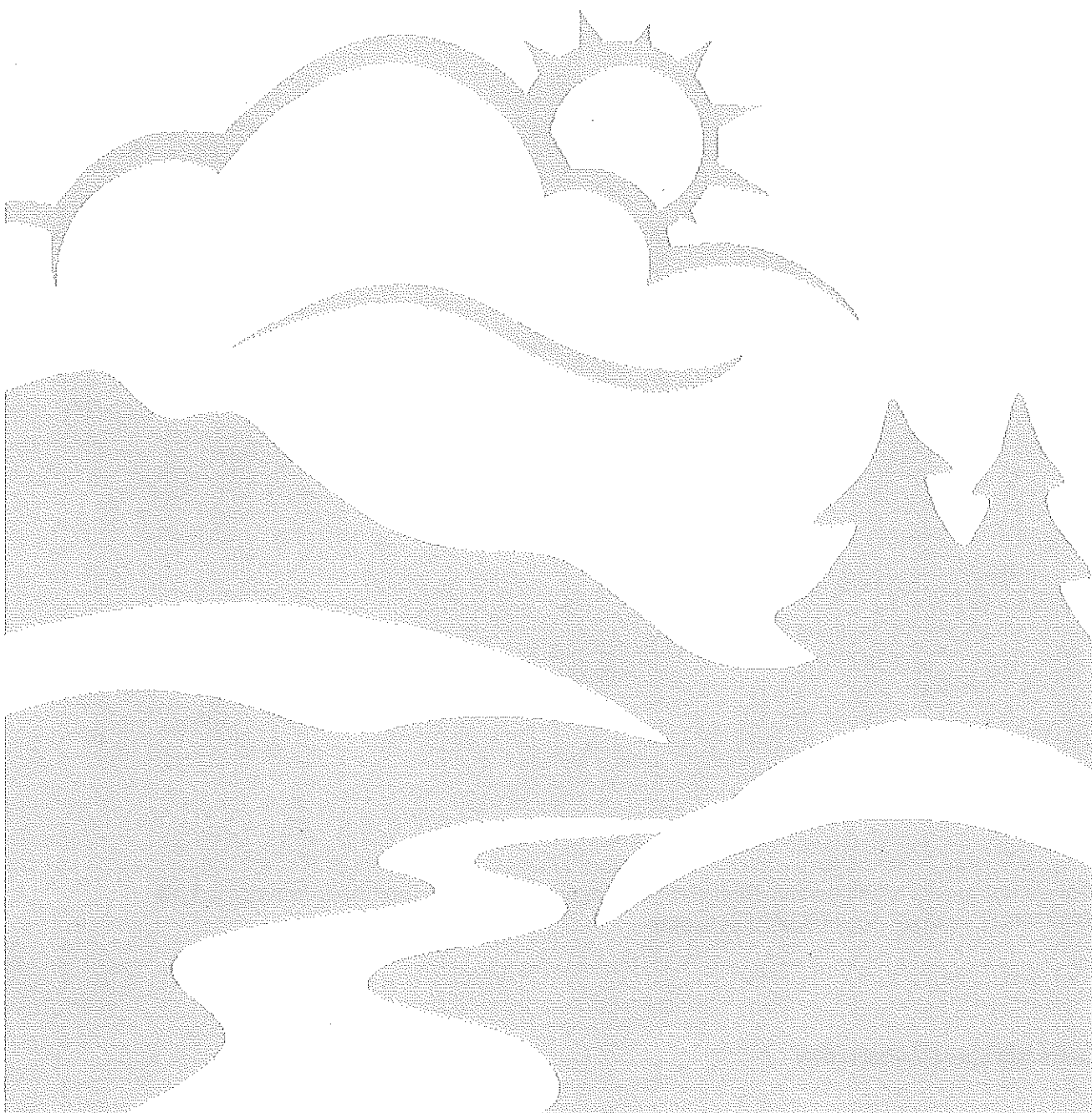


# Conducting Contained-In Determinations for Environmental Media



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State of Oregon  
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Date: January 9, 2020

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# 1. Intent/Purpose/Statement of Need

This *Contained-in Determination Internal Management Directive* will help DEQ staff determine whether contaminated environmental media that contains listed hazardous waste poses no or clearly defined acceptable risk can be disposed of as non-hazardous waste at a Subtitle C or a Subtitle D equivalent landfill or to a Clean Water Act permitted wastewater treatment facility once all management conditions in the approving memo are met, or whether the waste must continue to be disposed of as hazardous waste.

