



Coffin Butte Landfill:

Response to Staff Report and Public Comment

Benton County Planning Commission,
July 8, 2025



EXECUTIVE SUMMARY

- 1 Tonight's presentation focuses on the previous Benton County staff report and testimony submitted during and since the previous round of hearings.
- 2 **We agree with the analysis and conclusions in the staff report** and will try to highlight those, rather than repeating the report itself.
- 3 Our focus will be on key issues from testimony, our analysis and response and our proposed mitigation measures.
- 4 We believe the key areas of concern are **odor, noise groundwater, fire and litter.**
- 5 Our technical experts are available if the Planning Commission has questions on any of the compliance issues related to the CUP.
- 6 We will discuss some minor revisions that we are seeking to a handful of conditions of approval.



TOPICS OF DISCUSSION

Coffin Butte Landfill has provided updated information and additional testimony in response to statements made during the June Planning Commission hearings.

These include:



Noise



Odor



Litter



Groundwater



Fire



NOISE

Benton County Staff previously recommended denial of the conditional use permit application due to concerns about potential noise impacts on adjacent properties.



WHAT'S NEW

- Mitigation measures to address community concerns.
- Proposed conditions of approval from Benton County Staff.

MITIGATION EFFORTS



Reduce sound levels by modifying on-site equipment, including upgraded engine mufflers, local noise barriers and ambient sensing broadband back-up alarms.



More limited hours of operation.



Measure sound levels from equipment on a weekly basis.

CONCLUSION

"Staff finds that noise from the proposed landfill expansion can be mitigated through conditions of approval to not 'seriously interfere' with adjacent properties."

NOISE: MODELING

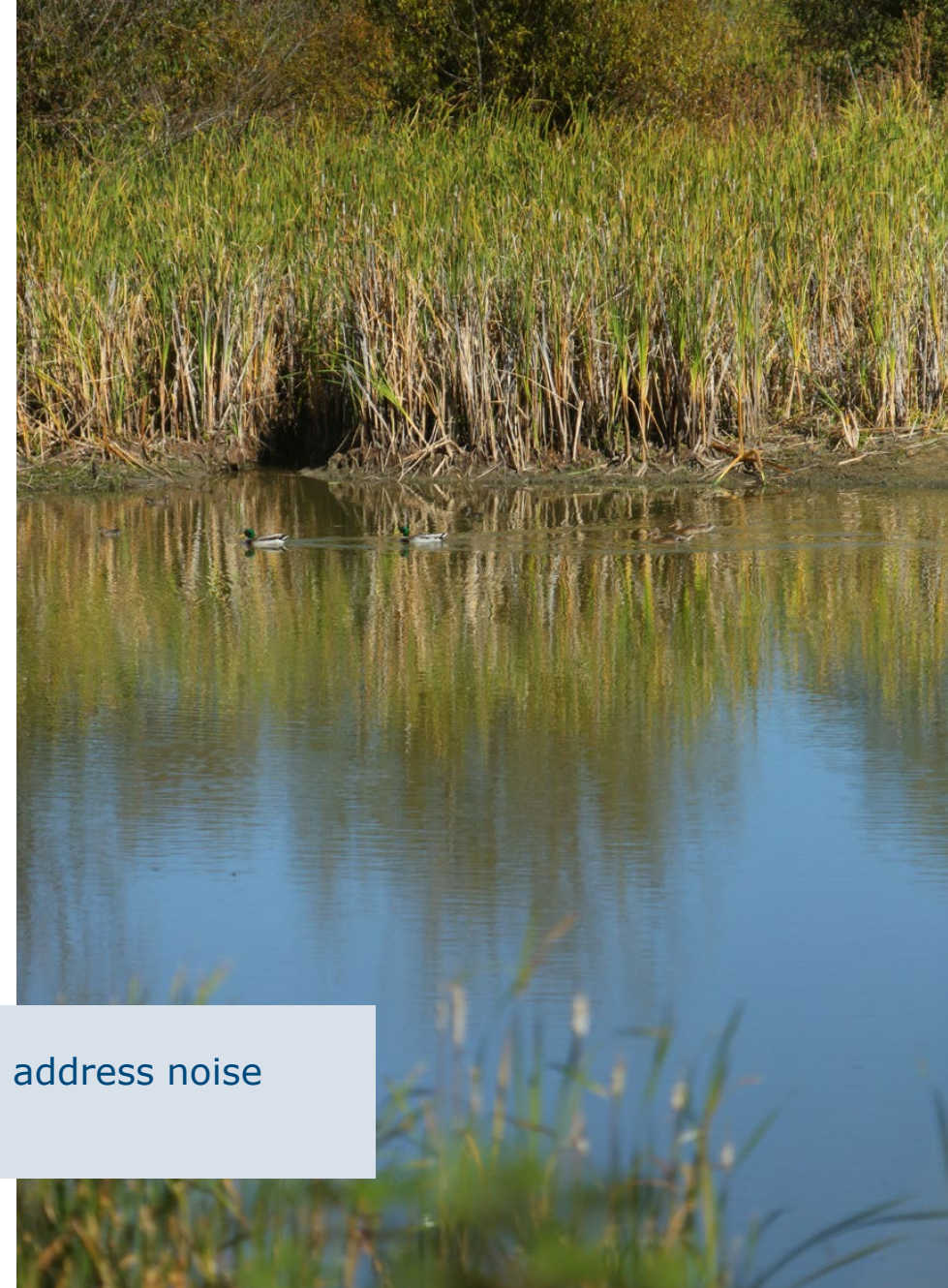
What We Did:

- Considered concerns expressed by staff, Planning Commission members, and the community.
- Developed additional mitigation measures to prevent sound from increasing by no more than 6dB during the quietest hour.
- All other analyzed receptors will have no increase.
- Proposed additional field measurements to confirm mitigation performance prior to the start of commercial operations.

