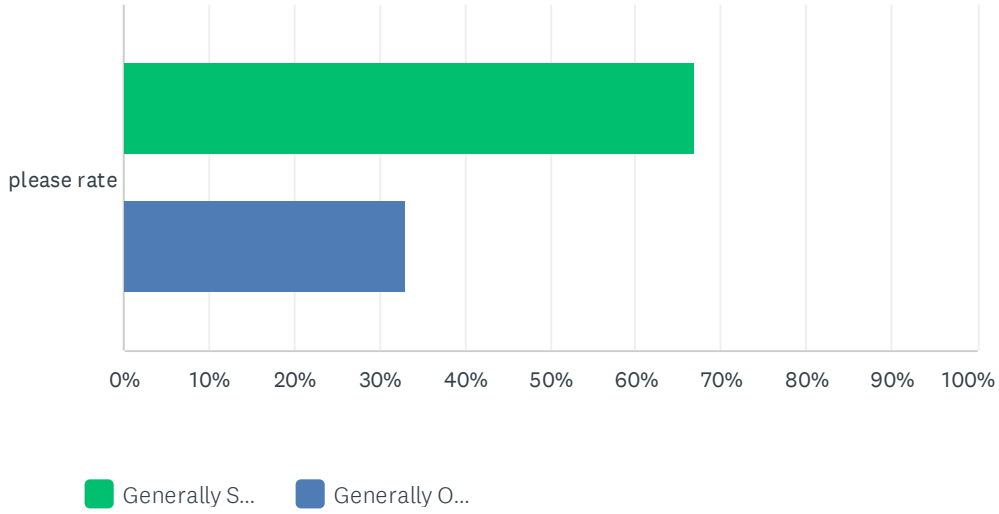


	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	75.47% 80	24.53% 26	106	1.25

Q36 LSCL Recommendation 3 The County should contract for an updated Baseline Study to evaluate the impact of the current intake level at Coffin Butte Landfill. As with the 2001 Baseline Study stipulated in the

2000 Landfill Franchise Agreement, this study should determine and measure adverse effects, including but not limited to: traffic, soil conditions and contamination levels, air quality, surface and ground water conditions and contamination levels, noise, odor, visual screenings, litter, hours of operation, solid waste control systems and compliance with all solid waste permits. This baseline study could help inform the County in decision making and financial choices regarding how to use the income from the landfill.

Answered: 109 Skipped: 110

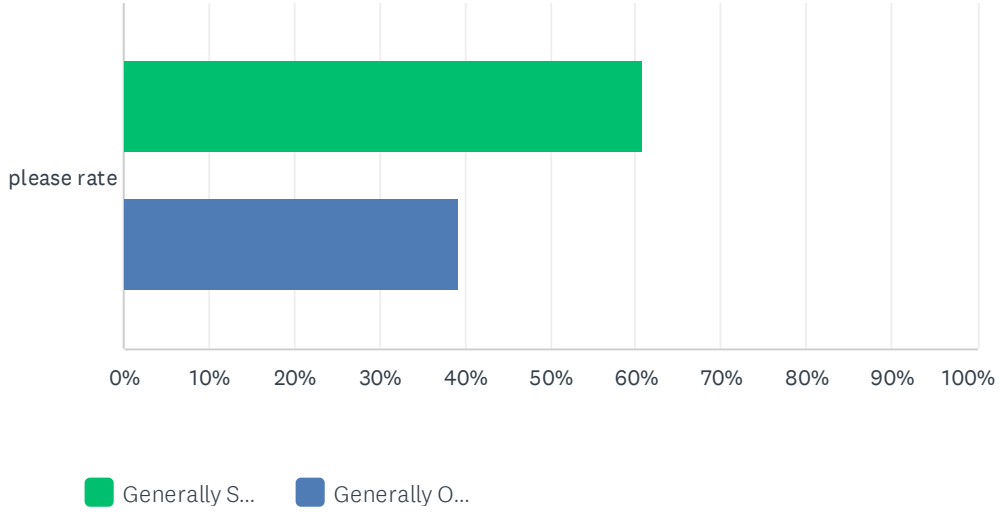


	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	66.97% 73	33.03% 36	109	1.33

Q37 LSCL Recommendation 4 The County should, as soon as possible, consider the public record of the deliberations leading to the execution of the 2020 Landfill Franchise Agreement in order to assess:1) which party requested that the 2020 Tonnage Cap be eliminated if expansion was approved, 2) if the County proposed the elimination of the 2020 Tonnage Cap, determine why this was done, 3) determine the County's expectation for the benefit(s) to the County of accepting up to 1.1 million tons of waste per year when the County's reserve portion is approximately 6.8% of that amount, 4) interpretation of the "Tonnage Cap", specifically relative to the 2020 Tonnage Cap, and 5) expectations of both parties for future landfill site expansion, including any plans for multiple (repeated) future expansions. The County should then use this information to inform landfill-

related decision-making. These negotiations were conducted privately (not in public meetings), and there are elements of these discussions that may be proprietary and/or fall under attorney-client privilege.

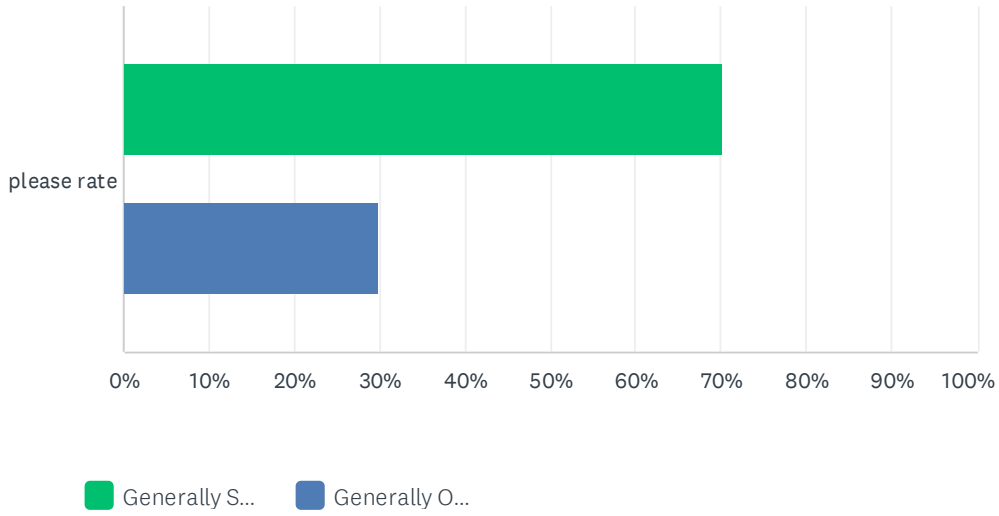
Answered: 102 Skipped: 117



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	60.78% 62	39.22% 40	102	1.39

Q38 LSCL Recommendation 5 The County should clarify and document the process for officially establishing Permitted Space, including any and all required Benton County actions and regulatory agency approvals (Oregon Dept. of Environmental Quality (ORDEQ), Environmental Protection Agency (EPA), etc.).

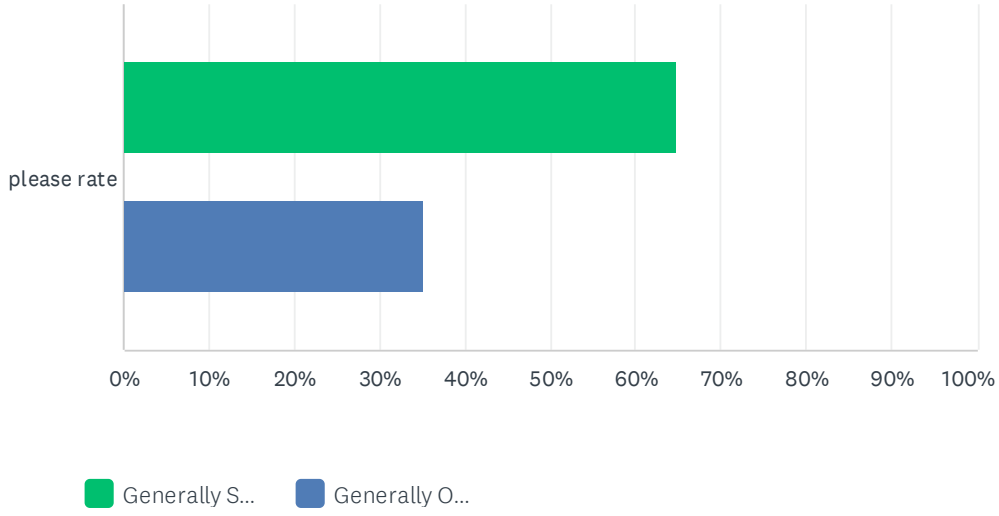
Answered: 107 Skipped: 112



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	70.09% 75	29.91% 32	107	1.30

Q39 LSCL Recommendation 6 The County should clarify when formal approval of Cell 6 as a disposal area was granted.

Answered: 108 Skipped: 111

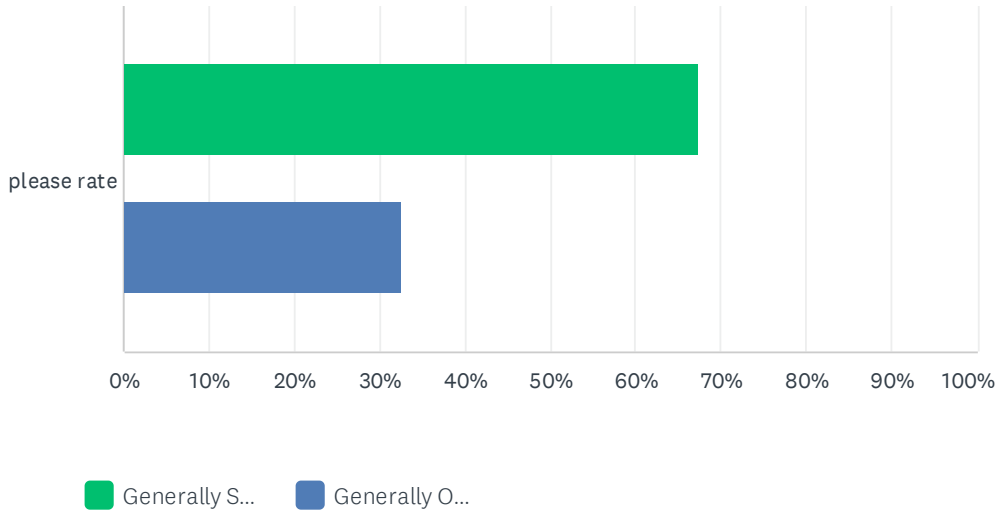


	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	64.81% 70	35.19% 38	108	1.35

Q40 LSCL Recommendation 7 The Benton County Solid Waste Advisory Council (SWAC) should review all future Coffin Butte Landfill Annual Reports relative to past reports and official approvals, in particular with

regard to intake volume, landfill traffic volume (both Municipal Solid Waste and leachate transport), expected landfill life and end of life, and total and remaining Permitted Space. SWAC should report these findings to the Board for consideration.

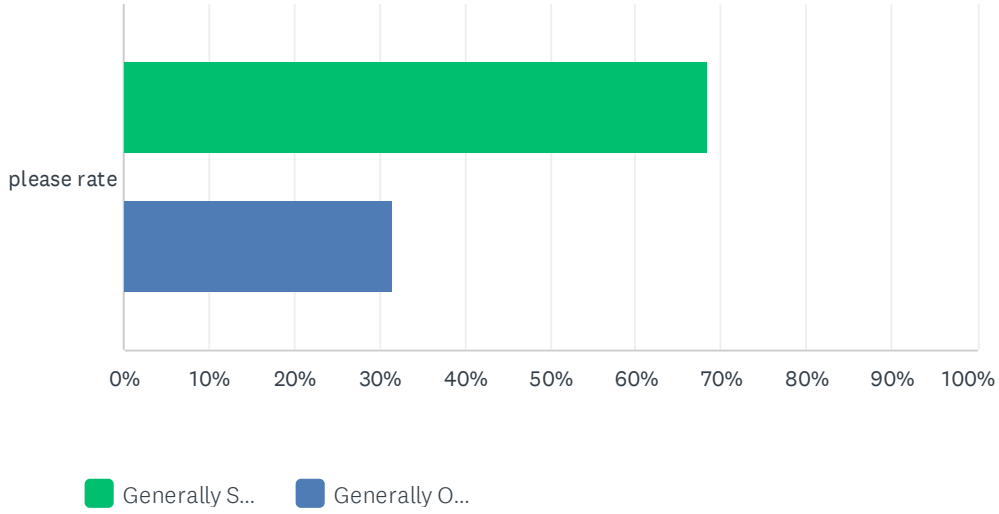
Answered: 107 Skipped: 112



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	67.29% 72	32.71% 35	107	1.33

Q41 LSCL Recommendation 8 The County should secure information from Republic Services about the Annual Tonnage figures for presentation to the SWAC/Disposal Site Advisory Committee (DSAC) members as soon as they are available, and not wait to include them for the first time in the Annual Report.

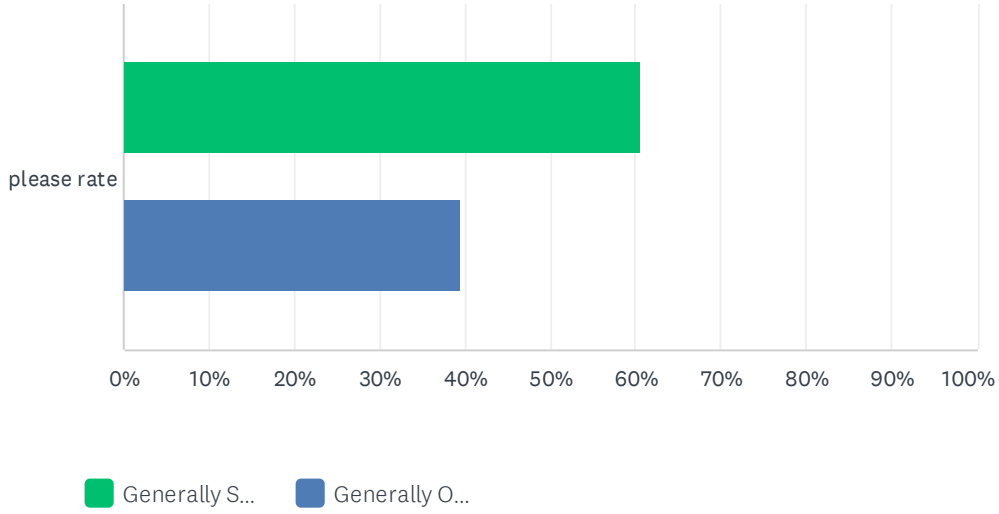
Answered: 108 Skipped: 111



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	68.52% 74	31.48% 34	108	1.31

Q42 LSCL Recommendation 9 The baseline scenarios laid out in this report assume that landfilling will continue as it is doing today for the next 16 years. That expectation should be tempered by signals of factors that can reshape Coffin Butte Landfill's social and regulatory landscape, especially environmental considerations related to the climate crisis. This reshaping is something that the County can participate in, on behalf of its residents, as the landfill’s permitted volume is filled.

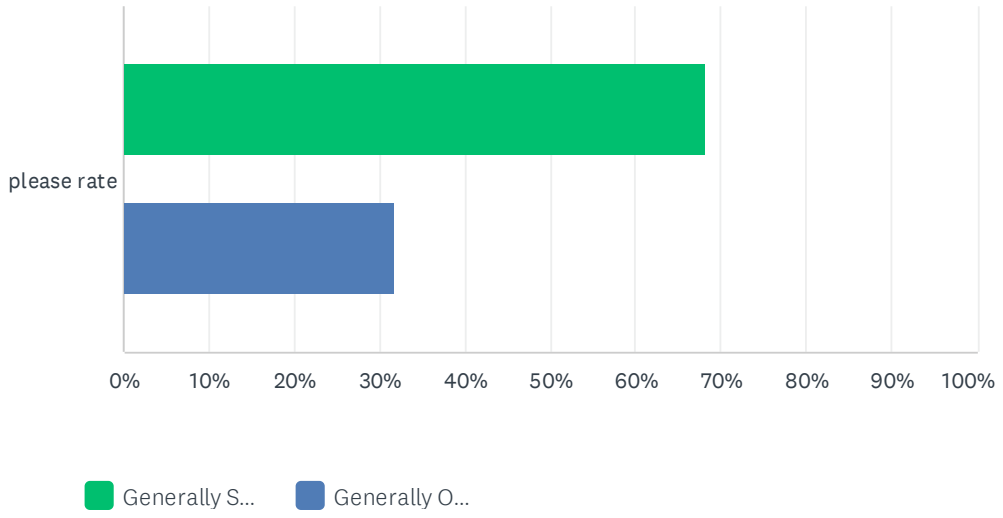
Answered: 104 Skipped: 115



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	60.58% 63	39.42% 41	104	1.39

Q43 LSCL Recommendation 10 The County should take steps to acquire better information about the methane emissions of Coffin Butte Landfill, because the landfill's emissions are currently not well-characterized and use this information to guide diversion programs that could limit the amount of organic waste going to the Landfill.

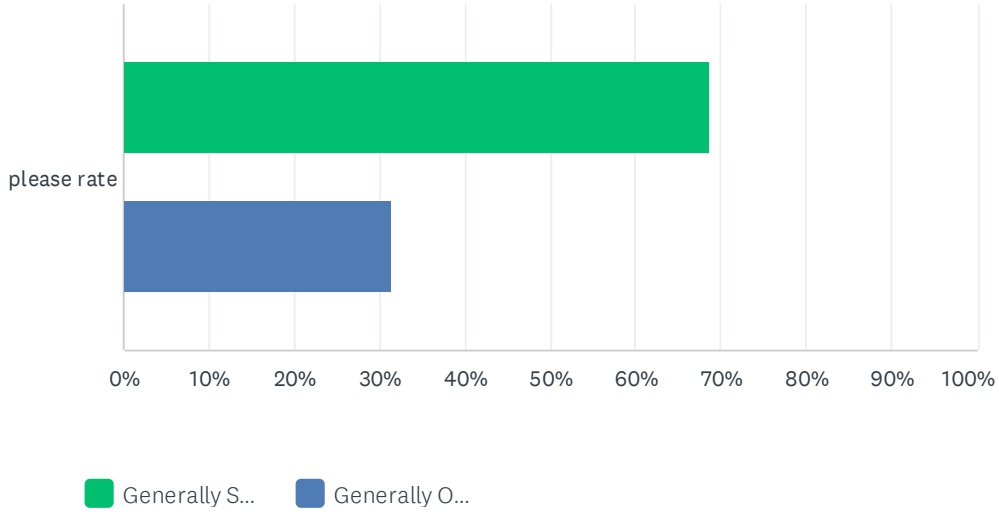
Answered: 110 Skipped: 109



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	68.18% 75	31.82% 35	110	1.32

Q44 LSCL Recommendation 11 In its current actions and in concert with its Sustainable Materials Management Plan, the County should be aware of and prepare for changes in Coffin Butte Landfill's social and regulatory landscape, as the future could hold significant opportunities for the County and affiliated organizations to bring waste management closer to the County's goals and values.

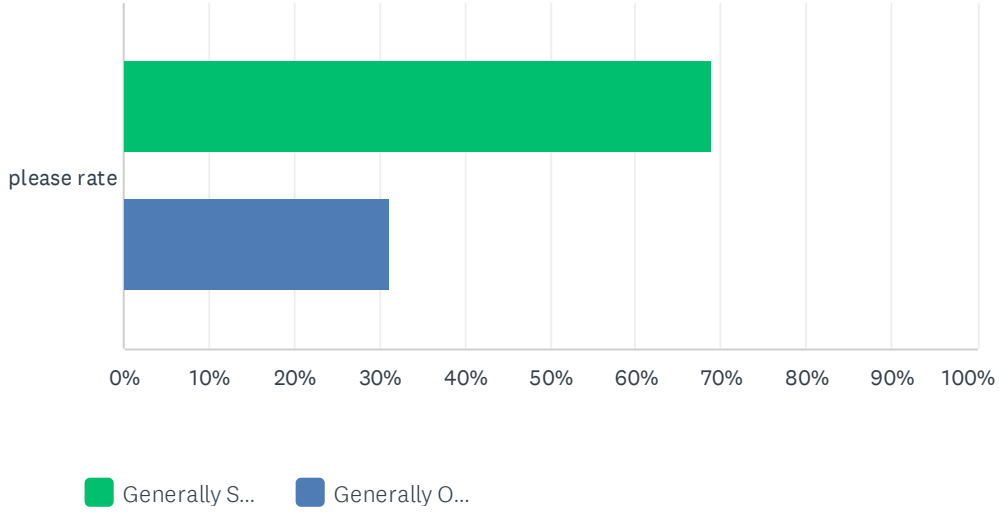
Answered: 105 Skipped: 114



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	68.57% 72	31.43% 33	105	1.31

Q45 LSCL Recommendation 12 The County should keep in mind that the most effective way to curtail a landfill's greenhouse gas emissions is to divert organic material from being landfilled. This can inform County and area-wide decisions regarding recycling, composting, food waste, and other initiatives affecting how the landfill's permitted volume is filled.

Answered: 106 Skipped: 113



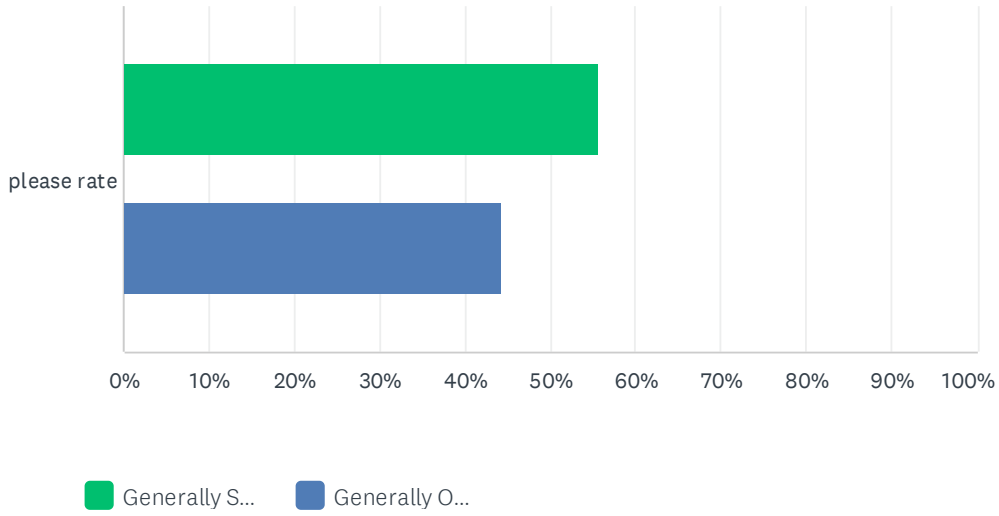
	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	68.87% 73	31.13% 33	106	1.31

Q46 Please provide the Workgroup with your additional comments in the box below.

Answered: 41 Skipped: 178

Q47 LLU Recommendation 1 A process to allow public input, comment, and feedback on any provisions subject to Section 2 of the collection franchise agreement between Benton County (County) and Allied Waste Services of Corvallis (Republic Services) could be designed as follows:After the parties have begun discussing what specific terms may be amended pursuant to Section 2, but no more than 60 days prior to any amendment being approved by the Board of Commissioners (Board), the County will publish a notice that it is seeking suggestions from th public for negotiation topics generated from the “concepts from the consensus-seeking process.” Any input received would be presented to the Board at a work session, at which time the Board would identify those ideas or suggestions that may be included as negotiation topics.Following the work session and as part of the ongoing negotiations, County staff will discuss with Republic Services the topics and ideas the Board identified.At such time as the County and Republic Services reach a tentative agreement on the renegotiated terms, staff would bring the proposed franchise changes to the Board meeting, where consideration of the amended franchise agreement would be conducted in a public hearing pursuant to BCC 23.235, which will include an opportunity for the public to present testimony. The Board could approve the agreement as presented or may direct staff to resume negotiations with Republic Services to include specific topics identified by the Board.The renegotiated collection franchise agreement must be agreed upon, in its entirety, by both the County and Republic Services. At such time as the terms have been agreed upon, and the Board is satisfied that public input has been adequately included or addressed in the renewed agreement, the franchise agreement will be the subject of a public hearing and, ultimately, approval by the Board at a regular Board meeting.

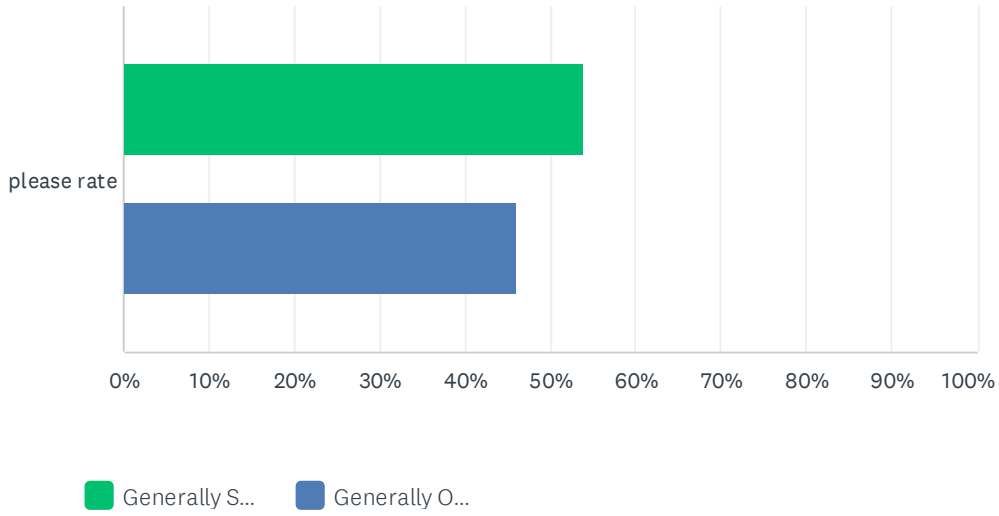
Answered: 88 Skipped: 131



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	55.68% 49	44.32% 39	88	1.44

Q48 LLU Recommendation 2 The County should provide to the public a description of the purpose of the statutory completeness review process, and the scope of the information the Planning Official considers at the completeness stage. That description should clearly explain how the administrative “completeness” process fits into the review of a land use application. While the County should not discourage public involvement at all stages of the review process, the public should be informed that the statutory completeness is a preliminary step that does not include any review of whether an application does or can satisfy the approval criteria; and that the public review and hearing process that follows after the application is complete provides the public an opportunity to provide evidence and arguments to the decision-makers on the merits of the application. The information should clearly inform the public that any evidence or testimony submitted at the completeness stage is not part of the “record” that the decision-makers will review, and that information would have to be re-submitted during the public hearing process in order for the decision-makers to review it.

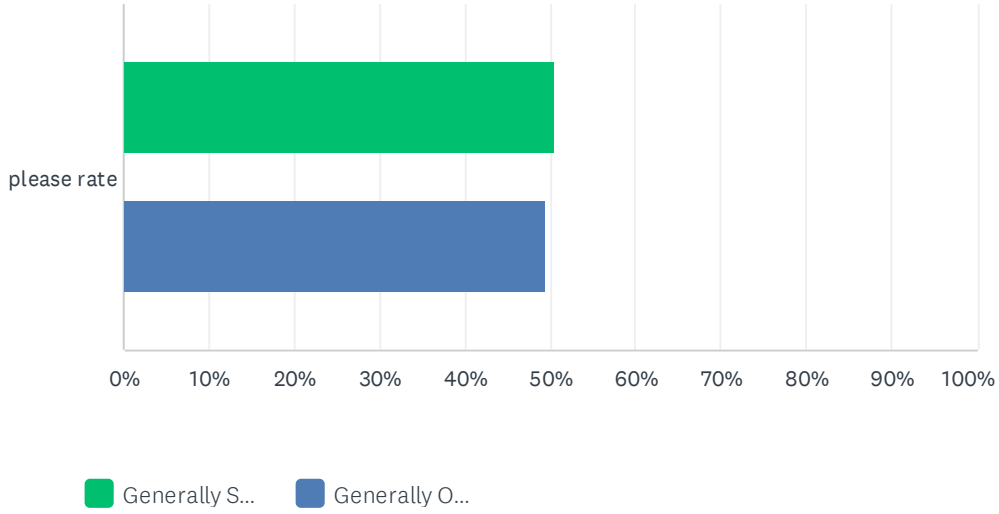
Answered: 89 Skipped: 130



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	53.93% 48	46.07% 41	89	1.46

Q49 LLU Recommendation 3 BCC 77.310 states that “The applicant for a conditional use permit shall provide a narrative which describes: ***Other information as required by the Planning Official.” [BCC 77.310(1)(e)] The workgroup could make recommendations regarding what “other information” would be helpful in a narrative. However, any committee recommendations would have to be limited to information related to the applicable criteria and could not expand that criteria. “Additional information” required by the Planning Official does not become part of the applicable criteria. BCC 77.310 states only what the applicant’s narrative shall include; it does not identify criteria for SWAC’s review of a CUP application. This absence contributed to the subcommittee’s recommendation in LLU Recommendation 2 above.

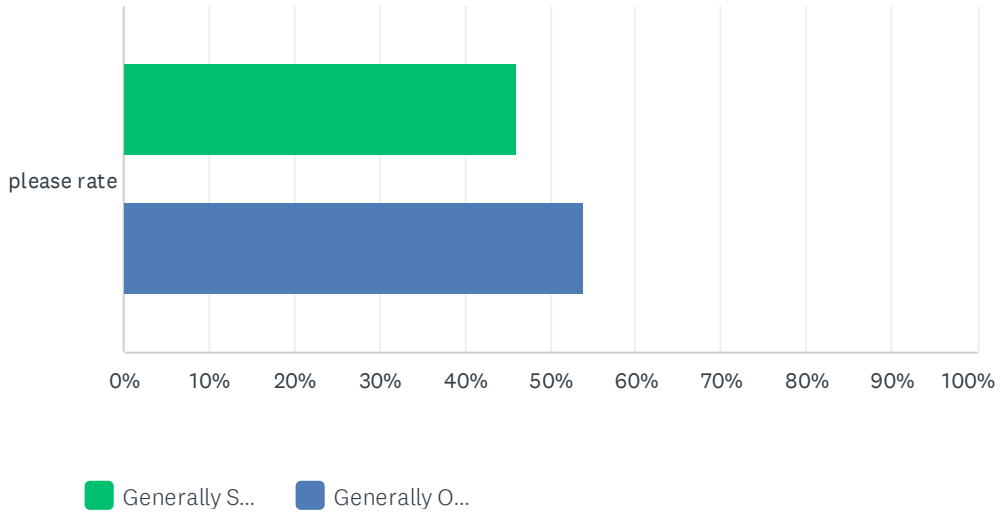
Answered: 85 Skipped: 134



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	50.59% 43	49.41% 42	85	1.49

Q50 LLU Recommendation 4 BCC 77.310(1) lists the information required for a conditional use application in the landfill site zone and permits the Planning Official to request that the applicant's narrative include "additional information." However, the development code does not specify how or when that information is to be requested. In the past, the Planning Official has used the statutory completeness review process to request additional information. However, in addition to the Planning Official's review of the information after the application has been submitted, the Board could amend the code to require that the Planning Official conduct a "preapplication conference" with the applicant to discuss the information that is required. It could also require a "neighborhood meeting" before the application is filed that requires the applicant to present its proposal to the public and allow the applicant to obtain more information about the proposal. Public comment during a pre-application neighborhood meeting, as with other public comment submitted before the application is complete and notification is sent, is not part of the formal record of the land use review and cannot be considered by decision-makers. The record includes only public comment submitted after formal notification has been sent to affected parties stating that the comment period is open.

