

# Oregon Department of Environmental Quality

## DEQ regulation of landfills and alternative daily cover

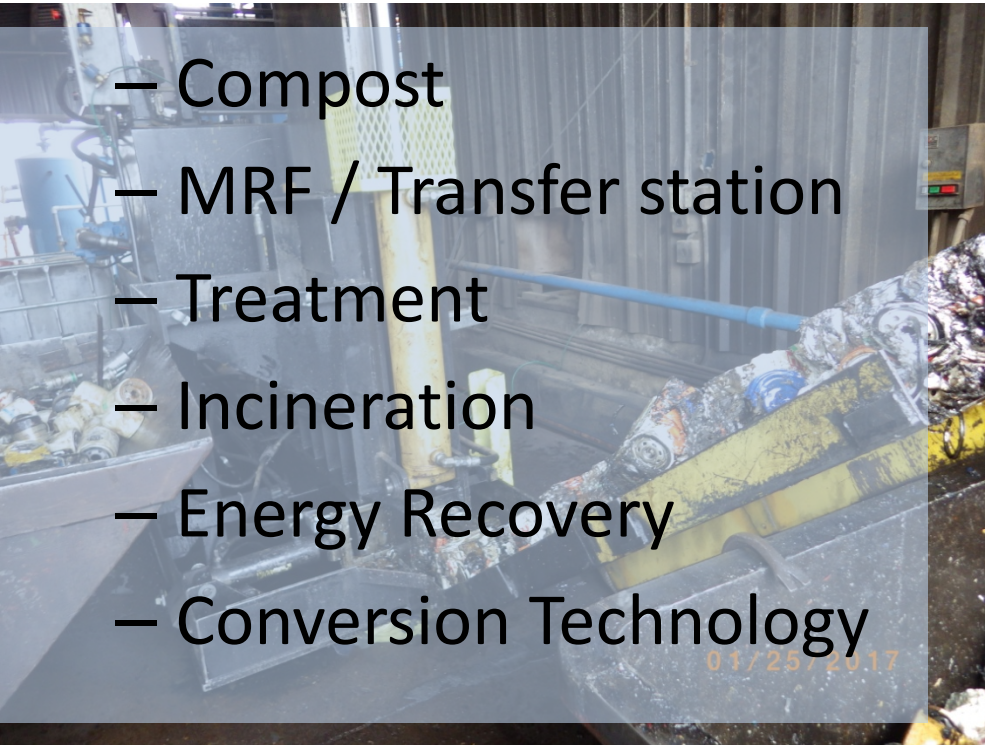
July 25, 2017

Prepared for: Metro Taxes and Fees  
Subcommittee

# Types of sites

## Non land disposal sites

- Compost
- MRF / Transfer station
- Treatment
- Incineration
- Energy Recovery
- Conversion Technology



## Landfills

- Special waste
- Municipal waste
- Regional
- Industrial
  - Captive
  - Offsite





