

SECTION 02 65 00

UNDERGROUND STORAGE TANK AND FUEL LINE REMOVAL

PART 1 -GENERAL

1.1 SUMMARY

A. NOTICE

1. The COR has indicated that the underground storage tanks involved in this project have been decommissioned for the last 3 years. During that time, each tank's monitoring system (Veeder-Root) has been operational and none have sounded an alarm. As such, it is assumed that all tanks are intact and no soil contamination is present. Any soils that become contaminated due to negligence by the Contractor or his subcontractors during the removal process as outlined below, shall be removed in accordance with the procedures of this section at the Contractor's expense.

B. Section Includes:

1. Removing and disposal of underground storage tank (UST) and fuel line liquid contents.
2. Removing, cleaning, and disposing UST and fuel lines.
3. Soil sampling and testing. This section specifies soil sampling and testing required during project construction to be provided by a Testing Laboratory retained by the General Contractor.
4. Removing contaminated soils.
5. Backfilling and restoring excavation areas.

1.2 RELATED REQUIREMENTS

- A. Laboratory Services: Section 01 45 29, TESTING LABORATORY SERVICES.
- B. Demolition Exposing UST: Section 02 41 00, DEMOLITION.

- C. UST Removal Excavation: Section 31 20 00, EARTHWORK.
- D. Excavation Backfilling: Section 31 20 00, EARTHWORK.
- E. Excavation Surface Restoration: Section 32 05 23, CEMENT AND CONCRETE FOR EXTERIOR IMPROVEMENTS and Section 32 90 00, PLANTING.

1.3 PRICE AND PAYMENT PROCEDURES

- A. Differing Site Conditions: Extent of excavation and restoration for UST and fuel line removal indicated on drawings and extent of additional soils sampling and testingspecified in this section are estimated. Variations less than 5 percentchange are notcause for contract price and time adjustments. Additional work will be paid by unit prices as directed by Contracting Officer's Representative.

1.4 APPLICABLE PUBLICATIONS

- A. Comply with references to extent specified in this section and in the order listed.
- B. Pennsylvania Department of Environmental Protection - Technical document 263-4500-601 - "Closure Requirements For Underground Storage Tank Systems".
- C. American Petroleum Institute (API):
 - 1. 1604-96(R2010) - Closure of Underground Petroleum Storage Tanks.
 - 2. 2217A-09 - Safe Work in Inert Confined Spaces in the Petroleum and Petrochemical Industries.
 - 3. 2015-14 - Safe Entry and Cleaning of Petroleum Storage Tanks.
- D. Code of Federal Regulations (CFR):
 - 1. 40 CFR Part 280 - Underground Storage Tanks; Technical Requirements.
 - 2. 49 CFR Part 178 - Specifications for Packaging's.

E. United States Environmental Protection Agency (EPA):

1. SW-846 - Evaluating Solid Waste: Physical/Chemical Methods.

1.5 PRE-REMOVAL MEETINGS

A. Conduct pre-removal meeting at project site minimum 5 days before beginning Work of this section.

1. Required Participants:

- a. Contracting Officer's Representative.
- b. Inspection and Testing Agency.
- c. Contractor.
- d. UST removal contractor.

2. Meeting Agenda: Distribute agenda to participants minimum 3 days before meeting.

- a. Removal schedule.
- b. Removal sequence.
- c. Preparatory work.
- d. Contaminated material containment and disposal.
- e. Removal.
- f. Inspecting and testing.
- g. Other items affecting successful completion.

3. Document and distribute meeting minutes to participants to record decisions affecting installation.

1.6 SUBMITTALS

A. Follow Submittal Procedures: Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.

B. Notice of intent to close UST filed with PA DEQ.

C. Site plan (including crane safety zones, contamination storage, cleaning areas, and contamination prevention procedures).

D. Test Reports: Submit testing laboratory reports.

1. UST liquid contents analysis.
2. UST interior environment analysis.
3. Soil sample analysis.

E. Qualifications: Substantiate qualifications comply with specifications.

1. UST removal contractor.
2. Testing laboratory.
3. Liquid disposal facility.
4. UST disposal facility.
5. Soils disposal facility.