What We Found:

-  Mitigation measures further reduce sound by up to 5dB.
-  Predicted sound levels are below existing conditions at all locations except one.

Takeaway: Coffin Butte Landfill's approach **exceeds what is required by Code** to address noise concerns from the community.



NOISE: PRACTICAL REDUCTION STRATEGIES

Revisions to the Updated Plan

-  Quieter equipment and/or upgraded mufflers.
-  Noise-reducing barriers added near stationary equipment.
-  Scheduling adjustments to limit loud activities to daytime hours.

**Note: All mitigation measures previously outlined in the CUP application and presented to the Planning Commission are still included.*

Bottom Line: These changes will yield a landfill operation that works more quietly alongside the community it serves.



NOISE: ONGOING COMMITMENT

This Application Reflects:

- A direct response to specific concerns about noise and quality of life.
- An investment in equipment, layout, and practices that support peaceful surroundings.
- A commitment from Republic employees—many of whom live in the area—to operate responsibly and respectfully.

Looking Ahead:

- ✓ Ongoing attention to noise management as operations evolve.
- ✓ Responsive to feedback and willing to adapt.

Conclusion: The updated plan prioritizes quieter, less disruptive operations – highlighting Coffin Butte’s commitment to the surrounding community and the CUP’s compatibility with county code.



ODOR

Coffin Butte provided updated information about its odor management efforts and its air modeling dispersion study.



WHAT'S NEW

- Supplemental report clarifies that **AERMOD is preferred by the EPA** for near-field dispersion modeling.
- Updated **modeling split the landfill into quadrants** and ran each dispersion assessment individually for more accurate modeling.
- **The study focused on eight pollutants** that account for approximately 95 percent of odor emissions.



MITIGATION EFFORTS

Determine minimum of four odor survey points on the perimeter of the development site.



Conduct a daily odor patrol using Nasal Ranger or similar technology.



Hire a qualified, third-party consultant to independently verify the Nasal Ranger results every 30 days.



Maintain log of odor complaints and ensure a record of complaints received by ODEQ is kept for five years.

CONCLUSION

"Staff engineering consultants have reviewed and determined the applicant's odor study follows reasonable assumptions and modeling protocols."

ODOR MANAGEMENT AND COMPLAINT ANALYSIS

In response to questions contained within the Benton County Staff Report, Coffin Butte Landfill submits additional information regarding odor management and air modeling dispersion.

- Coffin Butte Landfill has implemented a **comprehensive odor management plan**, logging complaints from 2022 to 2024 to identify patterns and correlations with wind conditions.
- Coffin Butte Landfill has a site-specific odor management plan, including daily cover and monitoring.
- Complaints were most common southwest (35 percent) and south (29 percent) of Coffin Butte Landfill.
- Nuisance odors are more likely to occur under poor meteorological conditions, including low wind speed or stable winds, that are common late at night or in the early morning hours.

Odor events were then categorized as follows for correlation:

"Likely"

based on complaint location and wind conditions (1%);

"Possible"

due to ambiguity or lack of data (58%); and

"Not Likely"

based on complaint location and wind conditions (29%)

"Unknown"

due to complaint time not specified (12%).



AIR MODELING METHODOLOGY AND SCENARIOS

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.

- AERMOD is preferred by the EPA for near-field dispersion modeling.
- Scenarios evaluated included existing operations in 2023 and projected operations in 2052.
- **Our updated modeling split the landfill into quadrants** and ran each dispersion assessment individually for more accurate modeling.
- **The study focused on eight pollutants** that account for approximately 95 percent of odor emissions.
- Results from modeling based on both current operations and projected operations indicated that **hydrogen sulfide and dimethyl sulfide concentrations were slightly above detection thresholds, but not at nuisance levels.**



LITTER

This topic was added to the supplemental staff report and was addressed by Coffin Butte Landfill after concerns were raised during public testimony.



WHAT'S NEW

- Clarified that portable “bull fencing” is used to catch litter before it becomes airborne. In addition, wire fencing is utilized along the main haul road.
- Provided additional information about temporary labor force used to collect and dispose of litter.
- Added details regarding landfill contract with the Benton County Sheriff’s Department to pick up litter along Highway 99 and Camp Adair Road, from the landfill to Independence Hwy, 4x per month.

MITIGATION EFFORTS



Maintain at least the same level of litter control measures as part of the expansion process.



Add a secondary line of bull fencing behind the existing line.



Install a third layer of fencing (‘defender fencing’), 12 feet in height, around active and high-impact areas of the landfill.



