SECTION 205 – CONTAMINATED SOIL

I. GENERAL
Hazardous and non-hazardous contaminated soil handling and disposal are regulated activities in New York State. Project soil contamination may include petroleum products, volatile organic compounds (VOCs), heavy metals and/or other specialty contaminants that require regulated handling and disposal by the contractor. Department inspection of this work on NYSDOT Design-Bid-Build construction projects may be performed by in-house construction inspection, construction inspection consultant or hazardous waste environmental term agreement consultant staff. Environmental term agreement consultants are managed by the Consultant Management Bureau in Main Office. Use of the hazardous waste environmental term agreement services is requested through either the Regional Environmental Unit or Construction Environmental Coordinator (CEC) following contract award and prior to the pre-construction meeting. Additional guidance and information on handling contaminated soil during construction may be found in associated Special Notes for the project and The Environmental Manual (TEM) Section 4.4.20 Contaminated and Hazardous Materials which can be found at: https://www.dot.ny.gov/divisions/engineering/environmental-analysis/manuals-and-guidance/epm/repository/4_4_20.pdf

II. PROCEDURE
Construction inspection staff shall be responsible for reviewing and approving all required plans submitted by the contractor prior to starting any contaminated soil work. Required plans may include one or more of the following as described in the Standard Specifications:

- Contaminated Material Handling Plan (CMHP)
- Field Organic Vapor Monitoring Plan (FOVMP)
- Sampling Plan
- Disposal Plan

Assistance in review and/or approval of these plans can be provided by the Regional CEC and, if necessary, the hazardous waste environmental term agreement. The hazardous waste term agreement can also be utilized for technical assistance during excavation, segregation and material classification.

Approval of plans, based on level of contamination, may also require consultation with NYSDEC. The Regional CEC can assist with this determination and provide coordination for this consultation, if necessary.

Regional CEC will also be responsible for providing for coordination with the Regional NYSDEC Spills Engineer to arrange for NYSDEC Emergency Contract or to provide transport and disposal for any petroleum contaminated soil generated as part of the work. This coordination should be initiated following pre-construction and prior to excavation of any contaminated soil.

Refer to Section 629 Petroleum Storage Tank Closure for excavation work associated with the closure of petroleum bulk storage tanks.

III. DOCUMENTATION RETENTION
Retain all approved contractor plans on Site Manager as attachments to corresponding Daily Work Reports (DWRs). Also retain all data generated during any field organic vapor monitoring; laboratory results from any necessary site and waste characterization sampling; and waste transport and disposal documentation as attachments to corresponding DWRs.

IV. INSPECTION GUIDANCE AND ASSISTANCE DOCUMENTS/FORMS
SECTION 205 – CONTAMINATED SOIL

The following documents/forms have been developed to assist with the process, laboratory analysis payments and plan review/approval.

A. Petroleum Contaminated Soil Process Flow Chart (Exhibit 205A)
   This process flow chart can be followed as an overall inspector guideline in association with ensuring regulatory compliance.

B. Laboratory Analysis Payment Table (Exhibit 205B)
   This table can be used to track the various laboratory analyses that may be performed in association with onsite contaminated soil segregation and handling.

C. Plan Review Checklist (Exhibit 205C)
   This checklist can be used to ensure contractor plans are comprehensive and include all required component submissions.

EXHIBITS
A Petroleum Contaminated Soil Process Flow Chart
B Laboratory Analysis Payment Table
C Plan Review Checklist
PETROLEUM CONTAMINATED SOIL PROCESS

Encountered Petroleum Contaminated Water

ITEM 15203.9808 Handling and Disposal of Petroleum Contaminated Water

Suspect Areas

Known Locations Plans - NYSDEC

Field Encountered Materials

Item 205.02 Segregation and Storage of Contaminated Soil

Engineer's Approval
(Submit 30 days prior to the work)
- CMHP - Contaminated Material Handling Plan
- FOVMP - Field Organic Vapor Monitoring Plan
- Sampling Plan
- Disposal Plan
- Advance Notification Letters

Pre-Qualified Disposal Testing

Field screening < 25 PPM
CONTINUE WORKING

Back Fill Excavation with suitable material or payment items

Field screening > 25 PPM

Item 205.02 Segregation and Storage of Contaminated Soil

Regulatory Soil Sample Analysis
- Item 205.0401 Parameter Analysis (Totals)
- Item 205.0406 Gasoline Range Organics
- Item 205.0407 Diesel Range Organics