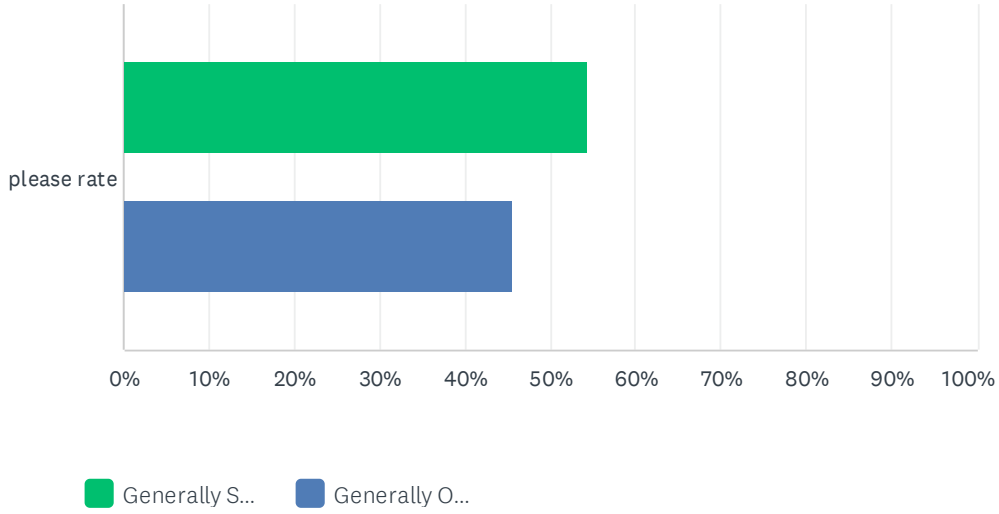
Answered: 87 Skipped: 132



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	45.98% 40	54.02% 47	87	1.54

Q51 LLU Recommendation 5 Benton County Code (BCC) 77.305 directs the Solid Waste Advisory Council (SWAC) to review and make recommendations regarding the Site Development Plan and Narrative submitted on a landfill-expansion conditional use permit (CUP); however, the code does not specify what criteria or considerations that recommendations should be based on. Consistent with SWAC's bylaws and Chapter 23 of the BCC, which require SWAC to "assist the Board of Commissioners (Board) in planning and implementing solid waste management, pursuant to BCC Chapter 23, the Benton County Solid Waste Management Ordinance", the Board should more clearly define SWAC's role by articulating the scope, manner and timing of SWAC's review. Interpreting County Code is within the Board's purview, but amending that code effects a more permanent solution. As an initial step, the Board could issue an official interpretation of SWAC's role pursuant to Chapter 23. As a subsequent step, the Board could initiate amendments to Chapter 23 and/or Chapter 77 which would then proceed through a public hearings process. If/when SWAC's overall role shifts to sustainable materials management, instances of the term "solid waste management" above should be replaced with "sustainable materials management."

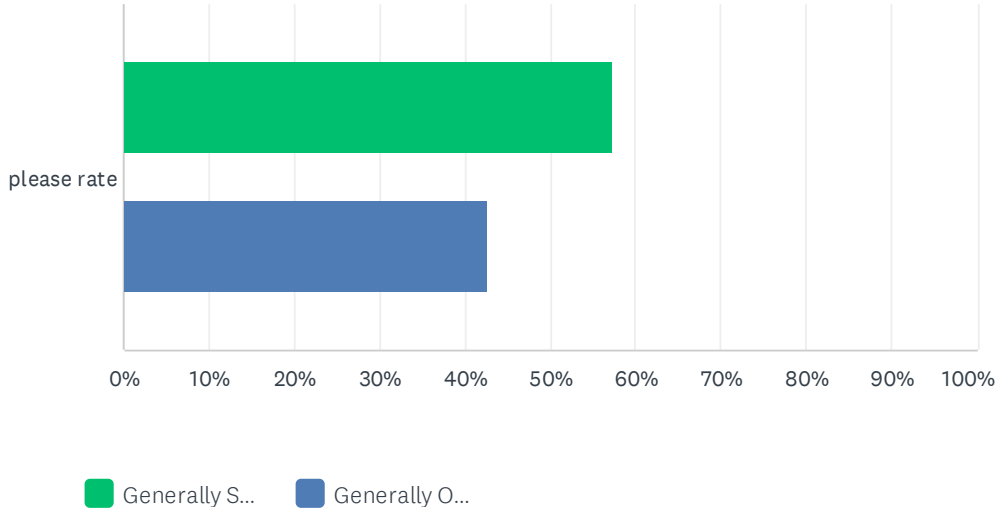
Answered: 92 Skipped: 127



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	54.35% 50	45.65% 42	92	1.46

Q52 LLU Recommendation 6 Amendments to the Development Code may be needed to create a clear and legally consistent process for SWAC's involvement in reviewing a CUP. Pursuant to the Development Code as written, the only criteria that a CUP decision can be based upon are those of BCC 53.215, and the Planning Commission is the decision-making body. Yet, the code states an ambiguous role for SWAC in that process and seems to imply that other considerations beyond those of BCC 53.215 should go into the decision-making process. This needs clarification.

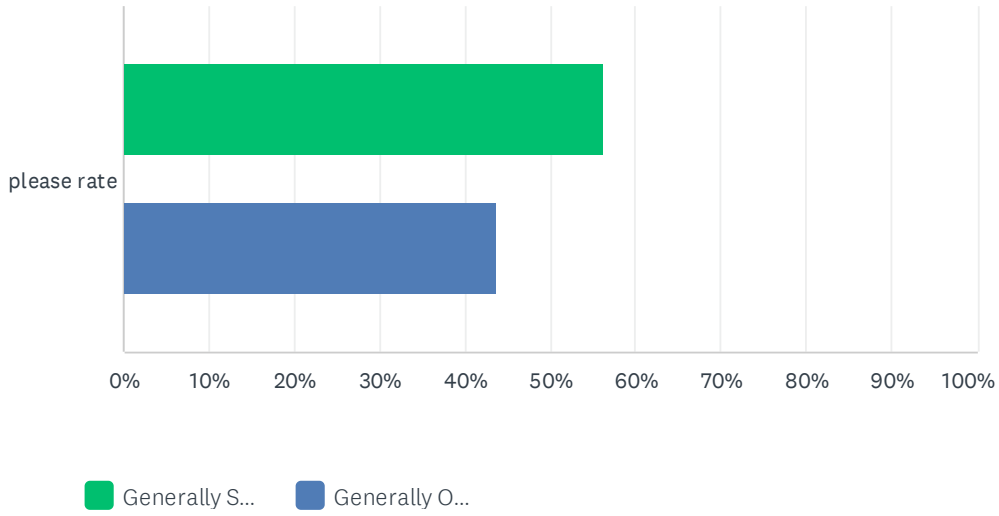
Answered: 89 Skipped: 130



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	57.30% 51	42.70% 38	89	1.43

Q53 LLU Recommendation 7 In addition to the two criteria listed in BCC 53.215(1) and (2), BCC 53.215(3) requires the decision-maker to consider whether the “proposed use complies with any additional criteria which may be required for the specific use by this code.” Currently Chapter 77 (Landfill Site Zone) does not include any additional criteria that must be considered in the review of a conditional use application for the expansion of a landfill in the landfill zone. If there are additional criteria that the Board determines are necessary for the review of a conditional use application in the landfill zone, the Board would have to amend Chapter 77 to specify those additional approval criteria. The Board could also require that compliance with the site plan and reclamation plan (currently required by Chapter 77 to be submitted with the application) be adopted as conditions of approval of any approved conditional use permit.

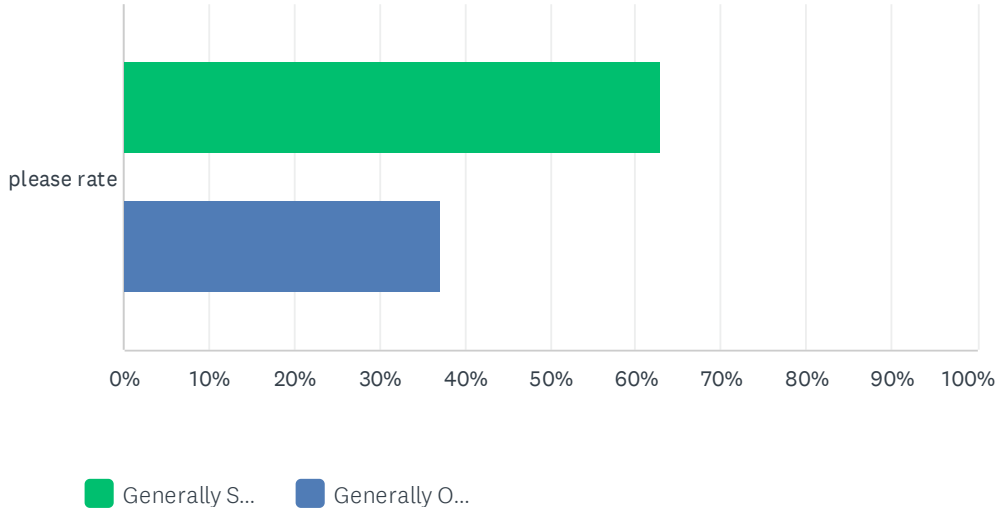
Answered: 87 Skipped: 132



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	56.32% 49	43.68% 38	87	1.44

Q54 LLU Recommendation 8 When the County adopts its SMMP, it should amend BCC chapter 77 to add a criterion under BCC 53.215(3) to require compliance with specific provisions of an adopted SMMP.

Answered: 89 Skipped: 130

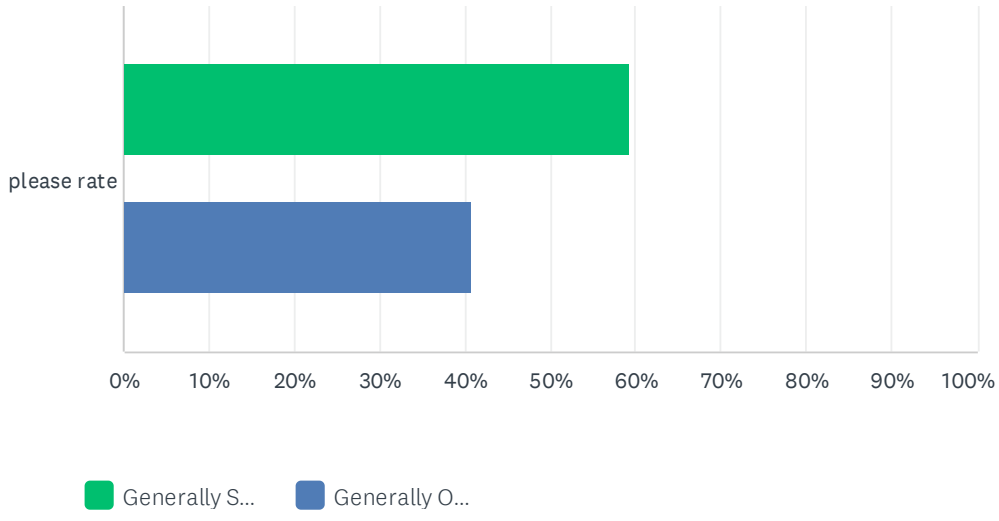


	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	62.92% 56	37.08% 33	89	1.37

Q55 LLU Recommendation 9 BCC 77.405 states, “Copies of materials submitted to the Oregon Department of Environmental Quality as a part of

any permit process shall be submitted to the Planning Official. If at any time the Planning Official determines that permit application materials or conditions of DEQ permit are judged to merit public review, a Public Hearing before the Planning Commission shall be scheduled." This provision is unclear. (The provision might have been codified prior to the current state agency coordination requirements, which now require a land use compatibility statement (LUCS) as part of any application for a state permit in which local land use is implicated.) The subcommittee interprets this section as requiring a review if the use originally approved has been or will be modified due to the Dept. of Environmental Quality (DEQ) permit. The Planning Official could make such a determination using a formal "Interpretation" pursuant to BCC 51.205(1). Recommend a code amendment to clarify this provision, for example a code amendment could require that when DEQ issues a landfill permit, the Planning Official shall review the permit and conditions of approval and, if discrepancies with the County's land use approval are noted, determine whether this constitutes a "modification of a conditional use permit" (BCC 53.225) and, if so, require the applicant to submit application for such modification. A workgroup recommendation on how public review of DEQ permit requirements could most benefit the public would also be helpful.

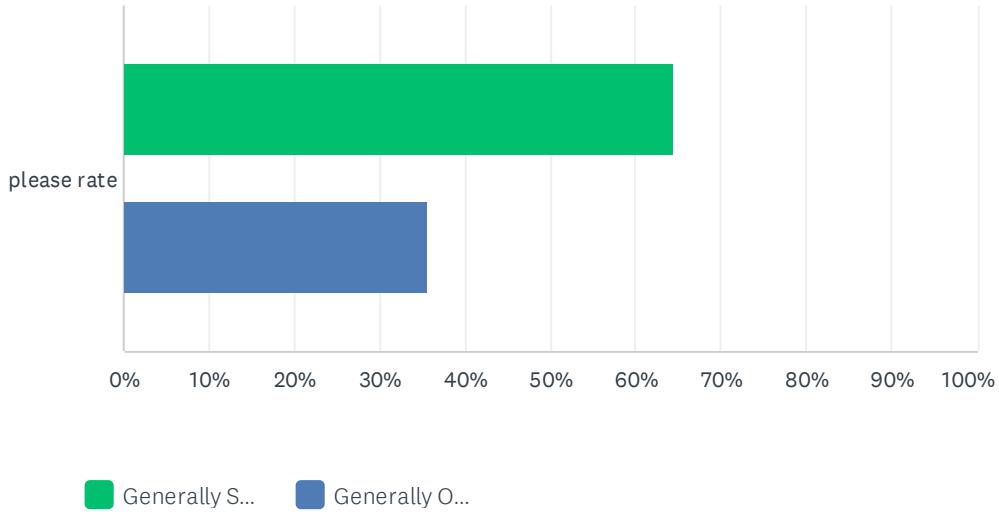
Answered: 86 Skipped: 133



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	59.30% 51	40.70% 35	86	1.41

Q56 LLU Recommendation 10 In issuing land use decisions, County decision-makers should:a) Draft clear findings and be certain to incorporate into the conditions of approval the items that are intended to be binding. b) State conditions of approval in clear and explicit terms and ensure that what is expected of the applicant in order to comply is clearly stated in the text of the conditions.

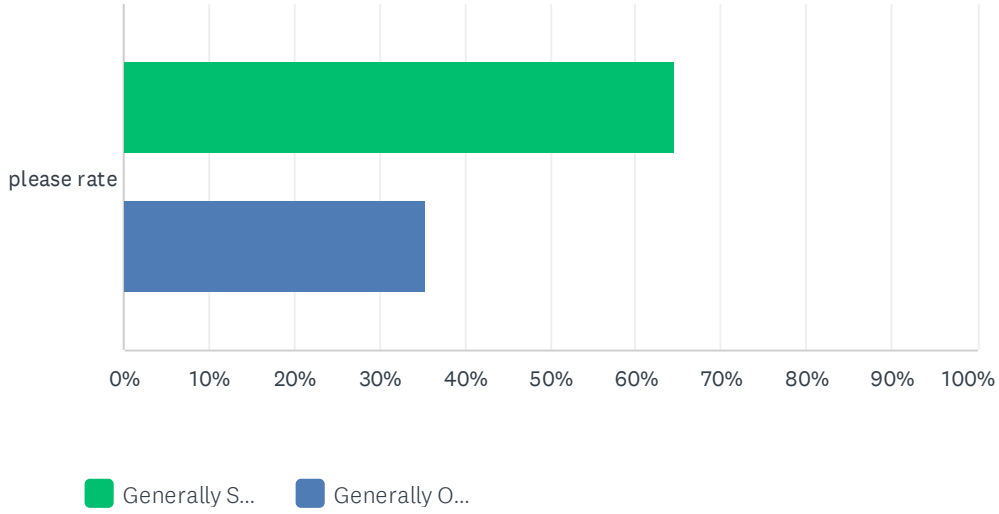
Answered: 87 Skipped: 132



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	64.37% 56	35.63% 31	87	1.36

Q57 LLU Recommendation 11 The County should evaluate its existing system regarding compliance monitoring and enforcement to determine if there are sufficient mechanisms in place to ensure compliance with conditions of approval that the County imposes on land use approvals and, if not, recommend improvements. Elements of such an evaluation could include: 1) What enforcement mechanisms exist within the County Code? 2) Is there a legal "mandamus" option or a private right of action option?3) What is missing?4) What provisions and procedures do other counties have, particularly counties that host a privately operated landfill?5) The future cost of such a system, the benefits, and the consequences of not improving the current practices and procedures.

Answered: 93 Skipped: 126



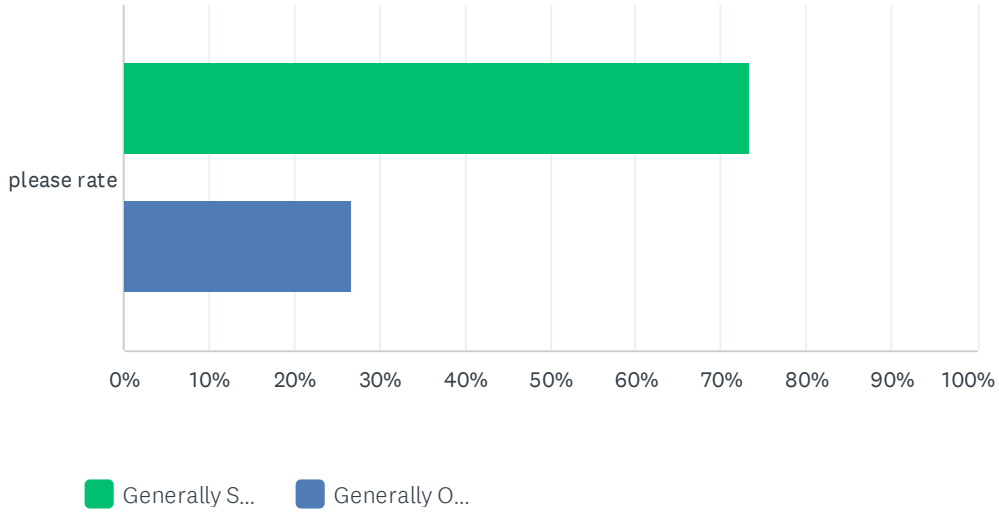
	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	64.52% 60	35.48% 33	93	1.35

Q58 Please provide the Workgroup with your additional comments in the box below.

Answered: 33 Skipped: 186

Q59 CUP Recommendation 1 Maintain the CUP Appendix along with the supporting County and Dept. of Environmental Quality (DEQ) files as an integral part of the Final Workgroup Report.

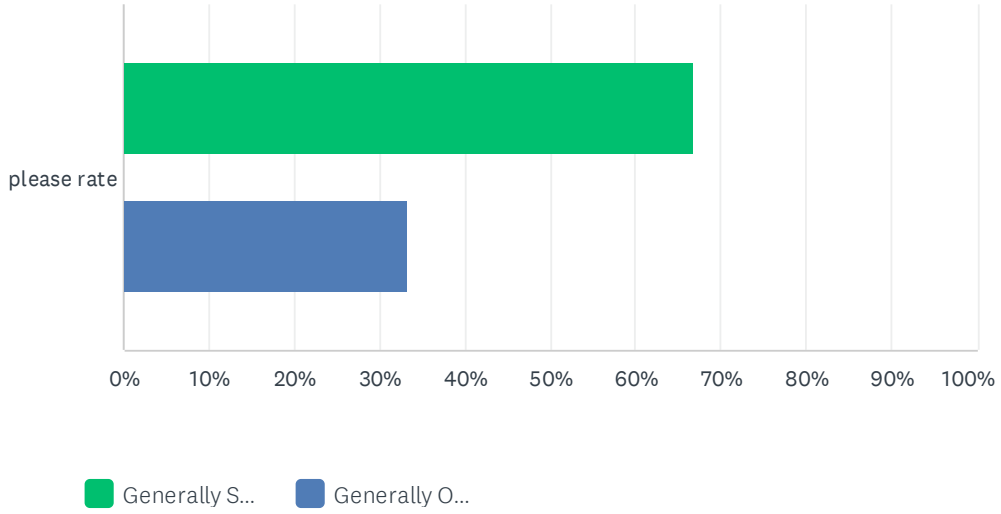
Answered: 94 Skipped: 125



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	73.40% 69	26.60% 25	94	1.27

Q60 CUP Recommendation 2 Make the Appendix and supporting comprehensive library of files related to the Coffin Butte Landfill electronically and continuously available to the public to increase accessibility and reduce the need for public records requests.

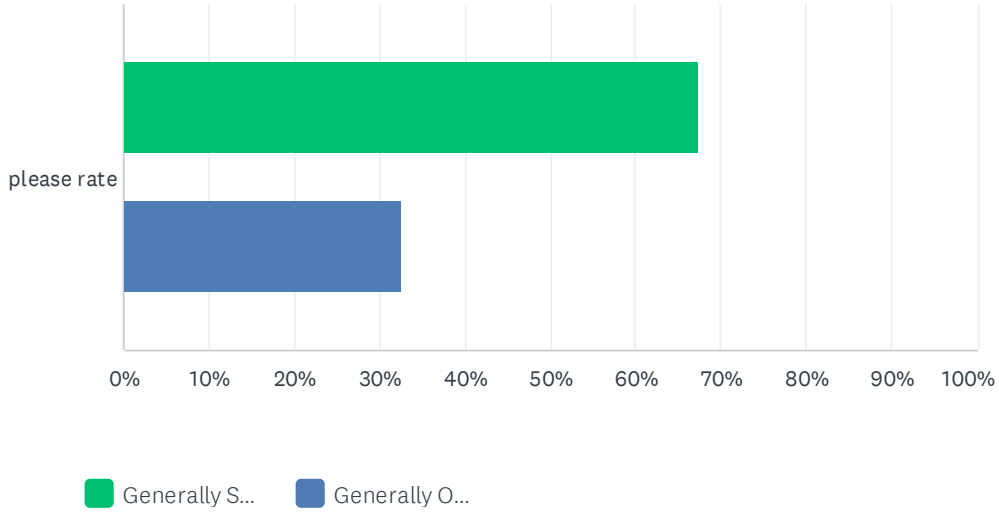
Answered: 96 Skipped: 123



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	66.67% 64	33.33% 32	96	1.33

Q61 CUP Recommendation 3 Actively monitor and enforce prior land-use decision Conditions of Approval for the landfill or any other land use decision.

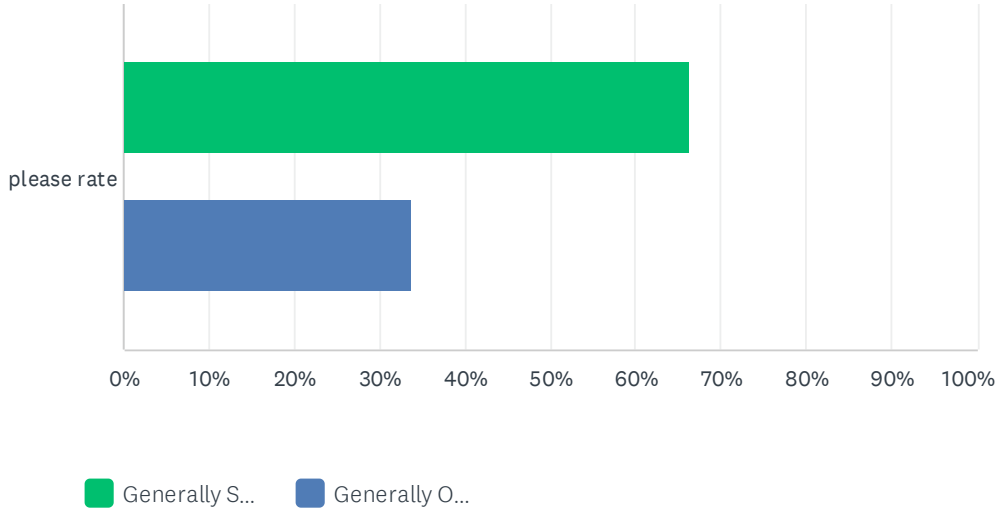
Answered: 95 Skipped: 124



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	67.37% 64	32.63% 31	95	1.33

Q62 CUP Recommendation 4 Establish and widely advertise a reporting process for receiving, tracking, and resolving complaints, such as odor, noise, hours of operation, not following conditions of approval. This administrative process should include an appeals process. Ensure there is a mechanism for providing reports regarding the nature, number and resolution of complaints to be provided to the Board of Commissioners (Board) in the normal course of its business.

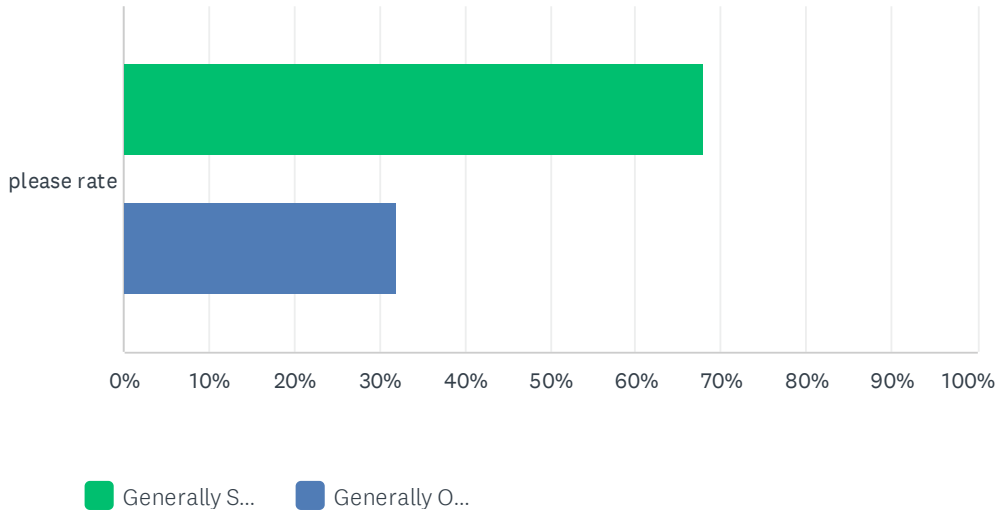
Answered: 95 Skipped: 124



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	66.32% 63	33.68% 32	95	1.34

Q63 CUP Recommendation 5 Ensure that all documents involved in a land use application and all documentation required to be submitted by a Condition of Approval are acquired and placed in the County records for that land use application and posted electronically and continuously available to the public.

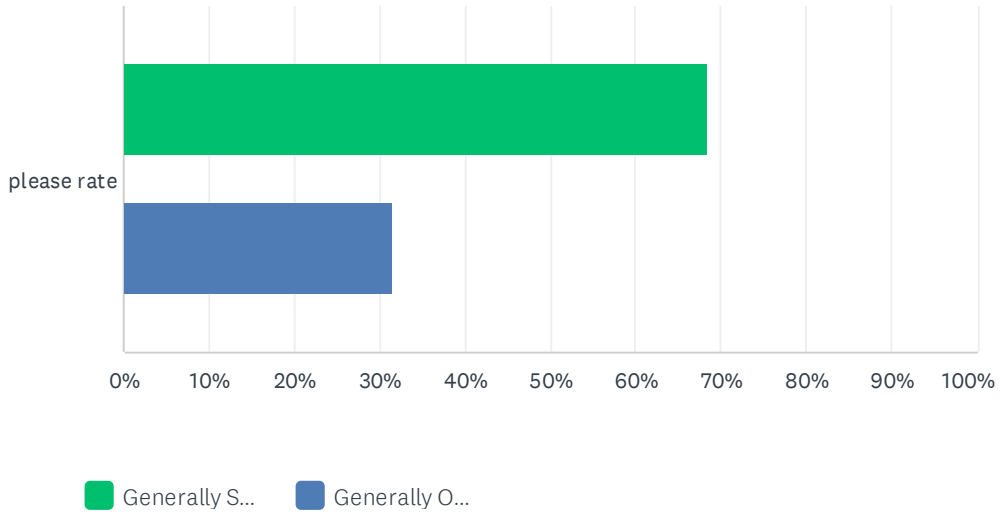
Answered: 94 Skipped: 125



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	68.09% 64	31.91% 30	94	1.32

Q64 CUP Recommendation 6 Create a system that tracks receipt of reports that are submitted as required per Conditions of Approval. For example, copies of water quality and air quality permits, emergency plans, permit submittals, financial assurance statements, and data produced from associated monitoring programs, etc.

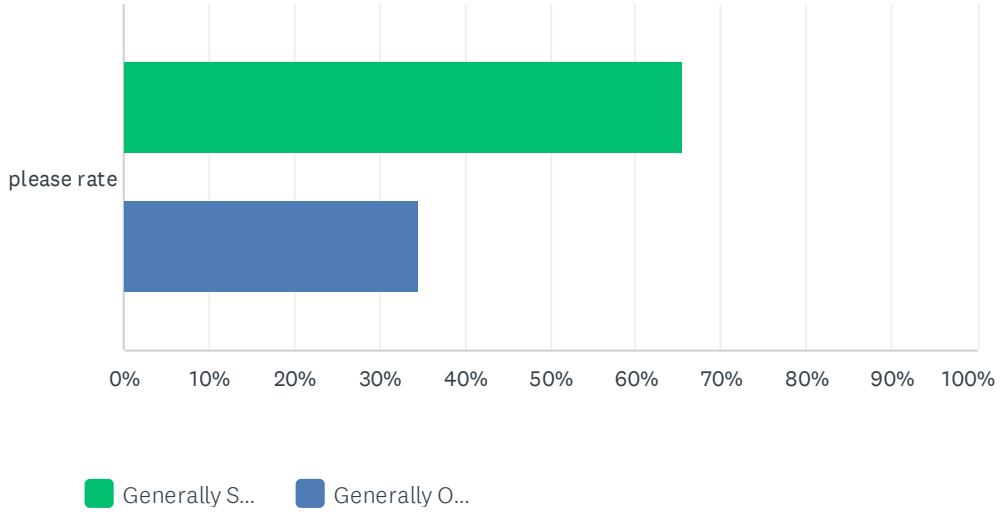
Answered: 95 Skipped: 124



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	68.42% 65	31.58% 30	95	1.32

Q65 CUP Recommendation 7 Determine if the Site Plan and Narrative included in the applicant submittals for PC-83-07/L-83-07 are regulatory conditions the landfill is required to follow.