To encourage remediation at contaminated cleanup sites, the U.S. Environmental Protection Agency developed regulations and policies for hazardous waste in environmental media (e.g., soil, sediment, water). Examples of such regulations and policies, are the Area of Contamination policy, the contained-in policies, as well as Corrective Action Management Units and temporary unit regulations.<sup>1</sup> EPA determined environmental media containing listed hazardous wastes or exhibiting a hazardous waste characteristic must be managed as hazardous waste.<sup>2</sup>

EPA regions and authorized states may apply the contained-in policy to determine if the concentration of hazardous constituents in the environmental media fall below site-, media- and contaminant-specific levels that the EPA or the states determine are protective of human health and the environment. Environmental media with contaminant concentrations below these levels may be disposed of at a Subtitle C or Subtitle D equivalent landfill or a National Pollution Discharge Elimination System permitted wastewater treatment plant if determined to no longer contain hazardous waste. The “contained-in determination” may be made before or after treatment of the contaminated media. Treatment of the media is not a requisite for conducting contained-in determinations.

Once DEQ makes a determination that environmental media no longer contains hazardous waste (termed a “No Longer Contained-In Determination”) the generator/cleanup site must manage and dispose of the contaminated environmental media according to DEQ conditions of approval as solid waste at a Subtitle C or a Subtitle D or equivalent landfill. Because the No Longer Contained-In Determination is approved after determining that contaminants are below risk levels, the generator/cleanup site has more options available to manage and dispose of the contaminated environmental media. The No Longer Contained-In Determination offers the generator/cleanup site an alternate pathway of protective management because permitting requirements and Minimum Technology Requirements do not apply to media that does not contain hazardous waste. The generator/cleanup site will still need to manage the environmental media according to Oregon solid waste, water quality and any other requirements that apply.

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<sup>1</sup> 63 FR 65877 (November 30, 1998), “How Has EPA Tried to Solve These Problems in the Past?”, 61 FR 18780, 18782 (April 29, 1996), memorandum from Michael Shapiro, Director, Office of Solid Waste, Stephan D. Luftig, Director, Office of Emergency and Remedial Response, and Jerry Clifford, Director, Office of Site Remediation Enforcement, EPA to RCRA Branch Chiefs and CERCLA Regional Managers, (March 13, 1996); 55 FR 8666, 8758-8760 (March 8, 1990); and 58 FR 8658 (February 16, 1993).

<sup>2</sup> 63 FR 28621 (May 25, 1998), “The Contained-In Policy” located at [https://www.epa.gov/sites/production/files/2016-04/documents/01\\_12cntdin\\_L.pdf](https://www.epa.gov/sites/production/files/2016-04/documents/01_12cntdin_L.pdf) “Under the “contained in” policy, EPA requires that soil (and other environmental media), although not wastes themselves be managed as if they were hazardous waste if they contain hazardous waste or exhibit a characteristic of hazardous waste.”

## 2. Applicability

DEQ Hazardous Waste and Cleanup staff will use this IMD when evaluating whether contaminated environmental media that contains a listed hazardous waste must be disposed of as hazardous waste. Sites that may generate contaminated environmental media include, but are not limited to:

- RCRA generators with releases to the environment
- Environmental Cleanup sites under DEQ oversight
- Emergency Response sites under DEQ oversight
- RCRA corrective action sites under DEQ oversight, and
- Out-of-state waste that DEQ considers hazardous waste contaminated environmental media, including waste from hazardous waste generators, cleanup sites or RCRA corrective action sites.

Regarding media generated during cleanup from a registered Underground Storage Tank, 40 Code of Federal Regulations §261.4(b)(10) states: “Petroleum-contaminated media and debris that fail the test for the Toxicity Characteristic of §261.24 (Hazardous Waste Codes D018 through D043 only) and are subject to the corrective action regulations under part 280 of this chapter.” This exemption includes benzene and some solvents. It does not apply to RCRA metals and to solvent-bearing wastes that are not listed. Cleanups from UST waste oil tanks, often legacy sites, may generate waste characterizing for F-listed solvents which are not exempt from hazardous waste determination. Such wastes are eligible for review under this IMD.

This IMD does not address contaminated debris. Examples of contaminated debris include, but are not limited to: manufactured objects, plant or animal matter and natural geologic material over 60 millimeters in diameter. This IMD recommends that Cleanup staff consult with DEQ RCRA staff for assistance with contaminated debris.<sup>3</sup>

This IMD only applies to contaminated environmental media. IMD does not apply to wastestreams generated during normal industrial or manufacturing operations (i.e., “as-generated” wastes), such as:

- Concentrated spent chemicals
- Discarded, unused commercial chemical products and formulations
- Industrial wastewaters, and
- Pollution control/treatment residues such as sludge.

