

**ITEM 04203.9704 M - FIELD TESTING OF POTENTIALLY PETROLEUM
CONTAMINATED SOIL/SEDIMENT DURING CONSTRUCTION**

**ITEM 04203.9705 M - EXCAVATION OF PETROLEUM-CONTAMINATED (NON-
HAZARDOUS) SOIL/SEDIMENT WITH REUSE AS
EMBANKMENT, FILL, OR ON SITE USE WITHIN PROJECT LIMITS**

**ITEM 04203.9706 M - EXCAVATION OF PETROLEUM-CONTAMINATED (NON-
HAZARDOUS) SOIL/SEDIMENT WITH DISPOSAL OTHER THAN AS
ON-PROJECT EMBANKMENT OR FILL**

**ITEM 04203.9707 M - SAMPLE AND LABORATORY ANALYSIS OF SOIL/SEDIMENT
SAMPLES**

DESCRIPTION

Excavate, field test, stockpile, sample and analyze, transport, treat, reuse, construct embankment construct embankment or otherwise use on site when designated on the plans, and/or dispose of soil/sediment off site and complete any other handling required for proper management and disposal of petroleum-contaminated soil/sediment. The materials covered by this specification are soil/sediments that are potentially contaminated with a petroleum product but do not meet the criteria for definition as a hazardous waste. The petroleum product may include, but is not limited to: gasoline, heating oils, kerosene, diesel fuel, jet fuel, lubricating oils, motor oils, greases, and other fractions of crude oil.

This specification includes items for excavation and disposal of contaminated soil/sediment by:

- A. **Reuse within the project limits as embankment, fill, or other use, hereafter termed "Disposal as Embankment or Fill"; and**
- B. **Disposal at off-project facilities or by other methods as described below, hereafter termed as "Disposal as Other than Embankment or Fill".**

Disposal options under B above include:

- Transport and disposal at permitted off-site treatment or disposal facility; or
- Treatment on site by methods such as incineration or biological treatment followed by disposal as clean fill. Determine acceptability and obtain approval and any necessary permits from the New York State Department of Environmental Conservation (NYSDEC) for any on-site treatment; or
- Reuse in applications that have received generic or case-specific beneficial use determinations (BUDs) from the NYSDEC for soil/sediment that meets applicable criteria. Such alternatives include, but are not limited to, cold-mix and hot-mix asphalt manufacture on site or at permitted off-site facilities.

Conduct all tasks associated with these items in accordance with all Federal, State, County, and local regulations.

MATERIALS

Furnish all materials required by the Contractor's approved Material Handling Plan. As a minimum, furnish:

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- 20 mil minimum plastic sheeting for base of any stockpiles; and
- 6 mil plastic sheeting for covering of contaminated soil/sediment in any stockpiles; and
- Waterproof tarpaulins for covering of trucks/roll-offs.

CONSTRUCTION DETAILS

I. Advance Preparation

A. Material Handling Plan - At least 30 days prior to commencing work in the potentially petroleum-contaminated areas, prepare and submit a Material Handling Plan (the Plan) to the Engineer-in-Charge (EIC) and to the Regional Environmental Unit for review and approval. The Plan must be approved by the EIC prior to the commencement of work within the defined areas as specified on the Plans and/or in the Special Notes. Include, as a minimum, written procedures detailing the operations to be used to field test, excavate, move, sample and analyze and dispose of contaminated soil/sediment. Procedures must include personnel safety and health as well as environmental protection considerations. Also include in the Plan the following specific information:

1. The specific model and manufacturer of intended organic vapor monitoring equipment, and procedures including calibration to conduct the field testing of soil/sediment. Include training and experience of the personnel who will operate the equipment.
2. All staging/stockpiling areas; *Note: Any soil/sediment moved off site or transported through an active lane must be in NYSDEC part 364 permitted vehicles.*
3. Name, address, ELAP status and telephone number of the proposed laboratory for analysis of representative soil/sediment samples. The laboratory must be approved by the New York State Dept. of Health Environmental Laboratory Approval Program (ELAP) for the intended analyses. Include training and experience of the personnel who will collect samples.
4. The method(s) of treatment/disposal that will be used;
5. For off-site treatment/disposal, identification of and information on the proposed permitted treatment/disposal facilities to include: Facility name; address; contact person; signed letter of agreement from the facility of intent to accept the waste as specified in the contract; listing of all permits, licenses, letters of approval authorizing the disposal of wastes of this description at the designated facility as they pertain to this Contract;

