# SECTION 00294 - CONTAMINATED MEDIA

***(Follow all instructions and make all edits with "Track Changes" turned on. This Section is not published in the Oregon Standard. If there are no instructions [orange text] above a subsection, paragraph, sentence, or bullet, then include it in the Project, unless the item(s) that are included in the subsection, paragraph, sentence, or bullet are not required on the Project and then they should be deleted. In general do not re-number or re-letter subsections when item(s) are deleted. Delete all orange text before preparing the final document. All other modifications to this Section will require ODOT Technical Resource and State Specifications Engineer approval.)***

Section 00294, which is not a Standard Specification, is included in this Project by Special Provision.

## Description

**00294.00 Scope** - In addition to the requirements of Section 00290 and the Specifications, this Work consists of the following:

***(Use the following bullet and table when disturbing contaminated Soils. List in the table all soil identified as contaminated, including a description of lateral and vertical extent, e.g. all roadside soil from the edge of pavement to the R.O.W. line, from the surface to a depth of 18 inches.***

***Check with the geotechnical designer to evaluate slope stability before specifying that the Contractor can dispose of excess Soil within the boundaries of the Project Site.***

***Include the Pay Item "Contaminated Soil Disposal" in the Schedule of Items, with a quantity matching the quantity entered in the table as "to be disposed of at landfill." In the table and in the Schedule of Items, exclude the quantity of contaminated Soil that is expected to be reused on the Project.)***

- Excavate, segregate, stockpile, transport, and dispose of Contaminated Soils (, Shoulder Soils,) and contaminated grubbing materials, as defined by 00294.01, from the following locations:

***(Fill in the table with the location, depth, quantity, and contents of Soil contaminants.)***

**Contaminated Soil Location Table 00294-1**

| From Location/Station to Location/Station | Depth below grade (feet) | Approximate Quantity (cy) | Known Contaminants |
|---|---|---|---|
| Example: "A" 1+00 to 2+00, Rt or Lt, from edge of pavement to the roadwork limits | 0 -1.5' | | |
| | | | |
| | | | |
| **Approximate Total Quantity** | | cy | |
| **Quantity to be reused on Project** | | cy | |
| **Quantity to be disposed at landfill** | | Tons | |

***(Use the following bullet when removing contaminated Soil.)***

- In areas where excavation is not required, leave contaminated Material (, Shoulder Soils,) and clearing and grubbing Material in place.

***(Use the following bullet and table when removing contaminated groundwater.)***

- Pump, test, treat, and dispose of contaminated groundwater from the following locations in Table 00294-2:

***(Fill in the table with the location, depth, and contents of groundwater contaminants.)***

**Table 00294-2**

| Location/Station | Depth below grade (feet) | Known Contaminants |
|---|---|---|
| | | |
| | | |
| | | |

***(Use the following bullet when a HASP is required.)***

- Prepare a Health and Safety Plan (HASP) for work within the contaminated areas of the Project.

***(Fill in the blanks with the date and name of report that will be available from the Engineer.)***

The _____ ODOT report, titled _____ documenting the contaminated media identified within the Project, is available from the Engineer.

***(Use the following bullet when contaminated Shoulder Soil is the only Material being excavated and lead is present in the Shoulder Soil.)***

- Prepare a written lead compliance plan for work within contaminated areas of the Project.

**00294.01 Definitions:**

**Contaminated Soil** - Soil that does not meet the DEQ definition of "Clean Fill", as defined by OAR 340-093-0030(18). This Contaminated Soil is a regulated waste, subject to OAR 340-093-0005 through OAR 340-093-0290. If the grubbing Material has been determined to be contaminated, it will be considered and treated as Contaminated Soil for the purposes of this Section.

**Shoulder Soil** - Soil outside of the existing Highway Pavement and within Highway Right-of-Way generated during Highway maintenance or construction activities. This definition applies to excess Soil generated to a maximum depth of 1.5 feet below ground surface. This definition does not apply to Soil that is covered by existing impervious surfaces, including but not limited to curbs, sidewalks and parking lots constructed of asphalt or concrete.