# The Old Dump





# Today's Landfill Under Construction



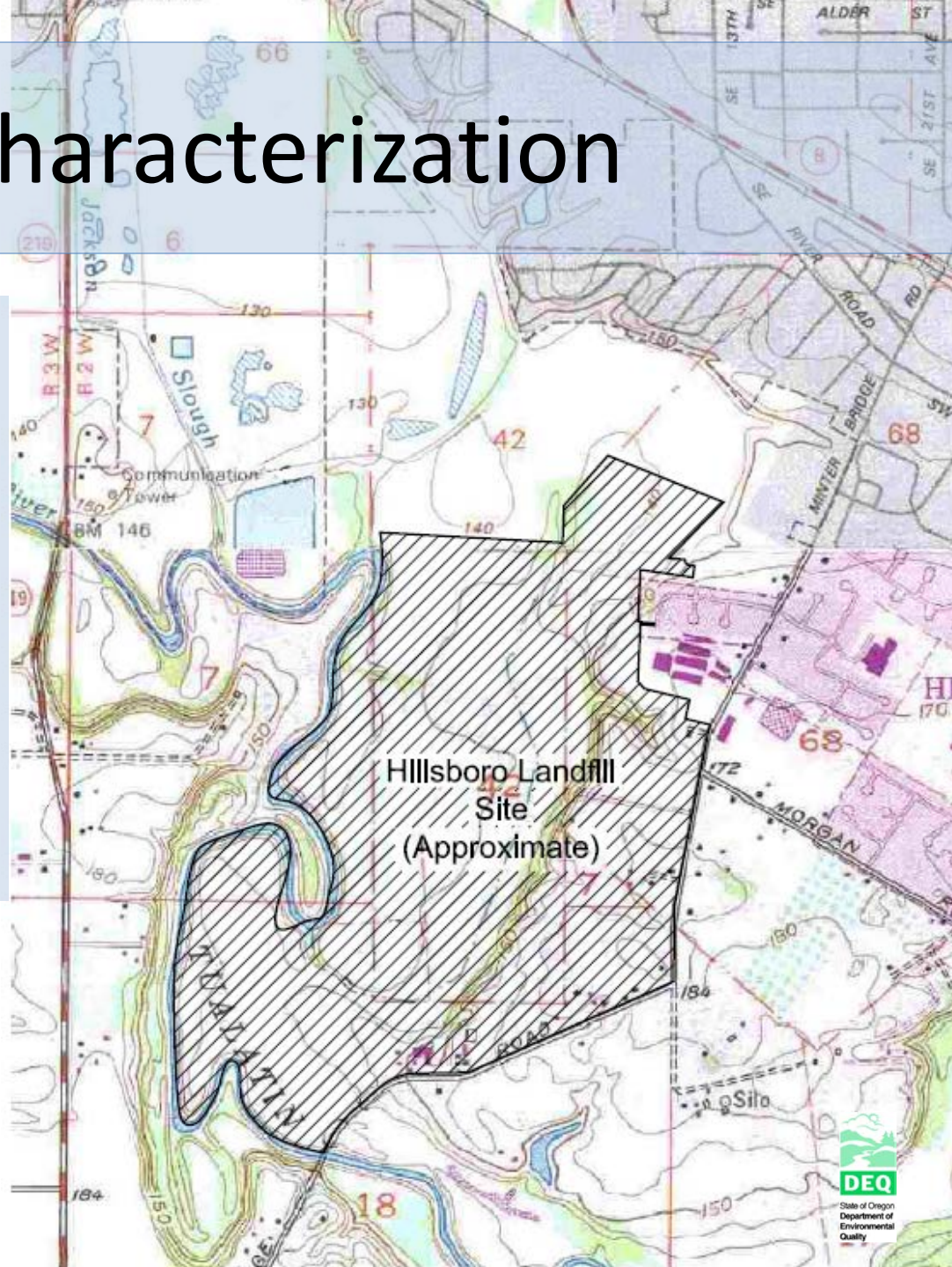
# How does DEQ regulate landfills?

<b>Site design and operations</b>	<b>Financial</b>
<ul style="list-style-type: none"><li>• Site Characterization</li><li>• Design</li><li>• Construction</li><li>• Operations</li></ul>	<ul style="list-style-type: none"><li>• Economically viable</li><li>• Closure &amp; post-closure Financial Assurance</li><li>• Fees</li></ul>
<ul style="list-style-type: none"><li>• Environmental monitoring and remediation</li><li>• Closure and post closure care</li><li>• Compliance inspections</li></ul>	<b>Local government</b> <ul style="list-style-type: none"><li>• Local land use approval</li><li>• Agreement with local and state solid waste plans</li></ul>