Answered: 90 Skipped: 129

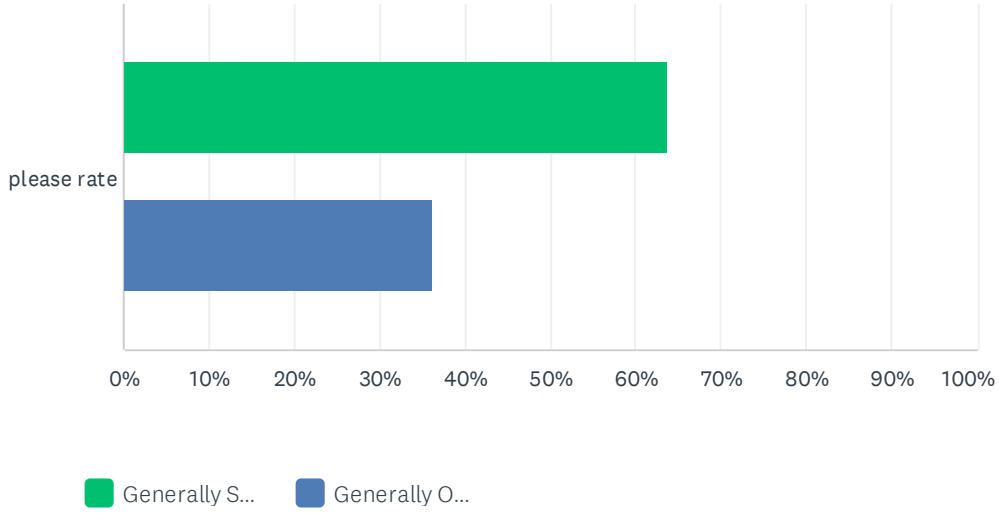


	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	65.56% 59	34.44% 31	90	1.34

Q66 CUP Recommendation 8 Clarify and communicate to the public what appropriate reclamation will look like to appropriately manage

community expectations for the ultimate disposition of the landfill. For example, the County should explain to the public, with the DEQ's and Republic Service's assistance, DEQ's minimum reclamation requirements in the current Worst–Case Closure and Post-Closure Care Plan. Working with the public, Republic Services and the DEQ should establish a reclamation plan that is acceptable to the community.

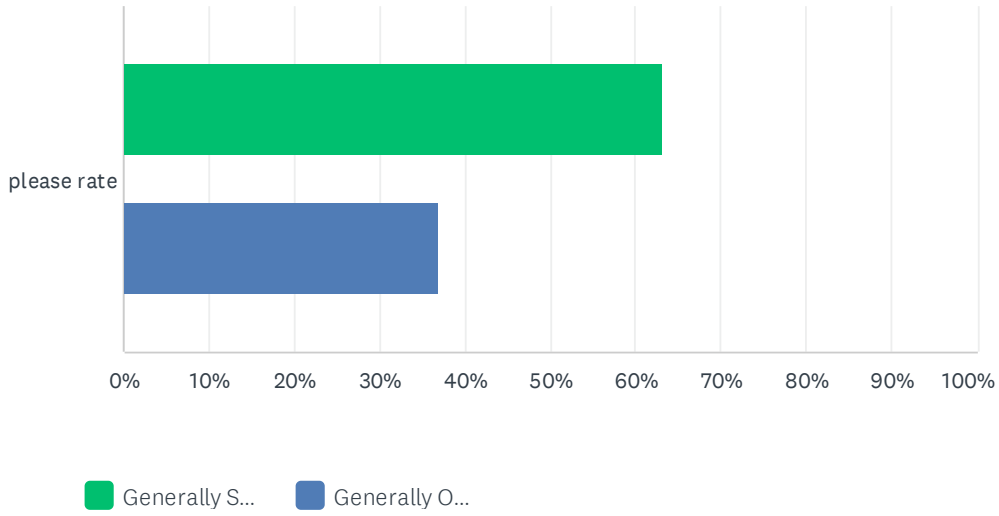
Answered: 94 Skipped: 125



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	63.83% 60	36.17% 34	94	1.36

Q67 CUP Recommendation 9 Determine how or if the County's reclamation conditions of approval can be incorporated into DEQ's requirements for Valley Landfill's Worst–Case Closure and Post-Closure Care Plan for the landfill.

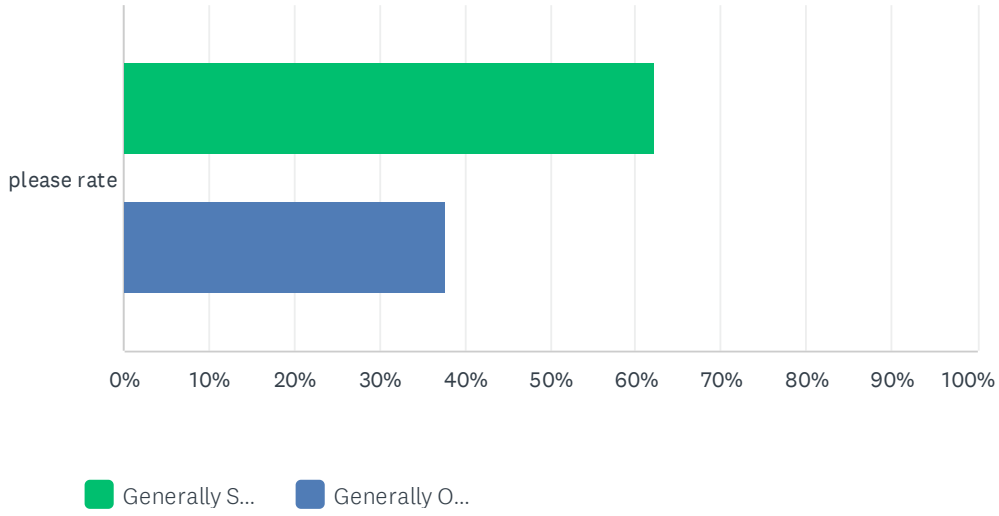
Answered: 92 Skipped: 127



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	63.04% 58	36.96% 34	92	1.37

Q68 CUP Recommendation 10 Determine the authority of the 2002 Memorandum of Understanding (MOU) as it relates to pre-2002 Conditions of Approval and broadly communicate the applicability of the 2002 MOU to the public to help manage community expectations.

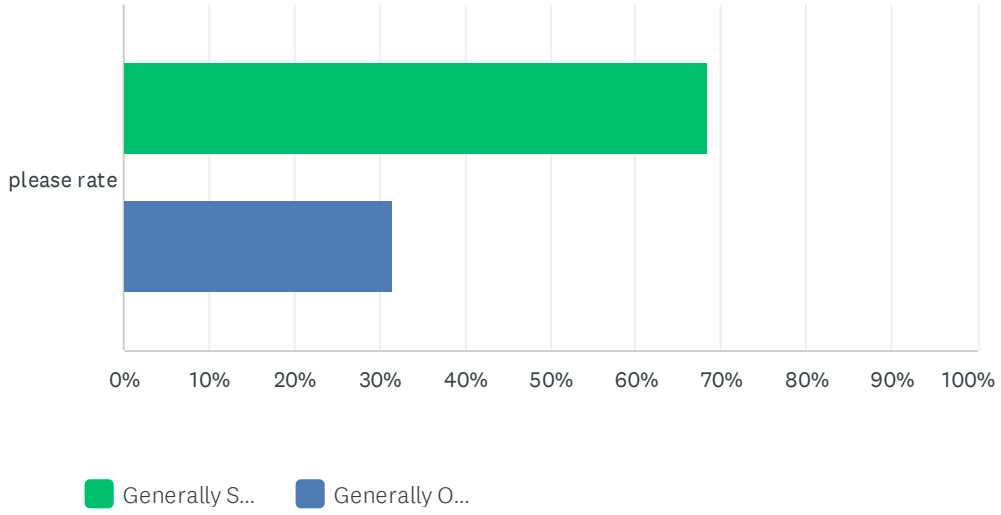
Answered: 90 Skipped: 129



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	62.22% 56	37.78% 34	90	1.38

Q69 CUP Recommendation 11 Clarify the intersecting roles between the County and DEQ in future CUP actions, recognizing the line between "environmental" and "land use" impacts may not be clear and establish a process of reconciliation.

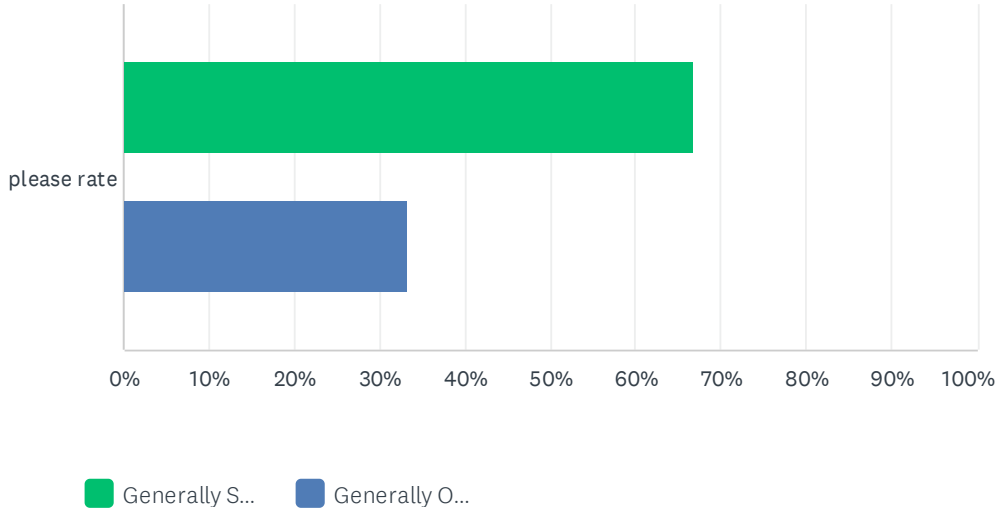
Answered: 92 Skipped: 127



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	68.48% 63	31.52% 29	92	1.32

Q70 CUP Recommendation 12 Establish a reporting program for compliance confirmation for facilities contributing to environmental burdens on the County, such as a landfill, industrial-scale composting, or direct dischargers to water bodies within the County, etc.

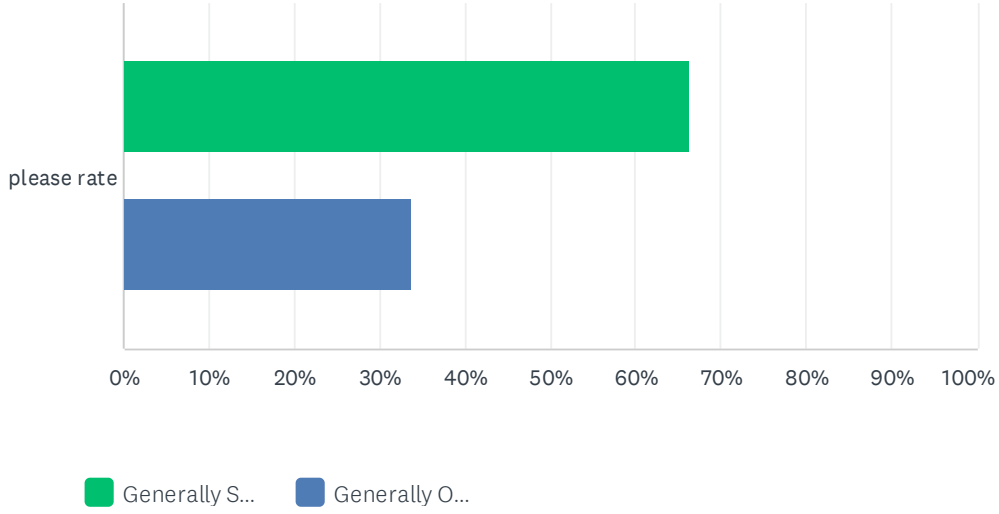
Answered: 93 Skipped: 126



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	66.67% 62	33.33% 31	93	1.33

Q71 CUP Recommendation 13 Consider the impact of leachate from the landfill site on traffic safety, road maintenance, public wastewater treatment plants (Corvallis, Salem), and the Willamette River (water quality, sediments, wildlife, etc.) in future assessments of the impact of landfilling in the County.

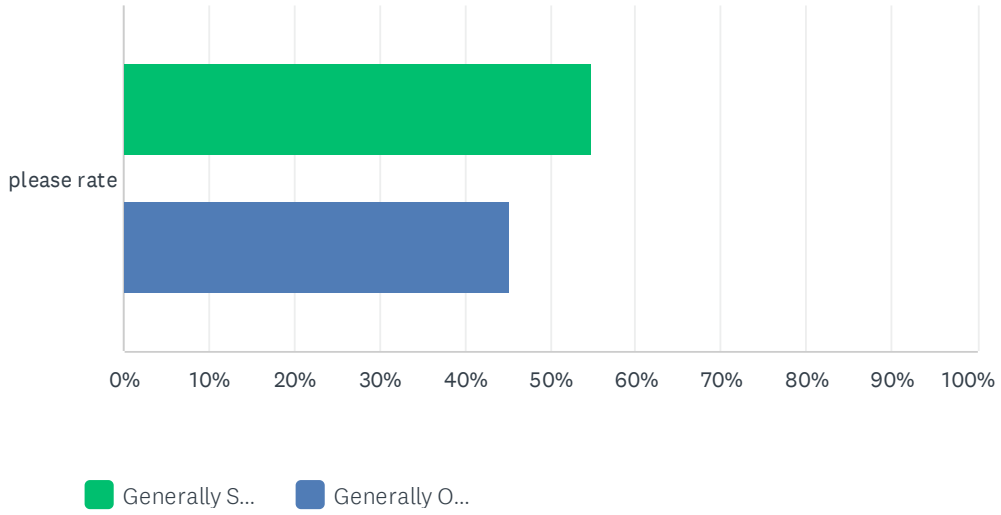
Answered: 92 Skipped: 127



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	66.30% 61	33.70% 31	92	1.34

Q72 CUP Recommendation 14 Evaluate whether acquiring buffer land by landfill-related entities is consistent with Vision 2040 including the impact on housing, forestry, and agricultural land uses. Acquiring buffer land is an action specified in DEQ's 2005 Resource Conservation and Recovery Act Corrective Measures Record of Decision for the landfill. "Property purchases as buffer around the landfill." is identified as one of the remedies for groundwater contamination.

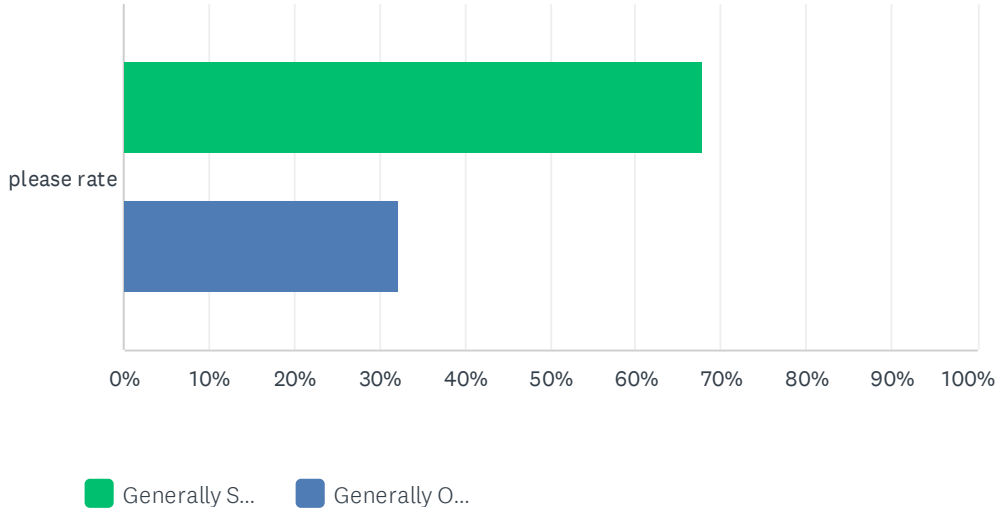
Answered: 93 Skipped: 126



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	54.84% 51	45.16% 42	93	1.45

Q73 CUP Recommendation 15 Require submittal of a plan for emergency water supplies for fire protection to the Power Generation facility per S-97-58.

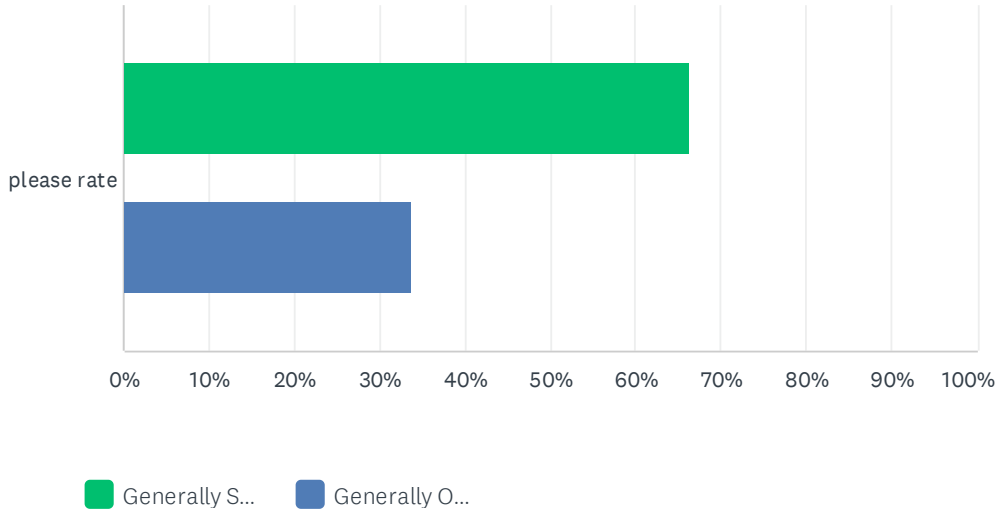
Answered: 93 Skipped: 126



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	67.74% 63	32.26% 30	93	1.32

Q74 CUP Recommendation 16 Develop a comprehensive emergency preparedness/response plan with neighboring counties, cities and fire districts given the experiences from the nationally reported 1999 landfill fire.

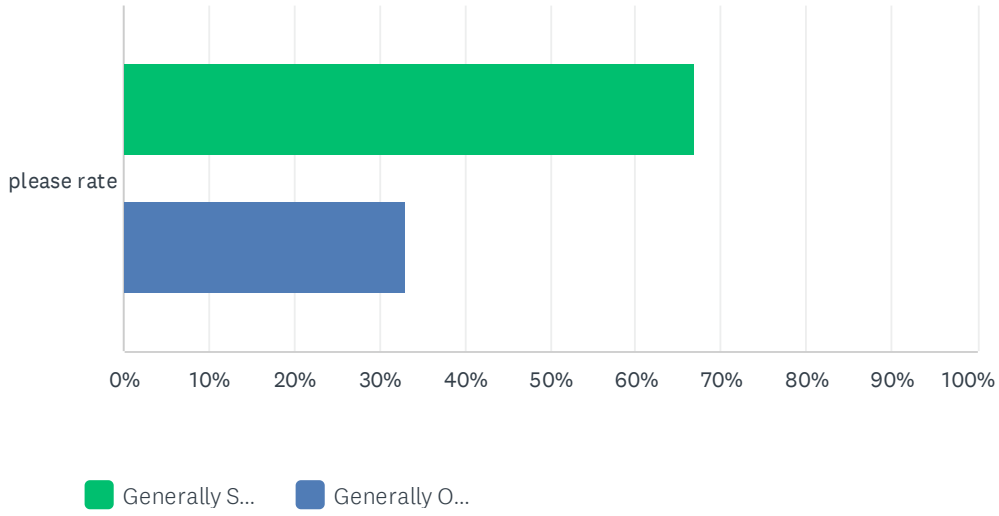
Answered: 95 Skipped: 124



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	66.32% 63	33.68% 32	95	1.34

Q75 CUP Recommendation 17 To address public concerns about odor, engage in a dialogue with the community to promptly develop and implement an odor reporting and mitigation plan that is consistent with the community's needs and DEQ requirements and County health and nuisance regulations.

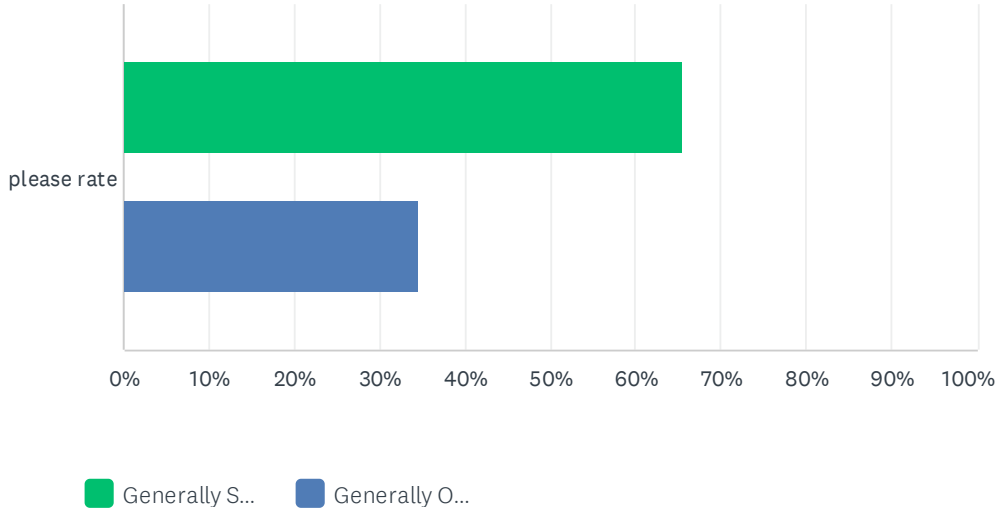
Answered: 94 Skipped: 125



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	67.02% 63	32.98% 31	94	1.33

Q76 CUP Recommendation 18 Update the Benton County Code and land use application documents to reflect the conditions of approval that are to be completed before final approval of an application and which conditions are applied to the on-going use of the land. This would improve understanding of the differing conditions of approval for the applicant, public, and decision-making bodies.

Answered: 90 Skipped: 129



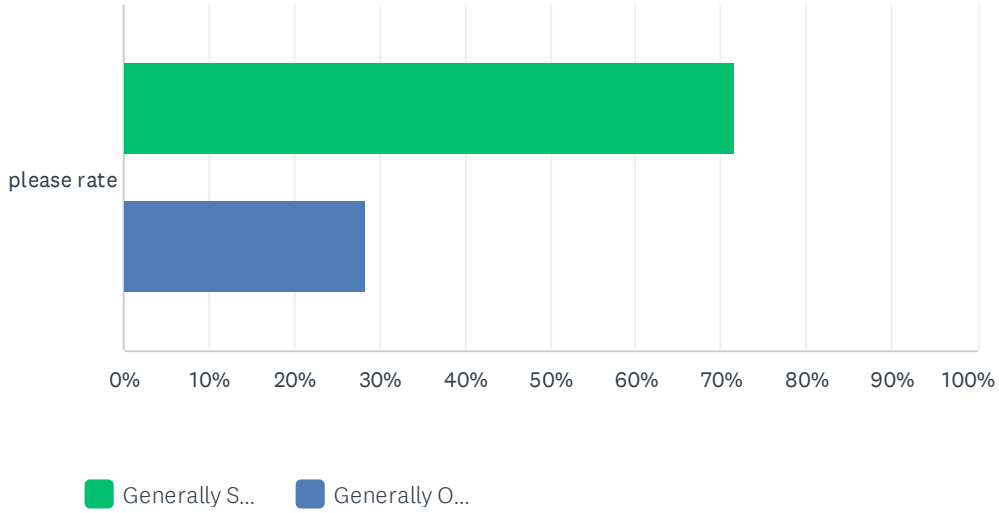
	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	65.56% 59	34.44% 31	90	1.34

Q77 Please provide the Workgroup with your additional comments in the box below.

Answered: 29 Skipped: 190

Q78 CEO Recommendation 1 The County Development Department and County Public Information Officer are responsible for conducting communication and outreach.

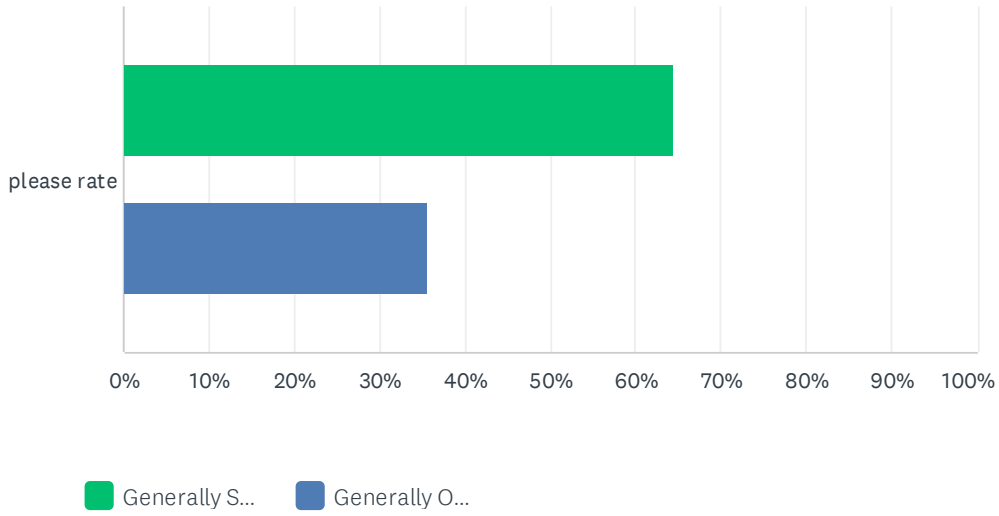
Answered: 92 Skipped: 127



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	71.74% 66	28.26% 26	92	1.28

Q79 CEO Recommendation 2 The Board of Commissioners (Board) should consider changes to these notification recommendations based on the potential impact of other CUP applications.

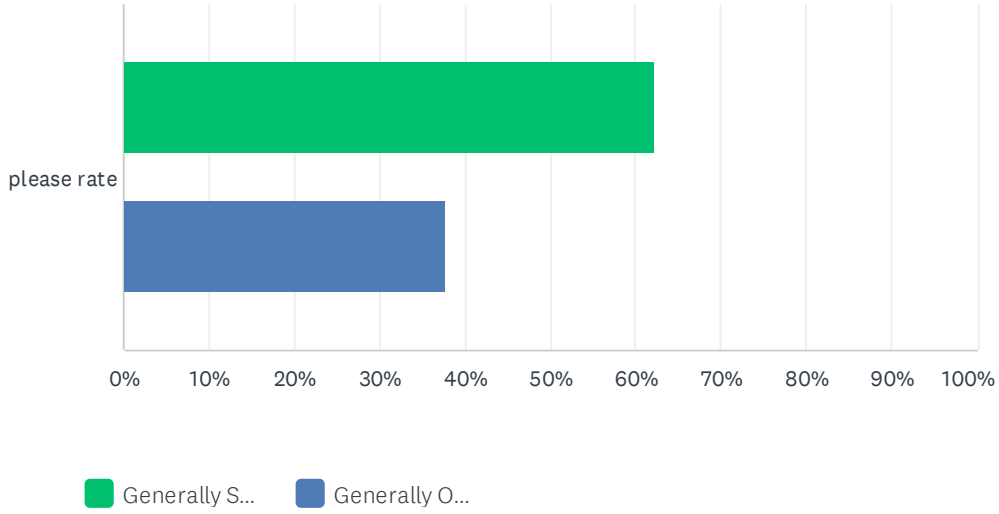
Answered: 90 Skipped: 129



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	64.44% 58	35.56% 32	90	1.36

Q80 CEO Recommendation 3 Notifications for the Benton County Talks Trash (BCTT) Survey for public input on the Workgroup Report should include an email blast, website post, and displays or presentations where people already spend time, for example a library or community event. Notifications should include a 10-mile radius from the landfill and should go out ideally a month before the survey closes.

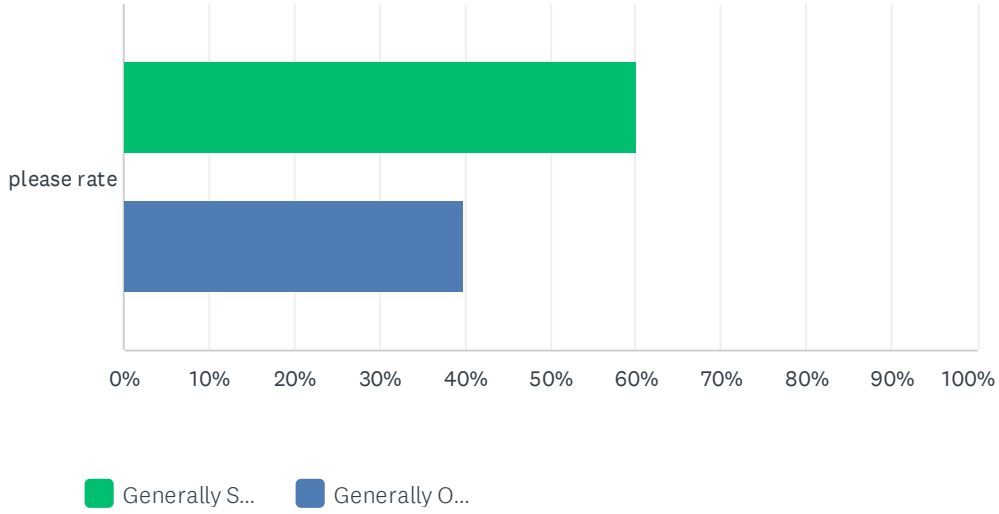
Answered: 93 Skipped: 126



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	62.37% 58	37.63% 35	93	1.38

Q81 CEO Recommendation 4 Notifications for the BCTT Report completion should include an email blast to the interested parties list, organic subscribers, those who spoke at the meetings, the Soap Creek Neighbors Group, and other landfill neighbors. Notifications should also include a possible postcard to the entire County with a link to go to and/or scan to get on a list to be informed of further updates and/or have an open house event/public informational meeting. The event/public information meeting should be on a weekend during the day so that most people can attend, and the link and email list should be readily available. A 10-mile radius from the landfill is proposed, and notifications should be sent 72 hours after the report is finished.

