

State of Oregon
Department of Environmental Quality

Memorandum

Date: March 6, 2018

To: David Anderson
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From: Bob Schwarz
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Copy: Gina Ramoz
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Cheyenne Chapman, DEQ HQ, Legal Policy Analyst

Subject: Bend Demolition Landfill, ECSI # 4884; Recommendation to proceed with a Prospective Purchaser Agreement with Oregon State University

On June 22, 2017, Oregon State University (OSU or University) submitted an application for a Prospective Purchaser Agreement (PPA) under which it would purchase the Bend Demolition Landfill (referred to in some documents as the Deschutes County Demolition Landfill). This memo provides the basis for the recommendation that DEQ enter into a PPA with the University.

Background. The Bend Demolition Landfill is a closed landfill regulated under Solid Waste Disposal Permit 215. In addition, DEQ's Cleanup Program has assigned ECSI # 4884 to this site. The landfill, which occupies 72 acres, is located at 19755 SW Simpson Avenue in Bend. As shown on the attached figure, the landfill includes three areas that are identified, from east to west, as Areas 1, 2 and 3.

Area 3 was closed in accordance with a closure plan approved by DEQ on October 22, 1997, and documented by a June 1998, *Construction Certification Report Demolition Landfill Closure*, prepared by Harding Lawson Associates.

Closure of Areas 1 and 2 has not been completed because some of the waste in these areas is pyrolyzing, resulting in potentially dangerously high temperatures and differential settlement. (Pyrolysis is a thermal decomposition process that differs from combustion in that it takes place in the absence of oxygen.) Most of the pyrolyzing material is wood waste. Waste disposal in Areas 1 and 2 stopped in 1982 and 1986, respectively.

It should be noted that the Bend Parks and Recreation District owns a parcel between Areas 1 and 3. Waste was discovered on portions of this property that was not identified during development of the post-closure permit or prior to sale of this parcel to the Parks

and Recreation District. DEQ is in discussions with Deschutes County on how to address the issue of placement of waste outside the permitted waste disposal boundary. This issue is currently unresolved. This land is outside the property covered by the PPA.

Following acquisition of the landfill by OSU, the solid waste disposal permit would be modified so that OSU would be identified as the owner and operator and the Deschutes County Department of Solid Waste would be identified as a Co-operator.

Activities proposed in the PPA application

OSU plans to buy the Bend Demolition Landfill property in order to expand its OSU-Cascades campus. The campus is currently located immediately south of the landfill.

The schedule for completion of the redevelopment is currently unknown because OSU is still in the process of obtaining the full amount of funding for completion of the remedy. Once adequate funding is obtained to begin the process, OSU plans to excavate the waste in Areas 1 and 2. Fine (small) soil and rock contained in the waste, along with some organic fines (e.g., sawdust) would be blended with other onsite soil (e.g., landfill cover soil) at an approximate maximum rate of 4 percent organic content to produce Processed Engineered Fill, which would be used for site grading at both the landfill and an adjacent pumice mine recently purchased by OSU. This limit on organic material is necessary so that the Processed Engineered Fill meets required geotechnical properties.

This waste will be processed prior to blending such that it will no longer be prone to pyrolysis, thereby eliminating the primary environmental risk posed by this site. Because use of these fines would reduce or eliminate the need for importing soil from offsite, DEQ's Solid Waste Program preliminarily concludes that this proposed use of this waste would qualify as a beneficial use under OAR 340-093.

Waste from Areas 1 and 2 that cannot be used to make Processed Engineered Fill will be placed in Area 3. Waste encountered that is not suitable for placement anywhere on the site (e.g., drums) will be removed from the site and disposed of in accordance with applicable regulations. Tires encountered during waste removal will be temporarily contained on-site. They may be beneficially reused onsite after processing (e.g., ground for walking path surfaces), in accordance with DEQ requirements. If not used in this manner, they will be hauled offsite for salvage or disposal or placed in Area 3. As required by DEQ, tires placed in Area 3 will be processed in accordance with OAR 340-064-0052 prior to placement.