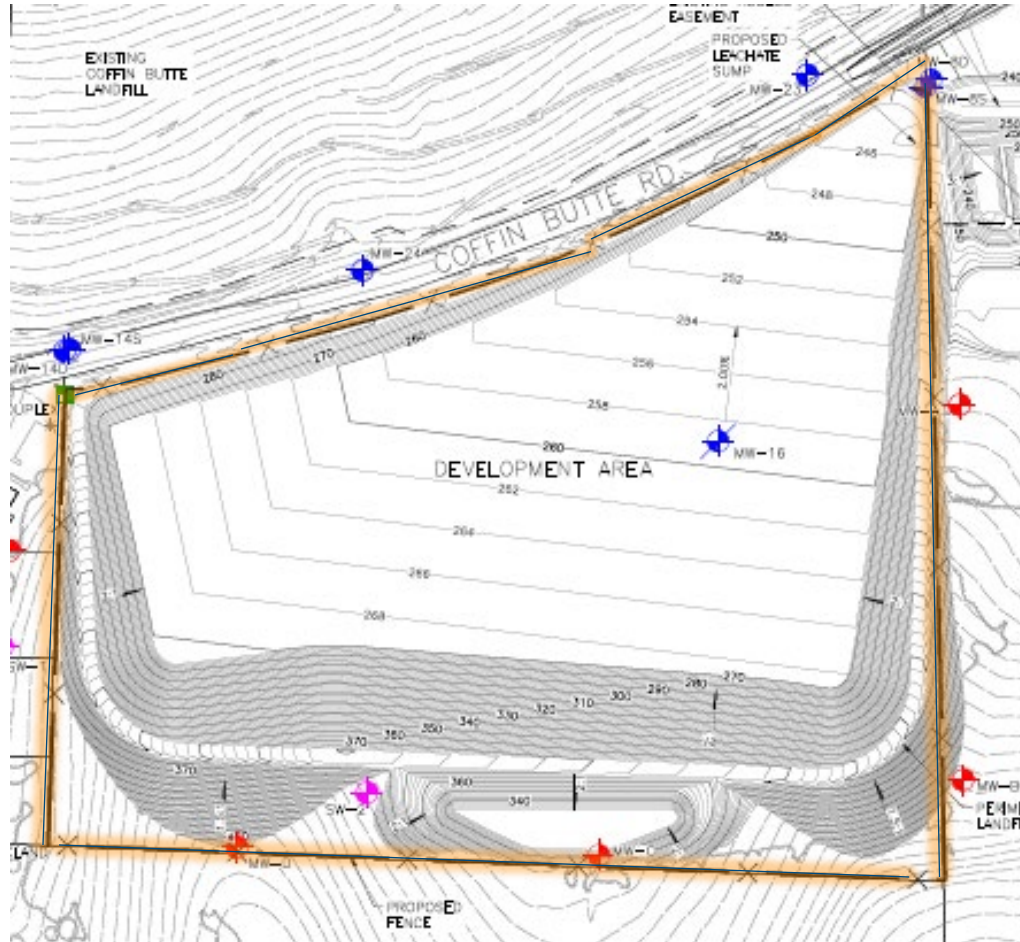
Expand litter collection activities to include Tampico and Soap Creek Roads.

CONCLUSION

“The proposed conditions of approval reasonably limit expected occurrences of air-blown trash and address identified concerns.”