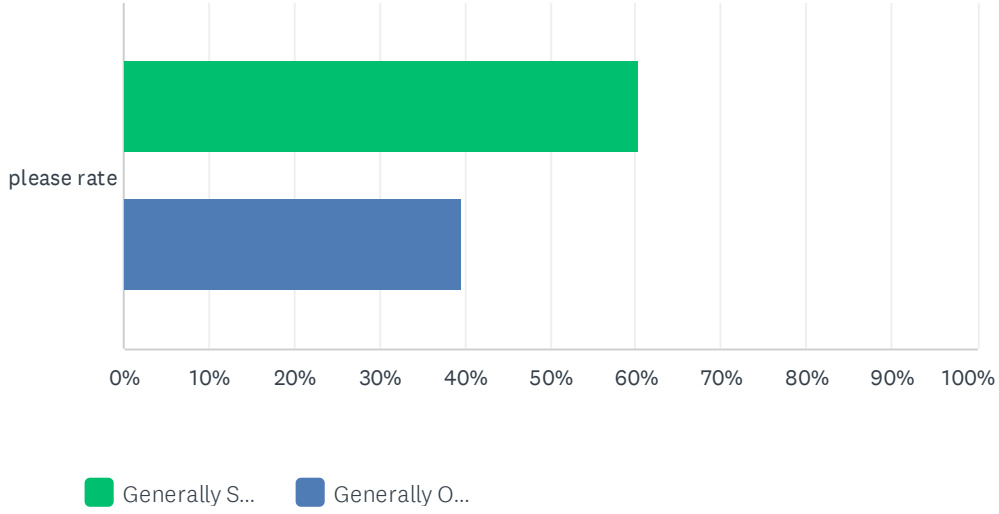
Answered: 93 Skipped: 126



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	60.22% 56	39.78% 37	93	1.40

Q82 CEO Recommendation 5 Notifications for Board hearings on the report should include a postcard, an email blast, a newspaper notification, and social media posts and advertisements. The postcards should be sent to everyone in a 10- or 15-mile radius of the landfill, and notifications should be sent 24 hours after the Board hearing is scheduled.

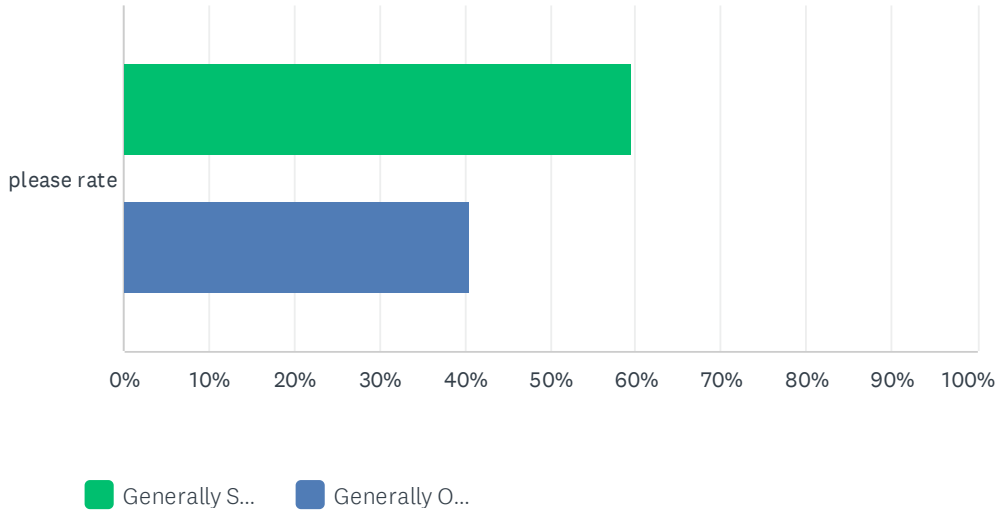
Answered: 91 Skipped: 128



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	60.44% 55	39.56% 36	91	1.40

Q83 CEO Recommendation 6 The County should notify the public when Republic Services first notifies the County that they plan to file a CUP application. This starts off any pre-filing public involvement. Notifications should include a postcard, email blast, newspaper notification, and social media posts and advertisements. Postcards should be sent to everyone within a 10- or 15-mile radius of the landfill, and notifications need to begin 24 hours after the County is notified.

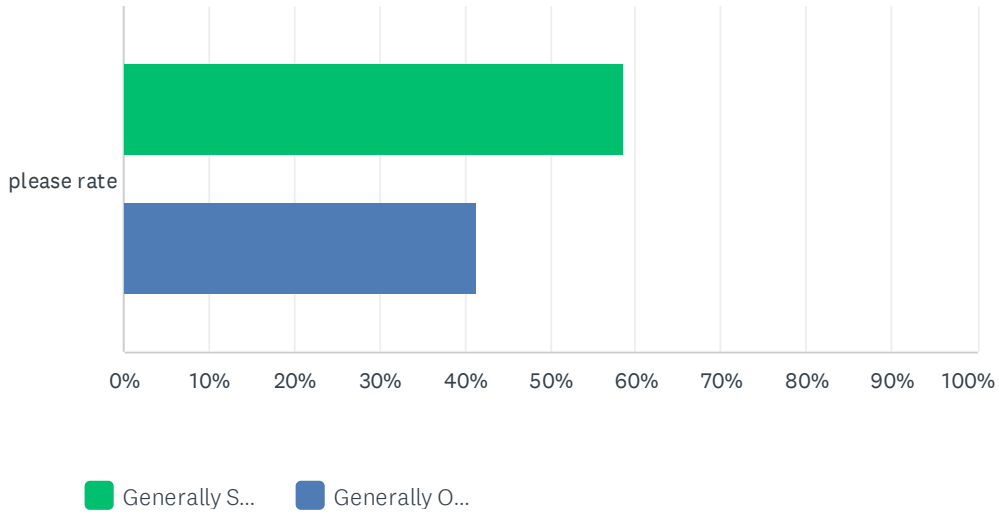
Answered: 94 Skipped: 125



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	59.57% 56	40.43% 38	94	1.40

Q84 CEO Recommendation 7 Notifications for CUP filings, which includes the application review process, should consist of a postcard, email blast, newspaper notification, and social media posts and advertisements. Postcards should be sent to everyone within a 10- or 15-mile radius of the landfill, and notifications need to begin 24 hours after the initiation of a CUP filing. During the “completeness” process, the Planning Official will consider whether the applicant’s documents and information are sufficient for purposes of review of the application. Determining that an application is complete does not mean the information satisfies the approval criteria.

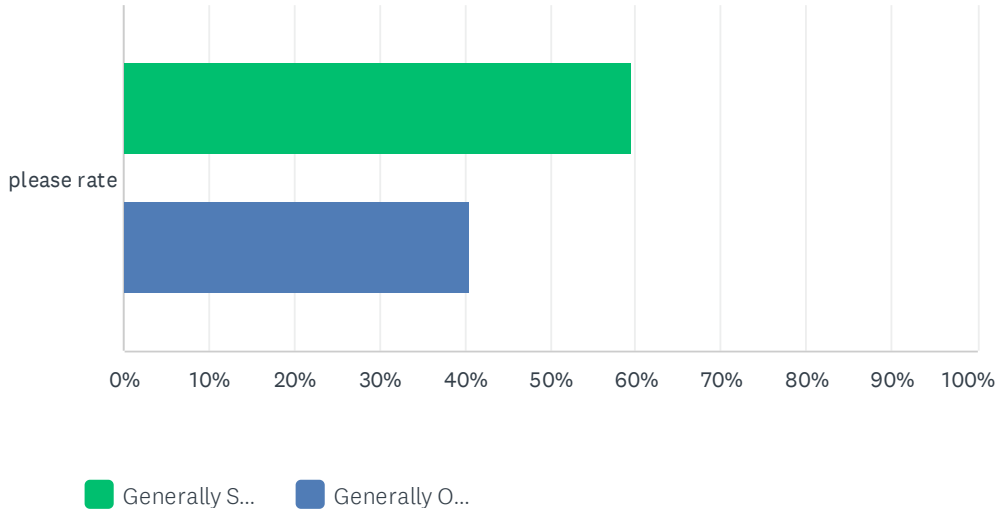
Answered: 92 Skipped: 127



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	58.70% 54	41.30% 38	92	1.41

Q85 CEO Recommendation 8 Notification when the County determines the application is complete will include a postcard, email blast, newspaper notification, and social media posts and advertisements. Notifications should be sent to the entire County and occur 24 hours after completion.

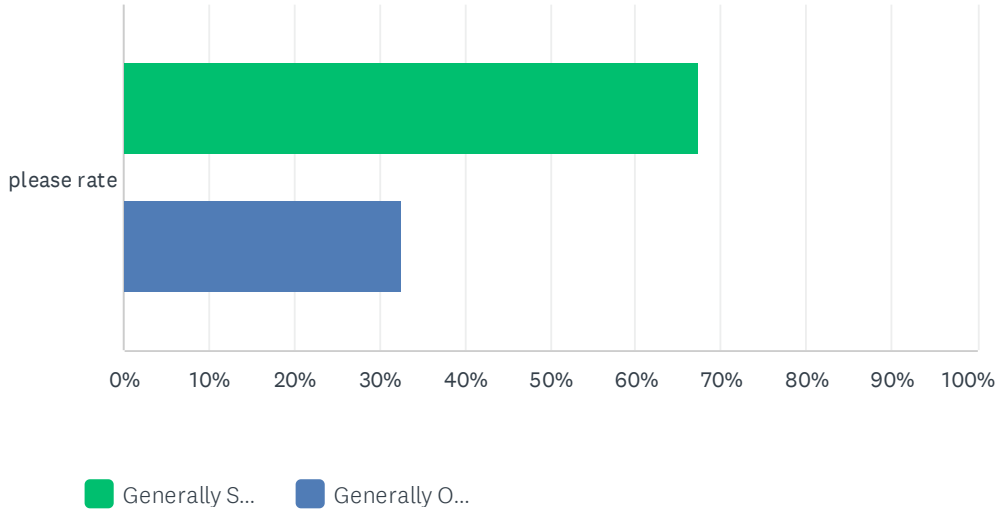
Answered: 89 Skipped: 130



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	59.55% 53	40.45% 36	89	1.40

Q86 CEO Recommendation 9 Notifications for Solid Waste Advisory Council (SWAC) meetings should include website posts and email blasts to interested groups and people already on the existing email list. Notifications should be sent 1 - 2 weeks before the meeting.

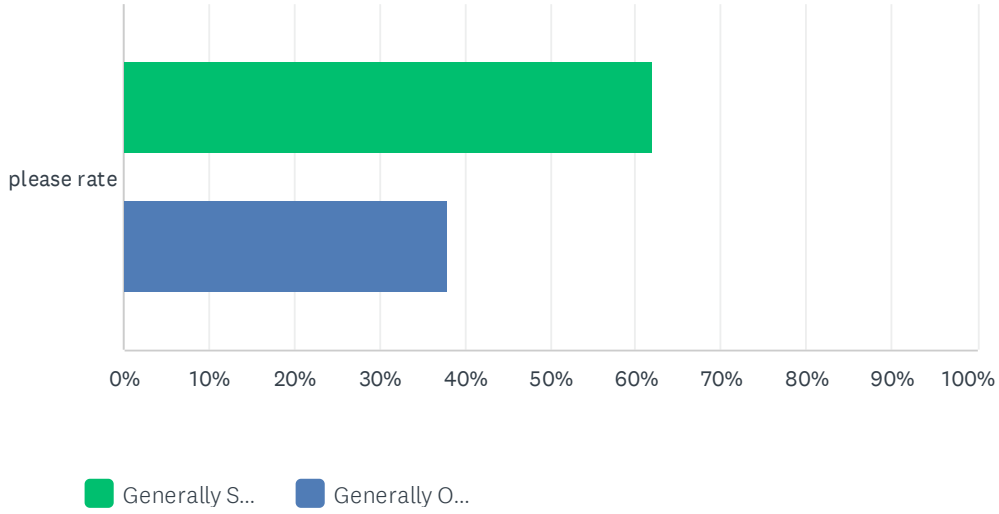
Answered: 95 Skipped: 124



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	67.37% 64	32.63% 31	95	1.33

Q87 CEO Recommendation 10 Notifications of SWAC recommendations should include website posts and email blasts to interested groups and people already on the existing email list. Notifications should be sent out 24 hours after the recommendation.

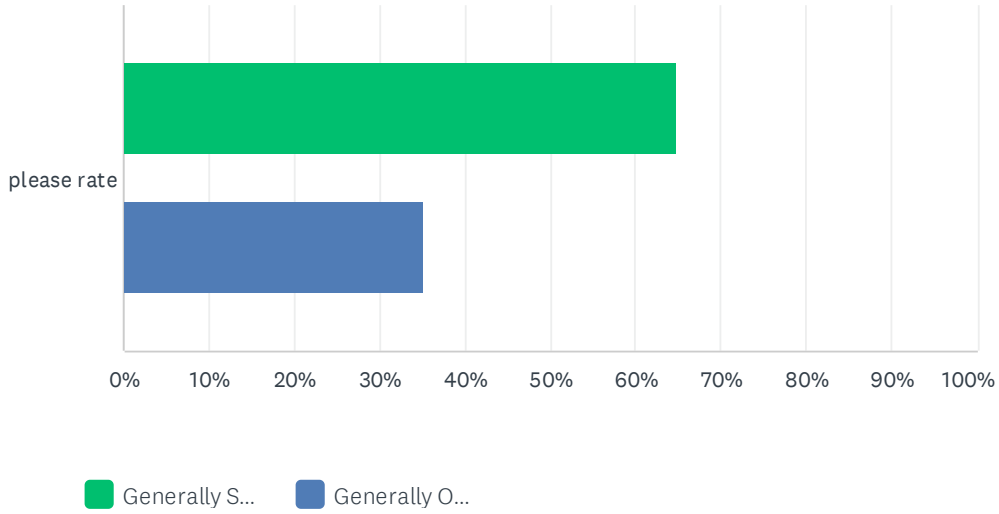
Answered: 95 Skipped: 124



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	62.11% 59	37.89% 36	95	1.38

Q88 CEO Recommendation 11 Notifications for Planning Commission meetings should include website posts and email blasts to interested groups and people already on the existing email list. Notifications should be sent no later than 2 weeks before the meeting.

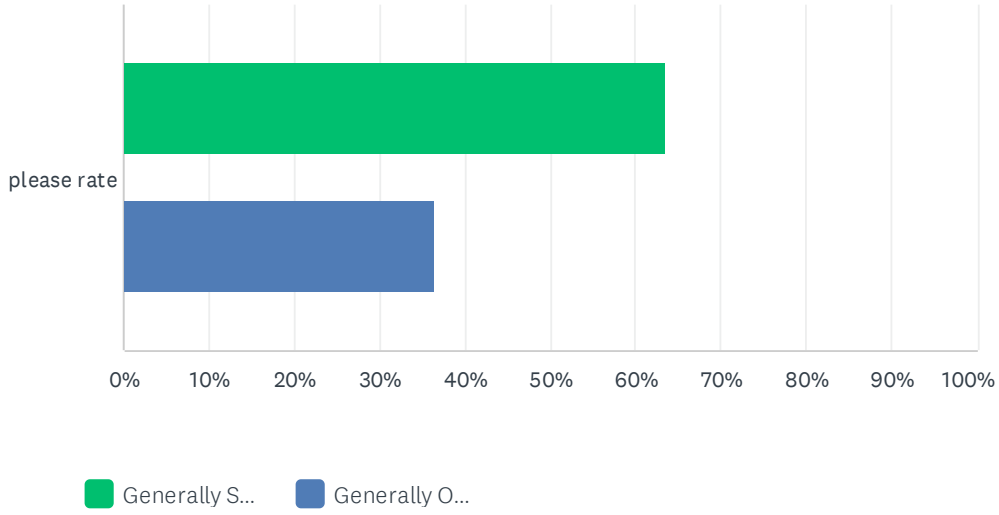
Answered: 91 Skipped: 128



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	64.84% 59	35.16% 32	91	1.35

Q89 CEO Recommendation 12 Notifications of the Planning Commission's decision on the application should include website posts and email blasts to interested groups and people already on the existing email list. Notifications should be sent out 24 hours after the recommendation.

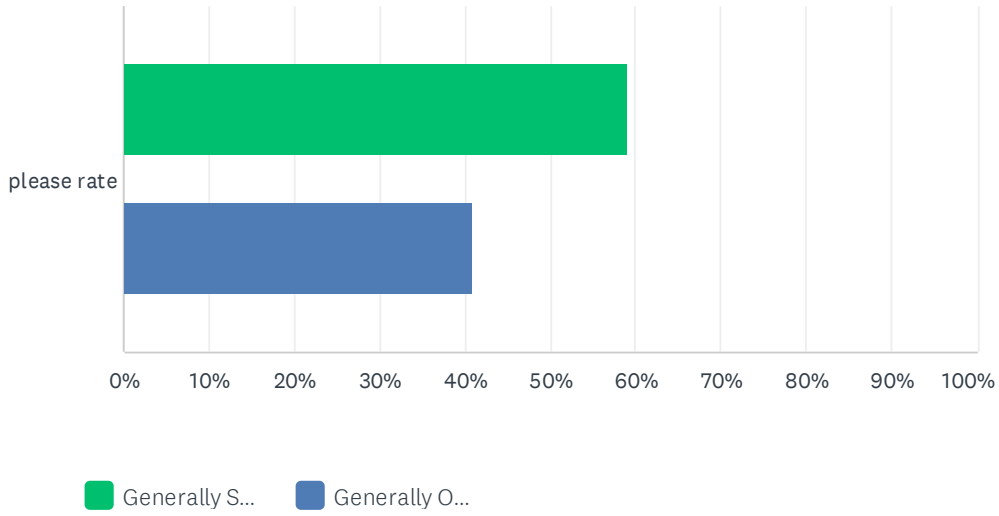
Answered: 93 Skipped: 126



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	63.44% 59	36.56% 34	93	1.37

Q90 CEO Recommendation 13 Notifications of when the Board is hearing the CUP application for approval will include a postcard, email blast, newspaper notification, and social media posts and advertisements. Notifications should be sent to everyone within a 10- or 15-mile radius of the CUP site and occur 24 hours after scheduled.

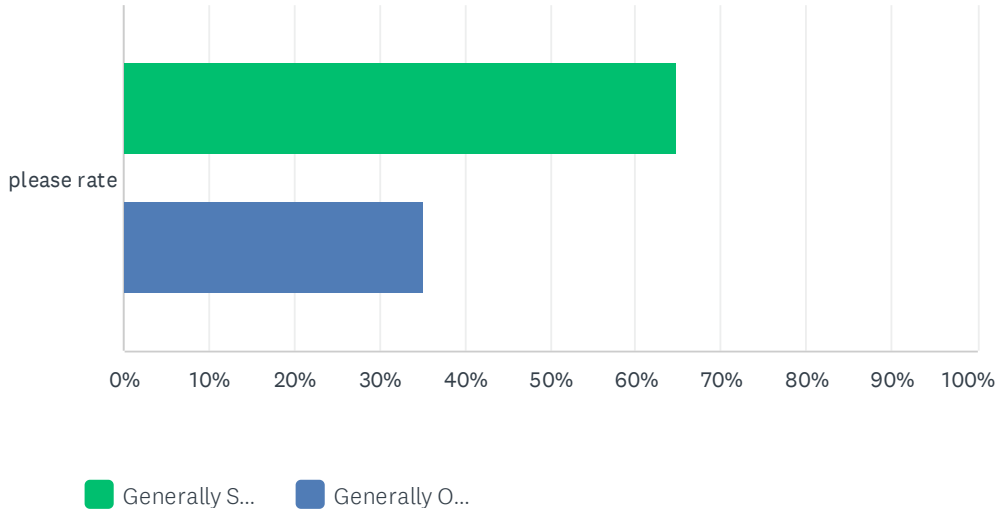
Answered: 93 Skipped: 126



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	59.14% 55	40.86% 38	93	1.41

Q91 CEO Recommendation 14 Notifications of the Board's decision on the application will include an email blast, website banner, newspaper notification, and social media posts. Notifications should be sent out 24 hours after the decision.

Answered: 94 Skipped: 125



	GENERALLY SUPPORT	GENERALLY OPPOSE	TOTAL	WEIGHTED AVERAGE
please rate	64.89% 61	35.11% 33	94	1.35

Q92 Please provide the Workgroup with your additional comments in the box below.

Answered: 30 Skipped: 189

Q93 This box is for you to share any other feedback about Solid Waste Management in Benton County you would like the BCTT Workgroup to consider.

Answered: 48 Skipped: 171

Q33 additional comments
Open-Ended Response

These recommendations appear to provide a framework for the development of the SMMP. As a resident of Benton County, rather than a member of the SMMP team, I find the recommendations so general that it would be hard to oppose any of the recommendations. I don't see how my input, or anybody's for that matter, on a lot of boiler plate is really of much use to anyone. I would like to know when you are going to get to the real issues like the fact that a landfill for northwest Oregon really doesn't belong in our wet environment. Or that Republic Services requires all rural customers to have weekly trash, yard waste and partial recycling pickup. We compost and have very little trash, but we do have some. Bi-weekly or monthly pickup would much better match our needs.

The County sells its residents short with this plan. If the Company backs out altogether, would the County run the landfill? Is BC hostage to a waste monopoly? Who is paying County staff time and effort for this greedy expansion request? The Company I hope, not our county taxpayers. The waste of community volunteer time also should be assessed to the Company. A few million a year is simply not worth it to the County -- the Company needs to offer much much much more to have taxpayers even think this is a good idea. If the Company tries to hold BC residents hostage to higher rates, let's call their bluff, let's sue them for the 1999 fire costs and everything else. BC has leverage and needs to use it. Finally, how to insure against the expected many externalities that our county residents will pay in the future. Instead of a sleepy beautiful county and small town (Corvallis), we will be known as the garbage dump of the Willamette Valley. How much is that worth?

Republic Services is part of BCTT, but they should NOT be involved in the RFP process. Community volunteers from BCTT would be OK. A primary role should be given to the county's long-standing council for solid waste management (SWAC), at on an equal footing with BCTT vounteers.

Opening our dump to materials from other counties, while expedient and profitable for the operators, is a mistake. Benton County is rapidly running out of room and public use if “our” dump is becoming prohibitively expensive. In addition, the effects on neighboring properties is causing justifiable resentment.

The County staff and commissioners have systematically failed the residents of Benton community by allowing Republic Services to profit at the expense of the health and well being of Benton County Residents. The county has decided to allow Republic Services to dramatically increase the amount of material is accepts in Coffin Butte, thereby leading to a unnecessary "need" for expansion. To right these wrongs the County and Republic Services has committed, the County must reject any large-scale increase in the footprint of Coffin Butte outside the plan to move into the Kniferiver Area north of the current landfill. The County must also stop Republic Services from spreading medical waste ashes as a "cover" on top of of trash. The County must also halt Republic Services from accepting trash from other portions of the state in the volumes that it currently is accepting.

Include an epidemiologist in the work plan/group to assess local rates of cancer. Include a hydrologist in the work group as well as air quality expert. Include the tribes who's land we are on. include neighbors no matter how painful it might be to hear what neighbors endure on a regular basis. Provide internship opportunities for student in secondary, under grad and post grad college students in related fields. It's their future in our hands. Include operators of water and sewer treatment both locally and from training programs.

In my experience working in environmental remediation, the more checks and balances in place the better we can ensure the long term goals of sustainability and ethics are adhered to. Having multiple contractors can help reduce the weight on the SMMP by acting as watchdogs of each other's work during the project. From my experience it is an effective way to use the competition of the private sector to double check the effectiveness of oversight.

My main concerns are that we stop expanding Coffin Butte to accommodate other peoples' trash and that we do all that is possible to reduce our waste, including requiring waste reduction processes of all communities that contribute to Coffin Butte.

Who is opening each trash bag and tallying the banana peels? This sounds like a waste of the millions it will cost to conduct what is simply put as a "waste audit."

There is a problem with #16 Recommendation 11 - both responses are labeled the same.

Sustainability should start with manufacturing practices and components. After-the-fact waste management just shifts the burden of disposal to the community. For example, why can't Mason jars be used for glass containers? And, why is Styrofoam still commonly used? Why aren't milk and water and all soft drinks provided in recyclable containers? Without front end changes, nothing will improve and the community bears the biggest burden of waste management.

I think the most important thing is that the SMMP be completed before any further decisions are made about expansion or changes to the county's solid waste contracts. That way decisions are made with a long term comprehensive view of the true costs and benefits of choices and their alternatives.

Your survey is complete RUBBISH!!! This is NOT a survey, it is a tool designed to solicit support, to sway/educate/indoctrinate people into supporting your insular, misguided approach. Surveys don't have LONG, complicated questions that frame the issues in a positive light (using words like "sustainable", "positive", and all of the other loaded words you've used). Surveys don't include loads of acronyms, which were defined much earlier in the document (duh!). You have violated so many basic principles of surveys that I'm not even willing to keep going. This survey speaks volumes about what's wrong with your process and approach!

This information is incredibly dense for the general public. This information was distributed poorly to the general public, who do not have enough time to digest the information, ask questions, and become better informed in order to make proper decisions and have their voices heard. This effort should be for the people of Benton County, and supported by the people of Benton County. Without the correct representation, this data is skewed and inaccurate, taking into account political and bureaucratic interest when it doesn't belong.

I reaching the goals of this project, ry not to get bogged down with the flexibility, fluidity and inclusion. Push on to the best potential outcomes. Consider using “must” versus “should”.

A definition of RFP would have allowed more clarity.

The SMMP is just a paperwork laden complication that reduces transparency of the problems we are facing. Having hundreds of pages of "fluffy" language and acronyms obscures the problem at hand. Please make future resources more cut and dry with tangible action items and expected results. Benton county can't support the amount of trash coming in. Someone should have said "no" long ago. Protect the environment, protect the quality of life of those living in Benton County (many of whom are here for the outdoor opportunities), and protect the home values of those living in proximity to coffin butte. The complexity of this topic is unnecessary. Let community members vote on how to proceed. Do we want to expand the size of coffin butte? Do we want to continue to allow other counties to dump their waste? How do we increase sustainability is something this committee can provide. Offer resources and ideas, complete community trials, then again, we can vote. Creating committee after committee and collaborating with county after county will slow down the process and prevent meaningful change.

A lot of these recommendations above do not point to a major concern i have about Republic Services being part of the selection process. I just want to confirm that the landfill operator would not be on the evaluation committee. Also, can somebody provide a timeline for getting a waste management plan in place. All of these efforts seem to just kick the can down the road. What is, as of today, the county's plan for dealing with the landfill when it closes? Who is in charge of managing the leachate in that scenario? What about maintenance of infrastructure in general? The methane generation facility as an example. Is Republic just planning on handing that over to the county? What happens if there is a major event like the 1999 landfill fire? Or a rain event like 1996 and leachate ends up getting into the surrounding water supply? Does the existing fund for disaster response really cover any of these scenarios? What is the vendors liability? We need an action plan, not a plan to make a plan, and especially not using Orwellian language like some of the recommendations above. Please just give the public straightforward language so they can provide straightforward feedback. If the landfill was to expand, what would be the impact of that expansion? For example, how is the landfill vendor going to deal with all of the additional leachate in that scenario? What is the cost of keeping the landfill open, versus transferring the trash to other available sites? Do we really need to do an RFP and spend what will probably be millions on another consultant, just to come up with a plan for eventually figuring this out? If the landfill truly only has 3-4 years of capacity left, is this really the approach needed to meet a time frame for an expansion decision? Steps need to be taken NOW to figure out how to handle this. Otherwise, it is likely to turn into an emergency situation before any roadmap is created.

I am opposed to increasing the size of the current landfill. It will further impact residential homes near the landfill, and I believe that health concerns of residents who live near the landfill should be prioritized and addressed.

I strongly suggest question 30 to read: The County should absolutely have a SMMP in place prior to any major materials management decisions.

Consider not expanding the landfill and phasing to other Republic sites . And absolutely NOT raising tonnage cap. Local agencies will not get increased revenue when the landfill moves but it is inevitable. Current staff should make the sustainable materials management plan and not keep draining taxpayer funds for constant consultants.

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1. Do not raise the annual cap on waste coming to the landfill. 2. Do not expand the landfill. 3. Stop wasting taxpayer dollars on outside consultants. Use county staff. Our county commissioners are highly paid. They should have been able to reach a decision by now that will benefit county residents.

Thorough and well developed proposal.

This survey is very difficult to decipher/understand.

What about mining the landfill? It must have tons of usable materials. I think in the future landfills are going to be desirable assets for recovering otherwise depleted materials.

Employees of republic Services and Knife River should not be members of any workgroup due to conflict of interest.

SMMP F6, R3 and 4: There should be no implication that SMMP in Benton County or anywhere that sends waste here will have any impact at Coffin Butte, per se, because Republic Services and not Benton County has power over how they fill their tonnage cap prior to expansion, or lack of tonnage cap if expansion is approved. Any reduction in the contribution to that tonnage by Benton County or any other entity will have no impact on the life span of Coffin Butte or any other impacts of Coffin Butte landfill to the neighboring community because Republic Services choose to sell its services to other entities to replace tonnage reduction that may result from SMMP. That needs to be very clear to the public in the SMMP process.

On the topic of waste disposal in Corvallis: Why can't the city REALLY encourage everyone to put their garbage cans OUT OF PUBLIC VIEW? Get the GT involved with photos, etc. Even million dollar houses often just leave all their cans sit by the garage!!! Our city is supposed to be #! in many areas but it sure fails in this area of general beauty; The garbage company has never done much to help. I know as I have asked them to do so through the years more than once without much effect!! Please consider my plea Thanks

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Almost impossible to clearly answer in support or opposition to recommendations that have sometimes oppositional statements. The adoption of jargon ("SMMP") that has no clear definition or link to solid waste sets up a bifurcated system to analyze both linear "waste" and cyclical "recoverable materials." Neither is being served by this split between true waste disposal and recoverable materials. The premise of adopting "new-speak" jargon hampers the entire enterprise of the BCTT, and community concern is only heightened when presented in the public arena through the truly expansive list of overlapping recommendations.

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16 SMMP Recommendation 11 — Only gives the “generally support” option twice there is not a “generally oppose” option. 27 SMMP Recommendation 22 — It would not be acceptable if members of the stakeholders group deciding on the best proposal included any Republic Services employee. 31 SMMP Recommendation 31 — The County should only use landfill revenue to support the SMMP recommendation.

This is ridiculous.

This is a wordy survey that is poorly defined and hard to understand all the lingo. If I didn’t fully understand the question I said “Don’t support”

Don't let this program fester. When RFPs are turned in, don't open the proposal time for revisions.

Please limit the amount of milestones or decision points that require public input in this process. I would much prefer that a group of experts and professionals develop and work towards achievable goals vs NIMBY neighbors that want to drag out the process and add layers of bureaucracy under the guise of stakeholder equity as a delaying tactic. Not everyone has an equally valid or meaningful opinion on the intricacies of waste management.

Question 16 has the option to support it twice and no option to oppose.

This plan feels like it will ultimately cost us more money and does not consider at all the community benefits of the CCoffin Butte landfill. Why are they being framed as the bad guys?

Please provide a focus that includes the waste stream for PLASTIC. I feel we are not doing enough to find ways other than landfill for various grades of plastic.

Recommendation 27 is very critical and it is surprising this has not been done before. Major industries with effluents have to report these data. There should also be analysis of air, water, and soil samples near and far from the waste site to determine the most which species from the site are being transported to the local environmental. I am basing this on 40 years of experience as an analytical chemist often working on environmental transport. This analytical survey should be done early in the process because the findings will affect some of the recommendations. As I read recommendation 27, it is unclear what the materials audit applies to? Is in the input from all sources?