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<sup>3</sup> Traditionally, the same contained-in policy for environmental media governed hazardous waste-contaminated debris. In 1992, EPA codified certain aspects of the contained-in policy for debris in the definition of hazardous waste regulations in §261.3(f). In particular, EPA included a regulatory passage explaining the process by which handlers of debris contaminated with listed hazardous waste can demonstrate the debris is non-hazardous. This passage also references certain treatment technologies for decontaminating listed debris so it no longer contains a listed waste.

### 3. Background

EPA's contained-in policy is not codified in rule, however it is a long-standing policy for applying RCRA Subtitle C requirements to mixtures of environmental media (e.g., soils, groundwater, sediments) and hazardous wastes. Two rules subject environmental media to Subtitle C requirements:

- Under 40 CFR 261.3(c)(1) a “hazardous waste will remain a hazardous waste” unless and until the generator meets the conditions specified by the authorized agency. DEQ sets out these conditions in an approval memo.
- Under 40 CFR 261.3(d)(2) a “waste which contains” a listed hazardous waste remains a listed waste until it is delisted.

Together these regulations provide for continued regulation of hazardous wastes even after they are released to the environment and commingle with environmental media.

The contained-in concept has been discussed in several EPA directives, RCRA rulemakings (e.g., 58 FR 48092, 48127 [September 14, 1993]), and letters<sup>4</sup>.

In addition, EPA provides a description of the policy on page 9 of *Management of Remediation Waste Under RCRA*, EC-G-2002-096, which can be found at:

<https://www.epa.gov/sites/production/files/2013-10/documents/remediawaste-rpt.pdf>

EPA has not issued guidance or regulations for determining appropriate contained-in levels; however, EPA regions and states have been advised that risk-based levels derived from direct-exposure pathways, or site-specific risk assessments, are acceptable as “contained-in” levels. EPA practice is that waste managed under a specific management method approved as protective no longer contains hazardous waste. EPA's practice anticipates that authorized states such as Oregon might hold in abeyance no longer contained-in approvals conditioned on final management of the waste under the approved management method. If DEQ issues a no longer contained-in determination for a waste that contains hazardous waste unless protectively managed, and that waste is mismanaged, then that waste remains hazardous waste subject to hazardous waste management and disposal requirements.

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<sup>4</sup> EPA has explained the policy and its regulatory basis in numerous preambles and letters, including 53 FR 31138, 31142, 31148 (August 17, 1988); 57 FR 21450, 21453 (May 20, 1992); memorandum from Marcia E. Williams, Director, EPA Office of Solid Waste to Patrick Tobin, EPA Region IV (Nov 15, 1986); letter from Jonathan Z. Cannon, EPA Acting Assistant Administrator, Office of Solid Waste and Emergency Response, to Thomas Jorling, Commissioner, New York Department of Environmental Conservation (June 19, 1989); letter from Sylvia K. Lowrance, Director, EPA Office of Solid Waste, to John Ely, Enforcement Director, Virginia Department of Waste Management (March 26, 1991); and a detailed discussion in HWIR-Media proposal preamble, 61 FR 18795 (April 29, 1996).

## 4. Process Description

For each individual case, DEQ may determine that contaminated environmental media no longer contains hazardous waste when: 1) it no longer exhibits a characteristic of hazardous waste; and 2) concentrations of hazardous constituents from listed hazardous waste are below risk-based concentration levels when managed as approved by DEQ.

DEQ Cleanup project managers will consult with DEQ Hazardous Waste program staff on determinations by routing a memo (see Appendix A) to the regional Hazardous Waste program through the appropriate Hazardous Waste staff person and their manager. Hazardous Waste staff will consider Land Disposal Restriction issues and will coordinate with the Cleanup project manager who drafted the memo. Once approved by Hazardous Waste staff, the memo will be routed to the appropriate Cleanup and Hazardous Waste managers for signature and final approval.

The Responsible Party must manage the contaminated media in compliance with conditions prescribed in the approval memo for it to qualify as non-hazardous waste. In situations involving long-term disposal and/or disposal of large volume material, Cleanup or Hazardous Waste staff may consult with the Solid Waste (or Hazardous Waste) Permit Writer to make sure that the landfill being considered for disposal can safely manage the waste, has sufficient capacity for this waste and its contaminant concentrations, and is approved to accept the environmental media either as an authorized waste or through a special waste management plan. The RP must then consult with the Permit Writer to ensure that the terms of the contained-in determination are met in full. The assigned Solid Waste staff and manager would then be added to the signatory cover sheet. In the event that DEQ determines that the environmental media still contains hazardous waste, the RP will manage the material as hazardous waste in compliance with Oregon's state hazardous waste regulations.

## 5. Definitions

**Administratively Complete:** This definition refers to the Responsible Party's formal request. The request must have the following information: requester's name and address; site name, location and ECSI and/or generator ID number, if issued; a list of applicable waste codes; an explanation of the type of environmental media (sediment, wastewater, soil, etc.) and an estimate of quantities the request applies to, and sufficient laboratory analytical results that characterize each material to support a determination.

