

**SECTION 31 23 16.10**  
**Handling, Transportation and Disposal of Regulated Soil**

**PART 1      GENERAL**

1.01      SECTION INCLUDES

- A.    Handling, temporary storage, loading, transportation, and disposal of Regulated Soil.
- B.    Establishment of protocols and implementation of procedures to protect worker health and safety as it relates to activities performed in the presence of Regulated Soil.

1.02      RELATED WORK

- A.    Section 01 20 00: "Price and Payment Procedures"
- B.    Section 01 33 00: "Submittal Procedures"
- C.    Section 31 10 00: "Site Clearing"
- D.    Section 31 20 05: "Erosion and Sedimentation Control"
- E.    Section 31 23 16: "Excavation"
- F.    Section 31 42 00: "Dewatering and Drainage"
- G.    Section 31 43 00: "Handling Contaminated Water"

1.03      DEFINITIONS

- A.    Clean Fill: Chemically clean fill as defined in Sec. 22a-209-1 of the Regulations of Connecticut State Agencies (RCSA). Clean fill does not contain any substances above natural background levels.
- B.    Contaminated Soil: Treated or untreated soil and/or sediment affected by a known or suspected release and determined, or reasonably expected to contain substances exceeding the Residential Direct Exposure Criteria or GB Pollutant Mobility Criteria, as these terms are defined in the Remediation Standard Regulations (RCSA Section 22a-133k-1).
- C.    Hazardous Soil: Soil that is classified as a hazardous waste. Soil is classified as hazardous waste if it exhibits a hazardous waste characteristic or if it contains Resource Conservation and Recovery Act (RCRA) listed hazardous constituents above Connecticut's RCRA "Contained-In" Policy dated May 2002.
- D.    Hazardous Waste Disposal Area: Facility permitted for treatment, storage, or disposal of Hazardous Waste under RCRA and applicable Connecticut laws and regulations.
- E.    Polluted Soil: Soil affected by a release of a substance at a concentration above the analytical detection limit for such substance in accordance with RCSA 22a-133k-1(a)(50).
- F.    Regulated Soil: Includes Polluted Soil, Contaminated Soil, and Hazardous Soil.
- G.    Reusable Regulated Soil: Regulated Soil with substance concentrations above the analytical detection limit for such substance in accordance with RCSA 22a-133k-1(a)(50) and below the Residential Direct Exposure criteria and the GB Pollutant Mobility criteria as these terms are described in the Remediation Standard Regulations (RCSA 22a-133k-1 through 3).

- H. Sediment: Unconsolidated material occurring in a stream channel, estuarine waters, or marine waters in accordance with RCSA 22a-133k-1(a)(63).
- I. Soil: As used in this section, soil includes natural soil, natural sediment, rock, brick, ceramics, concrete, asphalt paving fragments, and other miscellaneous debris and solid waste.
- J. Solid Waste: Unwanted or discarded solid, liquid, semi-solid or contained gaseous material, including, but not limited to, demolition debris, material burned or otherwise processed at a resource recovery facility or incinerator, material processed at a recycling facility and sludge or other residue from a water pollution abatement facility, water supply treatment plant or air pollution control facility (CGS Section 22a-207 (3)).
- K. Special Waste Disposal Area: Facility permitted to receive solid waste under RSCA Sections 22a-209-1 through 13, or for facilities not located in Connecticut, permitted by the state to receive solid or industrial waste.
- L. Treatment or Recycle Facility: Facility permitted to treat or recycle Regulated Soil that is permitted under CGS Section 22a-454 or for facilities not located in Connecticut, permitted by the state in which the facility is located to treat or recycle Regulated Soil.

1.04 SUBMITTALS

Submit the following prior to commencement of Work involving disposal of Regulated Soil:

A. Transporter Information:

- 1. The name and address of transporters to be used on the project to transport Regulated Soil.
- 2. Current licenses and permits to operate in all states affected by transport.