These are all lofty goals, but good ones. One thing that I'm finding is missing is clear and honest communication to the public (via digestible and visible platforms - not just reports) regarding WHERE our recycled waste is ending up. This is a service we are paying for under the assumption we are making the world, and county better. However I've heard from numerous sources that a large majority of our recycling is just dumped due to capacity and sorting issues. The public deserves answers as to what percent of our recycled goods are actually recycled, and if this is a dire number we need solutions.

The average citizen, who are the primary stakeholders, could not understand most of the above recommendations. It seems foolish that the cost to dump sustainable materials (compost, building waste, etc.) for the average homeowners is nearly the price (sometime exceeds!) the price to dump garbage. Yard waste used to be affordable to dump and was measured by the yard - now it is weighed, and now I burn instead! Also, there are now no viable options for those that generate little trash (such as economical on-call pickup, 1x per month, etc), which actually incentivizes loading up the bin! Please don't cow-tow to Republic's gloom and doom scenarios. Benton and surrounding counties are the market - drive a deal that benefits the residents, not Republic execs. If they wish to pull out - let them! I can take my own trash and yard debris to the locations while another entity moves in to take advantage of the opportunity. And PLEASE, stop the influx of refused from out of the area and out of state - if it needs to come to Benton County, maybe have it piled in Reset Stadium.

THE COFFIN BUTTE LANDFILL SHOULD "ONLY" TAKE REFUSE FROM BENTON COUNTY !!!!

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wow, very thorough study by BCTT folks. I moved into an apartment where they do not offer 'yard waste' collection, I miss that and will ask the managers to consider. thank you for the opportunity to comment

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It would be great if the county could require trash management services to offer glass recycling throughout the county - a not-insignificant portion of my trash is glass. I just don't have the time to always take it in (I'm sorry!!!) but I live less than half a mile from folks who do have glass recycling, so this seems ridiculous.

All the recommendations in this section are so poorly worded as to render them near-useless. There is no consistency in terminology. It's very difficult to evaluate and then "generally support or oppose" these recommendations when they are largely illogical or impenetrable or contain more than one recommendation or do not contain enough information. This is truly a sad state of affairs considering the County is in desperate need of a new materials management plan! Here are some observations: Q8 - SMMP R3: This recommendation has a typo: where it is currently written, "... can better manage materials, but to also address..." there is an errant "to" in there. It should read "...but also address..." -- i.e. no "to" between "but" and "also." Yes I "generally" support this recommendation, but again, it is poorly worded. Where it says "RFP firms", for example, does that mean consultants who respond to the RFP? This could be better worded. How about something like, "It is recommended that Consultants who respond to the RFP have experience with Oregon's materials management legislation and policies." Q9 (R4): unintelligible Q10 (R5): unintelligible By unintelligible, I mean I can tell it is trying to say something meaningful, but it is so poorly worded as to make whatever message attempting to be made impossible to parse. Q11 (R6): Near-unintelligible, but I can "generally support" this one. I think it would be much clearer to say: Any cost-benefit analyses contained in the SMMP must include *indirect* costs and benefits (such as to environment and health), not just direct costs and benefits (such as garbage rates and franchise fees). Q13 (R8): unintelligible Q15 (R10): The first part of this sentence ["the SMMP subcommittee researched other jurisdiction's plans, compared and aggregated a list of subjects, and"] should be deleted, because it is not even a recommendation. It should begin with the words, "The SMMP should evaluate…" and should read: "The SMMP should address the subjects listed in the full subcommittee report, including answering the 117 questions (as RFP priorities allow) and include recommended courses of action." Further, I am only supporting this because I happen to know about the "117 questions" and they are extremely important. For the general public to be able to even attempt to respond to this particular survey question intelligently you should have provided a link to those 117 questions, just like you did to DEQ's "Materials Management in Oregon 2020 Framework for Action" document in Q6 (R1). Q16 (R11): "Qualities of a successful applicant…" again, a live link should be provided to those "qualities" that are "listed in the full subcommittee report." How are we supposed to support or not if we have no idea what those qualities are? Q17 (R12): Again, I "generally supported" this, however once more it is poorly worded — how about, "The scope of this SMMP is expected…" (not "The scope of work for this project is expected…") Q18 (R13): Here is an example of a recommendation that is not only

Q27 (R22): Based on the "above criteria?" What "above criteria" is this recommendation referring to? The prior recommendation (R21)? Or all the prior recommendations leading up to R22? Q28 (R23): Again… it's clear something is trying to be said here, but the wording is opaque and therefore the intention is ambiguous. Q29 (R24): Mostly readable, however a word appears to be missing; the second sentence should read "The sections of the workplan outline should include…"

All the recommendations in this section are so poorly worded as to render them near-useless. There is no consistency in terminology. It's very difficult to evaluate and then "generally support or oppose" these recommendations when they are largely illogical or impenetrable or contain more than one recommendation or do not contain enough information. This is truly a sad state of affairs considering the County is in desperate need of a new materials management plan! Here are some observations: Q8 - SMMP R3: This recommendation has a typo: where it is currently written, "... can better manage materials, but to also address..." there is an errant "to" in there. It should read "...but also address..." -- i.e. no "to" between "but" and "also." Yes I "generally" support this recommendation, but again, it is poorly worded. Where it says "RFP firms", for example, does that mean consultants who respond to the RFP? This could be better worded. How about something like, "It is recommended that Consultants who respond to the RFP have experience with Oregon's materials management legislation and policies." Q9 (R4): unintelligible Q10 (R5): unintelligible By unintelligible, I mean I can tell it is trying to say something meaningful, but it is so poorly worded as to make whatever message attempting to be made impossible to parse. Q11 (R6): Near-unintelligible, but I can "generally support" this one. I think it would be much clearer to say: Any cost-benefit analyses contained in the SMMP must include *indirect* costs and benefits (such as to environment and health), not just direct costs and benefits (such as garbage rates and franchise fees). Q13 (R8): unintelligible Q15 (R10): The first part of this sentence ["the SMMP subcommittee researched other jurisdiction's plans, compared and aggregated a list of subjects, and"] should be deleted, because it is not even a recommendation. It should begin with the words, "The SMMP should evaluate…" and should read: "The SMMP should address the subjects listed in the full subcommittee report, including answering the 117 questions (as RFP priorities allow) and include recommended courses of action." Further, I am only supporting this because I happen to know about the "117 questions" and they are extremely important. For the general public to be able to even attempt to respond to this particular survey question intelligently you should have provided a link to those 117 questions, just like you did to DEQ's "Materials Management in Oregon 2020 Framework for Action" document in Q6 (R1). Q16 (R11): "Qualities of a successful applicant…" again, a live link should be provided to those "qualities" that are "listed in the full subcommittee report." How are we supposed to support or not if we have no idea what those qualities are? Q17 (R12): Again, I "generally supported" this, however once more it is poorly worded — how about, "The scope of this SMMP is expected…" (not "The scope of work for this project is expected…") Q18 (R13): Here is an example of a recommendation that is not only meaningless, it contains multiple recommendations. For starters, item 1) we ABSOLUTELY should not waste peoples' time "providing details about the Workgroup process"! And items 2 and 3 are so general as to be completely meaningless. Q19 (R14): Again, poorly worded… but at least the gist is there. Q22 (R17): what does this even mean??

Q23 (R18): ditto Q25 (R20): poor wording, more than one recommendation. Q26 (R21): unintelligible Q27 (R22): Based on the "above criteria?" What "above criteria" is this recommendation referring to? The prior recommendation (R21)? Or all the prior recommendations leading up to R22? Q28 (R23): Again… it's clear something is trying to be said here, but the wording is

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This is too long?!? For some one just getting a flyer in the mail trying to learn what is going on… I'm completely lost!!!! Sorry need more uptake before a survey

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This regional landfill is key to a very large area surround it that the landfill services. It is key in terms of the feasibility of solid waste disposal. If this landfill is inactive or the regulations and requirements to dispose of solid waste become too expensive, the cost of solid waste disposal will and could go up a significant amount, making it difficult for citizens in its service area to dispose of their solid waste. This has a trickle-down effect from businesses whose disposal costs go up that then pass that increase on to their customer who is also getting charged an increase in their cost to dispose to the landfill as well. Unfortunately, illegal dumping becomes appealing. If the landfill is no longer operating or if the cost of doing business for the landfill gets too high, the next likely closest landfill is in Arlington, which is much farther away for the current customers, which will require more resources to haul solid waste from mid-western Oregon. I implore those making the decisions to be mindful of repercussions of passing regulations that increase expenses making it more difficult to dispose of solid waste. I realize the importance of long term planning, but increases to landfill costs don't happen in a vacuum.

I am not sure the purpose of this "survey". It seems a bit odd. If the overarching question is "should the County do a better job of managing waste in the County and waste delivered to Coffin Butte?" ..the clear answer is a very loud "YES". But if the dump were not in Benton County, there likely wouldn't be the urgency or interest. The point is this is a state or regional issue. I would suggest that funding for the SMMP be from a surcharge on all waste dumped at the landfill. That way, the users of the dump are funding the study. Benton County rate payers would only be on the hook for a small percentage of the cost since Benton County residents only contribute a small percent of the volume to the dump. The money from the surcharge should be in a separate fund, not in the General Fund. This is particularly important since the Commissioners have been using solid waste fees for general fund purposes while ignoring their obligations to fund a competent waste management program. I would also suggest that the County hire outside legal council to assist in this endeavor.

Coffin Butte Landfill is the largest single aspect of materials management in Benton County. These recommendations ignore the most important question about which information is needed now. What are the alternatives to continuing to have an active landfill in this location? How can a successful transition to alternative disposal locations be developed and implemented?

The workgroup should work to ensure the following: 1. That Corvallis, Albany, Salem, and other communities continue to have access to a landfill within 60 miles of where they live. 2. Minimize impacts to neighbors and environment while also recognizing there is no perfect solution. We should address and mitigate problems, not kick the can to another community. 3. Engage with community members and reach out. Understand there are hundreds of thousands of people served well by the current waste management arrangement who may not be the most vocal in their opinions and objections.

The stakeholders group should include residents of Linn County, since Coffin Butte serves the whole county.

It's disheartening to see all the waste litter on the side of road shoulders on both sides of the road and thins like metal or two by four with nails he ving me a flat tire And living in Adair we get the methan smell at times , not a fan .

This is a good idea

An audit could provide good information but likely no surprises. DEQ does waste composition studies and is in the process of doing that currently. It will be interesting to see if these yield similar results.

I believe #9 and #13 are extremely important. Re #9, regionally, we all need to be on the same page!

RFP's and Consultants add costs for planning. Having too many people on a committee usually takes more time to make effective decisions for actions to take place. OSU is a valuable partner for information on sustainable policies and procedures. San Francisco is working on reducing Trash. Corvallis should and other Coffin Butte contributors should start reducing trash NOW. Reduce the sale of plastic products that cannot be recycled. Recycle all plastic. Do a better job sorting trash to reduce garbage.

Stop accepting all trash coming from north of Salem. This would extend the lifetime of the current footprint. Charge the landfill a hefty fee for each load of toxic leachate leaving the facility and needing treatment.

The TAC should include subject matter experts from Oregon State University, other regional research institutions, and engineering firms or other geotechnical experts with experience in the field. I oppose the participation of the current community members in any further stakeholder or other advisory role. In general these items are poorly written, contain too many dependent clauses and are too long. This makes it difficult for the average Joe to comprehend the items. Further, some of the items address more than one concept; I'm required to agree with both or disagree with both. Sometimes, that's not the case.

Q46 additional comments

Open-Ended Response

I support the County's involvement in most items and commitees. I support Stakeholders who have permanent residences in Benton County also being involved. I do NOT support Stakeholders from outside Benton County as they will have COI and a NIMBY attitude (well, it's not in their backyard).

Cap the tonnage allowed at Coffin Butte

Transparency in all decision making and reports. Any decision in opposition to stakeholders' positions should be justified. Collaboration and education with all the residents of the county should be an on-going part of any program. There was a time when seat belts were mocked. It took education of the public to get them to be accepted as a norm. Same with these issues. Republic Services or any other permit holder should agree to a robust on-going education program that is not just a PR piece.

I drive by coffin butte frequently and activity along Hwy 99 is often unsettling and raises questions on how well waste is handled locally. A detailed report measurements from both ORDEQ and third party confirmations (from companies with not even vague financial ties to waste management) would go a long way in easing those concerns.

The execution of the 2020 Landfill Franchise Agreement in private, without the knowledge of affected residents of Benton County, was an egregious breach of trust of the population, and strongly influences and taints all other steps that Benton County takes regarding solid waste and related topics. It's clear that short-term monetary considerations outweighed other factors in the signing of this agreement. Residents most directly affected by negative impacts of the Landfill are effectively being thrown under the bus to support a stream of discretionary income for the County. This lack of trust and credibility will spill over to other County efforts, most notably the proposed justice center.

All of this discussion assumes no changes to the front end of product life cycles and manufacturing processes. This is the tail trying to wag the entire dog.

With each page of this survey, I get more infuriated! Most of the "questions" include a long list of things, so it's completely confusing what one is "supporting" or "opposing". This is BASIC BASIC BASIC stuff, people! Whoever designed this survey clearly doesn't have a clue about what he's doing! You also reference all kinds of info. that is not presented, people who are not identified, and entities many people don't trust (e.g. Benton County - the commissioners are "asleep at the wheel"). This entire survey is complete junk!!!

This whole survey feels like an opportunity to brag and say "look at all the good work that is going into maintaining the standards for this landfill. We consider every possible option, want to keep the public as informed as possible, and want to show how progressive and critically thinking we are in this effort. Now please help us pat ourselves on our backs and give us the participation trophy we deserve." Not once does this survey cover the ethnicity of weather or not the public of Benton County supports and approves the expansion of annual tonnage, usage and size of the Coffin Butte Landfill.

In reaching the goals of this project, try not to get bogged down with the flexibility, fluidity and inclusion. Push on to the best potential conclusions and outcomes- at this time. Consider using “must” versus “should”.

Please factor in the greenhouse gas emissions from the tailpipes of trucks, especially those coming from and going to afar.

Compost and recycling are two things I think this community value and support. There are systems available to mitigate these natural processes that ultimately can enhance the livability of the community. Having a junkyard of non biodegradable items on the edge of town is very different from composting, which ultimately creates fertile soil to help replace that lost from commercial farming, pesticides, and climate change.

Can we get a better explanation for this statement? "The County should then use this information to inform landfill-related decision-making. These negotiations were conducted privately (not in public meetings), and there are elements of these discussions that may be proprietary and/or fall under attorney-client privilege." Who is being covered by attorney client privilege here? Why? #45, what about the role that moisture plays in methane production? Shouldn't this be part of the analysis?

Question 45: Of course this element would be considered in the SWMMP

No tonnage increase allowed in any future CUP

1. The LSCL committee should clearly recommend that the annual tonnage capacity should not be raised. Frankly if the cap isn’t increased then I doubt that Republic will push to expand the landfill because of the increased costs they will incur without the increased revenue from the cap increase.

It is important that we understand why the 1983 and later prohibitions against expanding south of Coffin Butte Road were not completely accepted by the county and have formed the basis for the continuing creep of expansion efforts across the road. This aspect of the history is murky and reeks of insider collusion between the county staff and corporate owners of the landfill. We have been sold down the river over and over again by the county staff and legal advisories who do not have the best interests of Benton County residents in mind.

Recommendation 7: The SWAC membership and processes need to be evaluated and potentially improved. SWAC has not shown itself capable of rigor or impartiality in the past.

Continued comments: As examples, good and poor, just drive around new and older subdivisions in this area. The newest one in Ponderosa Ridge already has some who never put their cans out of public view!! Then drive into Oak Knoll off Western to see or NOT SEE ANY Garbage CANS ever in PUBLIC VIEW! Past Pick up time days. QUITE a DIFFERENCE!! The city/county has got to have some impact on this problem!! Create codes for all new residential areas, etc. Provide rebates for putting up a 6 foot fence panel to hide cans for existing homes, etc. Thanks for reading all this

Premises in many of the questions that I oppose are either not factually derived (34,45), assume the county has a clue about its residents' goals and values(44), or beyond the regulatory scope of the county (45). The continued restatement of the peculiarly derived "sustained materials management plan" deflects from the county acceptance of solid WASTE, and all of its derivatives, forever.

#34 LSCL Recommendation 1– Board and County staff has no control over Republic’s Coffin Butte landfill other than allowing expansions the existing tonnage cap which would go away with any expansion. This recommendation appears to allow the Board of and the County staff the consideration of continuous expansions. #37 LSCL Recommendation 4– Add a number 6) to determine which County staff members recommended closing COFFIN BUTTE Rd. prior to last landfill CUP application and why.

This is also ridiculous.

It still doesn't seem right that Benton County should be the waste repository for all of Western Oregon without some compensation, unless other counties are willing to assume that role in the future.

I understood these suggestions. Thank you to whoever wrote them.

Generally, this is an incredibly in-the-weeds and non-accessible survey. I consider myself a pretty connected/informed community member and there are many terms and concepts that are part of this survey that are confusing and difficult to understand. For any future outreach/engagement please consider a much much shorter survey with more accessible language including a glossary of terms and concepts as needed. In addition, please include an additional answer of 'unsure' or something along those lines in addition to 'generally support' and 'generally oppose'.

Recommendation 12 is critical.

Please communicate the basics of where our solid waste is going, and how Benton County itself is meeting its own greenhouse gas emission initiatives.

The generation of all of the above was a waste of time and money - recommendations need to be much more succinct and actionable.

STOP ALLOWING OTHERS COUNTIES TO DUMP THEIR TRASH IN BENTON COUNTY !!!!

To repeat myself, encourage City/County apartments to offer organic material recycling containers along with other 'garbage' pickups.

The methane emissions definitely need to be studied before the landfill can be expanded.

This section is far clearer than the SMMP subcommittee section. I can generally support all of them.

This section is far clearer than the SMMP subcommittee section. I can generally support all of them.

This regional landfill is key to a very large area surround it that the landfill services. It is key in terms of the feasibility of solid waste disposal. If this landfill is inactive or the regulations and requirements to dispose of solid waste become too expensive, the cost of solid waste disposal will and could go up a significant amount, making it difficult for citizens in its service area to dispose of their solid waste. This has a trickle-down effect from businesses whose disposal costs go up that then pass that increase on to their customer who is also getting charged an increase in their cost to dispose to the landfill as well. Unfortunately, illegal dumping becomes appealing. If the landfill is no longer operating or if the cost of doing business for the landfill gets too high, the next likely closest landfill is in Arlington, which is much farther away for the current customers, which will require more resources to haul solid waste from mid-western Oregon. I implore those making the decisions to be mindful of repercussions of passing regulations that increase expenses making it more difficult to dispose of solid waste. I realize the importance of long term planning, but increases to landfill costs don’t happen in a vacuum.

I am not sure of the purpose of these survey questions. If the question is "Has the County been lax in monitoring and regulating the landfill and is the County poorly equipped to regulate a major, statewide landfill and to manage the adverse impacts"....the very loud answer is "YES, the county is poorly equipped and quite incompetent when it comes to regulating all waste matters and has done an exceedingly poor job". If the question is "Should the County get its act together and do a professional job"...the answer is YES. The County has taken in money from the landfill but has not funded adequate supervision, review, investigation, or implications of a growing environmental problem on the horizon. The County has not retained professional or legal assistance competent and informed on landfills but has used a generalists with no knowledge or experience with landfills. The County has ignored all warnings from their own advisory committees and knowledgeable citizens in the community. The County for years has bumbled along. The title of this section is LANDFILL SIZE/CAPACITY/LONGEVITY (LSCL). The County really has no clue and the numbers keep changing for reasons (manipulations) the County doesn't even understand. As a result, citizens have no trust at all in the County's ability to monitor or regulate the landfill or to insure it does not become an environmental liability for county residents. Obviously the landfill will be closed in the not too distant future. The County has no idea when or how to close the landfill and the implications of the closure...other than the chicken little strategy...the sky is falling. The County needs better leadership and management. Time for change.

More education about composting that keeps organic material out of the landfills is a positive step that I support. We need more organic material to maintain healthy soils and concentrating it in a landfill is bad for all around.

I agree with the effort .

Many of these questions demonstrate a lack of understanding of how landfills operate and changes in recycling, composting and food waste initiatives in Oregon. This group has been focused on taking the lead not understanding that much of this work is in process on a statewide level. The process seems determined to be directed by landfill neighbors with a lack of knowledge or input from experts.

LSCL #3, #7, #9 are vital actions needed to understand present and projected future states. It's very difficult to plan without metrics! Indeed, these three items, especially #9, will allow better understanding of the entire carbon footprint from start to finish. I doubt we even have a starting point for calculating that. LSCL #8 This seems to reflect upon Republic's desire to play their cards close to their chest. More power to them but I think their agendas are purposely vague, minimalistic, and secretive. Unfortunately, this builds mistrust and I wonder if that mindset played into why LSCL #4 is now necessary. LSCL #10 Absolutely. (Metrics!) LSCL #12 should be broadly coordinated...it may take other jurisdictions or private entities to actually make this concept work. I did not see an explicit statement about sharing the responsibility with community to run the landfill however, in a perfect world I would like to think that Coffin Butte could be run as though it was a public entity and not a profit center. In other words, I'm all for capitalism but the air shed, watershed, view shed, and protecting our sense of place and livability belong to the public and must be defended.

Work to reduce garbage immediately.

The landfill should finance the ability to move into the rock quarry as soon as possible

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Items continue to propose that the county contract with someone. I generally oppose those. When I consider the quality of outputs of the individual who has conducted the meetings and devised the process, I'd say the county doesn't have a good method for evaluating the quality and competence of contractors. Again, items address more than one issue - these are poorly written survey items. Example: The County should take steps to acquire better information about the methane emissions of Coffin Butte Landfill < I agree with this > because the landfill's emissions are currently not well-characterized and use this information to guide diversion programs that could limit the amount of organic waste going to the Landfill.

Q58 additional comments

Open-Ended Response

Why does LLU Recommendation 1 refer to Republic Services as the manager of the landfill and associated services? Why can't Benton County put out an RFP for new landfill service providers? Do we have to continue to let Republic Services run a monopoly based on profit rather than community well-being? I oppose it. LLU 4 Recommendation appears to hide important public comment from the county board. I oppose it.

This is very complex -- it's difficult to understand the pros and cons of each item above.

How about nationalizing Coffin Butte Landfill and kicking Republic Services back to Arizona?

Let's not have the fox guard the hen house, please. Subject matter experts need to be involved as third party evaluators of compiance.

County needs the legal right to terminate the CUP if the holder of the permit fails to stay within the CUP stated limitations.

Once again, you've provided a number of excessively long and complicated statements with numerous provisions and statements. How on earth is someone to know what they are supporting or opposing in all of these MESSES?!!! This is clearly NOT a survey, but it's not even logical and coherent! This is just Blah Blah Blah..

In reaching the goals of this project, try not to get bogged down with the flexibility, fluidity and inclusion. Push on to the best potential conclusions and outcomes- at this time. Consider using “must” versus “should”.

I skipped the mind-bending legalese. Is there a possibility of your redoing those sections so that greater clarity is likely to elicit responses?

1) These items assume that Republic Services will negotiate an acceptable contract with Benton County, which may not be the case. Other waste management corporations exist. 2) Code amendments are badly needed prior to any further CUP reviews for Coffin Butte Landfill. Both chapters 53 and 77 require reality-based updating. They are based on another era of regulation, technology, public concern, and an era of trust-based negotiating, which appears to no longer be the case. These regs were based on a much smaller corporation, not one like Republic with annual revenues exceeding $10B. 3) Any CUP conditions of approval must have clear, measurable standards, including metrics and a timetable noting monitoring periods. Failure to meet conditions would result in suspension of operations, which should be included in any contract approved.

This section is too complicated legally for fair citizen input. The scenarios leave too many questions. Simplify please. Overall, more transparency is needed for SWAC or others to evaluate CUP

The entire survey is too long. The legal section is really unnecessary because it is too complicated for the average Benton County resident!

Only two choices of approval and oppose did not feel right. There is a lot of grey areas between. I also believe SWAC is not necessarily a group of people who are experts in this field, and just go with what Republic presents to them. There is no unbiased watchdog on the landfill and what is going on. I feel these question lead us to believe only republic can run the landfill, I do not believe this is true.

I don’t think Benton County should allow Republic Garbage Services to market our garbage site to Portland and SW Washington especially dead bodies!

The legal processes ensuring compliance as listed in #57 should be rated as highly important. It seems BC has never held any of the owners of Coffin Butte to account and it appears easy for the process to point to 'some other agency… DEQ, EPA etc etc… as the ones who are responsible. Also, efforts to block public knowledge and input to the process because of 'attorney-client privilege' or other corporate privilege.

LLU Recommendation 7 etc. Planning Officials and the Planning Commission need some latitude to use judgement. Circumstances cannot always be foreseen that impact the land use decision. Decision makers should be trusted to exercise judgement when "additional criteria" or unforeseen issues arise.

PLEASE READ the previous comments. Thanks for doing this important work.

The county can not legally empower the informal BCTT to act in any formal role (49). The last sentence in (55) confuses the entire sense of all the former.

#47 LLU Recommendation 1 - needs clarification regarding public notification during renegotiations another 60 days one would like to assume. But assuming is dangerous! #48 LLU Recommendation 2 - needs clarification regarding information submitted during completeness stage? Public would assume evidence would be considered at completeness stage of the process. But assuming is dangerous! #49 LLU Recommendation 3 - Raises questions with BCC 77.310 code clarity? #55 LLU Recommendation 9 - way to vague.

These recommendations are even more ridiculous that the first two sets. As someone who has been involved in issues relating to the landfill for 30 years, I'm exceedingly disappointed that the commissioners have given this forum to what appear to be individuals who live near the landfill and are involved only to advance what they see as their own best interests and don't consider the general welfare of the community in their proposals.

It still doesn't seem right that Benton County should be the waste repository for all of Western Oregon without some compensation, unless other counties are willing to assume that role in the future.

Holy shit. This legal-ese needs to be translated into basic layman terms. WTF people.

I care deeply about this process and thinks that engaging with the public around the community's waste stream is important and I cannot understand what most of these questions are asking. This is maybe the most confusing community survey I have taken in 16 years of living in Corvallis and I hope that the Benton County Talks Trash workgroup takes whatever information they receive from this survey with a huge asterisk. I would recommend scrapping any information that you glean from this survey and starting again from scratch.

Seems like far too many recommendations for a team to effectively track. How can a team focus on this volume of verbiage? No wonder it takes so much time and effort to agree on a direction for Benton Co. The public can't be expected to read and understand the ramifications of the volume of recommendations in his survey.

Let the public vote on all of the above - that would result in much more thought put into the recommendations!

COFFIN BUTTE SHOULD BE USED "ONLY" FOR BENTON COUNTY REFUSE !!!

Too much government in an area where qualified professionals already oversee related activities.

I am not sure of the overarching theme here. I checked "generally agree" because I think the work group is trying to find a fix for the County's lack of transparency and openness. However, it is clear that when it has come to land use or permitting issues related to the landfill, the process has been controversial and unclear. There has also been a feeling that the voice of the public was intentionally muted, discouraged, ignored or rejected. At times, the County has proceeded without public notice and without public input. The County has devoted too few resources to waste management which in turn has led to confusion and distrust. It has not helped that the County has relied on County Council that, in instances, seems to have provided more of an advocacy role than legal consultation role.

Lot of read .

DEQ has experts in this area that the Benton County Planning Department does not. DEQ's evaluations and permitting process should be approved.

Landfills are among the most regulated industries in the nation. Benton County should rely on regulatory agencies rather than adding more regulations.

This section is quite revealing on how much ambiguity is actually in the current code. Although ambiguity can be a very good thing it still needs bounds...still, moving goal posts during the game is not at all fair. It was not that long ago that we didn't worry much about the landfill or the debris on the side of the road from uncovered loads or even what materials were dumped. But things seem to be changing far more rapidly now. I believe we need to amend the code, and I believe we need to shorten the franchise agreement term to allow the community and vendors to be more responsive to needed change. I don't think "business as usual" should apply to our current situation. It comes down to a trade...what would we do if Coffin Butte became too expensive? We can't have our cake and eat it too.

Q77 additional comments

Open-Ended Response

CUP recommendation 8. Why does it refer specifically to Republic Services rather than the Landfill operator? Hopefully sometime in the future Republic Services will no longer be the service provider. I oppose it. CUP recommendation 14. The landfill buffer for groundwater contamination seems to be an insufficient solution to such a catastrophic problem. I oppose it. The CUP subcommittee has done a good job of identifying many of necessary components of a completely broken system. Well done!

"Actively monitor and enforce prior land-use decision Conditions of Approval for the landfill or any other land use decision." Would like more detail on this question, is it referencing only prior to 2020 decisions? How to insure against the expected many and serious externalities (costs, envir degradation, etc) that our county residents will pay in the future? Who pays for the costs of fire, disaster, groundwater contamination, lack of road access, or even noxious smells on a wedding day ruined in your backyard? Certainly the couple million a year from the Company won't cover this. It is the Benton county taxpayers and residents who pay. Thus, a fire plan, a GW contamination pan, an anything plan must include a way to assess Republic now. When these disasters happen, companies have a way of going bankrupt and avoiding costs. Certainly avoiding paying them in real time when the funds are needed.

Make it easier for the public to file complaints of noise, odor, etc. by providing a user friendly link that includes a copy sent to DEQ.

Regarding question # 75, it is not only odor. It should also concern the health effects of vaporous gasses on the of residents of Benton, Linn and Polk Counties.

It's shocking and unacceptable that conditions for approval of a CUP are not monitored nor enforced. Also, odor is one of the biggest quality of life issue for the landfill and needs to be better addressed.

Are these written to apply to all land use applications or just specific to landfill applications? Unclear and not needed.

The most surprising thing I've learned through this process was the number of important things that the county didn't monitor and enforce from their agreements with the landfill operators. Steps like the ones listed here would help ensure this doesn't happen any longer.

In reaching the goals of this project, try not to get bogged down with the flexibility, fluidity and inclusion. Push on to the best potential conclusions and outcomes- at this time. Consider using “must” versus “should”.

Regarding #70, Recommendation 12, the phrase "for compliance confirmation" sounds slippery to me. Replace that phrase with "to determine compliance".

#62, is particularly important - a system for tracking complaints. I know for a fact that this has never been done in an organized, transparent, and well advertised manner. #72, "purchase buffers" should be closely analyzed and scrutinized to be sure they are not de facto expansions. Purchase of land does not override land use regulations and contamination, as of groundwater, should not be allowed. Groundwater and air quality are "the commons" and do not belong to an individual or corporation. Generally, this entire survey assumes Republic Services as the slam dunk operator of the landfill, which may not be the case going forward. When coordinating with DEQ, it's good to keep in mind that large agencies (state and federal) are subject to the whims of politics, and as our political environment becomes more extreme we may want to keep that in mind. Recall the reversal of decades of environmental regulation under the last president.

Avoid costly redundancies. Provide a way for concerns and complaints to be easily recorded and saved but no need to actively seek out.

The length of the questionnaire is absurdly long!

Not being attorney many of these questions are difficult to understand.