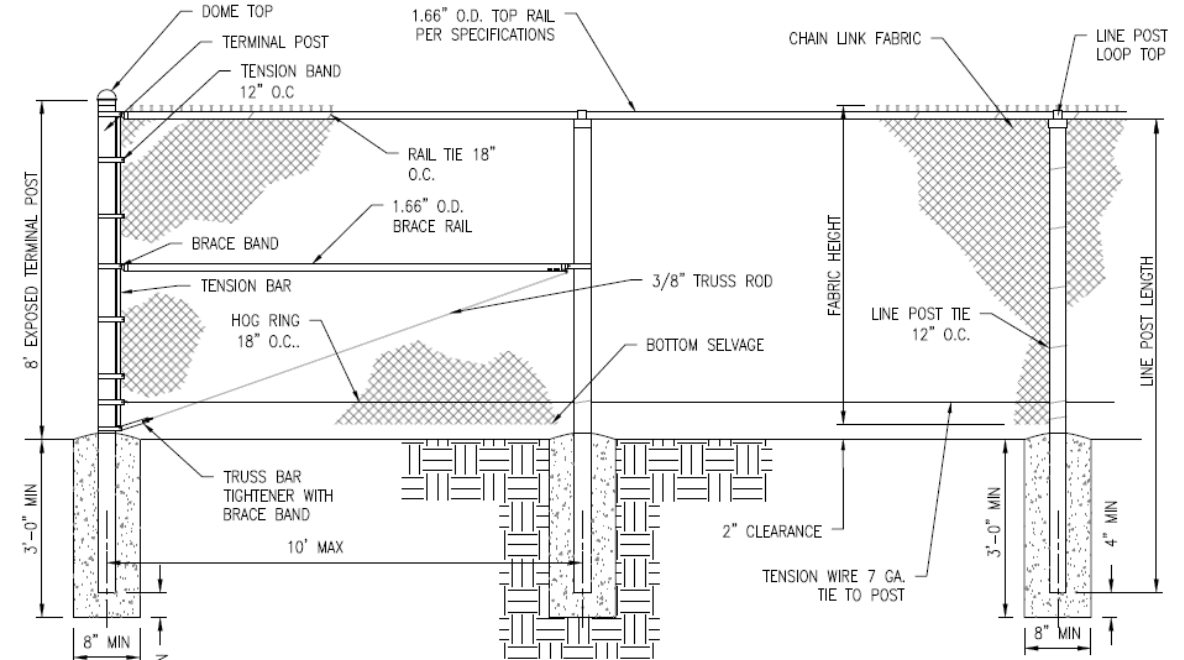


LITTER MITIGATION



Fence Located Around Expansion Parcel

- Effective in catching windblown litter.
- Avoids litter encroachment on Forestry Conservation areas.
- Reduces impact on wildlife migration.



NOTES:

1. POST LENGTH CALCULATIONS FOR STANDARD LINE POSTS=FABRIC HEIGHT+2'8" TERMINAL POSTS=FABRIC HEIGHT+3'-0"
2. FOOTINGS: DIAMETER (4X) POST DIAMETER, MIN. DEPTH=3'-0"

DESIGN/CONDITIONS:

GROUNDWATER

Supplemental information submitted by Coffin Butte Landfill addresses questions related to well capacity and groundwater quality, among other items.



WHAT'S NEW

- Clarifies that the only groundwater used from wells is for existing office and scale house; therefore, project will have no impact on supply.
- Specifies proposed landfill liner system for expansion parcel is state of the art and will provide more protection than the existing system, which already meets or exceeds regulatory standards.
- Concludes blasting will not have a material impact on surrounding wells.
- Confirms that groundwater is not being affected by a leachate release.
- Provides additional information about the presence of PFAS in leachate and associated regulatory efforts for treatment.



MITIGATION EFFORTS

Implement a robust monitoring program.



Conduct a hydrogeologic investigation of the proposed development on approval of the CUP request.



Prepare a stormwater report using the most recent version of the Benton County Stormwater Support Documents.



Continue to work with state and federal regulatory partners to ensure compliance with permit requirements.

CONCLUSION

"...the county is limited in its ability to evaluate and regulate groundwater impacts beyond the multiple levels of state and federal regulation applicable to proposed landfill expansion...The applicant has provided robust, qualified expert responses to concerns raised by opponent testimony."

GROUNDWATER RESPONSE

Coffin Butte Landfill has submitted rebuttal remarks on several groundwater issues raised during public testimony.



COMMENT

Coffin Butte Landfill is releasing arsenic into the groundwater.

RESPONSE

- USGS identified naturally-occurring arsenic in the Willamette Basin.
- Reducing conditions near the eastern edge of the property cause arsenic in volcanic rock and soil to dissolve into groundwater.
- Neither arsenic nor other inorganic constituent concentrations are increasing over time in wells that have high arsenic concentrations.
- **VLI will comply with Condition OP-13B:** Additional monitoring wells will be installed around the proposed expansion area and public wells south of the landfill will be monitored to address community water quality concerns.



COMMENT

Coffin Butte Landfill could contaminate the Willamette Basin.

RESPONSE

- The site is equipped with a robust monitoring network to provide early detection of a release.
- The proposed expansion will add to this monitoring network.

GROUNDWATER RESPONSE

Coffin Butte Landfill has submitted rebuttal remarks on several groundwater issues raised during public testimony.



COMMENT

The Landfill expansion will affect the community water supply.

RESPONSE

- Past development of the Coffin Butte Landfill has not measurably affected groundwater in the surrounding community.
- Modeling shows that changes in the water table associated with the proposed development will be similar to seasonal changes in water levels.
- Prior to development of the expansion, a detailed hydrogeologic investigation will be conducted to better evaluate the groundwater flow conditions in the expansion and surrounding areas.
- VLI will comply with Condition OP-13A: Additional monitoring wells will be installed around the proposed expansion area to monitor water levels associated with the proposed development.
- VLI will work with the community if water level monitoring suggests the proposed development is adversely affecting the community water supply.



COMMENT

Coffin Butte Landfill could contaminate the Willamette Basin.

RESPONSE

- The impact of blasting is constrained to about 15 feet from detonation. Widespread change to water bearing rock is not anticipated.
- VLI will comply with Condition OP-13A, which will include construction and monitoring of wells around the perimeter of the expansion area and wells in the community south of the expansion area.

GROUNDWATER: LEACHATE ISSUES



COMMENT

Coffin Butte landfill leachate contains PFAS.

RESPONSE

- PFAS concentrations measured in Coffin Butte Landfill leachate samples are similar to PFAS concentrations measured in a USEPA study of landfill leachate and in leachate samples collected from California MSW landfills.
- Currently there is no formal requirement to monitor PFAS in leachate or groundwater.
- The amount of leachate treated at the City of Corvallis' WWTP represents 0.0058% of water treated by the WWTP. PFAS have not been detected in City drinking water.



COMMENT

Landfill leachate contains elevated concentrations of heavy metals.