B. Disposal Facility Information:

- 1. General Information
  - a. Facility Name
  - b. Facility Address
  - c. Name of Contact Person
  - d. Title of Contact Person
  - e. Telephone Number of Contact Person
  - f. Permit Number
- 2. Written confirmation from the facility that they are permitted to accept and will accept the material to be disposed/reused.
  - a. Facility Permit
  - b. Facility acceptance criteria
  - c. Written approval from the Connecticut Department of Energy and Environmental Protection (CTDEEP) for disposal of Regulated Soil or use of Regulated Soil as cover soil in a solid waste disposal area at facilities located in Connecticut.
  - d. Facility sampling frequency and analytical testing requirements.
- 3. The Owner must approve the proposed transporter and disposal facility prior to the transport of any Regulated Soil.

- C. Soil Management Plan: Submit to the Engineer within 15 calendar days after notice from Engineer that regulated soils are present. The Soil Management Plan shall meet the requirements in Article 1.08.

Submit the following during execution of Work:

- D. All chemical analytical reports within 48 hours of the Contractor's receipt.
- E. Registrations, letters, forms or applications to be sent to Federal, State or Local environmental regulatory agencies to the Engineer for review prior to submittal. Allow seven days for review. No adjustments for time or money will be made if re-submittals are required due to deficiencies.
- F. Waste profile forms, material shipping records or any other forms, letters or documents that must be signed by the Owner to obtain authorizations for disposal no less than seven days in advance of shipping materials off site.
- G. Shipping papers or manifests that must be signed by the Owner no less than 48 hours in advance of shipping materials off site.
- H. Certified manifests or shipping papers and weight slips from the approved disposal facilities for Regulated Soil transported and disposed off site within five days of Contractor's receipt. At a minimum, manifests and weight slips shall include the following:

Manifests

1. Transporter name, address and telephone number.
2. Description of material being transported.

Weight Slips

1. Truck number, date and time of load-out.
2. Gross weight, tare weight and net weight of truck.

1.05 QUALITY ASSURANCE

- A. Regulatory Requirements: Perform earthwork, storage, transportation and disposal in compliance with applicable requirements of authorities having jurisdiction, including but not limited to the following:
1. Connecticut Department of Energy and Environmental Protection
    - a. Connecticut Remediation Standard Regulations (RSRs), RCSA 22a-133k-1 to 3
    - b. Connecticut Hazardous Waste Regulations, RCSA 22a-449(c)-100 through 119
    - c. Connecticut Solid Waste Management Regulations, RCSA 22a-209-1 to 17
    - d. CTDEEP Bureau of Materials Management and Compliance Assurance – Disposal of Special Waste Authorization (CTDEP WEED – APP-200)
  2. Massachusetts Department of Environmental Protection (MassDEP)
    - a. Massachusetts Solid Waste Management Regulations, 310 CMR 19.000
    - b. Reuse and Disposal of Contaminated Soil at Massachusetts Landfills, DEP Policy No. COMM-97-001
    - c. MassDEP Bureau of Waste Prevention – Solid Waste Management – Special Waste Determination (SW 14, EEA ePLACE portal)
    - d. MassDEP Bureau of Waste Prevention – Solid Waste Management – Beneficial Use Determination (BUD) (SW 40, EEA ePLACE portal)
  3. United States Department of Environmental Protection (EPA)

- a. Federal Hazardous Waste Regulations, 40 CFR 261-268
- 4. The Owner will be the “generator” of all Regulated Soil. Owner information is as follows:
  - a. Owner’s Name: Capital Region Development Authority (CRDA)
  - b. ATTN: To Be Determined
  - c. Owner’s Address: 100 Columbus Boulevard, Suite 500, Harford, CT 06103-2819
  - d. Owner’s Telephone Number: (860) 527-0100.
  - e. Project Name: Riverside Drive Outfall and Ensign Street Drainage Design
  - f. Site Address: Ensign Street and Riverside Drive, East Hartford, CT

B. Contractor’s Qualifications: Conform to the following qualifications:

- 1. Work must be performed by Contractor personnel formally trained in procedures for Regulated Soil, with a proven history of successfully executing similar projects for a minimum of five years.
- 2. Work must be accomplished by Contractor with proper equipment and personnel experienced in similar work.