I want clear and transparent process! It seem to me that Republic Garbage Services has had an inside track with the county and the board of commissioners. I don’t want any 1group of people make such a big decision like the expansion that Republic wants to get away with.

Most of the recommendations seem very appropriate. I am concerned that so many of the previous accounts of interactions point only to ‘Soap Creek Valley’ residents. I live in the Lewisburg/Crescent Valley area and also frequently am affected by odors, am offended by the trash and traffic, and remain concerned about the region wide effects of groundwater contamination in the north county area. Also, I am very concerned about the ash deposits from the Covanta furnace and dispersal of the ash within all of our region by winds.

Who will be paid to do all of this? Will I pay a lot more in Taxes? Will garbage rates rise out of sight? The solution is to find somewhere else to start a new mountain of waste. Our pile is way beyond too high now.

(61) states what has long been a nagging concern of mine--at least. CUP non-compliance reported by others has long been ignored, and worst in cases where county code enforcement officials make retributory threats against the reporter. Being "nice" in Benton County seems to be all the more important than being fair, and the whole county suffers for it. (72) serves only as a cover-up of unacceptable conditions and is blatantly unfair to the county. (65,67) Recommendations should be to "determine that..." and not "determine if..." THis is all too much for an individual to carefully advise!!!

When is this survey going to end?

It’s insane to ask for public input on such legalese!

YOU WON'T GET MUCH "COMMUNITY" INPUT IN A SURVEY LIKE THIS !!! Or do you really want any?

Wow, the Land Use Subcommittee's recommendations are clear and concise! Why can't the SMMP subcommittee's be clear like this?

Wow, the Land Use Subcommittee's recommendations are clear and concise! Why can't the SMMP subcommittee's be clear like this?

These recommendations imply that certain regulatory parameters don't already exist.

If the County wants to "host" a landfill, then they need to do their job. That likely includes establishing a fully funded work unit to do the tasks necessary and as outlined above. Since the waste comes from all over the state, the cost of the work unit could be born by a surcharge on waste dumped or diversion of the host fee to a separate fund established for supervising, reporting , advising and other tasks. If an City or County wanted to "host" a major industrial site known to cause or result in environmental and land use issues, they would establish means of monitoring, regulating and enforcing standards. The County needs to do so. I would like to see an annual "landfill status report" each year similar to the annual water quality report. It would be detailed and thorough and mailed or emailed to all county addresses. The annual report could also include progress made on the SMMP.

Decisions should be made on facts no opinions

Requirements for CUP approval should be based on quantifiable and factual information.

All good. Re CUP #16: would need to determine level of risk prior to paying for establishing a response program.

Limit infill from outlying counties

To address public concerns about odor, engage in a dialogue with the community to promptly develop and implement an odor reporting and mitigation plan that is consistent with the community’s needs and DEQ requirements and County health and nuisance regulations. I'd love to know the reading level of these items. If I couldn't understand it, I opposed it, generally.

Q92 additional comments

Open-Ended Response

CEO Recommendations 3 , 4, 5, 7 &13. Why is the notification radius 10 miles? Why not the entire county? CEO Recommendation 6. Why does it refer specifically to Republic Services rather than the Landfill operator? Hopefully sometime in the future Republic Services will no longer be the service provider.

"Notifications for the Benton County Talks Trash (BCTT) Survey for public input on the Workgroup Report should include an email blast..." PLEASE ADD mailers to each address as many residents are older and the GT has priced itself out of circulation. Also, assess the cost of the mailers and outreach (effort and S/H) to the Company, not to the County taxpayers. This way all will start getting a realistic picture of how much the Company is costing our County over their greedy requests.

Is there a way to modify the county's emergency alert system to include info on up-coming meetings.

Regarding question #80. Should include all residents of the affected counties. Benton County residents will be financially responsible for the landfill's lasting effect for an extremely long period, perhaps hundreds of years.

Will every single land use application will have to go through these steps of notification? Just landfill applications? I am concerned about the amount of time and money we are suggested be put behind these things.

There was a huge deficit of communication during the last CUP process, the steps here seem like a good start to improving that communication for any future CUP.

The public doesn't want to be blasted with useless, dense emails. We want to be informed in a non-biased way, that is easy to understand, easy to digest, and shows the pros and cons of every decision. Why is there so much talk about a 10 or 15 mile radius of Coffin Butte? This is supposed to represent the public of Benton County, not those in Salem who have no ties to this action, other than their own political agenda.

In reaching the goals of this project, try not to get bogged down with the flexibility, fluidity and inclusion. Push on to the best potential conclusions and outcomes- at this time. Consider using “must” versus “should”.

Please consider postcards to notify the public of surveys, public meetings, and major decision making events are open to the public as not everyone is on the email blast list. Public buildings like the library are not frequented by everyone, nor is the city webpage.

Suggestion - First, find out how people regularly get their news about county government processes. Don't waste time on the modes nobody uses. Consider email, mail, newspaper, social media, texts, radio, local television, etc. Most importantly - Revive the Citizen Advisory Committees! (BCC 51.305) The absence of these committees is a missed opportunity to meet, educate, and engage with citizens. I believe Community Development should revitalize the CACs, staff them, and engage over important issues. In a large and contentious land use like the landfill, pre-application community meetings with the applicant should be required, listening to the citizens' concerns BEFORE an application is submitted and deemed complete. Planning in a vacuum, as we've seen, doesn't work. Planning on the ground, IN the affected community, is messy at times, but it's far better than being slammed in a Planning Commission hearing by people who resent the fact that they don't feel heard, and the planners have never even been where they live. This is how trust is built.

Too many postcards. 2 weeks ahead seems like too long and 24 hours post meetings/decisions seems too tight, maybe not for emails or social media

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This section is actually worthwhile unlike some of the preceding sections

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24- 72 hours is not enough time for notifications. All of Benton County should be notified not just not up to 10 miles of the landfill. All of Benton county will deal with theses decisions to expand the landfill for future generations. The landfill is visible past 10 miles now, you can smell it past 10 miles, this was not suppose to occur. Semi- trucks bringing out of county trash move all over Benton county. I oppose many of these questions more notice should be given. People have jobs, travel, events, childcare to be dealing with and many of these notices are on too short time frame. I also oppose many of above questions, the questions should include all of Benton county to be notified by at least notice in the paper and website.

More notifications would be good however we also need to have well written narratives available to the public in outlets such as the local newspapers such as the Gazette Times and the Corvallis Advocate, also perhaps the Eugene Register Guard. I have been dismayed at the Iowa based corporately owned Gazette Times (really the Albany Democrat Herald in disguise) promoting the viewpoints of Republic Services and name calling Benton County residents as NIMBYs. Hard to be a NIMBY when this dump has been in our backyard since World War 2. I am waiting for other counties to step up to the plate! There are lots of other buttes in western Oregon that are likely more suitable for landfill development than Coffin Butte, right on the edge of major streams draining into the Willamette River.

Recommendation 7: This should be strengthened by stating that the referenced CUP is related to the landfill. Presumably this is not intended to include all CUP applications.

This is too complicated .

Hunh? (78)The County Commissioners are responsible, they should not be allowed to fob off their obligation to communicate with their constituents!!!!! (80) This report is still in draft form, will there be another such survey? The structure of this survey requires many scrollings back and forth, unclear and even dimorphic couplings of recommendations, yet only accepts a + or - answer. Nothing like opening a firehose of information to quell an informed response, and choose whatever response fits the required need. I feel I've wasted yet more time trying to tell county leadership to grow some spine.

#80 CEO Recommendation 3 — “and should go out ideally a month before the survey closes”! This didn’t happen!!! #85 CEO Recommendation 8 — add CUP to first sentence in front of the word application.

I'm losing my patients. WOW 92 and still going!!!!

Waste of time in generating all these recommendations. If this is how county funds are spent, good luck with the Justice system bond measure!

GET RID OF REPUBLIC !!!

I received the mailer the day the public comment period closed so this isn't enough advance notice. This is the first time I became aware of this process and appreciate the time the work group has put into the process. Thanks!

Q79 (R2): which “these” notification recommendations are being referred to? And does it mean to say “based on their potential impact on other CUP applications?” This is not clear. Q82 (R5): Be clear about which report you are referring to. Be consistent in your language. If the report is the BCTT report, say so. Q83 (R6): I wonder if this shouldn’t be worded more clearly — Republic Services has already notified the County that they plan to file a CUP application. Don’t you mean, specifically, “when they are about to”? We’ve known since the withdrawal of the last application that they “plan” to file a new one. Make this clearer, so that Republic Services can’t weasel out of this particular recommendation based on what I just wrote. Q84 (R7): The second paragraph is informative and useful… but is not a recommendation. Perhaps it should be changed from a “recommendation” into a “finding”? Perhaps under the purview of the Legal subcommittee? Q89 (R12): Be clear about what “application” you are referring to. You just say “Planning Commission’s decision on the application…” Which application? Any CUP application? Any land use application? I don’t know what all different types of applications come before the Planning Commission, so please find that information out and then update this recommendation accordingly. Q90 (R13): There are two issues here. One: if by “the Board” you mean the Board of Commissioners (BOC), say so. Two: the BOC does not hold hearings on applications, they hold hearings on appeals. If a decision made by the Planning Commission (PC) is acceptable by all parties, then nothing comes before the BOC. It is only when one party dislikes the decision made by the PC and appeals it to the next level — the BOC — that they then hold hearings. But then, yes — notification of these hearings should be made as

described. Q91 (R14): Same basic message as in my response to Q90, above.

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described. Q91 (R14): Same basic message as in my response to Q90, above.

This section is called "COMMUNITY EDUCATION & OUTREACH (CEO)". While these are all excellent suggestions, it is difficult to predict precisely how to communicate with constituents on all issues going forward. therefore, these suggestions should only be starting points. One of the problems here is the willingness or interest that the County Commissioners or the staff has in informing and/or including the public. There has been (or is?) a distinct behaviour on the part of the County Commissioners or staff (including County Council) in excluding the public from information or providing input. This could change if the Commissioners adopted more open and transparent processes. The Commissioners should take these recommendations seriously.

The decisions being made affect the entire region, you should be gathering information outside of Benton County

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At some point, individuals are responsible for being informed. If information is publicly available, and proper notification has been made about an issue, it is incumbent on interested parties to follow the process in the way they get information.

All good but not sure if postcards are really needed. Do we know how effective they actually are? Also, how was the 15 mile radius selected? Perhaps it should be greater...

Re-examine outflow of leachate and hold the landfill liable for toxic waste ending up in the Willamette River. Test for these toxins prior to treatment at the Corvallis facility and fine the responsible parties.

Notifications for the BCTT Report completion should include an email blast to the interested parties list, organic subscribers, those who spoke at the meetings, the Soap Creek Neighbors Group, and other landfill neighbors. Notifications for Board hearings on the report should include a postcard, an email blast, a newspaper notification, and social media posts and advertisements. The postcards should be sent to everyone in a 10- or 15-mile radius of the landfill, and notifications should be sent 24 hours after the Board hearing is scheduled.

Q93 other feedback about Solid Waste Management in Benton County you would like the BCTT Workgroup to consider.

Open-Ended Response

I would like to know when you are going to get to the real issues like the fact that a landfill for northwest Oregon really doesn't belong in our wet environment. Or that Republic Services requires all rural customers to have weekly trash, yard waste and partial recycling pickup. We compost and have very little trash, but we do have some. Bi-weekly or monthly pickup would much better match our needs.

Thank you for involving Benton County residents. In sum, I support the County's involvement in most items and committees. I support a bigger collaboration across many subcommittees (the turnover of the SWAC shows why, plus holding so few accountable for so much doesn't work). I support Stakeholders who have permanent residences in Benton County also being involved. I support true Benton County community participation (not outside hired guns). I do NOT support Stakeholders from outside Benton County. The only other party at the table should be the Company. I worry about costs to Benton County now, and the unequal and unfair costs county residents will pay in the future. I have no reason to trust that Republic will behave differently than any other company when it is held to account. There will be lawsuits, much time and effort expended by BC taxpayers and residents, and in the end the damages from the Landfill will still be done; in the time frame residents need to be made whole, instead they will suffer.

Contamination of the Willamette River by leachate from the landfill needs to be studied. Risks due to taking ash from the Covanta incinerator needs to be study. Possibility of leakage into groundwater around the landfill needs to be more actively monitored, not just on Republic/VLI property but on neighboring state and private properties.

Whole thing seems like a lot of wasted time and money to me.

This seems like a poorly hidden attack on an important community partner. I don't get it.

An illustration of this work in progress - flow chart - maybe helpful in getting folks to understand where and how all the complexities fit together for a coherent whole. Maybe a simple animated explanation would help.

Coffin Butte landfill will be a liability to all Oregon residents for many, many years. Short term financial gains for Benton County will never be sufficiently cover this liability. Republic Services will not be responsible for cleanup when it ultimately dissolves or declares bankruptcy, essentially taking the money and running. Republic Services, with all of its financial assets, should now be required to invest, explore and develop alternatives to accepting potentially recyclable materials especially plastics. I implore Benton County to refuse the CUP and any expansion of Coffin Butte Landfill and close it when it's currently stated capacity has been reached. DMB

Key points: This survey is poorly designed (e.g., no way to save work and return later), and reviewers should not interpret aggregate responses as accurately reflecting overall public sentiment on the issues. It's too much for most people to both read the entire TT document, and then work through 80 questions. Benton County has lost its credibility and the trust of residents through it's secretive backroom process for negotiating the 2020 landfill franchise agreement. This smacks of a simple "follow the money" scenario, with local residents being thrown under the bus and their lives being negatively compromised in the interest of short-term economic gain for both the County and Republic. The last nail in the coffin of public trust was the removal of the two neighborhood representatives from the Trash Talk working groups, both exceedingly knowledgeable and professional individuals whose contributions will be sorely missed. The lack of processes for monitoring and addressing compliance with conditions of approval for CUPs is shocking and needs to be addressed. Landfill odors are a huge problem and need to be grappled with somehow.

Are vendors other than republic being considered?

Many people have complained about how complicated this survey is. In addition, many of us have experienced the survey "timing out", causing us to lose all of our data. That should tell you something! This is ABSOLUTELY NOT a survey. It is a complicated, confusing mess of recommendations, persuasions, bias, proceduralism, acronyms, vague references, and other extraneous info. How can any of you look at this so-called survey and feel good about it?! This is so obviously flawed, I would be ashamed to even be associated with it. You clearly needed to hire a communications firm (or someone with some common sense) to assist you, if you really intended to make a survey. I find this so symbolic of your entire Trash Talks process - which is completely out of touch with the average citizen. the process has clearly had a strong agenda right from the start. I find this whole thing APPALLING! Shame on the commissioners for supporting this (or rather using as an excuse to get them off the hook and further their agenda)! Shame on the Darren Nichols for proposing this process and pushing it! Shame on Oregon Consensus for supporting this biased and ineffective consultant (who is making loads of money off this process)! This is ALL COMPLETE RUBBISH!!!

I do not support the expansion of the Coffin Butte Landfill. This survey is a waste of time to the public that does not support this action.

In reaching the goals of this project, try not to get bogged down with the flexibility, fluidity and inclusion. Push on to the best potential conclusions and outcomes- at this time. Consider using “must” versus “should”.

Waste from only Benton and Polk counties should be going into our landfill. Linn and the other counties should take care of their own problems. Leachates need to be rendered harmless/non-toxic before going into streams and rivers. Medical waste incineration-produced ash needs to be rendered harmless as well. If the ash and leachates are not so treated, then Benton County Commissioners and Corvallis officials should be required to sign their names on letters to all residents downstream who draw water for drinking from the Willamette River stating the number of gallons carrying those toxins being discharged into the river every day.

Please do not expand the landfill. Please do not allow other counties far and wide to dump their trash here. It is too easy to "pass the buck" in these situations. If each small community is responsible for their waste, they have ownership in keeping their community clean, safe, healthy, and environmentally friendly. It also reduces the environmental impact of driving garbage from county to county. The larger this landfill gets in size and in area it serves (number of cities/counties), the harder it gets to regulate and the harder it is to make sure all parties are being responsible. We do not want Corvallis known for our landfill; we want it known for our university, our community, our beautiful green space, our clean air, and our property value that holds up through thick and thin. Please make transparency and simplicity a focus of the landfill discussion.

This was a really long survey. re: recycling I wish it was clearer what plastic was accepted and what wasn't -- seems like it keeps changing re: composting -- encourage more people to do it and property mgmt companies & Apt owners to support it for their renters

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Thank you for the opportunity to comment. This issue is one tentacle of a huge octopus, with arms into so many other hard-to-answer questions: Why do we produce so much trash in the first place? Who benefits from our addiction to disposables? Who is responsible? Who pays, and how? What are the solutions? Whose solutions are they? The intensity of concern over our landfill is a measure of the public's frustration over the lack of answers to these complex questions. You've tackled a giant issue that is, at base, a question about how we are to live on a finite planet. Thanks to everyone who has contributed to the effort; it's just the beginning.

Past decisions with previous landfill owners or operators seem irrelevant. County Commissioners, please don't approve a CUP that raises the tonnage cap. Note that no matter how much factual information is provided, folks often already have made up their minds. If the city is considering not accepting leachate at the local water treatment plant, perhaps the phaseout of our local landfill needs to begin.

Unfortunately most of our neighbors don't recycle properly. I think a stiffer penalty for contamination of mixed recycling is appropriate!

I fail to understand why this is all about procedural recommendations, ignoring the issues. The issues are that Coffin Butte is possibly already damaging the water, ground and error and further expansion only makes this worse. I do not see recommendations that will lead to an honest assessment of the damage being created.

We have followed this process closely from our earliest awareness of the renewal of the permit. This Workgroup, the process and the recommendations are a great contribution to this Permit process and future similar process for county and regional government agencies. Thank you.

This survey was incredibly difficult to understand. I would recommend a survey that takes less time and is more easily understood by the general population would be helpful in getting community participation and feedback.

Benton County is one of the smallest counties in the state but we are taking the majority of the trash from other counties in the state and sometimes outside the state. It is time for this to stop. I do not believe Republic has been upfront from the start for their vision of our local landfill. They have purchased property which was to be used for a cell, now they do not want to use it, it's a money maker. Let's close a road instead and fill a space to be viewed for miles. Due diligence was not done on the last proposal. So many questions, and so little time to understand the larger implications to our county's citizens welfare. Air, water, evacuation routes, fire, noise pollution to just name a few. Also historical archeological significance along the ridge where they propose fill with garbage and build a road. This ridge was once used by indigenous peoples to travel to Kings valley and on to the coast. Our County needs to take a step back and realize we should be the ones to decided what our future landscape will look like not out of state multi billion dollar company who will disappear once the resource is used up. If we can now see this mountain of trash, well beyond its intended size. What will it look like if the CUP is expanded and coffin butte road is closed, they did not supply accurate pictures I wonder why? The smell now makes it to north Corvallis. Once expanded how much further, maybe to your house? I then imagine residents who are out enjoying beautiful Corvallis will have some choice words as the smell moves them inside their houses. The landfill has been on fire in last years. If Coffin Butte road was not there, this fire could have jumped through the dry grass and moved along the ridge towards residential areas. Republic has their agenda, make money for their stock holders and CEO. I am sure they will not be interested to help pay for the clean up of ground water including local wells for contaminated chemicals. Look at past and present contamination sites through this country. The owners all vanish once it's time to fix a problem they helped create. This could create more money out than what we take in for filling a once large hole in north Corvallis currently.

I live less than 1/2 mile from Coffin Butte and strongly oppose the expansion south of the road due to potential ground water contamination, smell, and visual site, reduced property values, just to name a few issues. I am also opposed to Republic Services recruiting other landfills to use Benton Co. as the state landfill. There was a time when more things were recycled but now they keep reducing what they will take. Obviously it is cheaper to throw it in the landfill.

A plan for going forward to manage and decrease overall solid waste in our county and ALL the contributing counties would be a great contribution to the current situation and that of our offspring. However the current situation needs to be dealt with and the first step is to allow only the currently approved landfill cells to be used, then to plan for an orderly shutdown of Coffin Butte. The amount of leachate being dumped into the Willamette River is astounding. Of course, in past declaration, the landfill owners said no fluids would be dumped in the waterways, but clearly that is not the case. Importantly, even if the corporate owners fulfill their obligations and tend to a closed landfill for 30 years, it is a certainty that western Oregon will still be a rainy place and WE the residents of Benton County will be dealing with massive amounts of poisonous effluents from the landfill for perhaps centuries. The time to stop digging ourselves into a worse hole of trouble is now. Use the existing landfill cells conservatively and wisely, then close down CB in a safe and sane manner. Also, Republic Services 'contractual obligations' are not Benton County residents' concern. Let RSI deal with their unwise decisions which seem to be based on steam rolling over Benton County residents through quiet (possible illegal) deals with the current Board of Supervisors. I think the removal of the garbage limits as aligned with a CUP expansion, in light of Zero public comments sought by the Board, is a serious issue that needs to be further explained and if necessary remanded to the appropriate court or state board governing violations of

open meetings and public notification laws.

Republic Services is not transparent (they pretend to not have a business plan nor to have developed options for their future business at Coffin Butte), and apparently the Benton County Board of Commissioners franchise agreement with them was developed without transparency. This action ties the hands of other county actions and the public's right to impact future decisions. The BOC agreement (in the franchise agreement) to lift the tonnage cap based on approval of the expansion raises serious concerns and limit options. The SWAC apparently fell asleep somewhere along the way. If this happens again, their involvement in decisions cannot be taken for granted.

Thanks again for being part of all this

This entire process/controversy hinges on the question: "Do all of the residents Benton County generate waste and where do they want it to go?" Coffin Butte or Central Oregon? Dreams of zero waste are just that...dreams. Protests of the loudly under-informed are mostly self-serving and do not recognize/accept the needs of greater Benton County. I live within the 10 mile radius of Coffin Butte and accept that the necessity of the landfill far outweighs the inconveniences resulting from its operation. Stop screwing around and accept that human nature (ie: personal benefit) will always triumph over altruism.

And here to once again confuse things "solid waste management" and "sustainable materials management" planning are used interchangeably. No one knows what you all are really talking about, and county leadership claims no stake in the matter. I never expected to have such pathetic leadership in Benton County, nor witness such contrived legal counsel given here, or on a number of matters beside the landfill issue. Don't pretend to be developing sustainable materials management planning, it is the solid waste disposal delivered into our county, without suitable environmental controls or limitations that is polluting our water, our air, threatening our wildlife, our soils, and the habitability of an increasingly large portion of our county--all allowed because we have yet to hammer out a solid waste management plan leadership has not stressed. Pushing nearly a million dollars, and BCTT doesn't know even now what to do or clearly say about it. Maybe that is partly due to BCTT members, so-called stakeholders, who aren't representing Benton County citizens, but rather their corporate interests. No solid waste management plan after all this. Meantime legally sanctioned advisory bodies don't meet regularly, and members of one of those and the Planning Commission are removed because divergent voices are not to be heard. I hope to be proved wrong, but this BCTT process has provided the most grease I've ever seen laid down on very carefully laid skids. The end result will be county commissioners saying once again "our hands are tied and we can't act in the interests of our citizens and residents."

Seems to me that there has been little discussion of the local and global impacts of maximizing the use of Coffin Butte as a landfill as compared to the alternatives which I assume are taking it somewhere far away and dumping it. This seems like the real issue and it’s barely noted. These recommendations read like the cathartic rants of a few individuals who have an axe to grind because they feel they’ve been ignored for years. I hope the commissioners remember that those of us who live in other parts of the county and greater landfill “waste shed” have an interest in how the coffin butte resource is used that goes beyond being told a day in advance that it’s going to smell bad tomorrow.

It still doesn't seem right that Benton County should be the waste repository for all of Western Oregon without some compensation, unless other counties are willing to assume that role in the future.

I have already written this in a couple of other comments but I will write it again here: - This is an incredibly confusing and poorly designed survey and I imagine there is a very small percentage of Benton County residents who will be able to effectively communicate how they feel about this process in this manner. - I recommend completely scrapping whatever results you get from this surveymonkey and starting over again - Community outreach and engagement is vital to this project and this is not the way to to reach community members I care deeply about this process and have ideas to share but this doesn't feel like the right outlet to collect that information. I'm hopeful that there are more ways to connect in the future that are more accessible to the community.

This was so long and comprehensive that I wasn't able to finish it. It would have been more user friendly to have a more condensed survey. I also didn't even know about the survey until it was forwarded to me by a friend yesterday. Better publicity would have been helpful.

I respect the time and energy that has been put into this workgroup, but I do not believe it has been used productively.

I know not everyone likes the landfill but unless we stop creating trash, and everyone else in the country does too, wwe need landfills. They are better than burning the trash and an existing landfill here is better than a new landfill being opened somewhere else.

Coffine Butte Landfill is agood community partner. Not everybody lives in Corvalis and not everybody think that there is a problem. They are not the bad guy.

Expand what types of solid waste can go into black bins. More hazardous waste days, reduction of cost at landfill to users

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Again, please give us clear and transparent answers about where our recycled waste is going and how that can be improved. The County itself needs to step up on its own carbon emission goals before shifting the focus to things like Coffin Butte, etc. Where is Benton County at in meeting its own upcoming deadline for carbon emission reductions?

Stop the influx of trash from ousted Benton and immediate adjacent counties. Tell Republic NO on the expansion. Drive a better deal with more economical options for residential trash/recycling/yard debris. If Republic won't pay, recruit a provider that wants the job.

Please consider stopping trash from counties other than Benton to be dumped at Coffin Butte

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This survey is too long!

> Use the 15 years remaining of landfill life to transition to modern post-landfill waste management. <> Benton County should stop being the 'sin eater' for the region, taking all the region's garbage and its associated long-term problems in exchange for inadequate short-term cash. <> Benton County should collaborate with other waste generators in the region to devise a strategy for sustainable waste management. <> It's apparent that Benton County has not been dealing with the issues being engendered by the landfill, and has instead devoted its energy to denying those issues exist and suppressing evidence to the contrary. Benton County needs to begin facing the ramifications of hosting a regional landfill, which first of all means to begin collecting data not spoon-fed to them from Republic Services. <> Benton County has values to operate from, such as those enshrined in its 2040 Thriving Communities Initiative, but those values seem to vanish whenever solid waste management issues come up. It's counter to those values, for example, to uplift some residents at the expense of others. <> Benton County needs to realize that Republic Services will never work with them to create significant reductions in waste generation, especially as part of a regional initiative. Benton County needs to begin its own program to do that regionally, and to invest a share of the money it's currently making from the landfill to liberate itself from dependence on the landfill.

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This open table process was overthrown by a small number of community members that do not represent the broader opinions of the county. Decisions at this scale, like the ones suggested in the recommendations, are left to qualified professionals for a reason.

It is pretty clear that "Solid Waste Management in Benton County" is broken and needs to be fixed. The BCTT was / is a hopeful first step in getting on track. However, it is only a first step and much more needs to be done. The recommendations provide some "next steps" and I am hopeful that the County will follow through.

The development of a responsible SMMP will be a difficult task. In my opinion, the BCTT process has been weighed down by information that is subjective in many cases. Determining the future of Coffin Butte has impacts outside Benton County which should be considered. The environment does not see the imaginary lines drawn by counties. We should be considering what is really best for our future, not just inside those lines.

So many things to think about! Benton County seems to be shouldering most?all? of the responsibility for hosting a regional landfill. In that sense is BC justly compensated? How does our landfill compare to other regions, states, vendors, providers? I imagine we are above average in terms of having a viable and responsibly run landfill in the first place but I feel as though there are many intangible and long-term effects that we may eventually come to regret. I apologize for sounding idealistic but the major problem is not due to the operations but is due to the fact that we don't have a circular economy along with a host of other positive recycling processes. We have too much packaging and too many plastic containers. It's just way too easy to toss stuff...how can we change that mindset? Thank you for asking!!

If inflow is limited to the abutting counties the current facilities will have a longer useful life, with less toxins present to develop future issues. The facility should not be allowed to transport toxins that are dumped into the Corvallis water treatment facility and then diluted, end up in the river. I am concerned that the city will be held liable at some point for the discharge. At the very least, the landfill needs to fund extensive treatment facilities at the Corvallis waste water plant to deal with their "contributions".

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the landfill was no secret when those folks bought their homes. we live in a republic not a democracy - most of these recommendations seem inspired by the latter, which is not our reality.

Appendix F. Member Survey Results – Review of the Project Process

Member Survey Results – Review the Project Process

NOTE: Nine Workgroup Members completed the survey, and all were polling members.

1. Please select the term that best describes your satisfaction with the **process pacing** overall.

Dissatisfied	SMWHT Dissatisfied	Neutral	SMWHT Satisfied	Satisfied
2	0	1	4	2

2. Please select the term that best describes your satisfaction with the **group dynamics** overall.

Dissatisfied	SMWHT Dissatisfied	Neutral	SMWHT Satisfied	Satisfied
0	0	1	4	4

3. Please select the term that best describes your satisfaction with the **materials** overall.

Dissatisfied	SMWHT Dissatisfied	Neutral	SMWHT Satisfied	Satisfied
0	0	0	3	5

One Abstained

4. Please select the term that best describes your satisfaction with the **subcommittee process** overall.

Dissatisfied	SMWHT Dissatisfied	Neutral	SMWHT Satisfied	Satisfied
0	1	0	4	4

5. Please select the term that best describes your satisfaction with the **facilitator** overall.

Dissatisfied	SMWHT Dissatisfied	Neutral	SMWHT Satisfied	Satisfied
0	2	0	0	7

6. Please select the term that best describes your satisfaction with **County Staff** overall.

Dissatisfied	SMWHT Dissatisfied	Neutral	SMWHT Satisfied	Satisfied
1	1	0	1	6

7. Please select the term that best describes your satisfaction with **public involvement** overall.

Dissatisfied	SMWHT Dissatisfied	Neutral	SMWHT Satisfied	Satisfied

0	2	0	3	3

One Abstained

8. Please select the term that best describes your satisfaction with the **project website** overall.

Dissatisfied	SMWHT Dissatisfied	Neutral	SMWHT Satisfied	Satisfied
1	1	0	2	5

9. Please select the term that best describes your satisfaction with the **quality of the findings** overall.

Dissatisfied	SMWHT Dissatisfied	Neutral	SMWHT Satisfied	Satisfied
0	0	0	5	3

One Abstained

10. Please select the term that best describes your satisfaction with the **quality of the recommendations** overall.

Dissatisfied	SMWHT Dissatisfied	Neutral	SMWHT Satisfied	Satisfied
0	0	0	6	2

One Abstained

11. Were the **overall results** better, worse, or the same as you expected?

Much Worse	Worse	Neutral	Better	Much Better
1	1	1	3	3

12. In what way?

- I think we were able to go deep with most of the topics. I think it is what the Commissioners wanted.
- I thought this process would lead to common understandings regarding the landfill between the community, county staff and leadership, and Republic Services. In my opinion, it has failed in this crucial matter.
- I thought we would discuss the expansion of the landfill more and I am disappointed at the lack of neighbors on the final Workgroup.
- I wasn't sure we were going to be able to deliver on the charter requirements and I believe the group did.
- Once the sub-committees reports were generated, the data and information in the reports finally cleared the air to envision the final report being completed.
- Results were based on common understandings with the exception of the one sided County Legal positioning. I expected the County's input to be based on facts. Some important County positions (Cell 6 already approved, interpretation of 2002 MOU) seem

to be speculative at best. Presumably, the County has additional information that was not shared with BCTT to support the claims they made.