**Area of Contamination Policy (AOC):** EPA interprets RCRA to allow certain discrete areas of generally dispersed contamination to be considered RCRA units (usually landfills). Because an AOC is equated to a RCRA land-based unit, consolidation and *in situ* treatment of hazardous waste within the AOC does not create a new point of hazardous waste generation for purposes of RCRA. This interpretation allows wastes to be consolidated or treated *in situ* within an AOC without triggering land disposal restrictions or minimum technology requirements. The AOC interpretation may be applied to any hazardous remediation waste (including non-media wastes) that is in or on the land. Note that the AOC policy only covers consolidation and other *in situ*



waste management techniques carried out within an AOC. For *ex situ* waste management or transfer of wastes from one area of contamination to another, see discussion of corrective action management units.<sup>5</sup>

**Corrective Action Management Units (CAMUs):** A Corrective Action Management Unit is specifically intended for treatment, storage and disposal of hazardous remediation waste. EPA and authorized states may develop and impose site-specific design, operating, closure and post-closure requirements for CAMUs in lieu of Minimum Technology Requirements for land-based units. Although there is a strong preference for use of CAMUs to facilitate treatment, remediation waste placed in approved CAMUs does not have to meet LDR treatment standards. The main differences between CAMUs and the AOC policy (discussed above) are that, when a CAMU is used, waste may be treated *ex situ* and then placed in a CAMU, CAMUs may be located in uncontaminated areas at a facility, and wastes may be consolidated into CAMUs from areas that are not contiguously contaminated. None of these activities are allowed under the AOC policy which, as discussed above, covers only consolidation and *in situ* management techniques conducted within the AOC.

**Environmental Media:** Soil, sediment, and water (surface water, stormwater, groundwater) in the environment.

**Debris:** Solid material exceeding a 60 mm diameter particle size that is intended for disposal and that is: a manufactured object; or plant or animal matter; or natural geologic material. Materials that are not debris include any material for which a specific treatment standard is provided in Subpart D, Part 268, namely: lead acid batteries, cadmium batteries and radioactive lead solids; process residuals such as smelter slag and residues from the treatment of waste, wastewater, sludges, or air emission residues; and intact containers of hazardous waste that are not ruptured and that retain at least 75% of their original volume. A mixture of debris that has not been treated to the standards provided by §268.45 and other material is subject to regulation as debris if the mixture is comprised primarily of debris by volume, based on visual inspection.

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<sup>5</sup> The AOC policy was first articulated in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). See 53 FR 51444 for detailed discussion in proposed NCP preamble; 55 FR 8758-8760, March 8, 1990 for final NCP preamble discussion. See also, most recent EPA guidance, March 13, 1996 EPA memo, "Use of the Area of Contamination Concept During RCRA Cleanups."

## 6. Acronyms Used in This Directive

AOC – Area of Contamination

CAMU – Corrective Action Management Units

CERCLA - Comprehensive Environmental Response Compensation and Liability Act

CFR – Code of Federal Regulations (§ denotes 40 CFR)

CU – Cleanup

CWA – Clean Water Act

DEQ – Department of Environmental Quality

EPA – Environmental Protection Agency

ECSI - Environmental Cleanup Site Information system

HW – Hazardous Waste

IDW – Investigative Derived Waste

IMD – Internal Management Directive

IN SITU – In the original place

LDR - Land Disposal Restriction

LUST – Leaking Underground Storage Tank

MRL – Minimum Reporting Levels

MTR – Minimum Technology Requirements

NPDES – National Pollution Discharge Elimination System

QAPP – Quality Assurance Project Plan

PCE or PERC – Perchloroethylene or Tetrachloroethylene (dry cleaner fluid)

POTW – Publicly Owned Treatment Works

SAP – Sampling and Analysis Plan

Subtitle D – Solid Waste Permitted Landfill

Subtitle C – Hazardous Waste Permitted Landfill

SW – Solid Waste

TCLP – Toxicity Characteristic Leaching Procedure (EPA test method 1311 for HW)

RBC - Risk Based Concentration

RCRA - Resource Conservation and Recovery Act

RP – Responsible Party

UST – Underground Storage Tank

VCP – Voluntary Cleanup Program

WWTP – Waste Water Treatment Plant

## 7. Directive

7.1 Applicability: This IMD applies only to environmental media (soil, sediment and water). Hazardous waste contaminated debris management can be found under 40 CFR 261.3(f)(2) and 40 CFR 268.45(a).