**ODOT Beneficial Use Determination (ODOT BUD)** - The statewide ODOT Beneficial Use Determination (ODOT BUD), approved by DEQ (No. BUD-20181204), outlines a series of pre-approved non-residential reuse options for excess Soil Materials that do not meet DEQ's Clean Fill Standards in some circumstances. These options may vary based on project scope and location, and documentation may vary, as directed by the Engineer.

**00294.02 Testing of Contaminated Soil (, Shoulder Soil,) and Groundwater** - When additional testing of Contaminated Soil or groundwater is required to characterize the Material for reuse, recycle, or disposal, conduct the tests according to 00290.20(c).

Use analytical methods meeting DEQ's Clean Fill Guidance Screening Levels for each analyte. Contaminated Soil (, Shoulder Soil,) and groundwater sampling must be conducted by an Oregon Registered Geologist or Professional Engineer who has experience characterizing contaminated media.

***(Use the following paragraph and bullet list when contamination is known and additional sampling by the Contractor is required for making a waste management or disposal decision. Add or delete test methods that will be required for the Project.)***

Collect at least 3 composite Soil samples and submit for the following required testing:

- TPH-Gx and TPH-Dx by Northwest methods.
- The following volatile organic compounds (VOCs) by EPA Method 8260.
  - Benzene, toluene, ethylbenzene, xylenes.
  - Iso-propylbenzene and n-propylbenzene.
  - 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene.
  - Ethylene dibromide (EDB), ethylene dichloride (EDC), and Methyl tert-butyl ether MTBE.

- Polynuclear aromatic hydrocarbons (PAHs) by EPA Method 8270SIM.
- Total metals (RCRA 8) by EPA 6000 and 7000 series.
- One TCLP lead by using EPA Method 1311.

**00294.03 Submittals** - Submit the following documents:

***(Use the following two bullets when removal of Shoulder Soil contaminated with metals (i.e., lead, cadmium, chromium) is the only action being completed and awareness level training is all that OSHA requires. Remove all other HASP language and requirements.)***

- A Project-specific written lead compliance plan, meeting the project applicable requirements of 29 CFR 1926.62(e)(2), at least 10 Calendar Days before the pre-construction conference. When applicable, include compliance procedures for cadmium and chromium VI, according to 29 CFR 1926.1127 and 29 CFR 1926.1126.
- Modifications to the written lead compliance plan that are requested by the Engineer within 7 Calendar Days of the request.

***(Use the following HASP language when a HASP is required.)***

- A site specific HASP at least 10 Calendar Days before the pre-construction conference.

***(Use the following two bullets when a qualified health and safety professionals required. A qualified health and safety professionals required when the contamination is something other than petroleum, is highly toxic, is a risk to workers, or is unusually complex.)***

- The site specific HASP, completed and signed by a qualified health and safety professional meeting the requirements of 00294.30.
- The name and qualifications of the qualified health and safety professional.

Submit all modifications to the HASP that are requested by the Engineer or the qualified health and safety professional within 7 Calendar Days of the request.

***[End HASP language]***

- Current employee training certificates and medical surveillance information before beginning Work within the contaminated areas.

Submit the following documents within 48 hours of removal of contaminated media:

- Permits, permit applications, and documentation of compliance.
- All reuse, recycled, and disposal receipts.
- Final quantities of Soil *(*and groundwater*)* reused, recycled, and disposed and their final location.
- All analytical test results.

***(Use the following bullet when contaminated Soil will be used under the requirements of ODOT BUD No. BUD-20181204.)***

- Documentation of final disposition of any reused Soil Material that is reused under ODOT's Beneficial Use Determination.

***(Use the following subsection .05 when contamination exceeds applicable DEQ cleanup levels or the site is listed by DEQ as a cleanup site or a leaking underground storage tank site.)***

**00294.05 Health and Safety Plan** - Prepare a site specific HASP that meets or exceeds the requirements of 29 CFR 1910.120 and include a personnel and equipment decontamination plan that details how decontamination media will be contained and disposed.

