

Beneficial Use of Solid Waste Determination Evaluation Form



State of Oregon
Department of
Environmental
Quality

Applicant: Tapani Inc.

BUD#: 20161212

Solid Waste: Soil that does not meet clean-fill criteria

Summary of Proposed Beneficial Use: fill and/or surcharge material in the TRIP redevelopment.

Reviewer: Heather Kuoppamaki

Date: Dec. 14, 2016

Tier: One Two Three

Beneficial Use of Solid Waste

Beneficial use of solid waste is a sustainability practice that may involve using an industrial waste in a manufacturing process to make another product or using a waste as a substitute for construction materials.

The environmental benefits of substituting industrial waste materials for virgin materials includes conserving energy, reducing the need to extract natural resources and reducing demand for disposal facilities.

Oregon Administrative Rules (OAR) 340-093-0280 - 0290 establish standing beneficial uses and a process for DEQ review of case-specific beneficial use proposals. Under these rules, DEQ may issue a beneficial use determination as an alternative to a disposal permit for proposals that meet the rule criteria. If approved, once a beneficial use determination is issued, DEQ no longer regulates the waste as a solid waste as long as the waste is used in accordance with the approved beneficial use determination.

Beneficial Use Determination Evaluation Summary

Yes, the Beneficial Use of this solid waste meets all the case-specific performance criteria listed below and is approved.

No, the Beneficial Use of this solid waste does not meet all the case-specific performance criteria listed below and is not approved.

Notes: The solid waste is currently being used as surcharge soils at the USPS Colwood Rd industrial location and is proposed to be used at the Port of Portland's TRIP redevelopment. Analytical results show the material is suitable as fill and surcharge material at the industrial facility. Benzo(a)pyrene was detected above clean-fill criteria but below soil occupational RBCs. Antimony, selenium, MCPA, MCPP, and dibenzofuran were not detected; however, the detection limits were above clean-fill criteria. The detection limit for MCPA was below the soil ingestion, dermal contact, and inhalation, occupational RBC value. Arsenic was detected at 5.03 mg/kg which exceeds the soil occupational RBC of 1.9 mg/kg but is below the clean-fill screening criteria of 8.8 mg/kg. Soil will be managed according to a contaminated media management plan and NPDES permit.

Table 1: Non-detected analytes with detection limits above clean-fill criteria and below soil occupational RBC limits

Analyte	Detection limit (mg/kg)	Clean-fill criteria (mg/kg)	RBC ^a or RSL ^b Occupational
Antimony	1.1	0.56	470 ^b
Selenium	1.1	0.71	5,800 ^b
MCPA ¹	3	0.24	410 ^a
MCPP ²	2.6	0.2256	820 ^b
Dibenzofuran	0.00272	0.002	1,000 ^b

1 - 2-methyl-4-chlorophenoxyacetic acid

2 - methylchlorophenoxypropionic acid

NE = not established

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Case-Specific Beneficial Use Performance Criteria:

DEQ may approve an application for a case-specific beneficial use of solid waste only if all the following performance criteria are addressed: 1) Characterization of the Solid Waste; 2) Productive Beneficial Use of the Solid Waste; and, 3) The affect of the Proposed Beneficial Use on Public Health, Safety, Welfare and/or the Environment.

1) Characterization of the Solid Waste

Did the applicant characterize the solid waste and proposed beneficial use sufficiently to demonstrate compliance with the rules for case-specific beneficial use determinations (OAR 340-093-0280) by submitting required information for the appropriate tier? (See tier sections below for detailed characterization information.)

Yes No

Notes: The beneficial use is slightly contaminated soil being used as fill instead of using virgin, uncontaminated soil. The soil is slightly contaminated and therefore could not be used under clean-fill guidance. The proposed use will offset importing the same quantity of fill from other locations and disposing of the material at a landfill.

Was the following information submitted for DEQ review and how adequate was it?

