ITEM 15203.9704 M - FIELD TESTING OF POTENTIALLY PETROLEUM-CONTAMINATED SOIL DURING CONSTRUCTION
ITEM 15203.9705 M - EXCAVATION OF PETROLEUM-CONTAMINATED (NON-HAZARDOUS) SOIL WITH REUSE AS EMBANKMENT, FILL, OR ON SITE USE WITHIN PROJECT LIMITS
ITEM 15203.9706 M - EXCAVATION OF PETROLEUM-CONTAMINATED (NON-HAZARDOUS) SOIL WITH DISPOSAL OTHER THAN AS ON-PROJECT EMBANKMENT OR FILL
ITEM 15203.9707 M - SAMPLE AND LABORATORY ANALYSIS OF SOIL 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 off site and complete any other handling required for proper management and disposal of petroleum-contaminated soil. The materials covered by this specification are soils 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 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 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:

DISAPPROVED BY EI 07-034

- 10 mil minimum plastic sheeting for base of any stockpiles; and
- 6 mil plastic sheeting for covering of contaminated soil 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. 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. 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. Include training and experience of the personnel who will operate the equipment.

2. All staging/stockpiling areas; *Note: Any soil 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 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;

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

DISAPPROVED BY EI 07-034

necessary permit authorizations for waste to be transported from the site to treatment/storage/disposal facilities;

7. If soil 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 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: The locations where petroleum-contaminated soils 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 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 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 soils 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 as follows or as indicated by the EIC:

1. **Non-Contaminated Soil** - Soil with no visual or odor evidence of contamination for which PID/FID readings are under 5 ppm above background or as otherwise determined by the EIC shall be considered non-contaminated and shall be disposed of in accordance with the Standard Specification Section 203, Unclassified Excavation and Disposal.

2. **Low Contaminated**- (Lower Potentially Petroleum Contaminated Pile) - Soils determined by visual, odor, and/or with PID/FID testing values greater than 5 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.

DISAPPROVED BY EI 07-034

3. **High Contaminated -** (Higher Potentially Petroleum Contaminated Pile) - Soils 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.

The EIC has the final determination of which category the soils 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 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 10 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 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 moved off site or transported through an active lane must be in NYSDEC part 364 permitted vehicles*; or

Do not mix contaminated material with soils that are determined to be non-contaminated.

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 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:

DISAPPROVED BY EI 07-034

ITEM 15203.9704 M - FIELD TESTING OF POTENTIALLY PETROLEUM-CONTAMINATED SOIL DURING CONSTRUCTION
ITEM 15203.9705 M - EXCAVATION OF PETROLEUM-CONTAMINATED (NON-HAZARDOUS) SOIL WITH REUSE AS EMBANKMENT, FILL, OR ON SITE USE WITHIN PROJECT LIMITS
ITEM 15203.9706 M - EXCAVATION OF PETROLEUM-CONTAMINATED (NON-HAZARDOUS) SOIL WITH DISPOSAL OTHER THAN AS ON-PROJECT EMBANKMENT OR FILL
ITEM 15203.9707 M - SAMPLE AND LABORATORY ANALYSIS OF SOIL SAMPLES

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 from each of the potentially contaminated piles (separate samples for each pile category) from a depth of greater than 30 centimeters 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 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 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.

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.

DISAPPROVED BY EI07-034

ITEM 15203.9704 M - FIELD TESTING OF POTENTIALLY PETROLEUM-CONTAMINATED SOIL DURING CONSTRUCTION
ITEM 15203.9705 M - EXCAVATION OF PETROLEUM-CONTAMINATED (NON-HAZARDOUS) SOIL WITH REUSE AS EMBANKMENT, FILL, OR ON SITE USE WITHIN PROJECT LIMITS
ITEM 15203.9706 M - EXCAVATION OF PETROLEUM-CONTAMINATED (NON-HAZARDOUS) SOIL WITH DISPOSAL OTHER THAN AS ON-PROJECT EMBANKMENT OR FILL
ITEM 15203.9707 M - SAMPLE AND LABORATORY ANALYSIS OF SOIL SAMPLES

IV. Disposal/Treatment

For Disposal As Project Embankment or Fill:

Place contaminated soil 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 treated on-site, the soil must be treated to below regulatory guidance values as indicated in NYSDEC Spill Technology and Remediation Series (STARS) Memo #1 - Petroleum-Contaminated Soil Guidance Policy, or alternate values agreed to by the EIC and NYSDEC. The clean treated soil as confirmed by sample and laboratory analysis will become the property of the Contractor for disposal and/or use. All excavated petroleum-contaminated soil 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.