Maintain a copy of the HASP on site at all times and readily available to employees and Inspectors during construction activities. If additional information becomes available regarding the site specific conditions, revise the HASP and submit the revised version to the Engineer. Review or acknowledgment of the HASP by the Engineer is not an indication or representation that the HASP is fully compliant with State or federal requirements. Compliance is the responsibility of the Contractor. Review by the Engineer will not impose liability upon the Agency or relieve the Contractor of any responsibilities under the Contract.

Do not begin Work in contaminated areas until the Engineer provides written acknowledgement of the HASP.

All personnel entering contaminated areas shall follow the requirements of the HASP.

***(Use .30 if one of the options apply. If none of the options apply delete this subsection.)***

**Labor**

**00294.30 Personnel Qualifications** - Provide employees meeting the following requirements:

***(Use one of the following options as instructed. Delete the option that does not apply. Delete both if neither apply.)***

***[ Option 1 – Use this option when Shoulder Soil contaminated with metals (i.e. lead, cadmium, chromium) is the only contaminated Soil on the Project. ]***

- For removal of Contaminated Soil (and Shoulder Soil~~,~~), provide employees trained in:
  - Lead awareness according to 29 CFR 1926.62(l).
  - Chromium according to 29 CFR 1926.1126(j)(2).
  - Cadmium according to 29 CFR 1926.1127(m)(4).

***[ End Option 1. ]***

***[Option 2 - Use the following HAZWOPER and Supervisor bullets and sub-bullets when the contamination is known to be greater than the applicable published DEQ RBC or the contaminated area is listed as (or is adjacent to) a cleanup site and encountering contamination is likely.]***

- Hazardous Waste Operations and Emergency Response (HAZWOPER) trained workers (29 CFR 1910.120) that:
  - Have completed a 40 hour HAZWOPER training course.
  - Have completed an 8 hour HAZWOPER refresher training course within the last 12 months.
  - Participates in the HAZWOPER Medical Surveillance Program.

- A Supervisor that:
  - Has at least 2 years of experience cleaning up and managing Contaminated Soil or groundwater in Oregon.
  - Meets the HAZWOPER training requirements plus completed an 8 hour HAZWOPER supervisor training course.

***(Use the following bullet and sub-bullets when the contamination is something other than petroleum, is highly toxic, is a risk to workers, or is unusually complex.)***

- A qualified health and safety professional that:
  - Has at least 3 years' experience in hazardous waste site work.
  - Meets the HAZWOPER training requirements.

***(Use the following bullet when contaminated media requires segregation or field decision making,)***

- An Oregon Registered Geologist or Professional Engineer who has experience handling contaminated media.

***[ End Option 2. ]***

**Construction**

**00294.40 Contaminated Soil Excavation (and Shoulder Soil~~,~~) -** Excavate and handle Contaminated Soil (or Shoulder Soil~~,~~) from Project excavations according to the following:

- Notify the Engineer 3 Calendar Days before beginning excavation activities within contaminated areas.
- Allow the Agency to collect Soil *(*and groundwater*)* samples during excavation activities.

***(Use one of the following options as instructed. Delete the option that does not apply. Delete both if neither apply.)***

***[ Option 1 - Use the following two bullets when the Contractor will field screen the Soil.]***

- Field screen Soil using a portable photo ionization detector, portable flame ionization detector, field test kits, or other instrumentation capable of detecting the contaminants identified for this Soil.
- Segregate non-Contaminated Soil from Contaminated Soil during excavation activities, based on the field screening and the provided Contaminated Soil location information.

***[ Option 2 - Use the following two bullets when the Agency will field screen the Soil.]***

- Allow Agency access to field screen Soils for contaminants during excavation.
- Segregate non-Contaminated Soil from Contaminated Soil during excavation activities, as directed.

***[ End Option 2. ]***

- Load Contaminated Soil (or Shoulder Soil) directly into trucks and transport directly to the recycling or disposal facility, or on-site reuse areas or, when approved by the Engineer, temporarily store Contaminated Soil (or Shoulder Soil) on-site.