### 7.2 Steps for making the No Longer Contained-In Determination:

7.2.1. A formal request for a no longer contained-in determination must be received by DEQ to initiate the process. Initial review by DEQ staff should verify that:

1. Cleanup sites are under current DEQ oversight. This includes sites currently participants in one of the following programs: Voluntary Cleanup Program, Independent Cleanup Pathway, Site Response Program, Orphan Program, or Dry Cleaner Program.
2. Other independent cleanup sites without cost recovery and not one of the programs listed in 7.2.1.1, that request from DEQ a No Longer Contained-In Determination must volunteer for or be willing to enter a Cleanup cost recovery program for the determination process or actual cleanup process.
3. DEQ Hazardous Waste staff will charge to the Hazardous Waste generator Q-Time number. DEQ Cleanup staff will charge to the responsible party through the CU agreement. (David Anderson suggests language communicating that HW staff could charge to an appropriate CU or Spills Q-time number, if needed. Sometimes there is significant involvement with meetings, extensive back and forth discussions, and or multiple reviews.)
4. The request contains sufficient analytical information to demonstrate the environmental media no longer contains a hazardous waste because any listed hazardous waste has been treated and is not characteristic or is below health and environmental risk based values under the management option proposed. Sample results must be representative of the media as determined by DEQ-approved media characterization plan using accepted established protocols (SW-846) or through site sampling conducted per DEQ-approved SAP/QAPP.
5. The request is administratively complete. The request should include the Requester's name and address; Site Name, location and ECSI and/or LUST of Generator EPA ID number, if issued; a list of applicable waste codes; type of contaminated media and quantities of waste to be managed and disposed of; site history and background; and sufficient test results to support a determination.
6. If a site has both an ECSI/LUST and a hazardous waste generator number both should be noted on the memo so that both programs can track through their respective systems and file the completed results in the appropriate facility or location files.

7.2.2. Subsequent to confirming that the criteria for Section 7.2.1 have been met, DEQ completion of the contained-in determination will include determining whether the environmental media: 1) contains a listed hazardous waste

below risk based levels as it is proposed to be managed, and/or 2) no longer exhibits a characteristic of hazardous waste (i.e., toxicity, ignitability, corrosivity, or reactivity). To accomplish No. 1, DEQ staff (typically HW staff in coordination with Cleanup staff) should use the current DEQ Risk Based Concentrations for Individual Chemicals found at: <https://www.oregon.gov/deq/Hazards-and-Cleanup/env-cleanup/Pages/Risk-Based-Decision-Making.aspx>, as health-based levels for comparison with hazardous constituent levels in water and soil. Staff may also consider consulting the EPA's Regional Screening Levels-Generic Tables, located at the following address: <https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables>. DEQ will use the following standards to determine that the media no longer contains hazardous waste. Water must contain concentrations of hazardous contaminants lower than the construction and excavation worker levels under the standards set forth for "Groundwater in Excavation." Soil or sediment must contain concentrations of hazardous constituents lower than the occupational levels for "Soil Ingestion, Dermal Contact and Inhalation."

In the case of media that exhibit a characteristic of hazardous waste but not a listed hazardous waste, the media are considered to "contain" hazardous waste for as long as they exhibit a characteristic. [Note: UST cleanup exclusion which applies to specific characteristic waste codes is discussed under "Applicability" in section 2, above.] Once the characteristic is eliminated (e.g., through treatment), the media are no longer considered to "contain" hazardous waste. Since this determination can be made through relatively straightforward analytical testing, no formal "contained-in" determination by DEQ is required. (Note: If the media is characteristic before treatment, and is not managed within the defined AOC, LDRs then apply.)

7.2.3. LDR considerations. LDRs apply to each of the following situations:

1. The waste is generated (removed from the land or AOC) prior to the contained-in determination and the media has been contaminated by a listed hazardous waste.
2. The waste is a hazardous waste and has to be treated to meet the RBCs unless treatment is completed within the AOC.

In the event that LDRs are applicable and must be met, use the alternative LDR treatment standards for contaminated soil found in 40 CFR 268.49.

Contaminated environmental media that does not contain **any** hazardous waste as shown by non-detect results at MRLs achieving the industry standard (suggest a standard of no less than 1/5 of both applicable RCRA and Cleanup regulatory thresholds) is not hazardous waste and is not subject to any RCRA Subtitle C requirements, including the LDRs. After the hazardous waste determination is complete and meets these conditions, the RP does not need to consult with DEQ regarding hazardous waste regulatory status and management of such waste. Solid waste disposal requirements still apply.

7.2.4. Disposal Restrictions: If DEQ concludes environmental media no longer contains a hazardous waste (if managed in accordance with conditions in DEQ's approval memo), the media does still remain subject to solid waste management standards and additional solid waste restrictions on re-use, placement, or disposal may apply as outlined in Section 7.3. DEQ's contained-in determination approval requires soil to be managed at a permitted Subtitle C or Subtitle D-or-equivalent landfill and water to be disposed of at a Clean Water Act permitted wastewater treatment system (such as a permitted Public Owned Treatment Works).