As waste is removed from portions of the site, those areas no longer containing waste will be removed from the solid waste disposal permit and managed solely under the PPA.

Removal of pyrolyzing material. Pyrolysis is understood to be occurring in Area 1 along the pumice face located at the far eastern edge of Area 1. The active pyrolysis area is estimated to be a 75-foot wide strip along the 1,390-foot long eastern edge. The average

thickness of waste along this face is approximately 50 feet, with pyrolysis noted to be occurring primarily at the deeper extent of the waste.

OSU plans to excavate this material and treat it onsite such that it no longer has the potential to pyrolyze. Details regarding this treatment process are still being developed, but may include staging in windrows for cooling to ambient temperatures and further manipulation (e.g., turning). This process would occur if and when OSU completes redevelopment within Area 1 and encounters waste undergoing pyrolysis.

The work will occur under a DEQ-approved Work Plan and oversight of work activities, as necessary.

Project scope is funding-dependent. As previously noted, redevelopment and waste removal are dependent on funding. It is therefore not certain that all the site redevelopment and waste removal will be accomplished in a timely fashion or by a definitive end date. However, certain measures will be taken by OSU prior to, and regardless of whether this redevelopment takes place. These measures involve maintaining site access controls, adhering to the Solid Waste Permit, entering into and recording an Easement and Equitable Servitudes (EES), and implementing a Pre-Development Access and Exposure Control Plan that will be used to manage and mitigate any access and exposure to the public, similar to current site controls.

In other words, the worst case would be that the site would continue to be managed as required under the solid waste permit. The best case would be that pyrolyzing waste would be removed from this site, the landfill footprint would be reduced, and significant reuse of previously wasted material from the landfill would occur, resulting in significant benefits in terms of protecting human health and the environment. Additionally, significant student, faculty, and community benefits can be realized by the envisioned site development.

Public notice and comment. On February 1, 2018, DEQ issued a public notice about the proposed prospective purchaser agreement. The notice was published in the Bend Bulletin, the Oregon Bulletin, and DEQ's website. Comments were requested by March 5, 2018. DEQ received no comments.

Recommendation. Based on a review of the actions proposed by the Defendant, DEQ selects the remedial action for the Bend Demolition Landfill property set forth in the PPA and should proceed with the Prospective Purchaser Agreement with Oregon State University.

ADMINISTRATIVE RECORD

DEA et al. 1997. (David Evans and Associates, Inc. (DEA), Brian Stirrat and Associates, Friesen and Associates, Seimens and Associates) *Demolition Landfill Subsurface Fire Assessment*, June, 1997.

Deschutes County, June 2012, Post-Closure Monitoring Plan, Bend Demolition Landfill,