**Disposal Soil Sample Analysis**
- Item 205.0402 RCRA Toxicity (TRTP)
- Item 205.0403 Ignitability
- Item 205.0404 pH
- Item 205.0405 Polychlorinated Biphenyls

Item 205.0501 Disposal of Contaminated Hazardous Waste Soil

Item 205.0502 Disposal of Contaminated Non-Hazardous Waste Soil

Item 205.06 Reuse of Contaminated Soil

**Note:** If these items are NOT specifically included in the contract, all required disposal testing payment is included in the price bid for the applicable disposal item.
### Laboratory Analysis Payment Table

**Gasoline, Diesel Fuel, Kerosene, Heating oil or Hydraulic oil (Only for waste oils)**

<table>
<thead>
<tr>
<th>Item Number</th>
<th>NYSDOT Spec. Analysis Description</th>
<th>NYSDOT Spec. EPA Id #</th>
<th>Regulatory or Disposal</th>
<th>Laboratory Test Description</th>
<th>EPA Sample Method</th>
<th>Pay Unit</th>
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</thead>
<tbody>
<tr>
<td>x 205.0401</td>
<td>Petroleum Contamination</td>
<td>8260 8270</td>
<td>R</td>
<td>Totals – Volatiles &amp; MTBE</td>
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<td>Ea.</td>
</tr>
<tr>
<td></td>
<td>Parameter Analysis CP-51</td>
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<td></td>
<td>R Totals- Semi-volatiles</td>
<td>8270</td>
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<tr>
<td>205.0402</td>
<td>Hazardous Waste RCRA</td>
<td>TCLP 1311</td>
<td>D</td>
<td>TCLP – Semi-volatiles</td>
<td>8270C 3510C 1311</td>
<td>Ea</td>
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<tr>
<td></td>
<td>Toxicity Character Analysis</td>
<td></td>
<td></td>
<td>D TCLP – Volatiles</td>
<td>8260</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Each payment based upon lab</td>
<td></td>
<td></td>
<td>D TCLP - RCRA Metals</td>
<td>6010 7471</td>
<td></td>
</tr>
<tr>
<td></td>
<td>sample submitted)</td>
<td></td>
<td></td>
<td>D TCLP – Volatiles - Benzene</td>
<td>8260B</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>D TCLP - Lead</td>
<td>6010 3010A</td>
<td></td>
</tr>
<tr>
<td>205.0403</td>
<td>Laboratory Analysis for Ignitability</td>
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<td>Ignitability</td>
<td>1030</td>
<td>Ea.</td>
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<tr>
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<td>R/D</td>
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<td>Ea.</td>
</tr>
<tr>
<td>205.0405</td>
<td>Laboratory Analysis for Polychlorinated Biphenyls (PCB's)</td>
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<td>Polychlorinated Biphenyls (PCB's)</td>
<td>8082</td>
<td>Ea.</td>
</tr>
<tr>
<td>xg 205.0406</td>
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<td>R</td>
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<td>8015</td>
<td>Ea.</td>
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<tr>
<td>xo 205.0407</td>
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<td>8015</td>
<td>R</td>
<td>Laboratory Analysis for Total Petroleum Hydrocarbons - Diesel</td>
<td>8015</td>
<td>Ea.</td>
</tr>
</tbody>
</table>

Required Disposal Laboratory Analysis for:  
- x – all  
- xg – gasoline  
- xo - diesel fuel, heating oil or hydraulic oil
PLAN REVIEW CHECKLIST

Date Received: ___________

Contaminated Material Handling Plan
Field Organic Vapor Monitoring Plan
Sampling and Disposal Plan

1. Contaminated Material Handling Plan (CMHP). If the segregation and storage item is included in the contract, a CMHP shall be prepared. The CMHP shall describe the procedures to be used to segregate contaminated soil during excavation, soil storage/stockpile procedures, and safety and health issues. The following information shall be included in the CMHP:

☐ Name and address of the plan preparer;
☐ Contract name, contract number and description;
☐ Describe procedures to be used to segregate contaminated soil during excavation;
☐ Location of intended soil stockpile, trucks, roll-off container and other storage areas;
☐ Describe how contaminated soil will be moved to soil storage locations;
☐ Describe how soil storage/stockpile locations will be prepared and managed;
☐ Describe how potential air quality impacts such as creation of dust particulates and vapors will be minimized to protect air quality within, adjacent to or downwind from the project.
☐ Describe air monitoring procedures to be used during work, define action levels, and explain the response if action levels are exceeded; The protocol and procedures shall consider action levels for both work personnel and also perimeter/community action levels based on the nature of the contamination and activities conducted
☐ Hazardous substance evaluation - types of chemicals associated with the waste to be generated,
☐ Hazard assessment - physical and toxic effects associated with the waste to be generated;
☐ Personal protective clothing (PPC) and personal protective equipment (PPE) to be used or available on-site;
☐ Names of key personnel, emergency contacts and phone numbers;
☐ List the OSHA training each worker has received. At least one worker must have completed supervisor training per 29 CFR 1910.120(E)(4);
☐ General and site-specific safety rules, with emergency response procedures and directions to the nearest hospital (with map);
☐ Decontamination procedures for personnel and equipment; and
☐ Disposal of contaminated PPC and PPE;

2. Field Organic Vapor Monitoring Plan (FOVMP). If the field organic vapor monitoring item is included in the contract, a FOVMP shall be prepared. The following information shall be included in the FOVMP:

☐ Name and address of the plan preparer;
☐ Name, address, experience and qualifications of the independent firm performing the field organic vapor monitoring.
☐ Name, address, experience and qualifications of each individual who will conduct the field organic vapor monitoring. Each individual shall be thoroughly trained in sampling protocols, organic vapor monitoring procedures, and equipment calibration procedures.
☐ Type(s) of organic vapor monitoring equipment to be used –model, manufacturer and details of the PID or FID equipment that will be used to conduct field organic vapor monitoring; and
☐ Description of the field organic vapor monitoring and calibration procedures to be used.
3. **Sampling Plan.** If a sampling and analysis item is included in the contract, a Sampling Plan must be prepared. The following information shall be included in the Sampling Plan:

- Name and address of the plan preparer;
- Name, address, telephone number, and ELAP certification number of the proposed NYSDOH ELAP accredited laboratory to be used;
- Name, address, experience and qualifications of each individual who will collect soil samples. Each individual shall be thoroughly trained in sampling protocols, handling and chain of custody procedures, and laboratory requirements.
- List of all laboratory tests required by the disposal/treatment facility
- Describe the sample collection and handling procedures to be used; and
- Sampling schedule or a description of the sampling frequency to be used to facilitate timely disposal of stored soil. If sampling and analysis items are not included in the contract, a separate Sampling Plan is not required, and the Contractor shall perform any soil sampling and analysis required under the disposal item.

4. **Disposal Plan.** If a disposal item(s) is included in the contract, a Disposal Plan shall be prepared. The following information shall be included in the Disposal Plan:

- Name and address of the plan preparer;
- Name of disposal/treatment facility, address, telephone number and contact person;
- Copy of applicable permits and/or licenses held by the disposal/treatment facility;
- EPA Identification Number and/or State Facility Identification Number issued to the disposal/treatment facility;
- Method(s) of disposal/treatment that will be used;
- Signed letter from the disposal/treatment facility stating it is authorized under law to accept the type of waste being generated, their intent to accept the contaminated waste generated by this contract, and a list of the laboratory tests required by the facility;
- Name of waste transporter, address, telephone number and contact person;
- EPA Identification Number and/or State Transporter Identification Number issued to waste transporter; and
- Copies of all waste transporter permits and/or license plate numbers for vehicles that will be used for transport of waste from the site to the intended disposal/treatment facility; If a sampling and analysis item(s) is not included in the contract, the following information shall be included in the Disposal Plan for any sampling and analysis that will be conducted:
- Name, address, telephone number, and ELAP certification number of the proposed NYSDOH ELAP accredited laboratory.
- Name, address, experience and qualifications of each individual who will collect soil samples. Each individual shall be thoroughly trained in sampling protocols, handling and chain of custody procedures, and laboratory requirements.
- List of all laboratory tests required by the disposal/treatment facility;
- Describe the sample collection and handling procedures to be used; and
- Sampling schedule or a description of the sampling frequency to be used to facilitate timely disposal of stored soil.
5. **Advance Notification Letters (Letters)**. At least 10 calendar days prior to commencing work in contaminated areas, the Contractor shall prepare and submit Advance Notification Letters to;

- [ ] The Engineer in Charge
- [ ] The appropriate NYSDEC Regional Office personnel (Environmental Remediation, Spill Prevention and Response),
- [ ] The local fire department.

The Letters shall include the dates that work will occur in contaminated areas, work locations, soil storage/stockpile locations, and the name, field office address and phone number of the Engineer. The Contractor shall provide the Engineer with a copy of the Letters sent to the NYSDEC and fire department.