### 7.3 Documenting the Approval:

The Cleanup Project Manager will provide the Hazardous Waste program with a draft approval memo and cover sheet (see Appendix A for the approval memo template). This memo provides the basis to support non-hazardous characterization and sets out prescribed disposal options, including soil managed at a Subtitle D-or-equivalent or Subtitle C landfill, and water disposed of at a CWA-permitted WWTP.

The cover sheet will include:

- Site name
- Media types involved
- Approved disposal method(s)
- Signature lines for:
  - Cleanup Project Manager
  - Hazardous Waste staff reviewing the request
  - Hazardous or Solid Waste Permit Writer (optional), and the
  - The regional Hazardous Waste manager and regional Cleanup Program Manager who will provide final approval.

The body of the memo should include:

- Brief description of site background
- Discussion of why the contained-in determination was needed
- Analytical results listed in a table
- Discussion of the data review
- Description of limitations and conditions, and DEQ's conclusions.

The body of the memo also will state requirements and conditions for approved disposal of soil and/or water indicated in Section 7.2.4, and a list of supporting documents, including the No Longer Contained-In Determination submitted by the RP, if applicable.

The regional Hazardous Waste Manager has five (5) business days to review and sign the memo once it has been routed to them. If they have not reviewed and signed the memo within this time frame, the Hazardous Waste staff will sign the memo on their behalf and return the memo to the Cleanup Project Manager unless the Hazardous Waste Manager specifically requests an extension.

Once the memo is approved and signed, a copy should be placed in both the Hazardous Waste and Cleanup files for future reference. For a site not assigned a Cleanup project manager overseeing completion of waste management as approved, the RP must submit documentation of completion of the requirements set forth in the approval memo, such as submittal of disposal receipts showing tonnage documenting of management at an approved facility(s).

## 8. Appendices

Appendix A – Contained-In Determination Approval Memo Template Example

Appendix B – Conducting Contained-In Determinations Example Scenarios

Appendix C – Addendum Extending a No Longer Contained-In Determination Example

**Appendix A**  
**Contained-In Determination Approval Cover Sheet and Memo Template Example**

## Oregon DEQ Contained-In Determination Approval Signoff Sheet

**Site Name:** ZY Mobility, ECSI 1234  
**Location:** ZY Mobility Site, Medford, Oregon  
**Media:** Soil and Groundwater

**Approved Disposal Location:** [optional]

**DEQ Project Manager:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
(DEQ Cleanup PM)

**DEQ HW Staff:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
(HW Inspector)

**SW or HW Permit Writer [optional]:** \_\_\_\_\_ **Date :** \_\_\_\_\_  
(Regional Permit Writer)

**DEQ HW/SW Program Manager:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
(Regional HW Manager)

**DEQ Cleanup Program Manager:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
(Regional Cleanup Manager)



**State of Oregon  
Department of Environmental Quality**

**Memorandum**

**To:** Project File, ZY Mobility, ECSI 1234 **Date:** 2/10/2015  
**From:** Joe Brown, Project Manager, WR Cleanup Program  
**Through:** Eliot Ness, Hazardous Waste Compliance Inspector  
**And:** Dave Smith, WR Hazardous Waste Program Manager  
 Lisa Jones, WR Cleanup Program Manager  
**Subject:** No Longer Contained-In Determination  
 ZY Mobility Site & Address  
 Medford, Oregon (ECSI 1234)

The DEQ’s Western Region Environmental Cleanup and Hazardous Waste programs have prepared this No Longer Contained-In Determination for soil cuttings and groundwater Investigation Derived Waste (IDW) and soil generated during a sanitary sewer line replacement project at the ZY Mobility cleanup site. ZY Mobility provides vehicle retrofitting services for people with disabilities and has been in operation in Medford since 1982. Prior to this, the site was occupied by a dry cleaning facility between 1950 and 1981. Releases of Perchloroethylene (PCE) from past dry cleaning practices have contaminated soil and groundwater beneath the site. PCE contamination in environmental media from this site would be considered by DEQ to contain a listed hazardous waste (F002).

This determination is for approximately 8 cubic yards of soil that was excavated in August 2014 during replacement of the facilities onsite sanitary sewer line and for 26 drums (6.5 cubic yards) of soil and 17 drums of water (approximately 935 gallons) generated in September and December 2014 during drilling of soil borings and monitoring wells on the site. The 8 cubic yard soil pile generated from the sanitary sewer excavation is currently covered and stored on the property. The IDW generated during drilling activities is currently stored on site in labeled drums. All of the soil and water are and have been stored in the area of contamination on the site.