# Site Characterization

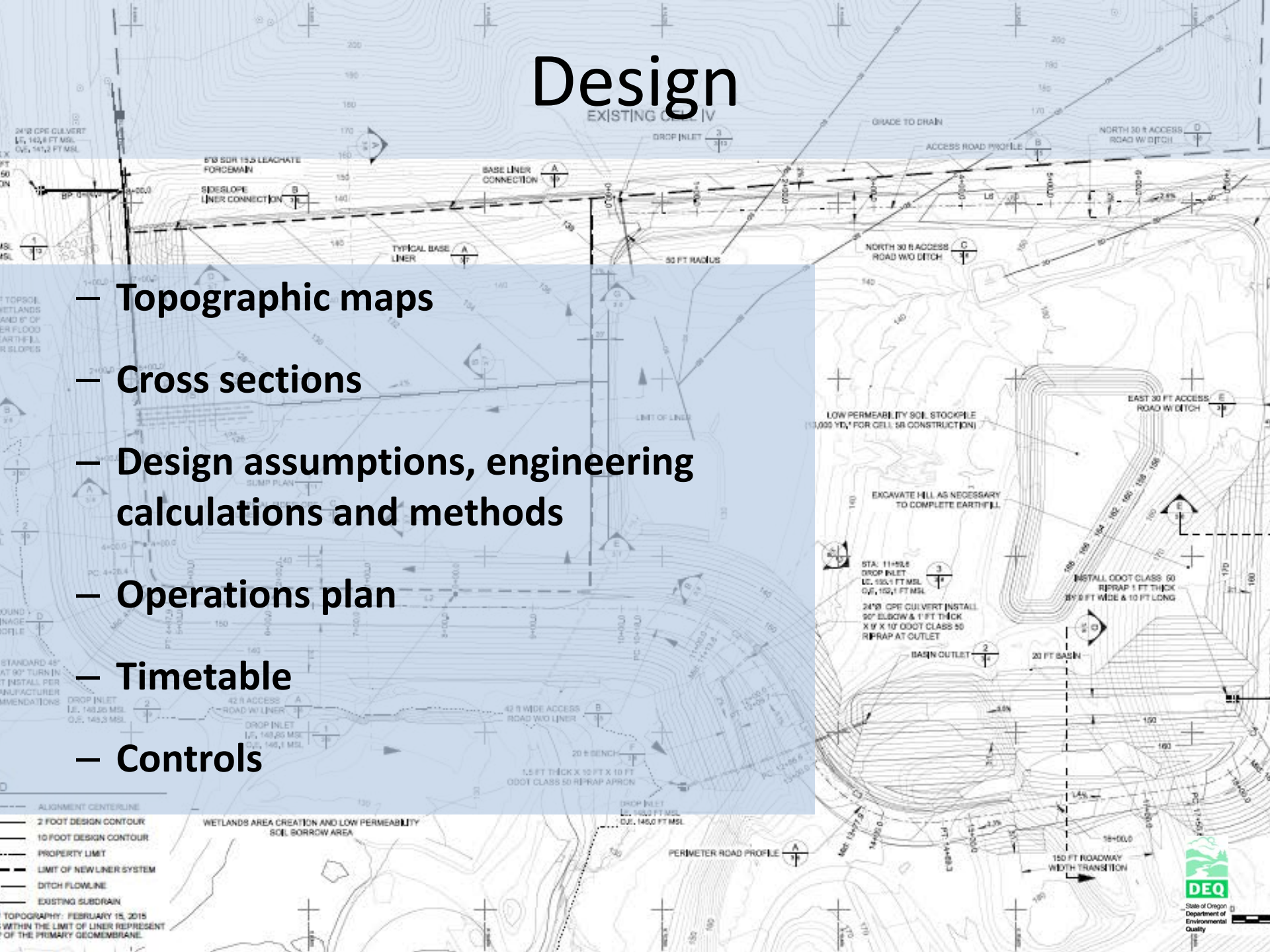
- Detailed look at the site and feasibility of siting a landfill
- Potential receptors and site specific conditions





# Design

- Topographic maps
- Cross sections
- Design assumptions, engineering calculations and methods
- Operations plan
- Timetable
- Controls





# Control Systems

Control potential impacts to human health or the environment

- Liner systems
- Leachate and landfill gas
- Environmental monitoring and protection
  - Proper operations
  - Final closure systems



# Operations Plan

## Day to day activities

- Accepting authorized wastes
- Managing wastes correctly
- Managing potential impacts correctly





# Environmental Monitoring

- Environmental Monitoring Plan
- Groundwater monitoring
- Landfill gas monitoring
- Annual reporting