1.06 PROJECT CONDITIONS

- A. The geotechnical and environmental memorandum listed below and appended to the specifications provides soil chemical analysis, boring logs showing subsurface conditions and geotechnical information.
  - 1. “Technical Memorandum, Environmental and Geotechnical Subsurface Investigation, Riverside Drive Storm Sewer Outlet, East Hartford, CT”, dated May 31, 2019.
- B. Notify Owner if unexpected subsurface conditions are encountered and discontinue work in area until Owner provides notification to resume work.
- C. The Engineer shall be notified within 24 hours if Regulated Soil is discovered that has not been previously identified or if other discrepancies between data provided and actual field conditions are discovered.
- C. Do not remediate, excavate, treat, or delineate Regulated Soil without consent from the Engineer.

1.07 HEALTH AND SAFETY

- A. Designate in name and title, a Health and Safety Manager (HSM) for all health and safety questions and concerns and provide a 24 hour contact phone number for the HSM.
- B. Prepare a written health and safety plan (HASP). Such plan must be approved by signature by the HSM and provide for compliance with OSHA regulations including, as applicable 29 CFR 1910.120. All elements in 29 CFR 1910.120(b)(4) shall be addressed in the HASP.
- C. Maintain the HASP on site and keep it current with Regulated Soil management activities including loading for transportation and actual site conditions.
- D. Provide personnel protective equipment as stipulated in the Contractor’s HASP during the performance of Work in an area identified as potentially posing a risk to worker health and safety for workers employed by the Contractor and subcontractors.

- E. Inform all on-site workers and subcontractors of all site safety rules, known or potential hazards, and emergency response procedures.

1.08 SOIL MANAGEMENT PLAN

- A. Prepare a Soil Management Plan (SMP). The plan should be prepared and signed by the Contractor's Qualified Environmental Professional and at a minimum, this plan shall describe detailed procedures that the Contractor plans to follow regarding management of all soil and include the following components:

1. Schedule of activities
2. Storage area for construction materials
3. Storage location(s)
4. Soil segregation procedures
5. Soil loading location and method
6. Operating log to track soil origin, storage location, and final disposition
7. Inspection and maintenance procedures
8. Erosion control, dust control, and anti-tracking procedures
9. Emergency and preparedness procedures
10. Transportation routes
11. Proposed transporters and disposal facilities
12. Site security

- B. No work shall be performed related to excavation and handling of Regulated Soil until the SMP is submitted to and approved by the Owner. However, the time to perform under the contract will begin on the date stipulated in the Notice to Proceed.

- C. Maintain the SMP on site and keep it current with Regulated Soil management activities including loading for transportation and actual site conditions.

- D. Inform all on-site workers and subcontractors of all site safety rules, known or potential hazards, and emergency response procedures.

1.09 SCHEDULING

- A. The Engineer will be responsible for contacting regulatory agencies in accordance with the applicable reporting requirements.

**PART 2 PRODUCTS**

2.01 MATERIALS

- A. Stockpile Liner/Cover: The stockpile liner shall be manufactured of new, first quality product designed and manufactured specifically for the intended use and have the following properties:

1. The material shall be U.V. resistant (black in color).
  2. The material shall be impervious to prevent precipitation from entering the stockpile or liquid from migrating to underlying soil.
  3. The material shall have a minimum thickness of 20 mil for the liner under the stockpile and 10 mil for the liner over the stockpile.
- B. Roll-off Containers: If a roll-off container is used, it must be in good condition and water tight. A liner made from polyethylene and manufactured specifically for a roll-off shall be used. The roll-off shall have a cover that does not contain rips or tears.
- C. Spill Response Materials: Provide appropriate spill response materials including, but not limited to the following: containers, adsorbents, shovels, and personal protective equipment. Spill response materials shall be available at all times when Regulated Soil is being handled or transported. Spill response materials shall be compatible with the type of soil and contaminants being handled and detailed in the Site Specific HASP.
- D. Packaging, Labeling, Marking and Placarding Materials: Provide all of the materials required for the packaging, labeling, marking, placarding and transportation of Regulated Soil in conformance with Department of Transportation standards. Details in this specification shall not be construed as establishing the limits of the Contractor's responsibility.