13. Please select the term that best describes this process's **overall impact on relationships** with those you did not know well before the start.

Worsened	SMWHT Worsened	Neutral	SMWHT Improved	Improved
0	0	1	0	7

One Abstained

14. Please select the term that best describes your satisfaction with the **BCTT process** overall.

Dissatisfied	SMWHT Dissatisfied	Neutral	SMWHT Satisfied	Satisfied
1	1	0	0	7

15. What were the significant process challenges?

- Overcoming vocal public opposition to the process. 2) Getting information to workgroup members in a timely manner. 3) Insufficient administrative support for the facilitator. (A dedicated administrative staff was needed to execute the work process on a schedule the facilitator needs to meet the project schedule.) 4) Balancing the positive, productive effects of employing subcommittees to prepare information for the group with the negative effects of the resultant information "silos" which made it harder to come to complete consensus. 5) The sheer volume of information to be read, understood, discussed, and communicated in the final report.
- I observed a tendency for a few BCCT members, when evaluating a finding or recommendation from a subcommittee that they were not on, to not trust the information. The challenge is how to better foster a sense of shared trust in others performing due diligence in their work. 2. I observed a perception by some in the public and perhaps within the BCCT to over emphasize the BCCT's ability to influence the next decision about the expansion of the Coffin Butte Landfill. The challenge is to channel the public's energies toward more constructive topics. 3. I observed the most frequent and strongest opinions came from some of the same people, often with vested interests in the outcomes of the next CUP. The challenge is to enlist/secure more diverse voices within the citizens, organizations and businesses in the county to provide feedback.
- I found that most on the work group were there to do the job, however some came with their agenda that did not fit the work groups task.
- Learning more about the Landfill franchise Agreements, the Collection Franchise Agreement, then the dynamics of the Landfill Site in regards to demand-supply equilibrium of available supply cell sites headspace for annual waste tonnage placement in the available cells for calculation of remaining headspace, as well as the CUP and Legal clarification issues.
- Massive volume of complicated materials to sort through

- Project was mis-sized. Deadlines were imposed on volunteers which required them to work hundreds of unpaid hours under great duress. There were numerous budget overruns which benefited the facilitation team, had little effect on county staff, but disadvantaged Benton County taxpayers.
- Scope and size of project required an extension into months that were unexpected...this led to schedule conflicts for some members. The Subcommittee process allowed for greater evaluation of topics, but the timeline prevented collective review and understanding by the full work group complicating the final process of seeking consensus
- The pacing was too fast and there were too many changes in the schedule. As a volunteer, it was hard to find time to go to the various meetings when there was short notice of the meetings.
- There was too much information about the problem to read and process. A presentation or summary of all the details about the history and situation would have been extremely helpful rather than being given a whole bunch of documents to read and sort through without background.

16. What were the significant process achievements?

- Enlisting a group of dedicated volunteers from a fairly broad cross section of County citizens to work on this effort for an extended time. 2. Keeping the BCCT on task amidst some strong competing interests and time constraints. 3. Providing a sounding board for many in the County to share their concerns in a transparent process.
- The discovery and documentation of findings such as these: That there is no emergency need to expand the landfill now because the franchise agreement stipulates landfill availability for Benton County until 2039. Benton County contributes less than 10% of annual landfill trash and the profit motivation of the landfill operator has resulted in the doubling of annual tonnage since 2016. County staff appeared strongly biased in favor of the landfill operator which may contribute to the fact that Benton County doesn't monitor or enforce conditions of approval imposed by land use decisions. And finally, there is a $1 million incentive in franchise fees built into the 2020 franchise agreement to generate revenue for the County if landfill expansion is approved.
- Finishing. :) I am leaving this process with a very sound understanding of the CUP process and its strengths and weakness.
- Bringing together a common understanding
- Being able to form connects with people in the Workgroup and I thought the subcommittees in general did a very good job.
- Getting people to speak openly about their concerns, providing facts to help them develop and express their perceptions of what would make the County better in the future.
- Making it over the bridge process with the wealth of information that can be used by a professional team to further the SMMP.
- More organized knowledge and understanding of the problem and possible solutions. A much more holistic look at the problem and how it affects the stakeholders and

community. A very neglected community issue was revitalized and there is now hope that improvement will be made. The community was given an opportunity to have input and make change.

- The completed BCTT Work Group record is THE achievement The recommendations to Benton County should provide helpful guidance for next steps.

17. What advice do you have for Benton County when sponsoring future processes?

- Allocate plenty of calendar time for the work to occur
- Based on my experience with this process, it is difficult for me to imagine Benton County staff having much more success in the future without a complete rethinking of Benton County administrative structure and process.
- I would suggest setting a more concrete schedule and being more clear on the time commitment needed.
- More comfortable chairs and more chocolate :)
- More time for the project and more information given at the beginning of the project would save time and more direction for what members need to do.
- Spend more time vetting members of the workgroup. It only takes one or two to really mess with the process.
- The interoperability of the existing landfill with a proposed sustainable material management plan working shoulder to shoulder with a solid waste management plan and a SMMP/SWAP's transportation plan for a intermodal transfer station that enhances the economical freight mobility of waste and recyclables to sustainable markets, including also any final disposal of waste.
- Use the ICM or ICM-like collaborative approach again. 2) If the County is providing support staff, find a way to make implementing the process part of their everyday responsibilities. Do not overload County staff. 3) Learn and become facile with the processes learned from organizations such as ICM to continuously improve the County work processes - especially for interacting with the community.
- With much distrust still demonstrated by some in the County, it is critical for most decisions around selection and retention of members to be clear and transparent. I recommend delineating better the role of various process stakeholders including polling members, and what the expectations are for conduct. If a member will be dismissed during the process, it should be communicated what that decision was based on.

18. Please provide any other comments you would like to share.

- Appreciate Sam et al, and the entire staff resources that supported this work, many visible, certainly others that were not. Your task was not easy, and you did it with a smile and delivered a final product that you should be proud of, and that will serve Benton County for many years to come...Thank you!
- I believe this process was subtly intended to restore trust of some citizens in the County to take the lead and begin to chart a better path for materials management in Benton County. I think while

- I wish there would have been more transparency about members being taken off the committee. What happened and why. I didn't necessarily disagree (one of the people was borderline abusive at times) I just would have liked to know more about what was going on.
- It was good to experience the good-humored, positive, and professional interactions among the parties involved with the Benton County Talks Trash endeavor. 2) Maintain and add to the records collected during the BCCT process. Make the County, DEQ records, complaint records, etc. readily available (24/7/365) to the Benton County community.
- See my member statement.
- The wealth of information that was shared by the BTTC members, Benton County staff, and members of the community as well as neighboring municipalities and counties to make the process successful.

Appendix G. County Counsel Email Exchange

From: CRONEY Vance M
To: "Jackson, Julie"
Subject: RE: landfill life
Date: Wednesday, October 14, 2020 11:51:33 AM
Attachments: image001.png

Hmm. Republic has a chunk of land south of Coffin Butte that is already zoned Landfill which only requires conditional use approval to begin use as a landfill cell. It also has many acres of EFU-zoned land that certainly can be used for additional cells, but would require rezoning.
Are we both talking about the Landfill zoned acreage as creating an additional 15-20 years of life? Sorry for the questions but I want to be sure I'm correct when I discuss with the BOC ramifications of lifting a tonnage cap. Thanks. Vance.

From: Jackson, Julie <JJackson6@republicservices.com>
Sent: Wednesday, October 14, 2020 11:47 AM
To: CRONEY Vance M <Vance.M.CRONEY@Co.Benton.OR.US>
Subject: RE: landfill life

Vance,
This is just the estimate for the cell area we are asking to rezone. We have many acres that could hold waste and that will likely be a future discussion with the County.
Julie

Julie Jackson | Municipal Manager | BU 401, Western Oregon
110 NE Walnut Blvd. Corvallis, OR 97330
Work 541-286-3313, ext. 204 **Cell** 541-936-1334 **Email** jjackson6@republicservices.com

4

From: CRONEY Vance M <Vance.M.CRONEY@Co.Benton.OR.US>
Sent: Wednesday, October 14, 2020 11:44 AM
To: Jackson, Julie <JJackson6@republicservices.com>
Subject: RE: landfill life

Note that (Vance.M.CRONEY@Co.Benton.OR.US) is an external email. Report suspicious emails by clicking on "Report Phishing"

Ok, thanks Julie. I was way off; I thought the additional landfill-zoned acreage would get you 40-60 years of additional landfill life. Thanks. Vance.

From: Jackson, Julie <JJackson6@republicservices.com>
Sent: Wednesday, October 14, 2020 11:43 AM
To: CRONEY Vance M <Vance.M.CRONEY@Co.Benton.OR.US>
Subject: RE: landfill life

Vance,
This is a very rough estimate, but we expect about 15-20 years of additional life with the new cell.
Julie

Julie Jackson | Municipal Manager | BU 401, Western Oregon
110 NE Walnut Blvd. Corvallis, OR 97330
Work 541-286-3313, ext. 204 **Cell** 541-936-1334 **Email** jjackson6@republicservices.com

4

From: CRONEY Vance M <Vance.M.CRONEY@Co.Benton.OR.US>
Sent: Wednesday, October 14, 2020 11:23 AM
To: Jackson, Julie <JJackson6@republicservices.com>
Subject: landfill life

Note that (Vance.M.CRONEY@Co.Benton.OR.US) is an external email. Report suspicious emails by clicking on “Report Phishing"

Julie:
How many years of landfill life – roughly – does Republic expect expansion to the landfill-zoned area south of Coffin Butte Road to create? In other words, how many years to you expect to use that new land for landfill purposes? Thanks. Vance.

From:	Joel Geier
To:	Marge Popp; Louisa and Craig Shelby; Mary Parmigiani; Rough, Ginger; Mark Henkels; GROGAN Cory; Amelia Webb; Sam Imperati
Cc:	Benton County Talks Trash
Subject:	BCTT: Subcommittee E meeting on landfill franchise agreement negotiations as context for eventual landfill expansion CUP
Date:	Friday, March 31, 2023 10:26:22 AM
Attachments:	WeHaveManyAcres.pdf

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good morning Subcommittee E members,

I understand that my public comment at the last BCTT, along with my separate request to County Counsel for further information, led the BCTT facilitator to request a special meeting of your group, sometime today. If that meeting hasn't already place, then hopefully my further information here will be helpful for your discussion.

I have three main comments, as enumerated below.

1. Question of expansions south of Coffin Butte Road

I do believe that the negotiations for the landfill franchise agreement are a very important part of the recent historical context for what transpired in 2021. I'm surprised that this suggested paragraph [with my suggested edits as in square braces] is controversial:

It has recently come to light through a [public records] request to Benton County that as early as [October] 2020, our county attorney, Vance Croney, was discussing possibilities for large-scale expansions of the Coffin Butte Landfill south of Coffin Butte Road with Republic Services local representative, Julie Jackson.

Mr. Croney has acknowledged that, in the e-mails referenced, he was aware that Republic Services had in mind at least one major expansion of the landfill, onto the parcel south of Coffin Butte Road. That parcel is currently zoned as "Landfill Site" meaning that it can be used for ancillary purposes (such as leachate management) but expansion of the landfill itself (i.e. waste deposition) onto that parcel is expressly forbidden, without a Conditional Use Permit.

I guess that the sensitivity is in relation to the mention of "expansions" in the plural form. I've attached the full e-mail transcript as I shared with Mr. Croney when I asked for further information, so you can judge for yourselves. But it's quite clear from Ms. Jackson's message at 11:47 AM on Oct 14 2020 that Republic had in mind additional expansions "that will likely be a future discussion with the county."

From the speed of Mr. Croney's reply just 4 minutes later, it also seems quite clear that he understood immediately that any such additional expansions, besides the parcel being discussed for the first expansion, would necessarily extend onto Exclusive Farm Use (EFU) land that would require rezoning.

If Republic wants to use this opportunity to make a clear disavowal of any future expansions onto EFU-zoned land, that would be one way to clear this up. Otherwise the public record seems clear, that such expansions were being contemplated, and County Counsel was not unaware.

2. Departmental transition in the county's management of solid-waste issues

As a separate but related topic also important for understanding the context of the events of 2021, I notice that your document makes no mention of the very recent transfer of responsibility for solid waste management planning from the Benton County Health Department to the Community Development Department, starting on July 1, 2019. The transition process is discussed in the SWAC meeting minutes from 2019 which you can find at this link:

https://www.co.benton.or.us/sites/default/files/fileattachments/solid_waste_advisory_council/page/2147/2019_swac_minutes.pdf

The outcome was that the Environmental Health specialists who had worked on landfill-related issues for many years were no longer directly involved (though one was retained as an outside consultant at least for part of the negotiation period). Instead, responsibility for SWAC and DSAC passed initially to Greg Verret, then Daniel Redick who was hired on for this job near the end of the year. In other words, during this critical period of negotiations with Republic, the county had an entirely "new crew" in charge of SWAC and solid waste issues, approaching the issue more from a land-use/zoning perspective than an environmental health perspective.

I suggest that this should be mentioned in your document, perhaps on p. 16 in the paragraph that begins with, "A communication breakdown between some residents and county officials regarding landfill issues became very apparent ...." Please consider adding this as the second sentence of that paragraph:

The negotiations for the landfill franchise agreement took place during a period of transition, when responsibility for solid waste management in Benton County had recently been transferred from the Health Department to the Community Development Department (effective on July 1, 2019).

You could cite the SWAC minutes as in the link given above.

3. Confusion about Helms well

There seems to have been some confused last-minute editing of the sentence that formerly read:

A household well in sediments west of the landfill, on the former Helms home site, received sufficient contamination from the landfill site that the well had to be decommissioned under DEQ supervision.

As now edited, this says:

The sediments from one household well west of the landfill, on the former Helms home site, contained sufficient contamination from the landfill site that the well had to be decommissioned under DEQ supervision.

which has an entirely different meaning and frankly is nonsensical from a geological perspective. It appears that the person who edited this got confused by the phrase "well in sediments" which means, "a well that has been drilled in sediments" (meaning silt, clay, sand etc. rather than bedrock). The word "contained" is also inaccurate and deflects from the conclusion reached by DEQ, that contaminants had travelled from the landfill to this household well.

A simpler edit, that still preserves the primary meaning of this sentence, would be just to remove "in sediments" so this becomes:

A household well west of the landfill, on the former Helms home site, received sufficient contamination from the landfill site that the well had to be decommissioned under DEQ supervision.

Thank you for considering these comments. Please feel free to contact me if you have any questions.

Joel Geier

From: CRONEY Vance M <Vance.M.CRONEY@Co.Benton.OR.US>
Sent: Wed Oct 14 11:51:33 PDT 2020
To: 'Jackson, Julie'
Subject: RE: landfill life

Hmm. Republic has a chunk of land south of Coffin Butte that is already zoned Landfill which only requires conditional use approval to begin use as a landfill cell. It also has many acres of EFU-zoned land that certainly can be used for additional cells, but would require rezoning.

Are we both talking about the Landfill zoned acreage as creating an additional 15-20 years of life?

Sorry for the questions but I want to be sure I'm correct when I discuss with the BOC ramifications of lifting a tonnage cap. Thanks. Vance.

From: Jackson, Julie <JJackson6@republicservices.com>
Sent: Wednesday, October 14, 2020 11:47 AM
To: CRONEY Vance M <Vance.M.CRONEY@Co.Benton.OR.US>
Subject: RE: landfill life

Vance,
This is just the estimate for the cell area we are asking to rezone. We have many acres that could hold waste and that will likely be a future discussion with the County.
Julie

Julie Jackson | Municipal Manager | BU 401, Western Oregon
110 NE Walnut Blvd. Corvallis, OR 97330
Work 541-286-3313, ext. 204 Cell 541-936-1334 Email jjackson6@republicservices.com<mailto:jjackson6@republicservices.com>
[cid:image001.png@01D6A220.5C97BE30]

From: CRONEY Vance M <Vance.M.CRONEY@Co.Benton.OR.US<mailto:Vance.M.CRONEY@Co.Benton.OR.US>>
Sent: Wednesday, October 14, 2020 11:44 AM
To: Jackson, Julie <JJackson6@republicservices.com<mailto:JJackson6@republicservices.com>>
Subject: RE: landfill life

Note that (Vance.M.CRONEY@Co.Benton.OR.US<mailto:Vance.M.CRONEY@Co.Benton.OR.US>) is an external email. Report suspicious emails by clicking on "Report Phishing"
Ok, thanks Julie. I was way off; I thought the additional landfill-zoned acreage would get you 40-60 years of additional landfill life. Thanks. Vance.

From: Jackson, Julie <JJackson6@republicservices.com<mailto:JJackson6@republicservices.com>>
Sent: Wednesday, October 14, 2020 11:43 AM
To: CRONEY Vance M <Vance.M.CRONEY@Co.Benton.OR.US<mailto:Vance.M.CRONEY@Co.Benton.OR.US>>
Subject: RE: landfill life

Vance,
This is a very rough estimate, but we expect about 15-20 years of additional life with the new cell.
Julie

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[cid:image001.png@01D6A220.5C97BE30]

From: CRONEY Vance M <Vance.M.CRONEY@Co.Benton.OR.US<mailto:Vance.M.CRONEY@Co.Benton.OR.US>>
Sent: Wednesday, October 14, 2020 11:23 AM
To: Jackson, Julie <JJackson6@republicservices.com<mailto:JJackson6@republicservices.com>>
Subject: landfill life

Note that (Vance.M.CRONEY@Co.Benton.OR.US<mailto:Vance.M.CRONEY@Co.Benton.OR.US>) is an external email. Report suspicious emails by clicking on "Report Phishing"
Julie:

How many years of landfill life - roughly - does Republic expect expansion to the landfill-zoned area south of Coffin Butte Road to create? In other words, how many years to you expect to use that new land for landfill purposes? Thanks. Vance.

From:	CRONEY Vance M
To:	Sam Imperati
Cc:	NICHOLS Darren; Amelia Webb
Subject:	RE: History Doc. Last Call
Date:	Tuesday, March 28, 2023 1:25:05 PM
Attachments:	image002.png image003.png image004.png Re How many more expansions do you envision for Coffin Butte Landfill.msg

Good afternoon Sam.

I am attaching an email exchange I had with Joel Geier yesterday about that 2020 email exchange with Julie Jackson.

It looks like the innocuous exchange between Julie and I has sparked some misperceptions. Let me provide some context and, hopefully, some clarity.

This exchange followed negotiations around the concept of a tonnage cap and under what circumstances that cap would be lifted. One of Benton County's primary goals in the franchise negotiations was to ensure the longevity of the landfill. At the time, and throughout the negotiations, Benton County had been unable to confirm a time estimate for how long the landfill could accept waste.

In order to analyze the impact of annual waste volume limits it was important to know how long Republic expected the current cells to be active. Additionally, it was just as important to know how long the Landfill-zoned parcel south of Coffin Butte Road would be expected to accept waste. We were trying to figure out how much life the landfill would have if a tonnage cap were imposed for the active site and then removed if/when the south landfill-zoned parcel was approved for landfill activities.

That perspective is the backdrop for the email exchange. The back-and-forth questions from me were an attempt to understand which tracts of land Republic was using to generate its life span estimates. It wasn't a conversation about expanding the landfill south of Coffin Butte Road, although that factor was understood to be a prerequisite to Republic's estimated life span forecasts.

There was also another misperception presented to BCTT. The implication that the 2020 email exchange portends future expansions onto EFU land owned by Republic is inaccurate. If you look at my last email to Julie Jackson, I note Republic also owns EFU-zoned land, but they would require rezoning to allow landfill activities. That observation was made within the context of seeking clarification for which parcel of land Julie was referring to when she provided a 15-20-year life span estimate.

Somehow that observation was mischaracterized as "indications that by 2020 an expansion onto land currently zoned as Exclusive Farm Use (EFU) was being contemplated." I cannot speak for Republic Services, but speaking for Benton County, that statement is incorrect and inaccurate.

So, it is untrue and a misrepresentation of that conversation to state Julie and I were "discussing

possibilities for large-scale expansions of the Coffin Butte Landfill south of Coffin Butte Road."

I hope this is helpful in putting the 2020 email exchange into context.

Thanks. Vance.

From: Sam Imperati <samimperati@icmresolutions.com>
Sent: Monday, March 27, 2023 5:28 PM
To: CRONEY Vance M <Vance.M.Croney@bentoncountyor.gov>
Cc: NICHOLS Darren <darren.nichols@bentoncountyor.gov>; Amelia Webb <AmeliaWebb@icmresolutions.com>
Subject: RE: History Doc. Last Call
Importance: High

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Vance,

Over the weekend, I received a request to add the following sentence to the History section of the BCTT Report. "It has recently come to light through a Freedom of Information Act request to Benton County that as early as 2020, our county attorney, Vance Croney, was discussing possibilities for large-scale expansions of the Coffin Butte Landfill south of Coffin Butte Road with Republic Services local representative, Julie Jackson." I have not yet heard from Mark Henkels, Mary Parmigiani, and Ginger Richardson on this suggestion.

Since the emails involve you, I want to get your perspective on the cited exchanges. Please provide any comments, context, or additional information as soon as you can. I will probably need to set up a 30 to 45-minute subcommittee meeting on Friday or Monday morning to tee this up for the last workgroup meeting on Monday afternoon.

For background, I have attached Joel Geier's Saturday email and I am providing the meeting comments from Becky Merja and Joel Geier on this topic.

.

Becky Merja

BECKY MERJA - BENTON CO RESIDENT

I want to start by thanking all the volunteers for your time and efforts in seeing this process through to this extent and I want to share some of my concerns.

In an Email dated February 24, 2023, I contacted Nichols, and CC'ed Imperati and all 3 commissioners.

Mr. Nichols,

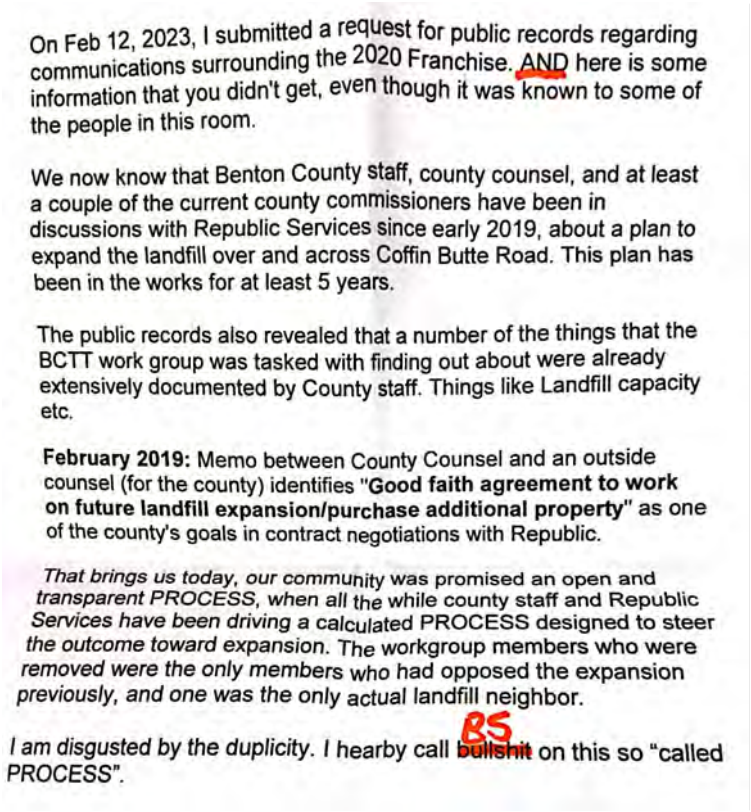
I have serious concerns about the integrity and transparency of the BCTT process. These concerns have been increasing with each citizen volunteer that is removed or resigns from the work group leaving intact Republic Services representation.

My concerns were elevated another notch during your staff report at the Board of Commissioners meeting Tuesday, February 21st, when you stated that some really good conversations have been happening, " ...many of those behind the scenes". I would like to know what you meant by that, because it appears to deviate from the promise of an open, public process, and "one table rule".
At the BCTT workgroup meeting February 23, near the end of the meeting, Mr. Imperati also mentioned the possibility of "quick phone calls" to resolve any remaining conflict.

The "polling" process is suspect. How many of these "behind the scenes conversations" are to influence a "consensus" on an issue that has, and will forever, impact this county and any community downstream.

The future of Benton County is in the crosshairs, and Republic Services has their finger on the trigger.
Sign me a "Very Concerned Tax Paying Citizen".

I did not receive a response to that email.



On Feb 12, 2023, I submitted a request for public records regarding communications surrounding the 2020 Franchise. AND here is some information that you didn't get, even though it was known to some of the people in this room.

We now know that Benton County staff, county counsel, and at least a couple of the current county commissioners have been in discussions with Republic Services since early 2019, about a plan to expand the landfill over and across Coffin Butte Road. This plan has been in the works for at least 5 years.

The public records also revealed that a number of the things that the BCTT work group was tasked with finding out about were already extensively documented by County staff. Things like Landfill capacity etc.

February 2019: Memo between County Counsel and an outside counsel (for the county) identifies "**Good faith agreement to work on future landfill expansion/purchase additional property**" as one of the county's goals in contract negotiations with Republic.

That brings us today, our community was promised an open and transparent PROCESS, when all the while county staff and Republic Services have been driving a calculated PROCESS designed to steer the outcome toward expansion. The workgroup members who were removed were the only members who had opposed the expansion previously, and one was the only actual landfill neighbor.

I am disgusted by the duplicity. I hearby call ~~bullshit~~ BS *on this so "called PROCESS".*

Joel Geier

Yeah, hi. Hello, work group members. My name's Joel Geier, resident of North Benton County and landfill neighbor. First of all, I'd like to thank all of you who volunteered to be part of this process for your sincere efforts. And I especially want to thank those of you who took the time to join the neighborhood tourer and picnics. You could find out what's going on and understand our neighborhood and hopefully you enjoyed the pie.

I do hope to have a chance to work with you in the near future when our community will, I hope finally get to work on an update of the county's sustainable materials management plan. I remember there was a whole lot of enthusiasm in this group for really exploring our options on how to reduce waste and reliance on landfills. But this process has been not much more narrowly focused on landfills [inaudible 00:09:35] more worrisome.

It appears to be setting the stage for not just one but multiple expansions. Did you notice in one of the last recommendations that you voted on just before dinner, you referred to expansions in the plural. How did that get in there and in whose interest is that? Thanks to a recent public records request by a community member who spoke earlier, we now know that some important information that is missing from the history section of the report that you really should have heard about at the start of this process, but you were informed of. She referred to a February 2019 memo between

county council and an outside attorney, which mentions purchase of additional property as one of the county's goals in upcoming negotiations with Republic. Following up on that in October 2020, Republic mentioned to county council they have many more acres that will hold waste, not just local south of Coffin Butte Road.

So they have still more expansions in mind beyond the one we've all been expecting and the county knows that. This is about setting the stage for landfill expansions on top of landfill expansions. During the neighborhood tour, a couple of us tried to point out how the current landfill is already creating blight. We've talked about how this has led to being properties being bought out and added to allow further sprawl of this massive operation. We like to talk about sustainability here in Benton County, but this is about as far from sustainable as you can get. I can't blame Republic, this is their business model, but our county shouldn't be complicit and neither should you. So as you continue to vote on these topics, please bear in mind that you're not just being asked to set the table for a single expansion. This is about multiple continued expansions. Thank you.

Thanks, Sam

From: Marge <marge@jyo.com>
Sent: Saturday, March 25, 2023 3:26 PM
To: Louisa and Craig Shelby <louisa@peak.org>
Cc: Amelia Webb <AmeliaWebb@icmresolutions.com>; BentonCountyTalksTrash@Co.Benton.OR.US; GROGAN Cory <cory.grogan@co.benton.or.us>; Mark Henkels <henkelm@wou.edu>; Rough, Ginger <GRough@republicservices.com>; Sam Imperati <samimperati@icmresolutions.com>; maryparmigiani534 <maryparmigiani534@gmail.com>
Subject: Re: History Doc. Last Call

Thank you Louisa, for raising this issue and thank you Sam for providing the transcripts of Debbie Palmer and Joel Geier's public comments.

I propose that we add this paragraph after the current last paragraph on page 18 of the history document:

It has recently come to light through a Freedom of Information Act request to Benton County that as early as 2020, our county attorney, Vance Croney, was discussing possibilities for large-scale expansions of the Coffin Butte Landfill south of Coffin Butte Road with Republic Services local representative, Julie Jackson.

The gist of this email exchange that took place between 11:23 and 11:51 AM on October 14,

2020 is presented below. The full transcript was submitted for the record to the BentonCountyTalksTrash email address this afternoon at 1:44 PM.

October 14, 2020 11:23 AM

Julie:

How many years of landfill life - roughly - does Republic expect expansion to the landfill-zoned area south of Coffin Butte Road to create? In other words, how many years to you expect to use that new land for landfill purposes? Thanks. Vance.

Vance,

This is a very rough estimate, but we expect about 15-20 years of additional life with the new cell.

Julie

Ok, thanks Julie. I was way off; I thought the additional landfill-zoned acreage would get you 40-60 years of additional landfill life. Thanks.

Vance.

Vance,

This is just the estimate for the cell area we are asking to rezone[*]. We have many acres that could hold waste and that will likely be a future discussion with the County.

Julie

11:51 AM

Hmm. Republic has a chunk of land south of Coffin Butte that is already zoned Landfill which only requires conditional use approval to begin use as a landfill cell. It also has many acres of EFU-zoned land that certainly can be used for additional cells, but would require rezoning**.**

Are we both talking about the Landfill zoned acreage as creating an additional 15-20 years of life?

Sorry for the questions but I want to be sure I'm correct when I discuss with the BOC ramifications of lifting a tonnage cap. Thanks. Vance.

[*] Julie's mistake in terminology asking to "rezone" the parcel south of Coffin Butte Road is corrected by Vance who points out it only needs a CUP.