***(Use the following bullet when temporary storage of contaminated soil other than shoulder soil may be allowed on-site. Fill in the blank with the contaminated soil location(s) where contamination is known to be greater that the applicable published DEQ RBC or the contaminated area is listed as (or is adjacent to) a cleanup site.)***

- Store Contaminated Soil from (site specific location) in covered water tight containers or place Contaminated Soil on minimum 6 mil thick polyethylene sheeting that has an impermeable berm around the edge. Cover the Contaminated Soil with minimum 6 mil thick polyethylene sheeting. Do not allow precipitation run-off to enter the excavated Contaminated Soil. Label all stored Material with the type of Material, the contaminants, and the dates of accumulation.
- Remove contaminated media from the exterior of all vehicles before they leave the Project Site
- Cover trucks transporting contaminated materials to prevent spillage during transit to the disposal facility according to OAR 340-093-0220.
- Where over excavation is required, backfill the excavation according to 00330.42.

**00294.41 Contaminated (and Shoulder Soil) Soil Management** - Reuse, recycle, or dispose of Contaminated Soil (and Shoulder Soil) according to any of the following:

**(a) Landfill Disposal:**

- Obtain the Engineer's approval of the disposal facility before disposing of the Contaminated Soil.
- Transport the Contaminated Soil (or Shoulder Soil) to a DEQ permitted municipal solid waste landfill or a permitted construction and demolition landfill for disposal.

Dispose of temporarily stored Contaminated Soils (or Shoulder Soil) within 30 Days of beginning excavation work or before Second Notification, whichever occurs first.

- Complete and sign all manifests and bill-of-lading forms for handling, loading, transporting, and disposing of the Contaminated Soil (and Shoulder Soil).
- Pay all filing and permit fees.

***(Use the following "recycling" bullets when recycling Contaminated Soil is allowed.)***

**(b) Recycling:**

- Obtain the Engineer's approval of the recycling facility before disposing of the Contaminated Soil.
- Transport Contaminated Soil to a DEQ permitted recycling facility or asphalt batch plant. Recycle temporarily stored Contaminated Soils within 30 Days of beginning excavation or before Second Notification, whichever occurs first.
- Complete and sign all manifests and bill-of-Lading forms for handling, loading, transporting, and recycling the Contaminated Soil.

***(Use the following "Reuse On-Site" bullets when the following 4 conditions are met:***

***1) The Soil contaminant concentrations are less than DEQ Occupational RBCs or EPA's Regional Screening Levels for protection of groundwater.***
***2) The Material can be used on the Project.***
***3) Region approves placing Contaminated Soil or Shoulder Soil within the ODOT ROW.***
***4) DEQ has agreed, in writing, that placement is acceptable without an SWLA permit. This condition may also be met if the Material is placed on-site according to ODOT's Beneficial Used Determination (No. BUD-20181204).***

***Fill in the blanks. In the third bullet below, use "(or a permitted recycling facility)" only when the "Recycling" bullets above are included [be sure to remove the parentheses].)***

**(c) Reuse On-Site:**

- Temporarily stockpile the Contaminated Soil (or Shoulder Soil) from ____ *location*.
- Reuse the Contaminated Soil (or Shoulder Soil) on the Project between Station ____ and Station _____ as shown. Place the Contaminated Soil _*(site specific restrictions)*__.
- Within 30 Calendar Days of completing on-site reuse or before Second Notification, whichever occurs first, transport all Contaminated Soil (or Shoulder Soil) that is not reused on the Project to a DEQ permitted municipal solid waste landfill or a permitted construction and demolition landfill (or a permitted recycling facility).

***(Use the following "Reuse On-Site Under a DEQ..." bullets when the following 4 conditions are met:***

***1) The Soil contaminant concentrations are greater than DEQ Occupational Worker RBCs and EPA's Industrial Regional Soil Screening Levels.***
***2) The Material can be used on the Project.***

***3) Region approves with placing contaminated Soil within ODOT ROW.***
***4) DEQ has agreed that they will issue an SWLA permit or have processed the permit without actually issuing the permit.***
***Fill in the blanks.)***