Representative samples were collected from the soil pile (soil pile), the drummed IDW soil and the drummed IDW water. Soil analysis was conducted as “totals”, not TCLP. Low levels of PCE were detected in the soil pile, the IDW soil and the IDW water samples. The results of the chemical analysis are tabulated below. Only chemicals detected by chemical analysis are shown in the table.

Table 1: Media Pollutant and Applicable Risk Based Concentrations

Media	PCE Concentration	Assessment of Risk Based Concentration			
		PCE:Soil Direct Contact (ppm)	PCE: Soil Leaching to Groundwater (ppm)	PCE:Water (ppb)	20 x TCLP Limit PCE for Soil (ppm)
Soil Pile	0.0004 ppm	940	Occupational: 3.7 Residential: 0.64	Not Applicable	14
IDW Soil	0.00042 ppm	940	Occupational: 3.7 Residential: 0.64	Not applicable	14
IDW Water	0.89 ppb	Not Applicable	Not Applicable	5400	Not Applicable

A No Longer Contained-In Determination is needed to show that the soil and water are not characteristic hazardous waste; and that concentrations of dry cleaning solvent related chemicals are below protective levels, and if applicable, Land Disposal Requirements (LDRs).

To demonstrate that the soil no longer “contains” hazardous waste, the following conditions need to be met:

1. The soil (a solid) must not exhibit a characteristic of hazardous waste (must not be reactive or toxic). The potential for soil containing a waste to exhibit the toxicity characteristic is evaluated through comparison of constituent concentrations in leachate, extracted from the waste, using the Toxicity Characteristic Leaching Procedure (TCLP), with the limits specified at Title 40, Part 261.24 of the Code of Federal Regulations (40 CFR 261.24). Representative (total) chemical concentrations for the soil are compared to a value of 20 times the TCLP limit (to account for the 20 to 1 dilution inherent in the TCLP analysis method) to determine if the limits could potentially be exceeded. If the 20 times TCLP limit for any chemical is exceeded, then the waste may be a characteristic waste. The 20 times TCLP limit for PCE is 14 part per million (ppm) or 14,000 part per billion (ppb). The soil does not fail the toxicity characteristic for PCE. The soil is not a characteristic hazardous waste.
2. The water must not exhibit a characteristic of a hazardous waste (must not be ignitable or corrosive). Based on knowledge of process, DEQ has determined that the water is neither ignitable nor corrosive.
3. Concentrations of hazardous constituents from listed waste must be below health-based levels. Currently it is DEQ policy that if soil is to be taken to a lined Subtitle D facility then concentrations of hazardous constituents should be below the DEQ “Occupational” Risk Based Concentration (RBC) for direct contact. Currently this RBC for PCE is 940 ppm. The concentrations of PCE detected in the soil pile and the IDW soil are well below the occupational direct contact RBC. The concentrations of PCE are also significantly below the residential and occupational leaching to groundwater RBCs 0.64 ppm and 3.70 ppm, respectively, indicating the soil is a good candidate for disposal at a Subtitle C or a Subtitle D equivalent landfill.
4. For water, DEQ’s current policy is that if the water is to be taken to a Clean Water Action (CWA) permitted wastewater treatment facility then concentrations of hazardous constituents must be below the “Groundwater in and Excavation” RBC. Currently this RBC for PCE is 5,400 ppb. The concentration of PCE in the IDW water is well below this RBC.
5. RCRA Land Disposal Restrictions do not apply because the waste was not removed from the Area of Contamination prior to this determination.

The table above illustrates the sample results compared to the applicable DEQ RBCs and TCLP.

Underlying constituents of PCE might be present in the soil at concentrations below the minimum reporting levels (MRLs) shown in the laboratory data. Using the MRL concentrations and our knowledge of process, we can assume the following about the soil and water:

- It would not be ignitable, corrosive nor reactive;
- Concentrations of underlying constituents would be below Toxicity Characteristic levels;
- Concentrations of underlying constituents would be below DEQ protective levels (Occupational RBCs).

Based on our review of the data and the above findings, DEQ has determined that the soil pile from the excavated sewer line and the soil and groundwater IDW generated during drilling and sampling activities at the ZY Mobility site do not exhibit characteristics of a hazardous waste. The concentrations of detected dry cleaner solvents in the water and soil samples are below the DEQ’s generic occupational risk based standards. The soil does not pose an unacceptable risk to industrial worker exposure under the waste management scenario proposed. If this soil is disposed of at a permitted landfill DEQ has approved for this purpose, the waste will no longer contain hazardous waste. Similarly, if this water is discharged with the approval of the sanitary sewer authority, to the collection system for its publicly owned treatment works (POTW) [or “transported to (specified facility) and managed in its CWA permitted wastewater treatment unit”], DEQ agrees this wastewater will no longer contain hazardous waste. If the waste or wastewater is not managed and disposed of in accordance with these conditions of approval, this no longer contained-in determination does not apply, the waste remains hazardous waste, and must be managed and disposed of in compliance with applicable hazardous waste laws.