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 soils tested will be measured in cubic meters as computed in the original position.

Excavation and Reuse of Petroleum-Contaminated Soil 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.

DISAPPROVED BY EI 07-034

ITEM 15203.9704 M - FIELD TESTING OF POTENTIALLY PETROLEUM-CONTAMINATED SOIL DURING CONSTRUCTION
ITEM 15203.9705 M - EXCAVATION OF PETROLEUM-CONTAMINATED (NON-HAZARDOUS) SOIL WITH REUSE AS EMBANKMENT, FILL, OR ON SITE USE WITHIN PROJECT LIMITS
ITEM 15203.9706 M - EXCAVATION OF PETROLEUM-CONTAMINATED (NON-HAZARDOUS) SOIL WITH DISPOSAL OTHER THAN AS ON-PROJECT EMBANKMENT OR FILL
ITEM 15203.9707 M - SAMPLE AND LABORATORY ANALYSIS OF SOIL SAMPLES

Excavation of Petroleum-Contaminated Soil with Disposal Other Than as On-Project Embankment or Fill - The quantity shall be measured by the number of metric tons of contaminated soil 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 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 will be paid for under this item and not under the standard item for placement of embankment.

Excavation of Petroleum-Contaminated Soil 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.

Sampling and Laboratory Analysis of Soil 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 15203.9705 and/or 15203.9706 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 as approved by the EIC. Seventy-five percent (75%) of the cost of these Items will be paid for upon acceptable reuse or disposal as approved by the EIC.

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

Payment will be made under:

ITEM NO.	ITEM DESCRIPTION	PAY UNIT

DISAPPROVED BY EI 07-034

ITEM 15203.9704 M - FIELD TESTING OF POTENTIALLY PETROLEUM-CONTAMINATED SOIL DURING CONSTRUCTION
ITEM 15203.9705 M - EXCAVATION OF PETROLEUM-CONTAMINATED (NON-HAZARDOUS) SOIL WITH REUSE AS EMBANKMENT, FILL, OR ON SITE USE WITHIN PROJECT LIMITS
ITEM 15203.9706 M - EXCAVATION OF PETROLEUM-CONTAMINATED (NON-HAZARDOUS) SOIL WITH DISPOSAL OTHER THAN AS ON-PROJECT EMBANKMENT OR FILL
ITEM 15203.9707 M - SAMPLE AND LABORATORY ANALYSIS OF SOIL SAMPLES

15203.9704M	FIELD TESTING OF POTENTIALLY PETROLEUM-CONTAMINATED SOIL DURING CONSTRUCTION	CUBIC METERS
15203.9705M	EXCAVATION OF PETROLEUM-CONTAMINATED (NON-HAZARDOUS) SOIL WITH REUSE AS EMBANKMENT, FILL OR ON SITE USE WITHIN PROJECT LIMITS	CUBIC METERS
15203.9706M	EXCAVATION OF PETROLEUM-CONTAMINATED (NON-HAZARDOUS) SOIL WITH DISPOSAL OTHER THAN AS ON-PROJECT EMBANKMENT OR FILL	METRIC TONS
15203.9707M	SAMPLING AND LABORATORY ANALYSIS OF POTENTIALLY PETROLEUM-CONTAMINATED SOIL ANALYZED	PER SAMPLE

SPECIAL NOTE - For Inclusion in Proposal

The contractor's attention is directed to the fact that the quantities included for these items are estimates based on best available information; the actual quantities will be determined during construction based on field and analytical testing results.

Any analytical results of previous investigations that NYSDOT has conducted are available to the Contractor by request.

DISAPPROVED BY EI 07-034