**(d) Reuse On-Site Under a DEQ Solid Waste Letter of Authorization:**

- Obtain a DEQ Solid Waste Letter of Authorization (SWLA) to reuse the Contaminated Soil between Station _____ and Station ____ as shown. Complete all submittals, including the land use compatibility statement (LUCS) from the local planning authority, and pay all fees required to obtain a SWLA. Sign the application form and provide the signed application form to the Engineer.
- Temporarily stockpile the Contaminated Soil referred to in the SWLA.
- Complete all on-site reuse covered by the SWLA, before expiration of the SWLA. Transport all Contaminated Soil that is not reused on the Project within 30 Calendar Days of completing the Soil reuse work, or before Second Notification, whichever occurs first, to a DEQ permitted municipal solid waste landfill or a permitted construction and demolition landfill.

***(Use the following "Reuse Under ODOT BUD No. BUD-20181204" bullets when the following 4 conditions are met:***
***1) The Soil contamination is at concentrations greater than Oregon DEQ Clean Fill Screening Levels, and cannot be made property of the Contractor at the point of generation as Clean Fill according to 00290.20(c)(2).***
***2) The contamination is at or below DEQ Occupational Exposure RBCs.***
***3) The Material cannot be used on the Project.***
***4) Region agrees that the Material source or disposal sites identified in 00235 or 00236 meet the requirements of the ODOT BUD.***

***[NOTE: Off-site reuse of Soil under ODOT BUD No. BUD-20181204 may require additional Project specific documentation (e.g., DEQ authorization for mine reclamation, non-residential or agricultural fill placement locations, etc.]***

***Fill in the blanks.)***

**(e) Reuse Under ODOT BUD No. BUD-20181204:**

- Reuse of all Contaminated Soil (or Shoulder Soil) shall follow the requirements of the DEQ Tier 3 Solid Waste Beneficial Use Determination Permit (BUD-20181204).
- Stockpile Contaminated Soil (or Shoulder Soil) at_(site specific location)___.
- Complete all off-site reuse of Soil covered by ODOT BUD No. BUD-20181204, before Project completion.
- Transport and dispose all excess Contaminated Soil that is not reused in the Project within 30 Calendar Days of completing the Soil reuse Work, or before Second Notification, whichever occurs first, to a DEQ permitted municipal solid waste landfill or a permitted construction and demolition landfill.

***(Insert disposal placement options here when the Region has identified acceptable locations for use by the Contractor. Do not add disposal placement options without Technical Resource and the State Specification Engineer's approval.)***

- Reuse the Contaminated Soil (or Shoulder Soil) at the following location(s) _(site specific address or location(s) approved by the Engineer)_.

**00294.43 Contaminated Groundwater Pumping** - Remove and handle contaminated groundwater as follows:

- Allow the Agency to collect groundwater samples during pumping activities and subsequent storage.
- Remove contaminated groundwater from the Project Site or, when approved temporarily store contaminated groundwater on-site in water tight containers compatible with the contaminants. Label each container with the contents and dates of accumulation.
- Dispose of stored contaminated groundwater within 30 Days from the date of beginning generation of it or before Second Notification, whichever occurs first, according to 00294.44.

**00294.44 Contaminated Groundwater Management** - Recycle or dispose of contaminated groundwater according to any of the following:

***(Include only the options that are feasible for the Project. This is based on the groundwater analytical results, availability and limitations of local facilities, and the applicable permit requirements. Delete those that do not apply.)***

- **Discharge to a Permitted Sanitary Sewer Facility:**
  - Submit all groundwater analytical data and proposed treatment information to the local sewer authority, and obtain written permission or a permit to discharge the contaminated groundwater to the sanitary sewer system.
  - Complete and sign the sewer permit application as the applicant and pay all associated fees.
  - Comply with all permit requirements and all other local sewer authority requirements.
- **Discharge to Surface Water or Storm Sewer:**
  - Register for a general National Pollution Discharge Elimination System (NPDES) permit 1500A.
  - Complete and sign the NPDES permit application as the applicant and pay all associated fees.
  - Comply with all permit requirements.
- **Discharge to ground surface for Infiltration:**
  - Register for a Water Pollution Control Facility (WPCF) permit 1500B.

- Complete and sign the WPCF permit application as the applicant and pay all associated fees.
- Comply with all permit requirements.