## Appendix B

### Example Scenarios: Conducting Contained-In Determinations

#### Scenario #1: Contaminated soil excavated from a Cleanup site will be managed at a Subtitle D landfill

A cleanup site at a former dry cleaners is under DEQ oversight in the Voluntary Cleanup Program. As part of the cleanup, the responsible party excavated 200 tons of soil contaminated with tetrachloroethylene (PCE), which is determined to be an F002 listed hazardous waste. The soil was stockpiled temporarily on the site and representative soil samples were collected to characterize the levels of contamination in the pile. The consultant for the site submitted a request to DEQ for a No Longer Contained-In Determination for the soil. Soil sample results indicated the soil contained up to 8,000 µg/Kg (8 mg/Kg) total PCE. The DEQ Project Manager first determined that the soil was not a characteristic hazardous waste because the total PCE concentration is less than 20 times the TCLP criterion of 0.7 mg/L **OR** because analysis of the samples using the TCLP did not exceed PCE criterion of 0.7 mg/L. The DEQ Project Manager compared the PCE results to the occupational worker RBC to evaluate whether the material contained a listed hazardous waste. The concentrations of PCE in the soil were well below the applicable RBC. The Project Manager also determined that the LDRs were not applicable in this case because the soil has been managed on-site in the area of contamination (the point of generation is when the soil leaves the AOC). Because the levels of contamination in the soil are below the applicable RBC and the material did not exhibit a hazardous waste characteristic, DEQ approved disposal of the soil at a Subtitle C or a Subtitle D equivalent Landfill.

#### Scenario #2: IDW consisting of 4 drums water will be managed at a wastewater treatment facility

At the dry cleaner site in Scenario #1, four drums of investigation derived waste water were collected during the installation and sampling of monitoring wells. A representative sample of the water found it contained PCE at 200 µg/L, making it an F-listed waste. The DEQ Project Manager knew that disposal to the POTW on site was not an option; therefore off-site disposal at a licensed waste treatment facility was selected as the next best disposal option. The concentration of PCE in the water was well below the Occupational Inhalation and Ingestion RBC. Because the levels of contamination in the water were below the applicable RBC, DEQ approved transport and disposal of the wastewater to a Clean Water Act permitted wastewater treatment facility in Portland.

**Appendix C**  
**Template: Addendum Extending a No Longer Contained-In Determination Example**

**State of Oregon**

**Department of Environmental Quality**

**Memorandum**

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**To:** Project File, ZY Mobility, ECSI 1234 **Date:** 8/15/2015

**From:** Joe Brown, Project Manager, WR Cleanup Program

**Through:** Eliot Ness, Hazardous Waste Compliance Inspector

**And:** Dave Smith, WR Hazardous Waste Program Manager  
Lisa Jones, WR Cleanup Program Manager

**Subject:** No Longer Contained-In Determination  
ZY Mobility Site  
Medford, Oregon (ECSI 1234)

The purpose of this Addendum is to extend the findings of the No Longer Contained-In Determination previously filed for this site. The request to include an additional quantity of contaminated media is in order to cover waste generated in removal during utility work associated with a second phase of development on this property.

The levels of contamination are expected to be the same or less than those previously identified in the original determination. DEQ Cleanup Project Manager Joe Brown (or “Eliot Ness, DEQ HW Inspector”) verified this during review of (“the existing analytical record in support of site characterization to date” – or – “new sample results on this waste” – and - “which adequately support this waste characterization”). Therefore, DEQ finds all the conditions of the previous no longer contained-in determination are applicable.

Based on the work proposed and the size of the excavations, an estimated 50 to 100 tons of soil will be removed. The project requests to manage up to 150 tons under the conditions set forth in previous approval. DEQ approves this NLC determination. The soil must be disposed at a Subtitle C or Subtitle D equivalent landfill with approval of the landfill operator. Copies of the disposal receipts must be submitted to DEQ. If the waste or wastewater is not managed and disposed of in accordance with DEQ’s conditions of approval, the no longer contained-in determination does not apply, the waste remains hazardous waste, and must be managed and disposed of in compliance with applicable hazardous waste laws.

## 9. Record of Revisions to IMD

Revision	Date	Changes	Editor
First	12 / __ /2019	Clarification of existing procedures. Updates to templates. Addition of an example memo evaluating whether an existing NLC approval will be granted to additional wastes of the same type generated on the same site.	Jay Collins, Audrey O'Brien, et al