**PART 3 EXECUTION**

3.01 GENERAL

- A. It is intended that Contractor activities for the transportation, handling and disposal of Regulated Soil on this project will involve management of only those materials that are encountered. It is not intended that the Contractor remediate soils located outside the limits of excavation anticipated for the project as designed.
- B. Requirements of Section 31 23 16.10 apply to the Contractor and any Subcontractors involved in activities related to Regulated Soils.

3.02 FACILITY APPROVAL

- A. Upon receipt of the final approval from the treatment, recycling or disposal facility, immediately forward a copy of the approval to the Engineer. Coordinate facility approval, loading, transportation, and ultimate disposal of the Regulated Soil at the facility.

3.03 REUSE AND DISPOSAL

- A. Regulated Soil may be:
1. Used as cover or disposed of in a Special Waste Disposal Area provided written approval is obtained from CTDEEP under RCSA Sec.22a-209-8 for use in an in-state facility.
  2. Used as landfill cover at a Massachusetts permitted lined or unlined landfill under Massachusetts Department of Environmental Protection Policy # COMM-97-001.
  3. Taken to a Special Waste Disposal area for disposal or use as cover in a facility not located in Massachusetts or Connecticut.
  4. Taken to a properly permitted Treatment or Recycling Facility for thermal treatment or recycling.

5. Disposed in a Hazardous Waste Disposal Area.
6. Reused on site as backfill in accordance with CTDEEP Guidance for Utility Company Excavation (2001), provided the following:
  - a. Reuse would not constitute a Significant Environmental Hazard as described in RCSA 22a-6u;
  - b. Any excess regulated material is disposed of in accordance with solid and hazardous waste regulations, as appropriate;
  - c. The upper one foot of the excavation is filled with reusable regulated soil or the area is paved."

B. Reusable Regulated Soil shall be:

1. Reused on site as backfill in locations above the water table and not in areas subject to erosion and in accordance with requirements in Section 31 23 16, Excavation. Document the backfill location and depth in a scaled drawing for any Reusable Regulated Soil reused. Any backfill material shall meet the structural/compaction requirements of Section 31 23 16, Excavation.
2. Managed, disposed of, or treated or recycled in accordance with the requirements for Regulated Soil, if not suitable for reuse or surplus.
3. Reused off site in accordance with RCSA 22a-133k-2(h)(3), provided that written approval is obtained from the Connecticut Department of Energy and Environmental Protection.

C. Clean Fill shall be managed as specified in Section 31 23 16, Excavation.

D. Hazardous Soil is not expected to be encountered at the Site. Alternate arrangements will be required to handle such material. These arrangements shall be coordinated between the Contractor, Engineer and the Owner.

3.04 SAMPLING AND ANALYSIS

- A. The Engineer will sample Regulated Soil and have the samples analyzed as required by the treatment, recycling or disposal facility. These analyses will be performed on samples of excavated soil that has been stockpiled. The frequency of sampling and parameters analyzed shall be performed as required by the treatment, recycling or disposal facility
- B. The Contractor is hereby notified that the laboratory turnaround time is expected to be 14 working days.
- C. The Engineer will submit a copy of all analytical results to the Contractor within 24 hours of the Engineer's receipt of the laboratory report. Analytical data shall be kept confidential and distributed to the Owner and Engineer only.

3.05 REGULATED SOIL MANAGEMENT

- A. Contractor will obtain and maintain compliance with any State-required permits.
- B. Manage Regulated Soil in accordance with the procedures in the approved Soil Management Plan, approved HASP and the CTDEEP General Permit for Contaminated Soil and/or Sediment Management (General Permit).
- C. Place Regulated Soil in temporary storage immediately after excavation.