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6. For off-site treatment/disposal or movement through an active lane, identification of and information on the proposed waste transporter to include: Name; address; telephone number; contact person; EPA and NYS Transporter ID number; and any and all necessary permit authorizations for waste to be transported from the site to treatment/storage/disposal facilities;

7. If soil/sediment will be treated on site, description of the intended treatment procedures, all permits and approvals necessary for any on-site treatment, disposal, and discharge. The treated soil/sediment will become the property of the Contractor.

B. Notifications - At least 10 days prior to beginning the work, provide the EIC with the anticipated scheduled dates and work locations for removal/ treatment of all contaminated materials. Also at least 10 days prior to beginning the work, contact the applicable regional NYSDEC Spill Office and local fire department in writing and provide them with the scheduled dates for testing, removal, treatment, and disposal of all contaminated materials and excavation and stockpile locations. Provide a copy of this correspondence to the EIC.

II. Material Handling

A. Testing and Preliminary Classification of Soil/sediment: The locations where petroleum-contaminated soil/sediments are potentially present and will require testing are as indicated in the contract documents. Perform testing consisting of visual and odor observation and organic vapor monitoring of the soil/sediment during excavation of the areas indicated in the contract documents or as indicated by the EIC.

To conduct organic vapor monitoring, provide and operate field organic vapor test equipment: a photo ionization detector (PID) or a flame ionization detector (FID) capable of detection of 0.2 ppm general organic vapor levels. Calibrate the PID/FID daily, just before starting field work. Testing shall be at sufficient intervals to continuously observe and monitor soil/sediment excavations for contamination. Maintain and provide legible field notes to the EIC indicating weather conditions, PID/FID readings, visual and odor observations, and quantities of all contaminated and non-contaminated soil/sediments excavated at each location. The PID/FID must be operated by a person thoroughly trained in sampling protocols, organic vapor monitoring procedures, and equipment calibration procedures. Segregate/stockpile soil/sediment as follows or as indicated by the EIC:

1. **Non-Contaminated Soil/sediment** - Soil/sediment with no visual or odor evidence of contamination for which PID/FID readings are under 10 ppm above background or as otherwise determined by the EIC shall be considered non-contaminated and shall be

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disposed of in accordance with the Standard Specification Section 203, Unclassified Excavation and Disposal.

2. **Low Contaminated-** (Lower Potentially Petroleum Contaminated Pile) - Soil/sediments determined by visual, odor, and/or with PID/FID testing values greater than 10 ppm, but less than 50 ppm above background or as determined by the EIC shall be segregated from non-contaminated and high contaminated potential soil/sediment.
3. **High Contaminated** - (Higher Potentially Petroleum Contaminated Pile) - Soil/sediments determined by visual, odor, and/or with PID/FID testing values greater than 50 above background or as determined by the EIC shall be segregated from non-contaminated and low contaminated potential soil/sediment.

The EIC has the final determination of which category the soil/sediments shall be stockpiled.

B. Stockpiling and Segregation

1. Excavate potentially contaminated material and segregate into non-contaminated, low-contaminated and high-contaminated piles as determined by preliminary testing as outlined in Testing and Preliminary Classification, above. Contaminated soil/sediment may be in stockpiles or placed into trucks or rolloffs.

If placed in stockpiles, prepare the stockpile area by removing all large stones, roots, or other debris which may puncture the liner. Place the stockpile on a minimum of 20 mil or equivalent plastic ground cloth and cover by 6 mil minimum polyethylene sheeting or equivalent to protect against leaching or runoff of contaminants into groundwater or storm water. Weight or secure the sheeting by appropriate means and seal seams as approved by the EIC to prevent tearing or removal by weather. Grade surrounding surface to provide for positive drainage away from the pile. Maintain covering and grading for as long as stockpile exists. Storage must not exceed 60 days, unless approval is obtained from the EIC and NYSDEC.