- **Transport to an Off-Site Recycling or Disposal Facility:**
  - Submit all groundwater analytical data to the receiving facility and obtain written acceptance from that Entity.
  - Complete and sign bill-of-lading forms and all other documentation required by the receiving facility.
  - Pay all permit fees.

## Measurement

**00294.80 Measurement** - Work performed under this Section will be measured according to the following:

***(Use the following paragraph when Pay Items (a), (b), (c), or (f) are included in the Pay Item list below.)***

No measurement of quantities will be made for the following:

***(Use the following bullet when Pay Item (a) is included in the Pay Item list below.)***

- HASP.

***(Use the following bullet when Pay Item (b) is included in the Pay Item list below.)***

- Lead compliance plan.

***(Use the following bullet when Pay Item (c) is included in the Pay Item list below.)***

- Segregate and stockpile Contaminated Soil.

***(Use the following bullet when Pay Item (f) is included in the Pay Item list below.)***

- Contaminated groundwater mobilization.

***(Use the following paragraph when Pay Item (d) is included in the Pay Item list below.)***

Soil sample and analytical testing will be measured on the unit basis for each sample submitted and tested according to 00294.02 when test results are submitted according to 00294.03.

***(Use the following paragraph when Pay Item (e) is included in the Pay Item list below.)***

The quantities of Contaminated Soil (or Shoulder Soil) disposed will be measured on the weight basis, based on weigh tickets from the recycling or disposal facility.

***(Use the following paragraph when Pay Item (g) is included in the Pay Item list below.)***

The quantities of contaminated groundwater removed and disposed will be measured on the volume basis, per gallon, based on the receiving facility approved meter tickets or approved on-site meters.

Clearing and grubbing will be measured according to 00320.80.

**Payment**

**00294.90 Payment** - The accepted quantities of Work performed under this Section will be paid for at the Contract unit price, per unit of measurement, for the following items:

***(Delete Pay Item (s) from the list that are not included in the Schedule of Items, but do not change the alpha characters next to the Pay Items.)***

| | Pay Item | Unit of Measurement |
|---|---|---|
| (a) | Health and Safety Plan | Lump Sum |
| (b) | Lead Compliance Plan | Lump Sum |
| (c) | Segregate and Stockpile Contaminated Soil | Lump Sum |
| (d) | Soil Sample Collection and Analytical Testing | Each |
| (e) | Contaminated Soil Disposal | Ton |
| (f) | Contaminated Groundwater Mobilization | Lump Sum |
| (g) | Contaminated Groundwater Removal | Gallon |

***(Use the following paragraph when item (c) is included in the Pay Item list above.)***

Item (c) includes segregating, handling, and stockpiling Contaminated Soil (or Shoulder Soil) within the Project Site for the purpose of analytical testing, on-site reuse, or disposal.

***(Use the following paragraph when item (d) is included in the Pay Item list above.)***

Item (d) includes mobilization, Soil sampling, testing, analyses, and preparation of reports for tests required in 00294.02. Additional testing beyond that listed in 00294.02 will only be paid if authorized by the Engineer.

***(Use the following paragraph when item (e) is included in the Pay Item list above.)***

Item (e) includes all costs involved with the disposal of Contaminated Soil (or Shoulder Soil) at a recycling or disposal facility.

***(Use the following paragraph when item (f) is included in the Pay Item list above.)***

Item (f) includes all mobilization costs for groundwater removal work.

***(Use the following paragraph when item (g) is included in the Pay Item list above.)***

Item (g) includes obtaining all permits and furnishing all Equipment and labor necessary to treat and store contaminated groundwater.

No separate or additional payment will be made for the excavation or reuse of Contaminated Soil or contaminated Shoulder Soil. Payment will be included in payment made for the appropriate items under which the excavation or reuse of Contaminated Soils or contaminated Shoulder Soil is required.

Clearing and grubbing will be paid for according to 00320.90.

Payment will be payment in full for removing and disposing of all Materials, and for furnishing all Equipment, labor, Plans, test results, and Incidentals necessary to complete the Work as specified.