# Compliance & Enforcement

- Inspections
- Review ongoing monitoring
- Review operations



# Closure & Post-Closure Plan “worst case”

Steps to close landfill units at any point during the active life

Steps to be taken after the landfill is closed

Rule of thumb is this period is 30 years post closure

Finances to ensure this work is done



# SOLID WASTE DISPOSAL REPORT/ FEE CALCULATION

For Municipal Solid Waste Facilities Receiving More Than 1,000 Tons Per Year



**Mail:**  
 Dept. of Environmental Quality  
 Business Office  
 700 NE Multnomah St., Suite #600  
 Portland, OR 97232

**Email:**  
 sw.feereporting@deq.state.or.us

**For DEQ use only:**

Date Rec'd \_\_\_\_\_  
 Amount Rec'd \_\_\_\_\_  
 Check No. \_\_\_\_\_

Facility Name: \_\_\_\_\_

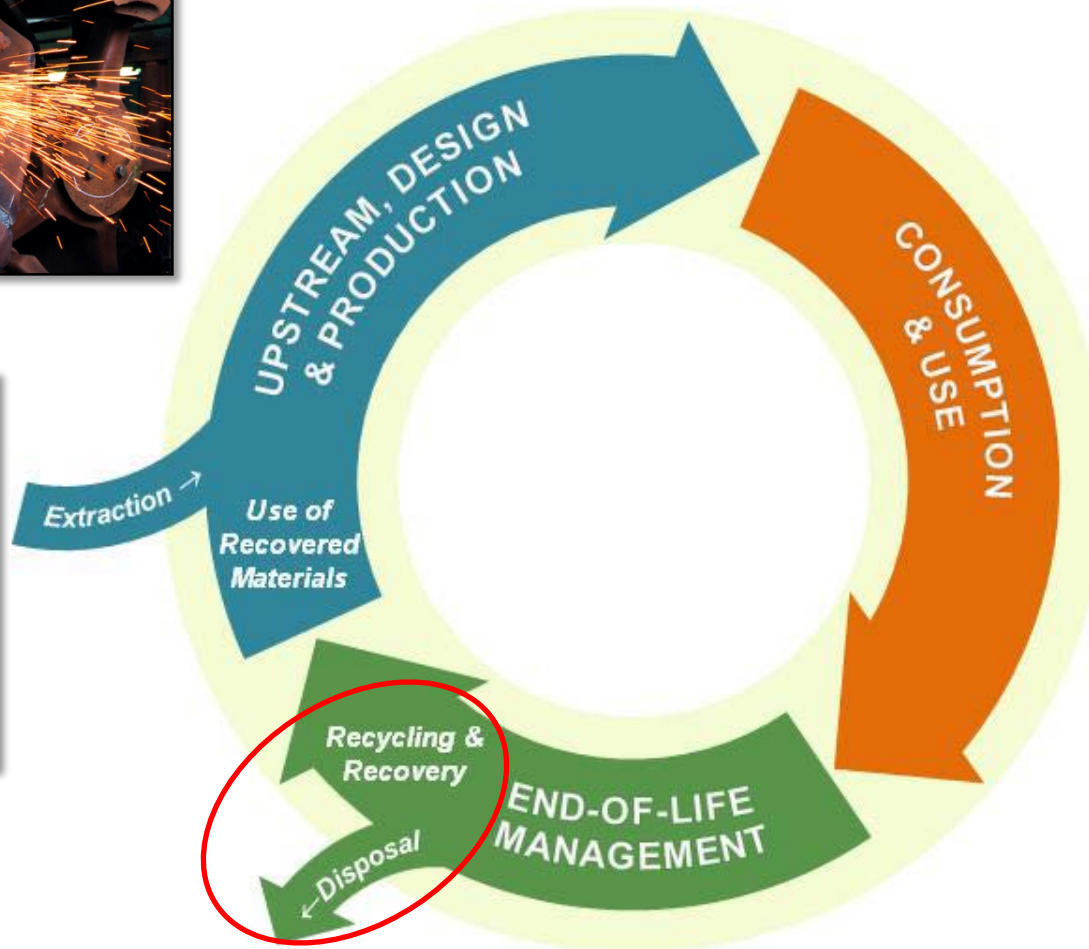
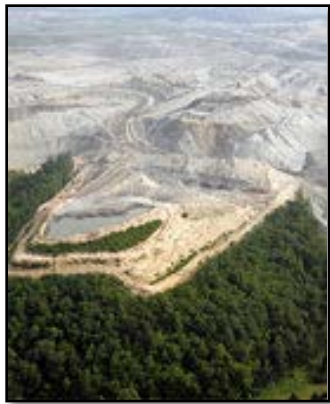
SW Permit No. \_\_\_\_\_