F. UST removal plan.

G. Record Documents:

1. Six copies of Closure Report form 2630-FM-BECB0159 (located in PADEP Technical Document 263-4500-601).
2. Record Drawings in electronic CAD file format showing:
 - a. Soil sample locations.
 - b. Detailed plan view.
 - c. Piping removal diagrams.
 - d. Control removal diagrams.
 - e. Component diagrams including tank removal procedure.
 - f. Detailed sequence of procedure.
 - g. Items abandoned in place.
3. Photographs of work in progress showing UST removal plan compliance.
4. Chain-of-custody documentation.

5. Disposal facility receipts and disposition reports.

1.7 QUALITY ASSURANCE

- A. UST Removal Contactor: Experienced contractor, registered or licensed by applicable state agency regulating UST removal.
- B. Testing Laboratory: State certified independent testing laboratory experienced in hazardous waste liquid and soil testing.
- C. Liquid Disposal Facility: State certified disposal facility qualified to receive and dispose UST liquid contents.
- D. UST Disposal Facility: State certified disposal facility qualified to receive and dispose UST.
- E. Soils Disposal Facility: State certified disposal facility qualified to receive and dispose contaminated soils.
- F. UST Removal Plan: Describe detailed procedures for:
 - 1. Removing and disposing UST liquid content.
 - 2. Removing, ventilating, cleaning and disposing UST.
 - 3. Removing, cleaning and disposing fuel lines.
 - 4. Soil sampling and testing.
 - 5. Removing and disposing contaminated soils.
- G. UST Final Closure Report: Assemble work progress documentation showing removal plan compliance, including:
 - 1. Sample test records.
 - 2. Local Fire Marshal requirement.
 - 3. State Agency requirements.
 - 4. Hazardous material plan for local VA management.

1.8 FIELD CONDITIONS

- A. Do not close or obstruct streets, sidewalks or drives without Contracting Officer's Representative's approval.

1. Submit closure request minimum 30 days before starting work.

1.9 WARRANTY

A. Construction Warranty: FAR clause 52.246-21, "Warranty of Construction."

PART 2 - PRODUCTS

2.1 ACCESSORIES

- A. Waste Collection Drums: 49 CFR Part 178; Type 1A2, steel, removable head, 200 L (55 gal.) capacity, capable of containing waste without loss.
- B. Contractor shall have on-site spill response equipment including at least one overpack drum.

PART 3 - EXECUTION

3.1 PREPARATION

A. Coordinate demolition specified in Section 02 41 00, DEMOLITION required to access UST site.

3.2 UST SEQUENCE

- A. Notify applicable State Agency minimum 30 days before USTclosure.
- B. Determine if contamination from UST or fuel lines is present.
- C. When contamination exists, notify Contracting Officer's Representative and cooperate to record site with applicable State Agency and EPA.
- D. Remove UST and fuel line liquid contents, UST and fuel lines, and associated facilities.
- E. Remove contaminated soil.
- F. Backfill excavated area.
- G. Restore excavation surfaces.

3.3 UST CLOSURE

- A. Conform to Pennsylvania Department of Environmental Protection technical document "Closure Requirements for Underground Storage Tank Systems" number 263-4500-601, API 1604, 40 CFR Part 280, 29 CFR Part 1910, and 29 CFR Part 1926.

3.4 UST LIQUID CONTENTS REMOVAL

- A. Collect, test, and analyze UST liquid content samples.
 - 1. Identify individual constituents and concentrations.
 - 2. Identify lower explosive limits for constituents in gaseous form.
 - 3. Identify disposal facilities qualified to receive and process UST liquid contents.
- B. Remove UST and fuel line liquid contents before removing UST and fuel lines.
 - 1. Record liquid volume removed from UST and fuel lines.
- C. Deliver UST and fuel line liquid contents to disposal facility.
 - 1. Obtain signed receipt including date, time, total liquid volume, and description of materials received.
 - 2. Obtain final report of UST and fuel line liquid contents disposition after disposal completion.

3.5 USTAND FUEL LINE REMOVAL

- A. Excavate overburden and soils immediately surrounding UST and fuel lines as specified in Section 31 20 00, EARTHWORK. All work shall conform to Pennsylvania Department of Environmental Protection technical document "Closure Requirements for Underground Storage Tank Systems" number 263-4500-601, section IV "Permanent Closure".
 - 1. Contain excavated materials to prevent loss and mixing with other materials until completion of initial soils testing.

- B. Remove UST and fuel lines from excavation.
- C. Place UST and fuel lines on ground adjacent to UST removal location.
- D. Secure UST and fuel lines before cleaning.