RESPONSE

- Leachate samples are analyzed for 15 heavy metals annually.
- Metals concentrations in Coffin Butte leachate are similar to those at other MSW landfills, according to data published by USEPA.
- Annual leachate monitoring will continue to be performed as a permit requirement.



COMMENT

Leachate from unlined portions of the landfill exceeds 2 million gallons per year.

RESPONSE

- Leachate volumes collected from unlined Cell 1 decreased in the last 15 years.
- Between October 1, 2024, and May 31, 2021, approximately 880,390 gallons of leachate were collected from Cell 1. Annual leachate production is projected to be about 1.2 million gallons this year.

FIRE

Coffin Butte Landfill maintains that its fire management plans are appropriate and meet all regulatory controls.



WHAT'S NEW

- Rebuttal to issues raised during public testimony by Adair Fire.
- Improved reporting of fire incidents.
- Corrected record on onsite water truck.
- Clarified types and number of fires detailed in consultant report.

MITIGATION EFFORTS



Conduct semi-annual fire-protection and emergency preparedness training for onsite personnel.



Ensure firefighting equipment (including on-site water truck) is in good working order.



Maintain log of fire incidents.

CONCLUSION

"The applicant proposes a fire control plan following best practices. Applicant has responded to opponent testimony with expert testimony."

FIRE RISK RESPONSE

Coffin Butte Landfill has submitted rebuttal remarks on five issues raised during public testimony. These are outlined below.



COMMENT

Property tax revenue has not kept up with Adair Fire District growth and department responsibilities, potentially leading to response gaps and needs at the landfill.

RESPONSE

- Coffin Butte Landfill met with Adair Fire in March 2025, with each pledging a cooperative relationship going forward.
- No concerns about fire department support were expressed during that meeting.
- The Landfill's operations team appreciates Adair Fire's support and hopes it can continue in the future.
- There is no evidence that the proposed expansion would have a negative impact on nearby property values.



COMMENT

Adair Fire Department said they had reviewed a FEMA report that suggested that landfill fires can be large and fueled by methane emissions, further straining department resources.

RESPONSE

- The FEMA document equates fire risk with large debris piles that result from the agency's disaster response work.
- These piles are often left unattended or uncovered for months, leading to increased fire risk.
- Coffin Butte Landfill is a modern Subtitle D Landfill, operated under the conditions set for in the Resource Conservation and Recovery Act (RCRA.)
- FEMA is misinformed about methane emissions causing or exacerbating landfill fires. There is no correlation between the two.



COMMENT

Coffin Butte does not record fires or keep incident logs of such events.

RESPONSE

- Coffin Butte Landfill pledges to maintain a log of fire incidents.
- Coffin Butte Landfill will provide a verbal report of fire events during Benton County Disposal Site Advisory Committee (DSAC) meetings.
- Coffin Butte Landfill will report each fire event to ODEQ.



COMMENT

The onsite water truck is defective, does not work and offers no value in extinguishing a potential landfill fire.

RESPONSE

- This is a false statement.
- The onsite water truck has been in continuous service and in good working condition.



COMMENT

Coffin Butte under-represented the number, type and magnitude of fire and fire risks at the Landfill.

RESPONSE

- The five fires cited in the consultant's fire report were "material and memorable" to landfill staff and were not intended to represent all potential fire incidents.
- Coffin Butte is confident that there are only three types of fires that pose a potential risk. Two of those (working face fires and grass fires) were the cause of the five incidents cited in the report.
- The 1999 landfill fire occurred when the facility was owned and operated by a different company; Republic Services did not acquire the landfill until 2008 and employs practices to ensure such a situation does not occur again.
- Fires at the landfill have been safely and correctly managed.

CONDITIONS OF APPROVAL

Coffin Butte Landfill is requesting small changes to a few of the county's proposed conditions of approval but agrees with most of staff's requests. We've highlighted our suggested modifications on this slide and the next.

OP-5. Maximum Elevation

Original: The final grade of the new landfill cell shall not exceed 450 feet above mean sea level in elevation.

Revised: The top of the waste grade of the new landfill expansion area shall not exceed 450 feet above mean sea level in elevation. The top of the final cover shall not exceed 453 feet above mean sea level in elevation.

OP-14. Working Face

Original: Applicant shall not dispose of waste north of Coffin Butte Road during the Development Area's operation. Only one working face shall operate at a time.

Revised: Applicant shall not dispose of waste north of Coffin Butte Road during the Development Area's operation. Only one working face shall operate at a time. However, Applicant will be allowed to utilize two working faces during a short-term, three-month-or-less "transition period" when the Development Site first becomes operational. This transitional period is part of an industry-wide best practice to place municipal solid waste on the bottom of the new cell before disposing of any materials (such as construction or demolition) that could potentially impact the integrity of the liner system. Applicant shall proactively notify the county of the date the transition period is scheduled to begin, and again when it ends.

CONDITIONS OF APPROVAL

OP-15 Litter Control

A. General Compliance. The Applicant shall implement and maintain all current litter control measures as described in the Applicant's June 20, 2025, letter to the Benton County Planning Commissioners, including all measures applicable to the expansion area.

B. Working Face Fencing

- i. The Applicant shall ensure continuous deployment of bull fencing around the entire landfill working face to minimize windblown litter.
- ii. A secondary line of bull fencing shall be deployed behind the existing line, along the entire landfill working face, providing an added barrier for litter containment.