If soil/sediment is placed in trucks or roll-offs, cover with waterproof tarpaulins. Secure the tarpaulin and maintain the cover throughout storage and transport. *Note: Any soil/sediment moved off site or transported through an active lane must be in NYSDEC part 364 permitted vehicles; or*

Do not mix contaminated material with soil/sediments that are determined to be non-contaminated.

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2. Institute appropriate procedures and security measures to ensure the protection of site personnel and the public from petroleum-contaminated materials as described in the approved Material Handling Plan.
3. Notify the EIC immediately of any soil/sediment that appears to contain unknown contaminants (based on visual, odor, or PID/FID testing) or that varies significantly from the material originally identified.

C. Sampling and Laboratory Analysis:

1. Sampling shall be conducted by a person thoroughly trained in sampling protocols using standard accepted sampling practices that are representative of the pile. Collect representative composite samples of the soil/sediment from each of the potentially contaminated piles (separate samples for each pile category) from a depth of greater than one foot within a stockpile. Include, at a minimum, four sample points for each composite sample and one composited sample for every 50 cubic meters of soil/sediment or as directed by the EIC.
2. Analyze all samples using USEPA Method 8021 for volatile organics and methyl t-butyl ether (MTBE) and Method 8270 for base/neutrals only on the extract from the samples; prepare the extract using the Toxicity Characteristic Leaching Procedure (TCLP) methodology, USEPA method 1311. Complete the laboratory analysis within 10 working days from sample collection. In addition, perform any analyses and testing as required by the intended disposal/treatment facility and/or method. Disposal/treatment facilities may require laboratory testing for criteria of hazardous waste or for other criteria. (Many landfills require testing for ignitability, corrosivity, reactivity, total petroleum hydrocarbons, and the constituents of toxicity by the TCLP). Perform all analyses at a laboratory approved by the New York State Department of Health Environmental Laboratory Approval Program (ELAP) for the intended analyses.
3. Provide a copy of the analysis report to the EIC within 2 days of receipt. No removal of waste materials shall occur prior to the EIC's receipt and acceptance of the laboratory report.

III. Transportation Off Site

A. Load and transport contaminated materials in vehicles with a valid 6 NYCRR Part 364 Waste Transporter Permit (and permits for any other states as applicable). Verify and document that the transporter has a current waste transporter's permit authorizing the transport of the project waste materials to the intended off-site facility. Coordinate all shipments and arrivals at the disposal

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facility to meet project schedule requirements. Complete any required shipping papers, placarding, and weighing/load measurements and provide documentation/copies to the EIC.

B. Cover roll-offs and trucks with waterproof tarpaulins to prevent runoff or evaporation of contaminants and blowing of soil/sediment.

C. Perform actions necessary to remedy situations involving material spilled in transit or mud and dust tracked off site associated with this project.

D. Do not combine material from any other source with material from the Project Site.

IV. Disposal/Treatment

For Disposal As Project Embankment or Fill:

Place contaminated soil/sediment as indicated by the EIC as embankment or fill in accordance with the requirements contained in Section 203 and/or other applicable sections of the Standard Specifications.

For Disposal Other than as Embankment or Fill:

Dispose of contaminated material by the methods and procedures described in the Material Handling Plan as approved by the EIC. Dispose of all contaminated materials within 30 days of stockpiling or within 30 days of the results of laboratory analysis, whichever is later, unless additional time is approved by the EIC. Do not, however, dispose of any material prior to the receipt and acceptance of laboratory results by the EIC. *Note: If the EIC approves additional stockpiling time, the Contractor must also request approval from NYSDEC for any storage greater than 60 days as required by NYS Solid Waste Management regulations, 6 NYCRR Part 360.1.7(b)(4).*

For soil/sediment treated on-site, the soil/sediment must be treated to below regulatory guidance values as indicated in NYSDEC Spill Technology and Remediation Series (STARS) Memo #1 - Petroleum-Contaminated Soil/sediment Guidance Policy, or alternate values agreed to by the EIC and NYSDEC. The clean treated soil/sediment as confirmed by sample and laboratory analysis will become the property of the Contractor for disposal and/or use. All excavated petroleum-contaminated soil/sediment undergoing treatment on site that is not successfully treated to render it non-contaminated prior to project completion must be disposed of at a permitted off-site treatment facility, Beneficial Use Facility or disposal facility approved by the EIC at no additional cost to the Department.