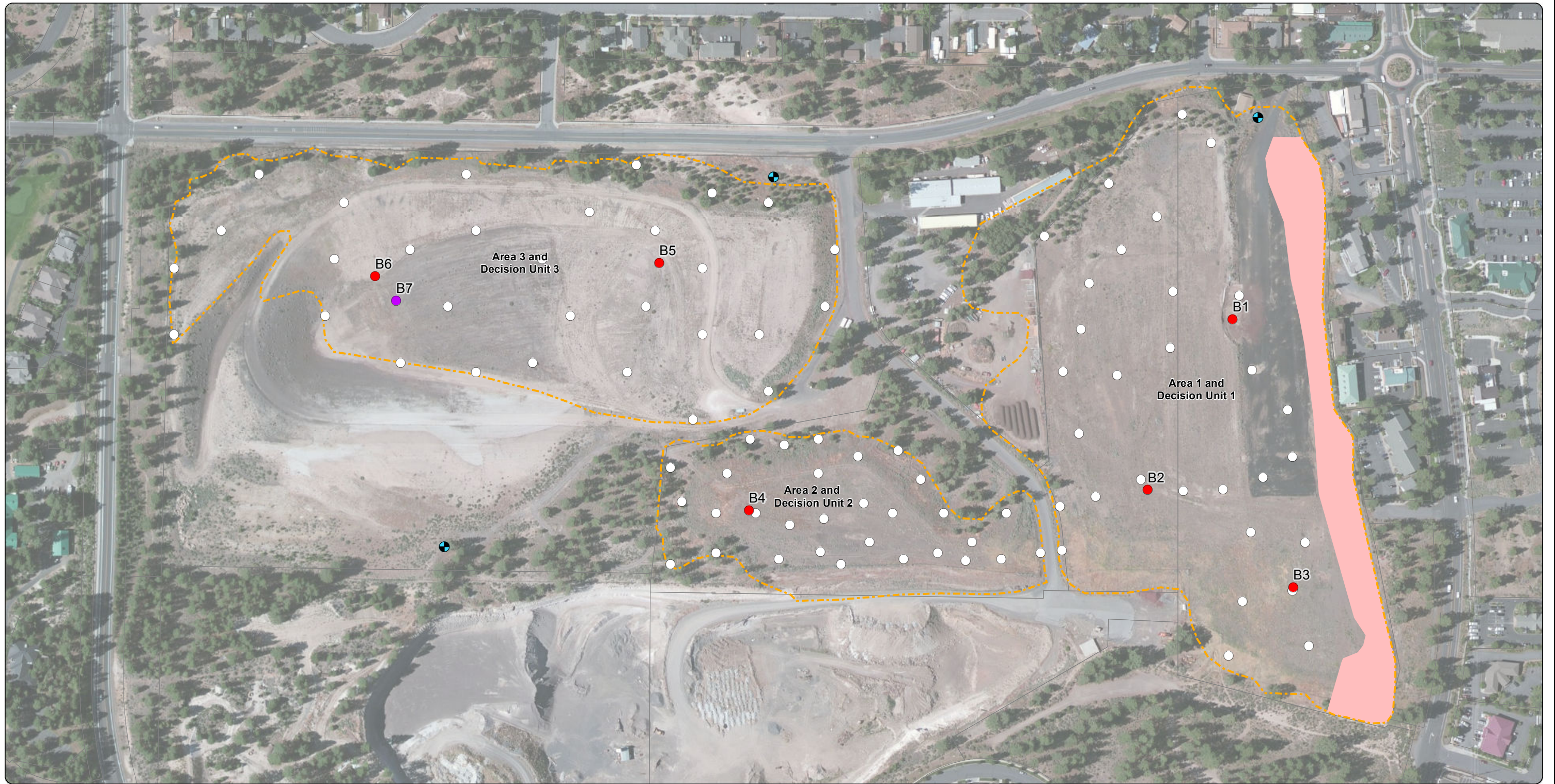
DEQ, 2016. Solid Waste Disposal Site Closure Permit #215 Issued to Deschutes County Department of Solid Waste for Bend Demolition Landfill. December 16, 2016.

Gershman, Brickner & Bratton. Inc. 2008. *Demolition Landfill Subsurface Investigations Study*. October 31, 2008.

PBS, 2010, *Demolition Landfill Gas Assessment Adjacent Properties Preferential Pathway Report*. June 2010.

PBS. 2013. *Phase II Characterization Report - Groundwater Assessment Monitoring*. PBS Engineering and Environmental. June 25, 2013.

Maul Foster & Alongi. 2016. *Demolition Landfill Reclamation - Focused Site Investigation Results*. November 2016.



Source: Aerial photograph obtained from Esri ArcGIS Online

Legend

- ISM Sample Location
- Soil Vapor Sample
- Soil Boring to Confirm Cover Thickness
- ⊕ Monitoring Well
- ⊞ Landfill Areas
- High Hazard Area
- Tax Lot

Figure 2
Investigation Locations
 Oregon State University Cascades Campus
 Bend, Oregon