C. Perimeter Fencing and Containment. The Applicant shall install and maintain defender fencing in appropriate high-risk areas as identified in operational plans.

D. The main haul road shall have continuous deployment of wire fencing, reinforced with orange snow fencing to control roadside litter.

E. Original: The entire landfill property, including portions zoned as Forest Conservation (FC), shall be enclosed with a chain link fence to mitigate off-site litter dispersion.

E. Revised: The expansion area of the landfill will be enclosed with a chain link fence to mitigate off-site litter dispersion.

F. Off-Site Litter Management. The Applicant shall expand its litter collection program to including Tampico Road and Soap Creek Road, conducting regular patrols and clean-up operations to address any landfill-related litter.

G. Private Delivery Requirements. To prevent litter originating from uncovered private vehicles, the Applicant shall implement and enforce a policy that prohibits acceptance of any trash delivery unless fully covered or secured in accordance with DEQ standards and site-specific requirements.

H. Monitoring and Reporting. The Applicant shall document litter control efforts and submit semi-annual reports to the County demonstrating compliance with these conditions, including photographic evidence, inspection logs, and corrective actions taken.

I. Enforcement and Review. Failure to maintain compliance with these conditions may result in enforcement action or review of permit approval, at the discretion of Benton County.



Sustainability in Action

Planning Commission Questions



Additional Information

Benton County Planning Commission,
July 8, 2025



LANDFILL TARPS

- ✓ Coffin Butte Landfill submitted an aerial photo, dated May 9, 2025, that shows **tears to the tarp have been repaired.**
- ✓ Process began in April.
- ✓ **Tarps are not daily cover,** nor are they required by any regulatory agency.
- ✓ Tarps represent **an additional, voluntary step** taken by Coffin Butte Landfill
- ✓ Designed to **reduce water infiltration and leachate production.**



WORKING FACE SIZE

Coffin Butte Landfill updated the record to reflect that the **current working face size varies between 1.5 and 2 acres.**

There is no regulation or requirement that limits the working face to a particular size.





COMMENT

Landfills in 'dry climates' are more suitable for landfill construction and waste disposal.

RESPONSE

- Landfills that take in similar tonnage and waste profiles will produce the same amount of gas, regardless of their location.
- Landfills in dry climates frequently accept free liquids as part of an EPA research development and demonstration permit.
- The injection of these liquids allows waste to compact more efficiently and decompose more quickly, thus producing additional landfill gas and leachate.
- This process occurs naturally at landfills like Coffin Butte.

CONSTRUCTION SEQUENCING

Coffin Butte Landfill estimates that work will proceed in this general order:

- ✓ Landscape screening installed according to Conditions of Approval.
- ✓ Coffin Butte Road left turn lane construction.
- ✓ Leachate storage pond construction will follow with intermittent blasting between the hours of 12 p.m. and 5 p.m.
- ✓ Liner installation and floating cover system will be put in place.
- ✓ Rerouting of existing piping and installation of new piping for leachate.
- ✓ ODEQ approval of new leachate ponds and closure of existing ponds.
- ✓ Relocation of building in the expansion area footprint.
- ✓ Removal of soil from expansion area to use as daily cover.



TRAFFIC RESPONSE

Coffin Butte Landfill submitted supplemental information in response to public testimony. Highlights are below.

TRANSPORTATION

- ❖ Our transportation Study assessed the relocation of the landfill operations from the north side of Coffin Butte Road to the south.
- ❖ The TIA also accounts for ongoing quarry operations and a very conservative 50% traffic increase beyond current levels, while showing the system can adequately support these levels of traffic.
- ❖ Since the prior hearing we received formal ODOT comments that agree with the TIA findings and recommendations
- ❖ We provided a technical response to the VNEQS transportation comments that continues to demonstrate that an undue burden does not occur.
- ❖ Our prior findings demonstrate that Coffin Butte Road's designation as a Collector and Freight Route is suitable for the types and levels of traffic.
- ❖ Our proposed mitigation to widen and reconstruct the road pavement section will offset the project impacts and provide a road with a lifespan that extends beyond anticipated project.
- ❖ We agree with the staff report and the ODOT findings, available to answer questions.



WILDLIFE RESPONSE

Public testimony expressed concerns about Roosevelt Elk habitat as well as the new Great Blue Heron nest and its proximity to Coffin Butte. We've included additional information about the Oregon Forest Practices Act [here](#).

ROOSEVELT ELK

- Elk use the expansion area as a peripheral habitat (considered important but not essential).
- Primary habitat is to the west and in open fields.
- Trail cameras show herd using the forested area in the expansion site for limited periods (2 to 11 days), on three occasions over a 12-month period.

GREAT BLUE HERONS AND BALD EAGLES

- The new location of the eastern Great Blue Heron nest site is **further away from Coffin Butte Landfill**.
- The Oregon Forest Practices Act requires landowners to avoid disturbance within 300 feet of an active nest or rookery during nesting season (February 15 to July 31).
- Forest operations are restricted within a quarter mile of active nest trees during the nesting period.
- The new nesting site is **greater than a quarter mile** from the proposed tree removal areas.
- Coffin Butte Landfill will **adhere to the Oregon Forest Practices Act** (FPA) and other applicable regulations if the expansion is approved.