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BASIS FOR ACCEPTANCE Submission of evidence that all material has been tested, handled sampled and analyzed and disposed of in accordance with the approved Material Handling Plan will be the basis of acceptance for work completion.

METHOD OF MEASUREMENT

Testing - The quantity of potentially contaminated soil/sediments tested will be measured in cubic meters as computed in the original position.

Excavation and Reuse of Petroleum-Contaminated Soil/sediment as On-site Embankment or Fill - The quantity shall be measured in cubic meters as computed in the original position or, if appropriate and ordered by the EIC, in stockpiled position.

Excavation of Petroleum-Contaminated Soil/sediment with Disposal Other Than as On-Project Embankment or Fill - The quantity shall be measured by the number of metric tons of contaminated soil/sediment disposed of in accordance with the methods and procedures described in the approved material handling plan. As appropriate and as ordered by the EIC, a conversion factor of cubic meters to metric tons may be determined.

Sampling and Analysis - The quantity shall be measured by the actual number of samples collected and analyzed as directed by the EIC.

BASIS OF PAYMENT

Testing - The unit price shall include the cost of furnishing all labor, materials, instruments, equipment, Material Handling Plan preparation, and documentation to complete the work.

Excavation and Reuse of Petroleum-Contaminated Soil/sediment as On-site Embankment or Fill - The unit price shall include the cost of furnishing all labor, materials, equipment, transportation, construction of embankment(s) or placement of fill, stockpiling, cleanup of spillage and any other incidentals necessary to complete the work. Note: Placement of contaminated soil/sediment will be paid for under this item and not under the standard item for placement of embankment.

Excavation of Petroleum-Contaminated Soil/sediment with Disposal Other Than as On-Project Embankment or Fill - The unit price shall include the cost of furnishing all labor, materials, equipment, transportation, treatment or off-site disposal, testing, stockpiling, permits, shipping papers, documentation, cleanup of spillage and any other incidentals necessary to complete the work.

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Sampling and Laboratory Analysis of Soil/sediment Samples - The unit price shall include the cost of furnishing all labor, materials, equipment, and documentation necessary to complete the work.

Progress Payments for Items 04203.9705 and/or 04203.9706 will be made as follows - Twenty-five percent (25%) of the cost of these Items will be paid for upon excavation of the contaminated soil/sediment/sediment as approved by the Engineer.

Seventy-five (75%) of the cost of these Items will be paid for upon acceptable reuse or disposal, other than as on-project embankment or fill, as approved by the Engineer.

Note: Excavation and disposal of soil/sediment determined to be non-contaminated will be paid for under Section 203 of the Standard Specifications.

Payment will be made under:

<u>ITEM NO.</u>	<u>ITEM DESCRIPTION</u>	<u>PAY UNIT</u>
04203.9704 -	FIELD TESTING OF POTENTIALLY PETROLEUM-CONTAMINATED SOIL/SEDIMENT DURING CONSTRUCTION	CUBIC METERS
04203.9705 -	EXCAVATION OF PETROLEUM-CONTAMINATED (NON-HAZARDOUS) SOIL/SEDIMENT WITH REUSE AS EMBANKMENT, FILL, OR ON SITE USE WITHIN PROJECT LIMITS	CUBIC METERS
04203.9706 -	EXCAVATION OF PETROLEUM-CONTAMINATED (NON-HAZARDOUS) SOIL/SEDIMENT WITH DISPOSAL OTHER THAN AS ON-PROJECT EMBANKMENT OR FILL	METRIC TONS
04203.9707 -	SAMPLE AND LABORATORY ANALYSIS OF SOIL/SEDIMENT SAMPLES	EACH