- D. On-Site soil storage locations are limited to those described in the approved Soil Management Plan. No other location other than those indicated will be allowed for the storage of soil. Complete the Work in a manner that the soil storage capacity will not be exceeded.
- E. Stockpiles shall be constructed to isolate stored Regulated Soil from the environment. Stockpiles shall be constructed to include liners free of holes and other damage. The ground surface on which the liner is to be placed shall be free of rocks greater than 0.5 inches in diameter and any other object which could damage the material.
- F. Contaminated Soil cannot be stockpiled off site unless a registration has been submitted to and approved by the CTDEEP under the General Permit.
- G. Provide a bituminous runoff barrier or staked hay bales surrounding the stockpile and berm vehicle access points.
- H. Cover any stockpiles with a liner free of holes or other damage to prevent precipitation from entering the stockpile. Extend the cover material over the bituminous runoff barrier or staked hay bales and anchor or ballast with sand bags or other suitable material to prevent it from being removed or damaged by wind.
- I. Roll-off units, if used to temporarily store Regulated Soil, shall be water tight. A cover shall be placed over the units to prevent precipitation from contacting the stored soil.
- J. If miscellaneous liquids, such as rainwater that has contacted Regulated Soil, or decontamination wastewaters from washing of Regulated Soil, from equipment or materials are generated, temporarily store them in containers that are water-tight and located in an area approved by the Engineer. Dispose of liquids in a properly permitted off-site treatment, disposal or recycling facility approved by the Engineer.

3.06 WASTE PROFILES, SHIPPING RECORDS AND MANIFESTS

- A. Prepare and submit to the Engineer for review all waste profiles and coordinate with disposal facilities.
- B. Prepare all manifests and shipping documents required for review by the Owner and Engineer. The Engineer will be responsible for obtaining the Owner's signature. For most types of Regulated Soil signed documents are not required for each load.
- C. Submit to Owner and the Engineer, prior to receiving progress payment, documentation certifying that all materials were transported to, accepted, and disposed of, at the selected receiving facility, including but not limited to:
  - 1. Facility signed manifests.
  - 2. Weight slips. Provide certified tare and gross weights for each load.

3.07 LOADING

- A. Load Regulated Soil for transport from the project site to the facility following approval by the Engineer.
- B. Load all Regulated Soil into the transportation vehicle in the location(s) specified in the Soil Management Plan.



- C. Following load-out from the stockpile or direct loading each day, remove residual Regulated Soil resulting from spillage from the loading area and return it to appropriate stockpile, dump trailer or roll-off.

3.08            **TRANSPORTATION**

- A. The Transporter shall adhere to all pertinent Federal, State, and local laws and regulatory agency policies.
- B. No material shall leave the site until the treatment, recycling or disposal facility has approved shipments.
- C. Cover transported Regulated Soil prior to leaving the point of generation and until it has arrived at the treatment, recycling or disposal facility.
- D. All vehicles departing the site containing Regulated Soil are to be properly logged to show the vehicle identification number, driver's name, time of departure, destination, and approximate volume and content of materials.
- E. All transportation vehicles are to have secure, watertight containers free of defects for material transportation and bed liners.

3.09            **SPILLS**

- A. Immediately notify the Engineer in the event of a spill or release of a hazardous substance, pollutant, contaminant, or oil. The Owner or Engineer will be responsible for any notifications to regulatory agencies. Follow the pre-established procedures as described in the HASP and spill response plan in the Soil Management Plan. Immediately take containment actions to minimize the effect of any spill or leak. Cleanup in accordance with applicable federal, state, and local regulations. Perform additional sampling and testing as directed by the Engineer to verify spills have been cleaned up. Spill cleanup and testing shall be done at no additional cost to the Owner.

**PART 4        MEASUREMENT AND PAYMENT**

4.01            **GENERAL**

- A. The Contractor shall furnish all labor, equipment, tools and materials and performing all operations in connection with handling, transportation and disposal of Regulated Soil, including all work described in this section. The handling, transportation and off-site disposal of Regulated Soil shall be measured for payment by the number of tons disposed off site. The Contractor will not be paid for Regulated Soil reused on site or off-site reuse/disposal of Clean Fill.
- B. Items listed starting in Article 4.02 of this Section refer to and are the same pay items listed in the Schedule of Alternates Form and constitute all pay items for completing the Work. Compensation for all services, items, materials, and equipment shall be included in prices stipulated for lump sum and unit price pay items in this Section and included in the Contract.
- C. Each lump sum price and unit bid price shall include an amount considered by the Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Payment of activities shall not be made until after removal, transport, and off-site disposal.