VISUALS

The following slides show views of the proposed expansion area from a variety of locations and directions.

(At right: Looking south-southwest towards the Landfill from Pacific Highway (99W))



Bottom image: Looking Southwest towards the landfill from a local/unmarked road.



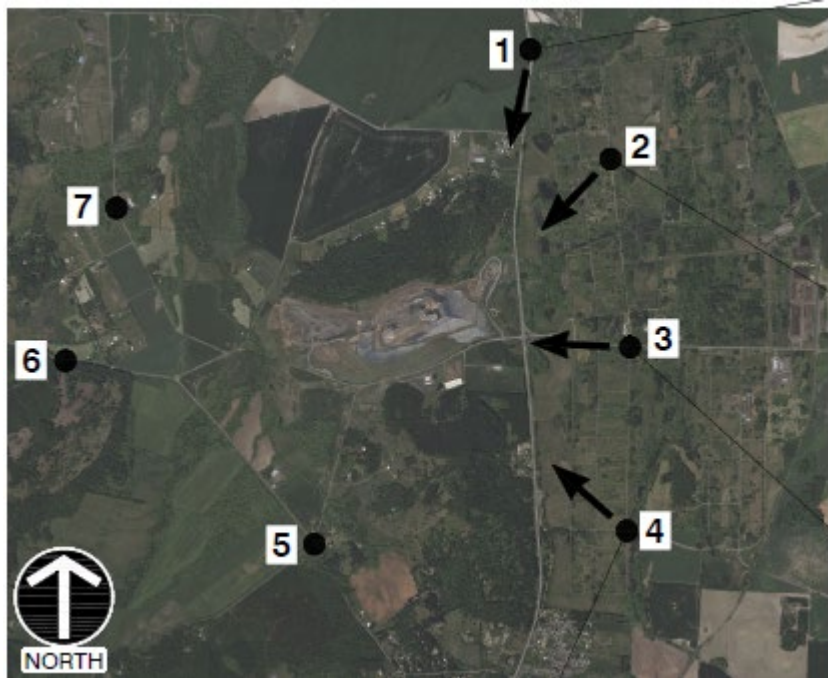
1. LOOKING SOUTH-SOUTHWEST TOWARDS THE LANDFILL FROM PACIFIC HIGHWAY (99W).



2. LOOKING SOUTHWEST TOWARDS THE LANDFILL FROM LOCAL ROAD.

VISUALS

Top image: Looking west toward the landfill from Camp Adair Road.



Bottom image: Looking northwest toward the landfill from Quinlan Road.



3. LOOKING WEST TOWARDS THE LANDFILL FROM CAMP ADAIR ROAD.



4. LOOKING NORTHWEST TOWARDS THE LANDFILL FROM QUINLAN ROAD.

VISUALS

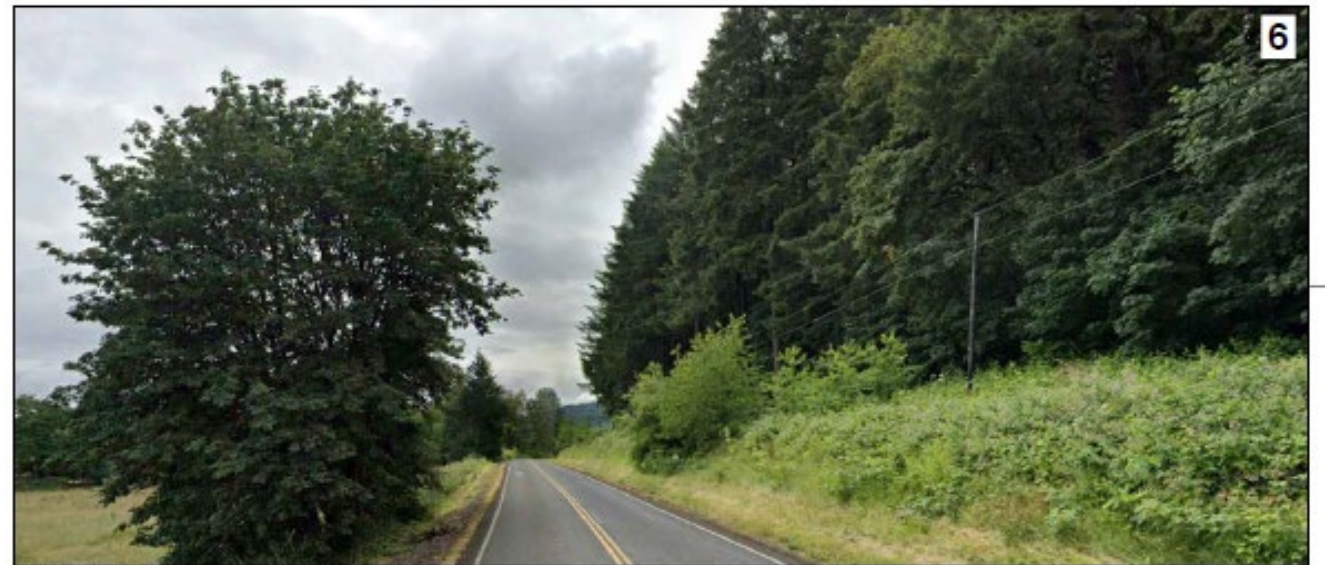
Top image: Looking northeast toward the landfill from the intersection of Tampico Road and NW Soap Creek Road.