On Fri, Mar 24, 2023 at 11:15 PM Louisa and Craig Shelby <louisa@peak.org> wrote:

> Hi all,
> I was wondering about the missing piece of the history document that Debbie and Joel were talking about in the public comments. Is it something that needs to be looked into or was it already resolved?
> Thanks!
> Louisa

From: "Marge" <marge@jyo.com>
To: "Amelia Webb" <AmeliaWebb@icmresolutions.com>
Cc: "BentonCountyTalksTrash@Co.Benton.OR.US" <BentonCountyTalksTrash@co.benton.or.us>, "GROGAN Cory" <cory.grogan@co.benton.or.us>, "Mark Henkels" <henkelm@wou.edu>, "Rough, Ginger" <GRough@republicservices.com>, "Sam Imperati" <samimperati@icmresolutions.com>, "louisa" <louisa@peak.org>, "maryparmigiani534" <maryparmigiani534@gmail.com>
Sent: Friday, March 24, 2023 9:42:16 PM
Subject: Re: History Doc. Last Call

Hi Amelia,
I think my tone was a bit harsh in my emails this afternoon. It's pretty clear that none of the the things that I found frustrating were your fault at all. I apologize for not realizing that sooner.
You have been very pleasant, efficient and professional and have done a great job under a lot of pressure and in difficult circumstances.
My apologies,
Marge

On Fri, Mar 24, 2023 at 3:32 PM Marge <marge@jyo.com> wrote:

> Hi Amelia,
>
> It appears from your email that you did not incorporate any of the changes that are reflected in our subcommittee E email exchanges over the past few days. I will try to summarize below, however, I note Mary's comment regarding a citation anomaly. I am not prepared to do the level of editing required to attend to that.
>
> It was my recommendation months ago that we hire expert editing assistance to incorporate the writing styles of many disparate authors into a single coherent final document. This has not been done and I cannot, as an unpaid volunteer who is also burned out, be relied upon to verify that this document, heavily edited at the very last moment, has any semblance to the work we provided the BCCT workgroup with.
>
> So, I am hoping you will do the best you can to ensure that our work is reflected accurately in the final product. The notes below document the email exchanges that took place on March 20 with regard to Darren's belated edits.
>
> Sincerely,
>
> Marge Popp
>
> Main Themes:
>
> 1. There is a strange page break between the fourth and fifth bullet points in Main Themes. This is new.
>
> 2. We asked for this item to be removed on March 20th and our subcommittee

agreed. See documentation below. So can you please remove it.

There is presently no Solid Waste Management Plan active in Benton County. The BCTT Subcommittee C is charged with preparing for the creation of a Sustainable Materials Management Plan (SMMP).

Document Body:

We note that the section: **The Historical and Geographical Context of the Coffin Butte Landfill** has been moved to the Main Points section and bullets have been added. The following indicate responses to some of Darren's edits.

3. Alternate citation: An alternate citation for the Lititia Carson is Dianne Lugo, "Resilience, opportunity and struggle: Preserving and sharing the history of Letitia Carson" *Salem Statesman-Journal* (June 20, 2022)

4. In the paragraph beginning 'By 1997, the landfill property had grown to 790 acres'... I suggest that the last sentence be changed to read 'held to approve the extension of services to each of the seven counties then served.'

5. See the notes below that indicate issues with citations after Darren's edits. Please attend to those.

Thank you,
Marge Popp

Email from Mark Henkels March 20, 2023 and agreed to by Mary and Louisa:
So I propose we cut the final bullet point in the Main Themes: "**There is presently no Solid Waste Management Plan active in Benton County. The BCTT**

Subcommittee C is charged with preparing for the creation of a Sustainable Materials Management Plan (SMMP)." We do not know what will happen here and this is not very useful.

Also: March 20 at 5:23 from Mark H

An alternate citation for the Lititia Carson is Dianne Lugo, "Resilience, opportunity and struggle: Preserving and sharing the history of Letitia Carson" *Salem Statesman-Journal* (June 20, 2022)
Wish all well, Mark

Also: March 20 at 5:22 from Marge:

I only read through the 'most substantive' document that Sam re-edited.
I have one comment:
In the paragraph beginning 'By 1997, the landfill property had grown to 790 acres'... I suggest that the last sentence be changed to read 'held to approve the extension of services to each of the seven counties then served.'

An earlier sentence that clarified that we were talking about the seven counties that used the landfill at that time had been deleted which caused the imprecision that Darren caught.
Marge

March 20, 2023 4:42 from Louisa:

I read through Darren's comments. The only comment I have is for the first paragraph of page 6 citation comment about "The Black Oregon Land Trust has expressed interest in establishing a model farm on the Letitia Carson homesite. https://www.blackoregonlandtrust.org/". There is a citation for that and it is in footnote 16. The 16 needs to be placed at the end of the paragraph. I agree also with what Mark said about removing the recommendation that isn't addressed in the history document.
Louisa

March 20, 2023 8:40 PM from Mary

I skimmed through Darren's comments, I agree with Louisa, they don't seem to be content editing. However, there seems to be some weird citation editing.

On Fri, Mar 24, 2023 at 12:10 PM Amelia Webb <AmeliaWebb@icmresolutions.com> wrote:

Greetings Sub E!

First of all, a big thank you to everyone for working so hard yesterday. I know we are feeling ready to be done with this process, but I'm looking forward to seeing you one last time! Second, I'm reaching out to give you all a "last call" on the history section.

Given that the vast majority of Darren's edits were grammar or sentence flow adjustments, my impression of last week's email traffic was that everyone felt comfortable accepting his changes. However, because there was not much time to look at these changes before yesterday's meeting, this email serves as the "last call" for any comments on the History piece. If I don't hear from you by 5:00 PM on Monday (3/27/23), Darren's edits will be accepted, and the History section will be permanently complete. The history document with Darren's track changes is attached above for your convenience.

As always, please don't hesitate to reach out if you have any questions.

Best Wishes,
Amelia

Amelia Webb | ADR Associate
11524 SW Vacuna Ct. **|** Portland, OR 97219-8901
(P) 503.244.1174

AmeliaWebb@ICMresolutions.com
www.ICMresolutions.com

From: Joel Geier
To: CRONEY Vance M
Subject: Re: How many more expansions do you envision for Coffin Butte Landfill?
Date: Monday, March 27, 2023 8:25:05 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Thank you, Mr. Croney, for your timely reply.

Joel Geier

From: "CRONEY Vance M" <Vance.M.Croney@bentoncountyor.gov>
To: "Joel Geier" <clearwater@peak.org>
Sent: Monday, March 27, 2023 8:07:24 AM
Subject: RE: How many more expansions do you envision for Coffin Butte Landfill?

Mr. Geier:

The documents provided pursuant to the earlier public records request are all of those the county has. There are no additional communications relative to the attached string of emails. It is entirely likely Ms. Jackson and I continued the conversation verbally, or at one of our negotiation sessions. That was a common practice.

Thank you.

Vance M. Croney
Benton County Counsel

From: Joel Geier <clearwater@peak.org>
Sent: Friday, March 24, 2023 7:20 PM
To: CRONEY Vance M <Vance.M.Croney@bentoncountyor.gov>
Cc: AUGEROT Xanthippe <Xanthippe.Augerot@bentoncountyor.gov>; WYSE Nancy <nancy.wyse@bentoncountyor.gov>; MALONE Patrick <Pat.Malone@bentoncountyor.gov>
Subject: How many more expansions do you envision for Coffin Butte Landfill?

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Mr. Croney:

We've communicated previously by e-mail but I'm not sure if we've ever met in person, aside from me speaking into a microphone while sharing my concerns about apparent illegalities with the Board of Commissioners.

A neighbor who obtained your e-mails through a request for public records shared an

exchange between you and Julie Jackson (Republic Services), as in the attached PDF.

I found it notable that the response to this request for public records did not include the response that you must have received from Julie Jackson, since you identified this as a key issue for your communications with the Board of Commissioners (copied here). Could you please supply Ms. Jackson's response?

It requires no speculation to understand, from this exchange, that you were fully aware of Republic Services' intention to expand their landfill operation onto EFU-zoned lands even after Benton County (presumedly) would accede to their plan to expand the landfill south of Coffin Butte Road, onto a parcel previously designated for landfill use, but explicitly not for solid waste disposal.

Please explain.

Yours cordially,

Joel Geier
North Benton County resident and landfill neighbor

The Wayback Machine - https://web.archive.org/web/20250403081254/https://www.bentoncountyor.gov/coffin-butte-la...fill/

English

Coffin Butte Landfill

JUMP TO: About the Landfill | CUP Application Timeline | The Decision Process | Benton County Code | Background: BCTT

What's New

On March 19, 2025, Benton County announced the schedule for the public hearing on Republic Services' CUP application for the proposed expansion of the landfill. The following dates have been set for the hearing before the Benton County Planning Commission. Please note this is the expected schedule based estimates of the time needed; it is subject to change.

Tuesday, April 29, 6 – 9 p.m.	Day 1: Staff report, applicant presentation and start public (verbal) testimony if time permits
Thursday, May 1, 6 – 9 p.m.	Day 2: Start or continue public testimony (verbal)
Tuesday, May 6, 6 – 9 p.m.	Day 3: Continue public testimony as necessary
Tuesday, June 17, 6 p.m. – complete	Day 4: Deliberations and decision

The hearing will be held at the County's Kalapuya Building at 4500 SW Research Way in Corvallis, OR.

Get involved

Receive schedule and status updates.

Sign up as an Interested Party to receive updates about the status of the CUP application and changes or additions to the schedule.

Submit written comment.

Members of the public can now submit written testimony about the CUP application. Planning Commissioners will receive the full text of all written comment submitted. It will not be edited or summarized.

There are four ways to submit written testimony:

Submit testimony online

Regular Mail
Benton County Community Development
4500 SW Research Way
Corvallis, OR 97333-1139

Email
publiccomment@bentoncountyor.gov

Deliver in-person
Community Development is located on the second floor of the Kalapuya Building at 4500 SW Research Way in Corvallis, OR. The office is open Monday – Friday from 8 a.m. to 5 p.m.

Timeline for Written Testimony

English

- Comments submitted by 5 p.m. on April 21 (8 days before the hearing begins) will be included in the Planning Division staff report for the Planning Commission and agency referral partners.
- Written testimony received after the staff report is posted and up to the start of the public hearing will be delivered in hard copy to the Planning Commission.
- Written testimony submitted during the public hearing should be handed to the meeting recorder, who will add it to the official record.

The deadline to submit written testimony will be determined by the length of the Public Hearing. As long as it is open, written public comments will be accepted into the record. Once all verbal testimony is received, the Planning Commission chair will determine when the Public Hearing should be closed. The schedule provided above is planned and expected, but those dates are not guaranteed as less time might be required for verbal testimony.

After the public hearing, all written comments that were not in the original staff report will be added to the record and posted to the County website in one action.

Sign up to deliver verbal comment (coming around April 22).

Members of the public can also sign up to share verbal testimony during the hearing. An online sign-up system will be released about a week before the hearing begins (around April 22, 2025). Anyone registered as an Interested Party will receive notification of this event.

Verbal testimony will be captured in the meeting recording, becoming part of the official record. It will also be posted to the County's website for public viewing.

Although the verbal option will be available, the community is encouraged to provide written comments in advance so Planning Commission members, County staff and the public have time to consider all perspectives and prepare to respond at the hearing. This also allows for the most efficient use of meeting time.

About the Landfill

Coffin Butte Landfill in Benton County takes in waste from several counties in the mid-Willamette Valley and Oregon Coast.

History

The landfill was created in the1940s by the U.S. Army for waste disposal from the former Camp Adair. It was expanded and designated a regional landfill under the 1974 Chemeketa Region Solid Waste Management Program, a cooperative effort between Benton, Linn, Marion, Yamhill and Polk Counties. Valley Landfills, Inc., purchased it in 1975 for use as a municipal landfill. Republic Services, Inc. become the parent company of the landfill in a 2008 merger.

For more historical background see this detailed landfill timeline.

Size and Development

The landfill site comprises 740 acres. Of that, only 178 acres are permitted for waste disposal (including the quarry). The site includes 40 acres of wetlands and 556 acres dedicated to preservation and non-landfill operations.

Regulation

The Oregon Department of Environmental Quality (DEQ) manages three permits for the facility that regulate air, land and water quality. Renewal of the Title V air quality permit is in process. *(updated 2/4/25)* **Learn more >**

Benton County regulates land use and building for the facility.

Proposed Landfill Expansion

Conditional Use Permit (CUP) Application

The full text of Republic Services' CUP application can be viewed on the Munidocs platform. Please note that Benton County posts and shares submitted documents as they are received from applicants, without converting to other formats, to maintain objectivity and document integrity.

English

- Landfill expansion application (submitted July 19, 2024)
- Revised application (submitted Oct. 30, 2024)
- Application Burden of Proof (submitted Jan. 15, 2025)
- First Addendum to Burden of Proof (submitted March 14, 2025)

CUP Application Timeline

July 19, 2024
Republic Services submits a CUP application to expand the Coffin Butte landfill, starting the clock on the 180 days allowed to reach Complete status by Benton County Code 51.535. This sets the ultimate deadline for a Complete application as Jan. 15, 2025.

After submission, Benton County has 30 days to respond to the applicant.

Aug. 16, 2024
After careful review by the Benton County Planning Division and an independent consultant, the County sends an Incompleteness Letter to Republic Services. It explains the deficiencies in the application.

Oct. 30, 2024
Republic Services submits a revised CUP application that contains substantial additional information, including technical reports and analysis.

Dec. 11, 2024
After careful review by the Benton County Planning Division and an independent consultant, the County meets with Republic Services through Zoom to discuss the application, requesting additional narrative detail about some of the exhibits submitted.

Jan. 15, 2025
Republic submits supplemental information to Benton County, bringing the application to the point that it meets the qualifications to be deemed Complete.

The "Complete" designation does not mean Republic Services' application was deemed to be thorough or containing conclusions that the Planning Division agrees with. It is a legal term that indicates the application meets the minimum qualifications in Benton County Code.

Jan. 20, 2025
Republic Services is granted an extension to allow extra time to submit more technical reports before dates are set for the public hearing before the Planning Commission. *NOTE: Applicants are allowed to request up to 215 additional days, for a total of 365 days for the decision process. This can come as multiple requests throughout the process, so the end date can change multiple times.*

March 14, 2025
Republic Services submits an addendum to the Burden of Proof (submitted on Jan. 15). It is publicly available on the Munidocs platform as Landfill Expansion Application, 1st Addendum to Burden of Proof. The Benton County Planning Division works to incorporate this new information into the staff report.

March 19, 2025
Benton County announces the schedule for a public hearing on the application before the Planning Commission.

March 19, 2025 – close of Public Hearing
Public comment period for the public hearing before the Planning Commission, which is scheduled to begin on April 29, 2025. Members of the public can submit written testimony through the online form, email, postal mail and hand delivery. An online sign-up system will be released about a week before the hearing begins for those who wish to sign up to deliver verbal testimony during the multi-day hearing.

April 29 – June 17, 2025
Public hearing on the application before the Planning Commission in the Kalapuya Building at 4500 SW Research Way in Corvallis. All meetings are open to the public. Please note this is the expected schedule based estimates of the time needed; it is subject to change.

Tuesday, April 29, 6 – 9 p.m.	Day 1: Staff report, applicant presentation and start public testimony if time permits
Thursday, May 1, 6 – 9 p.m.	Day 2: Start or continue public testimony
Tuesday, May 6, 6 – 9 p.m.	Day 3: Continue public testimony as necessary
Tuesday, June 17, 6 p.m. – complete	Day 4: Deliberations and decision

English

Aug. 11, 2025
Expected end date for the application decision process.

Understanding the Decision Process

Benton County Land Use Application Process Download

Conditional Use Basics from Benton County Code

In accordance with Benton County Code 51.535, once an application moves forward to the decision process the County has 150 days to determine if the proposed use of the land meets criteria outlined in County Code.

Applicants are allowed to request up to 215 additional days for this process, for a total of 365. This can come as multiple requests throughout the process, so the end date can change multiple times during the process.

53.215 – Criteria. The decision to approve a conditional use permit shall be based on findings that:
(1) The proposed use does not seriously interfere with uses on adjacent property, with the character of the area, or with the purpose of the zone;
(2) The proposed use does not impose an undue burden on any public improvements, facilities, utilities, or services available to the area; and
(3) The proposed use complies with any additional criteria which may be required for the specific use by this code. [Ord. 90-0069]

53.220 – Conditions of Approval. Conditions may address, but are not limited to:
(1) Size & location of site.
(2) Road capacities in the area.
(3) Number & location of road access points.
(4) Location & amount of off-street parking.
(5) Internal traffic circulation.
(6) Fencing, screening & landscape
(7) Height & square footage of building.
(8) Signs.
(9) Exterior lighting.
(10) Noise, vibration, air pollution, & other environmental influences.
(11) Water supply & sewage disposal.
(12) Law enforcement & fire protection.
[Ord. 26; Ord. 90-0069]

Background: Benton County Talks Trash (BCTT)

Following a pair of conflicting 2021 decisions from its appointed solid waste and land use bodies, and in response to substantial community concern over a proposed landfill expansion, the Board of County Commissioners asked Oregon Consensus to help understand the situation and identify, if possible, a constructive path forward on solid waste and disposal, including at the Coffin Butte Landfill. Following the Board's direction, a third-party facilitation team helped convene a community member-based Workgroup representing a diverse balance of perspectives and established a Charter and Bylaws to guide the work.

Dubbed "Benton County Talks Trash," the workgroup was tasked with building "common understandings" around key topics and outlining the table of contents for a modern, long-term Sustainable Materials Management Plan. To complete these tasks, the workgroup established five subcommittees to dive into specific topic areas and then report back:

- Developing a Sustainable Materials Management Plan (SMMP)
- Estimating the Landfill Size, Capacity and Longevity
- Clarifying legal issues and reviewing land use law
- Determining the status of past land use Conditions of Approval
- Improving Community Education and Outreach

Learn more about BCTT >

Address

English

4500 SW Research Way
Corvallis, OR 97333

Mailing Address
4500 SW Research Way
Corvallis, OR 97333

Phone Number
main | 541-766-6800

Monday
8:00 am to 5:00 pm
Tuesday
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How Monopolies Took Over Trash Collection and Undermined Recycling and Composting

December 22, 2020 · Mergers & Acquisitions, Policy · Claire Kelloway

If you follow *Food & Power*, you've probably learned that a handful of corporations control critical junctures along the food supply chain. But you may not know that this also applies to the very end of that chain: the business of hauling and storing food and packaging waste.

A recent report by the Institute for Local Self-Reliance (ILSR) reveals that decades of dramatic concentration and privatization in the business of trash collection have undermined recycling efforts. By rolling up and vertically integrating an inherently local industry, Big Waste corporations pushed out thousands of local businesses, drove up trash collection costs, and adopted perverse incentives to send more goods to landfills.

The food system creates a massive portion of the waste in American landfills. Roughly 95% of Americans' 40 million tons of annual food waste ends up in a landfill. Packaging also generates roughly 28% of all U.S. waste – or more than 80 million tons of municipal waste annually – and roughly two-thirds of this waste comes from food packaging.

Only 23.6% of all U.S. municipal waste was recycled in 2018, and just 5% of food and 9% of plastic waste was composted or recycled, respectively. This wastes the resources used to make these goods and harms the environment by sending them to landfills. Chemical inks and dyes from packaging, as well as degraded microplastics, leach into soil and groundwater, and plastic that finds its way into the ocean harms marine life of all sizes. Food scraps in landfills do not have access to the oxygen they need to properly break down – as a result, a head of lettuce can take more than 20 years to decompose, and this oxygenless decomposition releases a powerful greenhouse gas, methane.

To be sure, we need more policies to reduce runaway waste creation at the source. At the same time, we know that recycling food and packaging waste can be environmentally friendly, efficient, and profitable. A study by the EU found recycling can provide more higher-paying jobs than landfilling or incinerating waste. However, in recent decades, a handful of waste monopolists has fought hard to inhibit recycling and keep products going into landfills.

In the mid-20th century, the waste industry was highly decentralized, with tens of thousands of businesses and small public and private landfills serving the country (including some controlled by the mafia). Today just two corporations, Waste Management and Republic Services, control nearly half of the remaining U.S. landfill

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admitted that there are no real efficiencies in operating on a national scale. But Neil Seldman, co-founder of the Institute for Self-Reliance and co-author of their latest report, argues that these corporations consolidated to build monopoly power.

With Wall Street backing (gained, in part, through falsified financial records), a few national leaders started buying up mom-and-pop trash businesses. By the end of the 1990s, Waste Management had acquired 3,000 local haulers.

At the same time, these growing conglomerates vertically integrated into landfill management. In the 1970s, the federal government introduced new environmental standards for landfills, but unlike with similar regulations for wastewater treatment, there were few federal funds to help local governments comply. Without support, thousands of smaller municipal landfills closed, and, in their place, deep-pocketed waste corporations built massive, centralized, federally compliant facilities.

Moving landfills farther away from communities makes for longer trips to the dump and thus higher hauling costs. Combining trash hauling and landfilling also consolidates Big Waste's private control over critical waste disposal infrastructure. "Vertical integration increased profits but not efficiency," says Seldman. "It increased power over the market to dictate terms … [and] demand high prices for their goods."

Big Waste expanded its power even further by taking over recycling. In the late 1990s, Wall Street began to fear that the growth of recycling would hurt waste corporations. "Recycling is primarily seen as a competitive threat because it steals volumes away from landfills, [waste companies'] most profitable assets," one 1999 U.S. Investment Research report said.

As recently as 2000, some 56,000 companies and thousands of government programs ran American recycling. Today, a recently merged Waste Management-Advanced Disposal, along with Republic Services, will handle two-thirds of all the recycling volume going to large material recovery facilities.

Vertically integrating landfilling and recycling creates a perverse incentive to send goods to landfill and recycle poorly. While stand-alone recycling facilities build their profitability around, well, *actually* recycling goods in order to sell quality recycled materials, Big Waste companies primarily profit from municipal recycling contracts. As such, they only strive to make their recycling facilities cost-neutral, and they ultimately generate far more profit for every pound of waste going to landfill.

For instance, Big Waste corporations try to lower their recycling costs by pushing too-good-to-be-true single stream systems, which are cheaper to collect but less effective at a large scale. In 2005, only 29% of Americans had single stream recycling systems, but by 2014 that figure rose to 93%, driven largely by Big Waste contracts. Concurrently, between 2008 and 2018, the percentage of contaminated recyclables sent to landfills rose from 7% of all recycling to roughly 25%, according to the report.

Big Waste's massive single stream facilities take in more recyclables than they can effectively sort and churn out contaminated, low-grade product. In DC, for example, Waste Management won the city's recycling contract with a lowball bid for single stream services. But Waste Management drives up costs by hauling recyclables roughly 30 miles outside the city to a large facility in Elkridge, Maryland, that can't even process glass. In 2017, the District paid $120 per ton of recycling, while nearby Baltimore only paid $20 per ton.

"Waste Management Inc. says, 'We can do this cheaper' … but then as soon as they have the contract, they change the conditions … and then they raise prices," Seldman says.

Today, the push for food composting poses the same threat to Big Waste that recycling did 50 years ago. Food waste makes up about 22% of landfill volume, and Big Waste wants to profit from hauling it. Recently, waste corporations have successfully lobbied to overturn laws that banned yard waste, a major source of industrial compost, from going to landfill. And in 2011, Waste Management bought a majority ownership stake in the largest composing facility in the Mid-Atlantic region, which some argue contributed to its mismanagement and subsequent closure three years later.

While large waste corporations undoubtably wield market and political power to maintain the status quo, ILSR's report argues that cities and local communities have many options to stand up to Big Waste.

States can reinvest in public landfills to retake critical infrastructure and chip away at the vertical integration that creates a profit motive to send more goods to landfill. Governments can also put more funds toward public or locally owned recycling and

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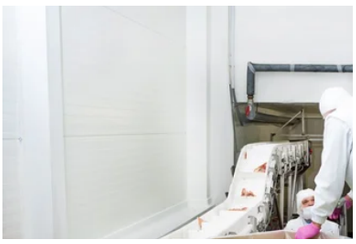
"The more we recycle without using their systems, the more we're taking away their profits and their political influence," argues Seldman.

What We're Reading

- After union and industry lobbying, food and agriculture workers will be included as frontline essential workers in the 1B priority phase for COVID-19 vaccination. **(*The Washington Post* and the Centers for Disease Control)**
- After weeks of deliberation, here is what Congress' latest COVID stimulus bill means for the food industry. **(*The Counter*)**
- Whole Foods workers in the Detroit area are demanding that the corporation require shoppers to wear face masks and reinstate health insurance for part-time employees as well as hazard pay, to support workers through the pandemic. **(*Business Insider*)**

Related



A New Threat to Small Meat Processors: Monopolized Waste Disposal.

December 13, 2024 · Poultry & Livestock, Processing & Distribution

As Bird Flu Hits Dairy Cows, Consolidation Amplifies Risk

April 18, 2024 · Dairy, Poultry & Livestock

Consolidation Creates Dangerous and Fragile Food Systems, Report Argues

November 24, 2020 · Policy

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SB726 2025 Regular Session - Oregon Legislative Information ...

Submit the form below to testify or comment either in person or remotely by video or phone. After completing the required fields (*), click the "Submit Registration to Testify" button. Email address and phone number are required for administrative purposes and will not be posted to OLIS. Your phone...

OPB
https://www.opb.org › article › 2025 › 06 › 10 › oregon-lawmakers-pass-bill-requiring-coffin-butte...

Oregon lawmakers pass bill requiring Coffin Butte Landfill to inv...

Jun 10, 2025 · An **Oregon landfill** known for massive methane leaks may soon be required to regulate those emissions using advanced technology, like drones, planes or satellites. Last week, **Oregon** lawmakers passed ...

Statesman Journal
https://www.statesmanjournal.com › story › news › politics › 2025 › 02 › 25 › oregon-senate-bill-7...

Oregon bill would require landfills to improve methane monitori...

Feb 25, 2025 · **Oregon landfills** would have to improve methane monitoring and reporting under a **bill** being considered by the **state** Legislature.

citizenportal.ai
https://citizenportal.ai › articles › 2901126 › Oregon

Oregon's SB 726 mandates five-year monitoring of landfill emis...

Apr 7, 2025 · On April 7, 2025, the **Oregon State** Legislature introduced Senate **Bill** 726, a significant piece of legislation aimed at enhancing environmental monitoring and regulation of **landfill** emissions.

LegiScan
https://legiscan.com › OR › bill › SB726 › 2025

OR SB726 | 2025 | Regular Session - LegiScan

Jun 23, 2025 · This Act tells the EQC to make **landfills** in Benton County test and fix methane gas leaks. (Flesch Readability Score: 85.0). [Digest: This Act tells the EQC to make **landfills** test and fix methane gas leaks. (Flesch Readability Score: 95.9).] Requires the owner or operator of a municipal...

Waste Dive
https://www.wastedive.com › news › state-landfills-siting-laws-methane-measurement-republic-w...

Oregon, New Hampshire, Ohio and Hawai'i lawmakers consider...

Jun 13, 2025 · **Bills** meant to restrict **landfill** expansions or operations are awaiting governors' approval in several **states**, while New Hampshire lawmakers are mulling **landfill** siting provisions in a recent budget **bill**.

Oregon.gov
https://www.oregon.gov › deq › ghgp › Pages › Landfill-Methane-Emissions-Reduction.aspx

Landfill Methane Emissions Reduction - Oregon.gov

The rules require many **landfills** in **Oregon** to obtain an Air Contaminant Discharge Permit to submit data on the **landfill** characteristics and potentially monitor, collect and/or control **landfill** gas emissions. For some **landfills**, the new requirements start in August 2022. For most **landfills**, new permit...

The Cool Down
https://www.thecooldown.com › green-business › coffin-butte-landfill-methane-gas

Officials pass new law to crack down on concerning problem at ...

Jun 18, 2025 · The **Oregon** Senate passed a **bill** requiring a **landfill** notorious for methane leaks to use advanced technology to regulate the pollution it generates. As **Oregon** Public Broadcasting reported, lawmakers passed Senate **Bill** 726, and Gov. Tina Kotek is expected to sign it into law. The **state bill**...

olis.oregonlegislature.gov
https://olis.oregonlegislature.gov › liz › 2025R1 › Downloads › MeasureDocument › SB726 › Enrol...

Senate Bill 726

AN ACT Relating to **landfill** emissions monitoring; and prescribing an effective date. Be It Enacted by the People of the **State** of **Oregon**: SECTION 1. Section 2 of this 2025 Act is added to and made a part of ORS chapter 468A. SECTION 2. (1) As used in this section:

Waste Today
https://www.wastetodaymagazine.com › news › legislation-would-require-oregon-landfills-to-use...

Legislation would require Oregon landfills to use aerial, drone o...

Share Feedback

Feb 26, 2025 · Senate **Bill** 726 would require municipal solid waste **landfills** to use advanced technology, such as drones, planes or satellites, to measure methane releases. It would require **landfill** owners to report the results to the **state** Department of Environmental Quality in GIS software, to fix an...

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COFFIN BUTTE
Landfill

The Expansion Proposal: What you need to know

Overview

Coffin Butte Landfill has refiled its 2024 expansion application after reviewing feedback from the Benton County Planning Department. We have included links to all application documents below, and believe this process has resulted in an even stronger application. Coffin Butte's expansion proposal is the culmination of more than two years of active listening and understanding, dialogue and consideration, and planning that incorporates feedback from various community stakeholders whenever possible.

Highlights of this proposal include:

An expansion that is **50 percent smaller** than the 2021 proposal;
Protecting and **improving Coffin Butte Road**;
Increased transparency, communication and community responsiveness;
Improved vegetative screening along major travel corridors;
Containing the Landfill's working face and disposal area to the Landfill Site (LS) zone; and
Continuous, **reliable and affordable disposal capacity** while the County aligns on a solid materials management plan (SMMP).

Watch: July 9 Virtual Community Meeting

Documents and expert reports:

Coffin Butte Landfill expansion materials are linked below. You'll find a summary of the application, highlights of the proposal, an FAQ and a map.

2024 CUP Application Burden of Proof and Related Documents:

Update: January 2025 Supplemental Information
2024 CUP Application
Cover Letter
Burden of Proof
Land Use Application
Engineering Plans and Exhibits
Tax Lot Deeds
Wildlife Habitat Assessment
Addendum to Wildlife Habitat Assessment
Geotechnical Exploration Report
Well Logs
Letter/Documents from CEC Regarding Applicable DEQ Permits
Map and List of Adjacent and Nearby Properties
Map Defining the Analysis Area Showing Odor Complaints
Aerial Topography Map
Noise Study
Weaver Consulting Group Findings on Odor
Memo from Ian Macnab Regarding Odor, Methane and Hydrogen Sulfide
Odor Dispersion Modeling Study
Traffic Report
Environmental and Operational Considerations
CEC Preliminary Drainage Report

Current Views of Landfill
Fire Risk Assessment
Applicant Proposed Conditions of Approval
Reclamation Plan for Expansion Area
Oregon DEQ Permit Materials
Oregon DEQ Permit Work Plan
Tables
Figures
Archeological Report
Leachate Summary
Methane Emissions Letter
Arsenic Memo
Proposed Coffin Butte Landfill Seismic Design

Expansion Highlights and Fact Sheets:

Proposal Highlights
Proposal FAQ
Aerial Map
Executive Summary
Expansion FAQ
Waste Origination Poster
PFAS Fact Sheet
Landfill Life FAQ
Methane/Compliance Fact Sheet

We welcome your feedback and comments. Please click here to send us a message.

Comments will be updated and posted to the website in a timely fashion throughout the application process. We will do our best to respond to substantive comments received.

To view comments received click here.

Sign Up For Updates

Stay informed about the landfill expansion process and other facility updates by subscribing to our e-blast mailing list.

Submit

Thanks, your subscription has been confirmed. You've been added to our list and will hear from us soon.

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