- Disposal fee
- Orphan site account fee
- Permit fee

Total In-State Solid Waste: # of Tons (page 2, step 3)	_____		
Total Out-of-State Waste: # of Tons (page 3, step 5)	_____		
Total "Counting" Waste Tires: # of Tons (page 4 step 7)	_____		
<b>Total Tons Received in Reporting Period:</b>	_____		
		X	\$1.11/ton = \$ _____
			.13/ton = \$ _____
			.58/ton = \$ _____
Sewage Sludge: # of Tons (page 4, step 8)	_____	X	\$.58/ton = \$ _____
			<b>Fee Subtotal = \$ _____</b>
Approved Alternative Daily Cover (ADC) used: # of Tons (page 3, step 6B)	_____	X	\$1.11/ton = \$ _____
			.13/ton = \$ _____
			<b>ADC Credit = \$ _____</b>
<b>Make check payable to DEQ.</b>			
			<b>Fee Subtotal - ADC Credit = TOTAL PAYMENT: \$ _____</b>



# Sustainable Materials Management (SMM): A “Life Cycle” View





# Daily Cover

Compacted layer of at least six inches of approved cover material

DEQ may approve alternative cover designs or procedures which are equally protective.

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<b>Criteria</b>	<b>Required ADCM Performance</b>
<b>Controls Disease Vectors</b>	All ADCM must be demonstrated to control disease vectors comparable to a 6-inch thick soil cover.
<b>Controls Fire</b>	All ADCMs must be shown to control fire. At sites with a history of landfill fires, the ADCM must be demonstrated to control fire comparable to a 6-inch thick soil cover.
<b>Controls Odors</b>	All ADCMs must be shown to control odors. At sites with a history of landfill odor problems and/or complaints, the ADCM must be demonstrated to control odors comparable to a 6-inch thick soil cover.
<b>Controls Blowing Litter</b>	All ADCMs must be shown to control blowing litter. At sites with a history of litter problems and/or complaints, the ADCM must be demonstrated to control litter comparable to a 6-inch thick soil cover.
<b>Controls Scavenging</b>	All ADCMs must be shown to control scavenging. At sites with a history of landfill scavenging problems, the ADCM must be demonstrated to control scavenging comparable to a 6-inch thick soil cover.
<b>Reduces Infiltration</b>	At sites with relevant leachate management constraints, ADCMs must be shown to act as a moisture barrier.
<b>Controls Dust</b>	At sites with dust problems on the working face, ADCMs must be shown to control dust.
<b>Enhances Aesthetics</b>	At sites with complaints related to the aesthetics of the working face, the aesthetics of ADCMs must be considered.



# Alternative Daily Cover Material 1993

- Fee break first enacted
- Exempt from per-ton solid waste disposal and orphan site fees

ORS 459.235(4) Notwithstanding any other fee or surcharge imposed under ORS 459.005 to 459.437 or 459A.005 to 459A.120, for the disposal of solid waste, in order to encourage the use of suitable material other than virgin material for daily cover at a disposal site, **the only fee that may be charged for the disposal of substitute material that is also used for daily cover is the permit fee established under this section.**

# SOLID WASTE DISPOSAL REPORT/ FEE CALCULATION

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# 2006

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## Oregon Department of Environmental Quality Directive

### Guidelines for Alternative Daily Cover Material Application

Approved by: Loretta Pickwell

Date Approved: 6/29/06

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**Introduction** This document provides guidelines for landfill operators to use in applying for Department of Environmental Quality (Department) approval to use alternative daily cover material (ADCM) in lieu of earthen cover material at a municipal solid waste landfill (MSWLF).