Tier 1 Applicable Not applicable

- Did the applicant provide an adequate description of the material proposed for beneficial use, the manner of generation and the estimated quantity to be used beneficially each year? Yes No

Notes: The soil is currently being used as surcharge material at Surcharge Area 2. The applicant provided results from using an incremental sampling methodology (ISM). The soil was analyzed for metals, various pesticides and herbicides, polychlorinated biphenyls, various hydrocarbons, cyanide and fluoride. The concentration of benzo(a)pyrene exceeded the DEQ clean-fill criteria but was below soil non-residential RBC concentrations. None of the other detected concentrations exceeded DEQ clean-fill criteria.

- Did the applicant provide an adequate description of the proposed beneficial use and justify how the proposed use is beneficial? Yes No

Notes: The proposed beneficial use will offset importing soil for filling or surcharging activities. The grades at the Reynolds Industrial Park (TRIP) location have to be raised to comply with the Sandy Drainage District standards for Base Flood Elevation.

- Did the applicant provide a sufficient comparison of the chemical and physical characteristics of the material proposed for beneficial use with the material it will replace? Yes No

Notes: The material is soil that is currently being used as surcharge material at the U.S. Postal Service redevelopment at Colwood Industrial Park. Any strippings, organic material, other putrescible material, or asphalt, construction debris, or concrete over 4-inches will be removed from the material.

- Did the applicant successfully demonstrate compliance of the proposed beneficial use with the performance criteria in OAR 340-093-0280 based on knowledge of the process that generated the material, properties of the finished product, or testing? Yes No

Notes: The applicant provided sufficient analytical testing of the material.

- If required, did the applicant provide any other DEQ required information to evaluate the proposal? Yes No

Notes: Not required.

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Tier 2 Applicable Not applicable

- Did the applicant submit all the information required for a Tier 1 application? Yes No

Notes: Applicant provided analytical data and proposed use for the material to show the material meets the Tier 1 requirements.

- Did the applicant submit adequate sampling and analysis to make a determination of suitability for beneficial use? (Note: The analysis must provide chemical, physical, and biological characterization of the material proposed for beneficial use and identify potential contaminants in the material or the end product, as applicable.) Yes No

Notes: The material is soil currently being used as surcharge material at the USPS redevelopment. The proposed use is fill material or surcharge material at the TRIP redevelopment.

- When applicable, did the applicant provide a risk screening comparing the concentration of hazardous substances in the material to existing, DEQ approved, risk-based screening level values, and demonstrate compliance with acceptable risk levels? Yes No

Notes: Chemical analysis shows concentrations of benzo(a)pyrene above clean-fill criteria but below soil non-residential RBC standards. None of the other detected analytes had concentrations above clean-fill standards. Five of the analytes (see Table 1) had method detection limits above the clean-fill criteria. None of these detection limits were above soil RBC non-residential standards. Arsenic was detected at 5.03 mg/kg which exceeds the soil occupational RBC of 1.9 mg/kg but is below the clean-fill screening criteria of 8.8 mg/kg.

- When applicable, did the applicant supply the location or type of land use where the material will be applied, consistent with the risk scenarios used to evaluate risk? Yes No

Notes: The material will be used as fill or surcharge material at the TRIP property.

- When applicable, did the applicant supply contact information of property owner(s) if this is a site-specific land application proposal, including name, address, phone number, e-mail, site address and site coordinates (latitude and longitude)? Yes No

Notes: Applicant provided contact information for the Port of Portland who owns the TRIP site.

- Did the applicant supply an adequate description of how the material will be managed to minimize potential adverse impacts to public health, safety, welfare, or the environment? Yes No

Notes: The following are excerpts from the application describing management of the material:

The Site is fenced to prevent public access. Soil will be loaded directly from the soil stockpile to haul trucks. Based on seasonal conditions, dust generation is not expected [the material will be transported in February 2017]. Once it arrives at TRIP, the material will be managed in accordance with the [Contaminated Media Management Plan] CMMP [provided with the application]. Stockpiles will be managed to properly contain soil and avoid erosion by wind or stormwater in accordance with the CMMP. When necessary to prevent soil from becoming airborne, the Port will employ best management practices such as covering stockpiles with tarps or misting water over the soil. The placement site at the TRIP property is not easily accessible to the public and residential use of the site is prohibited through an Easement and Equitable Servitude.

