



State of Oregon  
Department of  
Environmental  
Quality

## Internal Management Directive

Subject: Beneficial Use of Solid Waste,  
Criteria for Assessing Potential Adverse Impacts

Effective Date: DRAFT

IMD Number:

Revision Date:

Approved Date:

Pages: 4

### Intent / Purpose / Statement of Need:

To clarify for Department staff the information and conditions that should be considered in evaluating whether the use of a solid waste is likely to cause an adverse impact to human health or the environment.

### Authority:

ORS 459 and OAR 340-093

### Applicability:

- For determining whether to exempt use of the material from the requirement for a disposal permit (as "clean fill" or otherwise);
- For evaluating solid waste uses in which the material will come into contact with the land and could adversely impact the land, surface water, or groundwater;
- For identifying conditions on use to prevent adverse impacts to human health or the environment.

### Internal Contact:

Tom Roick 503-229-5502

### Policy:

#### General Information

The following information should be provided by the generator and/or user of a solid waste:

- Name, address, and phone number of the waste generator or applicant if the applicant is not the generator;
- Description of the waste, manner of generation, and quantity;
- Documentation that the waste is not hazardous as defined in OAR 340-101;
- Material Safety Data Sheets associated with precursors of the waste material;
- A description of the proposed use, and location, if applicable;

- Consideration of applicable federal, state, and local rules, regulations, and codes and local land use requirements, including identification of current and likely future land use of the property where it will be applied; and
- Identification of characteristics of the solid waste, if any, that may create nuisance conditions such as foul odors, dust, sheens, or discoloration of soil or surface water.

### Testing Requirements

Chemical, physical, and where appropriate, biological characterization of the waste and its end use if applicable, should be conducted using representative, up-to-date sample(s). Sampling should generally follow standard protocols described in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods* (EPA SW-846). Analysis for metals should be for total metals pursuant to Method 6010B. All chemical analyses should be conducted by an experienced analytical laboratory using accepted methods and recommended reporting limits. Appropriate quality assurance/quality control (QA/QC) samples should also be analyzed.

#### A) Testing of the Waste

Testing for characterization of the waste in its state of origin may include:

- Total concentrations for hazardous substances known or suspected to be present in the waste;
- Toxic Characteristic Leaching Procedure (TCLP) metals and other characteristic tests necessary for a Resource Conservation Recovery Act (RCRA) hazardous waste determination (note that if the material is a hazardous waste in the state of origin, use should be denied);
- TCLP metals in addition to those above (e.g., Comprehensive Environmental Response, Compensation, and Liability Act metals) and other constituents for potential impacts to surface water or groundwater;
- Testing for Oregon "State Only" hazardous waste (e.g., pesticide residues); and
- Nutrients, pH, grain size or other tests applicable to a specific waste material if such characteristics could cause an adverse impact or nuisance condition.

#### B) Testing Based on Use

If a demonstration that no adverse impacts will occur is dependent on the chemical properties of the end product, such as leachability, testing should be conducted on the end product to evaluate potential adverse impacts. TCLP, Synthetic Precipitation Leaching Procedure (SPLP), or other representative leaching test or other analyses as determined appropriate by DEQ should be conducted.

## Applicable Risk-Based Screening Level Values

The following screening criteria should be used in evaluation of risk to human health and the environment due to the presence of hazardous substances:

- Risk-Based Decision Making (RBDM) for the Remediation of Petroleum-Contaminated Sites, DEQ, September 22, 2003, Table of Risk-Based Concentrations (RBCs) revised October 3, 2008 [*the preferred values for human health evaluation*];
- EPA Regional Screening Levels for Chemical Contaminants at Superfund Sites (Regions 3, 6, and 9) [*use last updated values where DEQ RBDM values are not available or applicable*];
- Guidance for Ecological Risk Assessment, Level II Screening Level Values, DEQ, December 2001 [*the preferred values for ecological receptors*];
- Portland Harbor Joint Source Control Strategy Final, DEQ/EPA, December 2005 [*tabulated values for potential stormwater or sediment impacts*];
- Guidance for Assessing Bioaccumulative Chemicals of Concern in Sediment, Table A-1a: Sediment Bioaccumulation Screening Level Values, DEQ, April 3, 2007 [*for potential sediment impacts*]; and
- Background soil concentrations for metals [*as available*].

At the discretion of DEQ, a statistical analysis to determine the 90% Upper Confidence Limit (UCL) of the mean sample testing results may be appropriate for comparison to applicable risk-based screening level values.

## Case-Specific Use Information

In order to determine which screening values apply, the generator and/or user should provide an evaluation of exposure pathways based upon final material placement, including assessment of which pathways are complete and how exposure impacts will be avoided or mitigated. The following information about use of the material may be necessary:

- How the waste material will be transported, handled, and placed to ensure worker health and safety;
- Extent to which the material will come into contact with the land;
- Whether people or animals will be exposed to the material in its application and the potential for bioaccumulation;
- Zoning and land use for the property where the material will be applied;
- The type of land application, including plans for material placement;
- Whether the material will be exposed or capped in the final project, and if so, the type and thickness of the cap;

- A description of stormwater drainage, proximity to waterways, wetlands, water supply wells, and other environmentally sensitive areas; and
- Depth to groundwater and soil type.

#### **Possible Conditions on Use**

If hazardous substance concentrations exceed one or more of the risk-based screening levels such that unrestricted use is not appropriate, the following are examples of conditions that may be specified to allow restricted uses:

- Periodic sampling and analysis of the waste (e.g., annual) to confirm properties and/or concentrations of hazardous substances remain consistent with DEQ approval;
- Confirmation that land use for proposed disposal sites, including site location maps, conforms to the risk-based screening levels applied;
- A written statement of approval from the property owners where the material will be applied;
- A Land Use Compatibility Statement (LUCS) from the local planning Department;
- A recommendation from the local solid waste planning authority for alternative use sites (e.g., Metro);
- Requirement for the waste material to be covered by clean fill or other material;
- For construction projects, confirmation from the disposal site owners that they have obtained a stormwater permit for any stormwater discharges and have implemented appropriate stormwater protection measures;
- Limits on use in proximity to stormwater or waterways;
- Limits on depth above groundwater;
- Limits on use in sensitive natural areas.