- Performs all the usual daily cover functions
- Is compatible with site specific conditions
- Does not create a potential impact to human health or environment

<http://www.oregon.gov/deq/Filtered%20Library/IMD-DailyCoverMatApp.pdf>

# 2009

## ADDENDUM NO. [#]

In accordance with Oregon Administrative Rules ORS 466.635 and Solid Waste Rules Chapter 340 Division 12, Solid Waste Permit No. 265 is hereby amended to add the following section to the permit as follows:

### ADC Usage

Alternative Daily Cover (ADC) usage must be measured and documented in accordance with the DEQ-approved Operations Plan. Starting with the January – March 2013 reporting period, the permittee must not claim ADC usage of the greater of 10% of “Total Tons Received in Reporting Period,” or 15% of “Counting Waste” (i.e., residential and commercial domestic solid waste, and construction and demolition waste) on the – ***Solid Waste Disposal Report/Fee Calculation*** form without first obtaining written DEQ approval. To obtain DEQ approval, submit an update to the ADC usage section of the Operations Plan that includes detailed methodology of the facility ADC usage including: descriptions of all ADC qualified material accepted, typical daily disposal cell construction dimensions, daily cover procedures, operational procedures for measuring and documenting daily ADC usage, conversion factors with supporting documentation and examples of daily reporting forms and calculations.

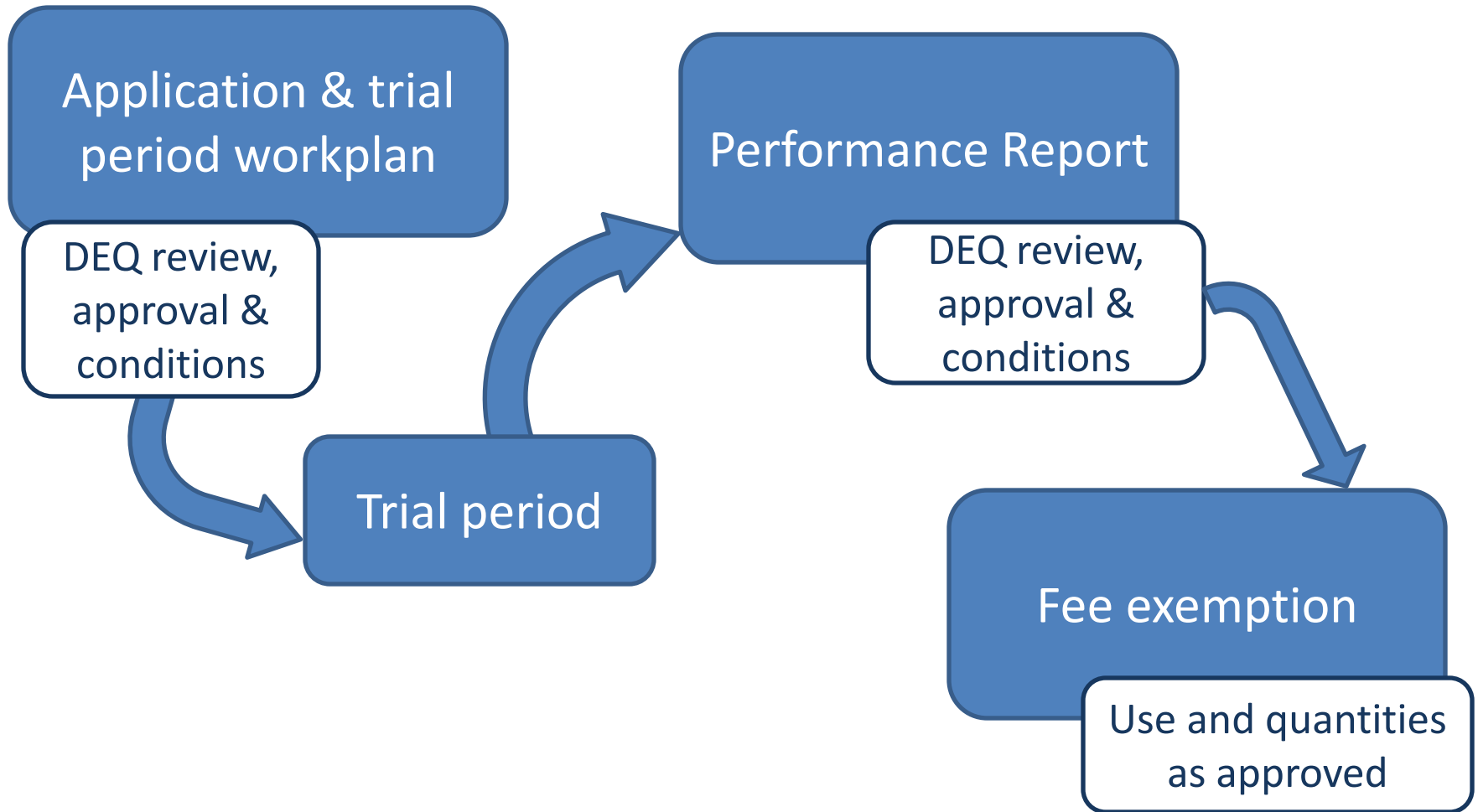
Once DEQ has approved the update to the Operations Plan described above, the permittee may claim future ADC usage in excess of the 10% or 15% limit described provided that detailed documentation of daily ADC usage is included with each corresponding ***Solid Waste Disposal Report/Fee Calculation*** form in a reporting format acceptable to DEQ.