Tier 3 Applicable Not applicable

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2) Productive Beneficial Use of the Solid Waste

Has the applicant demonstrated that the proposed beneficial use is a productive use of the material by providing information substantiating the criteria listed below? Yes No

Notes: The proposed use is location specific and the location has a need for the material.

Did the applicant successfully identify or demonstrate a reasonably likely proposed beneficial use for the material that is not speculative? Yes No

- The applicant is a port district and has demonstrated the proposed use is upland placement of dredged material in accordance with Senate Bill 412. Yes No

This criterion consists of three parts.

1. Identified Use:

Has the applicant clearly stated what the waste is going to be used for, that the waste is compatible with that use and the proposed quantity is necessary?

Yes No

2. Reasonably Likely Use:

Has the applicant identified, with supporting documentation, the timeframe within which this use is likely to occur (e.g., zoning info, master plan for development, letters from local jurisdictions, etc)?

Yes No

3. Not Speculative:

For Land application - has this material been used at other sites for the same purpose, is the material feasible for use at this site for this purpose, or has the applicant identified a known potential for this use at this site?

Yes No N/A

For uses other than land application - has the material been used in a product before, is the material feasible for use in a product, or has the applicant identified a known potential for use in this product?

Yes No N/A

Notes: The application is for using soil, currently being used as surcharge material, for surcharge and/or fill material at an industrial property.

- Is the use a valuable part of a manufacturing process, an effective substitute for a valuable raw material or commercial product, or otherwise authorized by the Department and does not constitute disposal? Yes No

Notes: The use is a substitute for importing soil from elsewhere.

- Is the use in accordance with applicable engineering standards, commercial standards, and agricultural or horticultural practices? Yes No

Notes: Soil being used as soil.

3) Effect of Proposed Beneficial Use on Public Health, Safety, Welfare and/or the Environment

Has the applicant demonstrated the proposed beneficial use will **not** create an adverse impact to public health, safety, welfare, or the environment, by providing information substantiating compliance with the criteria listed in the bullet list below? Yes No

Notes: Based on the results of the ISM sampling, the material will not create an adverse impact to public health, safety, welfare, or the environment. The main contaminant of concern is benzo(a)pyrene which is common in soils. Benzo(a)pyrene is not highly water soluble.

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- Has the applicant demonstrated that the material is not a hazardous waste under ORS 466.00?
 Yes No

Notes: The analytical suite used was reasonable and did not show concentrations above hazardous waste toxicity limits.

- Has the applicant demonstrated that until the time this material is used according to a beneficial use determination, the material will be managed, including any storage, transportation, or processing, to prevent releases to the environment or nuisance conditions?
 Yes No

Notes: The material is currently being used as surcharge material.

- Has the applicant demonstrated that hazardous substances in the material, if any, meet one of the criteria in the bulleted list below?
 Yes No NA
 - Hazardous substances do not significantly exceed the concentration in a comparable raw material or commercial product;
 - Hazardous substances do not exceed naturally occurring background concentrations; or
 - Hazardous substances will not exceed acceptable risk levels, including persistence and potential bioaccumulation, when the material is managed according to a beneficial use determination.

- Has the applicant demonstrated that the proposed beneficial use will not result in the increase of a hazardous substance in a sensitive environment, such as a park, wildlife refuge or wetland?
 Yes No

Notes: There are no known sensitive environments on the TRIP property. The soil management plan and construction stormwater permit should prevent soil from leaving the site.

- Has the applicant demonstrated that the proposed beneficial use will not create objectionable odors, dust, unsightliness, fire, or other nuisance conditions?
 Yes No

Notes: Soil management plans were provided with the application.

- Has the applicant indicated that the proposed beneficial use will comply with any other applicable federal, state, and local regulations?
 Yes No

Notes: The material will be managed according to the CMMP and the Stormwater General Permit 1200-CA.

4) Public Involvement Evaluation

Determine a public involvement recommendation using the current, **Guidance to DEQ Solid Waste Program Staff and Managers on Public Notice & Participation.**

- Is public notice and participation being recommended for this application? Yes No

Notes: The proposed use is location specific. DEQ conferred with Cheryl Grabham, the RST member for Portland and she anticipates public interest to be low. Therefore, public notice and participation is not recommended.