4.02 ALTERNATE PAY ITEMS

A. Item 2 – Additional Loading, Transportation, and Disposal of Polluted Soil

1. Description:

- a. Work under this item shall consist of the handling, loading, transportation and final off-site disposal/ recycling/ treatment of Polluted Soil as defined in Article 1.03.

1. Measurement for Payment:

- a. This Work will be measured for payment as the actual net weight in tons of material delivered to the treatment/recycling/disposal facility. Such determinations shall be made by measuring each hauling vehicle on the certified permanent scales at the treatment/recycling/disposal facility. Total weight will be the summation of weight bills issued by the facility specific to this project.

2. Payment:

- a. This work will be paid for at the Contract unit price per ton of Polluted Soil, which shall include all materials, equipment, tools and labor necessary to handle and on-site stockpile, load and transport the Polluted Soil to the treatment/ recycling/ disposal facility; the fees paid to the facility for treatment/ recycling/ disposal; the preparation of all related paperwork such as manifests, material shipping records, bills of lading, sample location maps, etc.; and all equipment materials, tools and labor incidental to this work.
- b. This price shall also include equipment decontamination; the collection and disposal of residuals generated during decontamination; and the collection and disposal of liquids generated during equipment decontamination activities.
- c. This unit price will be applicable to all of the Contractor-selected Polluted Soil disposal facilities and will not change for the duration of the Project.

B. Item 3 – Additional Loading, Transportation and Disposal of Contaminated Soil:

1. Description:

- a. Work under this item shall consist of the handling, loading, transportation and final off-site disposal/ recycling/ treatment of Contaminated Soil as defined in Article 1.03.

2. Measurement for Payment:

- a. This work will be measured for payment as the actual net weight in tons of material delivered to the treatment/recycling/disposal facility. Such determinations shall be made by measuring each hauling vehicle on the certified permanent scales at the treatment/recycling/disposal facility. Total weight will be the summation of weight bills issued by the facility specific to this project.

3. Payment:

- a. This work will be paid for at the Contract unit price per ton of Contaminated Soil, which shall include all materials, equipment, tools and labor necessary to handle and on-site stockpile, load and transport the Contaminated Soil to the treatment/ recycling/ disposal facility; the fees paid to the facility for treatment/ recycling/ disposal; the preparation of all related paperwork such as manifests, material shipping records, bills of lading, sample location maps, etc.; and all equipment materials, tools and labor incidental to this work.
- b. This price shall also include equipment decontamination; the collection and disposal of residuals generated during decontamination; and the collection and disposal of liquids generated during equipment decontamination activities.

- c. This unit price will be applicable to all of the Contractor-selected Contaminated Soil disposal facilities and will not change for the duration of the Project.
- C. Item 4 – Additional Testing, Handling, Packaging, Transportation and Disposal of Hazardous Soil
  - 1. Description:
    - d. Work under this item shall consist of the handling, loading, transportation and final off-site disposal/ recycling/ treatment of Hazardous Soil as defined in Article 1.03.
  - 2. Measurement for Payment:
    - a. This work will be measured for payment as the actual net weight in tons of material delivered to the treatment/disposal facility. Such determinations shall be made by measuring each hauling vehicle on the certified permanent scales at the treatment/disposal facility. Total weight will be the summation of weight bills issued by the facility specific to this project.
  - 3. Payment:
    - a. This work will be paid for at the Contract unit price per ton of Hazardous Soil, which shall include all materials, equipment, tools and labor necessary to handle and on-site stockpile, load and transport the Hazardous Soil to the treatment/ recycling/ disposal facility; the fees paid to the facility for treatment/ recycling/ disposal; the preparation of all related paperwork such as manifests, sample location maps, etc.; and all equipment materials, tools and labor incidental to this work.
    - b. This price shall also include equipment decontamination; the collection and disposal of residuals generated during decontamination; and the collection and disposal of liquids generated during equipment decontamination activities.
    - c. This unit price will be applicable to all of the Contractor-selected Hazardous Soil disposal facilities and will not change for the duration of the Project.

END OF SECTION