Note: The language in this permit addendum does not supersede other requirements pre-authorization to accept petroleum contaminated solids for use as ADC and/or completion of an ADC trial period for any new waste derived ADC types.



# ADCM approval process

## Landfill specific



# Application and workplan

- Justification for use of material
- Field demonstrations
- Conditions
- Limitations
- Test methods and frequency
- Oversight personnel
- Material specific information



If ADCM consists of...	then provide.....
commercial products	<ul style="list-style-type: none"> <li>• manufacturer name and address</li> <li>• manufacturer/distributor contact name and telephone number</li> <li>• a product description including relevant physical and chemical properties</li> <li>• a reference list of sites where the product has been approved for use as a ADCM (include user contact name and telephone number)</li> </ul>
indigenous materials that would otherwise be classified as waste	<ul style="list-style-type: none"> <li>• generator name and address</li> <li>• generator contact name and telephone number</li> <li>• the quantity and availability of the material</li> <li>• an explanation of how the waste is expected to exhibit physical and chemical characteristics consistent with functions and limitations of the material</li> <li>• a characterization of the waste and a description of the source and process generating the waste (e.g., waste composition including hazardous constituents and waste density)</li> </ul>
cleanup materials or other materials currently under regulatory oversight	<ul style="list-style-type: none"> <li>• the name(s) and contact person(s) of any regulatory agency(s) involved in cleanup oversight</li> <li>• a list of landfills, if any, where the waste has been approved for use as ADCM, the name and phone number of a contact person at the agency which approved the material, and a summary of the conditions of each approval</li> <li>• the availability of the material for regular use at the landfill</li> <li>• a description of any stockpiling practices (e.g., size and location of stockpile, stormwater management, erosion control)</li> </ul>

# ADCM - Trial period

- Fine tune procedures, verify effectiveness
- 12 months for onsite testing
- No fee exemption during this time



# ADCM Performance Report

- Parameters that affect the performance of ADCM
- Application procedures
- Equivalent performance
- Operational criteria

# ADCM - Long term use

- Exemption only applies when the material is used (not when stockpiled)
- Limited to approved quantities
- Must be used in the same manner as during the trial period

03/11/2015 15:22



An aerial photograph of a city skyline, likely San Francisco, with a hazy, orange-tinted sky. The word "Questions?" is written in large white text in the center. A large white arrow points from the left towards the text.

Questions?

# Contacts and Information

Heather Kuoppamaki, P.E.

[kuoppamaki.heather@deq.state.or.us](mailto:kuoppamaki.heather@deq.state.or.us)

MSW Fee calculation form:

- <http://www.oregon.gov/deq/FilterDocs/MSWQuarterlyDisposalADCForm.pdf>

2006 DEQ ADCM Guidance:

- <http://www.oregon.gov/deq/Filtered%20Library/IMD-DailyCoverMatApp.pdf>