5. LOOKING NORTHEAST TOWARDS THE LANDFILL FROM INTERSECTION OF TAMPICO ROAD AND NW SOAP CREEK ROAD.



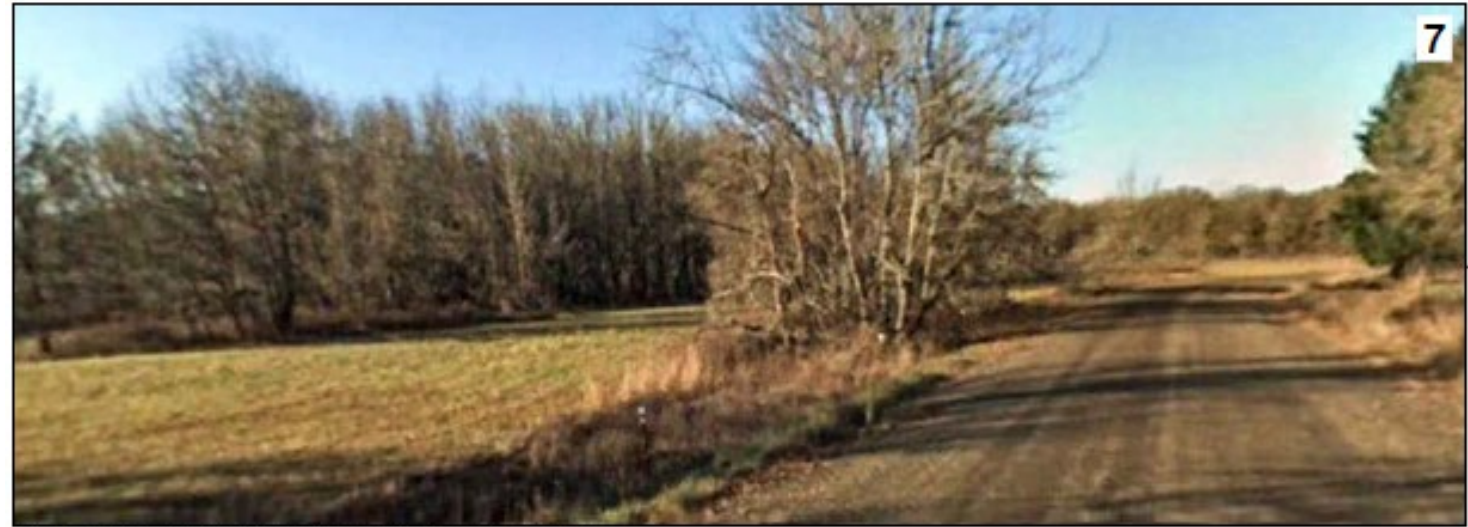
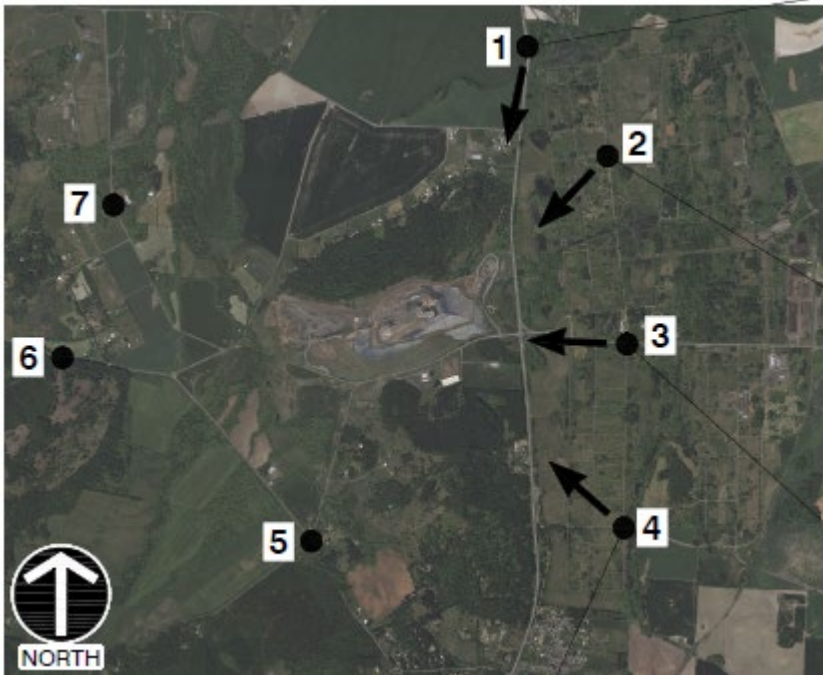
Bottom image: Looking east toward the landfill from Tampico Road.



6. LOOKING EAST TOWARDS THE LANDFILL FROM TAMPICO ROAD.

VISUALS

This is looking southeast toward the landfill from Rifle Ridge Road.



7. LOOKING SOUTHEAST TOWARDS THE LANDFILL FROM RIFLE RANGE ROAD.