3.6 UST AND FUEL LINE CLEANING

- A. Measure combustible gas and oxygen concentrations within UST.
- B. Ventilate UST interior to reduce combustible gas concentrations to maximum 10 percent of lower explosive limit and to provide 19.5 to 23.5 percent oxygen concentration.
 - 1. Test UST interior atmosphere confirming gas concentrations.
 - 2. Complete required ventilation before cleaning.
- C. Cut ports in UST wall facilitating cleaning access. Comply with API Standard 2217A and API Standard 2015 for UST entry.
- D. Clean surface contaminates from UST and access port interior wall surfaces.
 - 1. Contain removed materials without producing further contamination.
 - 2. Collect removed materials in waste collection drums. Seal drums to prevent material loss.
- E. Clean surface contaminates from fuel line wall surfaces.
- F. Request UST inspection by local Fire Marshal and State Agency certifying completed UST cleaning.
- G. Dismantle UST as required for transport to disposal facility.
- H. Deliver UST, removed access ports, fuel lines, and waste collection drums to disposal facility.
 - 1. Obtain signed receipt including date, time, quantity, and description of materials received.

2. Obtain final report of materials disposition after disposal completion.

3.7 SOIL TESTING

A. Soil testing shall be in accordance with PA DEQ UST Removal Procedures and shall include the following:

1. Upon completion of the underground storage tank removal activities, soils beneath the tanks and piping shall be inspected and field-screened for contamination using a photoionization detector (PID) calibrated with isobutylene.
2. If no contamination is identified, collect two (2) soil samples beneath the centerline of the former 1,000-gallon tanks and three(3) samples from beneath the former tanks greater than 1,000-gallons, and five (5) samples beneath former fuel lines, pipe joints, and elbows as necessary.
3. The collected samples shall be analyzed for the appropriate Short List Parameters (anticipated to be diesel fuel) using United States Environmental Protection Agency (USEPA) Method 8260C.

B. If contamination is encountered immediately notify the COR for direction.

1. Upon approval from the CO, excavate impacted soils and collect up to twelve (12) post-excitation soil samples from the base and sidewalls of the excavation. The samples shall be immediately transferred into laboratory-supplied sample jars and placed in a cooler containing ice. After collection, the samples shall be transported to a PADEP-approved laboratory for analyses. The collected samples shall be analyzed as noted in paragraph 3 above.
2. Notify Contracting Officer's Representative when additional sample identify contamination.

3. For each removal site, the base price for volume between the final tank volume of material for the enclosure and the enclosure shall not to exceed 110 tons of soil removed. Any work beyond 110 tons and more than 8 test locations shall be considered extra and shall be based on unit pricing.

C. Perform additional soil sampling and testing around former tank and fuel lines as directed by Contracting Officer's Representative until contamination concentration is less than permitted by applicable State Agency for uncontaminated soil used as fill material.

3.8 CONTAMINATED SOIL REMOVAL

A. Excavate contaminated materials as specified in Section 31 20 00, EARTHWORK.

B. Remove contaminated soil from site according to PADEP technical document 263-4500-601 and applicable State Agency requirements.

C. Deliver contaminated soils to disposal facility.

1. Obtain signed receipt including date, time, quantity, and description of materials received.

2. Obtain final report of materials disposition after disposal completion.

3. Provide receipt tickets to COR.

3.9 UST AND FUEL LINE EXCAVATION BACKFILL AND RESTORATION

A. Backfill excavation with fill materials and compact as specified in Section 31 20 00, EARTHWORK.

B. Restore pavements, sidewalks, and curbs matching adjacent materials as specified in Section 32 05 23, CEMENT AND CONCRETE FOR EXTERIOR IMPROVEMENTS.

C. Restore landscaped areas and grass areas to match adjacent materials as specified in Section 32 90 00, PLANTING.

3.10 FIELD QUALITY CONTROL

- A. Field Tests: Performed by testing laboratory specified in Section 01 45 29, TESTING LABORATORY SERVICES.
- B. Perform sampling and testing for the following:
 - 1. UST liquid contents.
 - 2. UST interior environment.
 - 3. Soils contamination.
- C. Record chain-of-custody for samples until disposal.

3.11 PROTECTION

- A. Protect restored areas from traffic and construction operations.
- B. Repair damage.

END OF SECTION