UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated 23 June 2005
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SECTION TABLE OF CONTENTS

DIVISION 02 - SITE CONSTRUCTION

SECTION 02115N

REMOVAL AND DISPOSAL OF UNDERGROUND STORAGE TANKS

09/99

-- End of Section Table of Contents --

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USACE / NAVFAC / AFCESA **UFGS-02115N (September 1999)**

Preparing Activity: NAVFAC **Replacing without revision NFGS of same number and date**

UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated 23 June 2005
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SECTION 02115N

REMOVAL AND DISPOSAL OF UNDERGROUND STORAGE TANKS
09/99

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NOTE: This guide specification covers the requirements for removal and disposal of underground storage tanks, buried piping, products remaining in the tanks, contaminated soil and water, and related work in accordance with Federal, State, and local regulations.

Comments and suggestions on this guide specification are welcome and should be directed to the technical proponent of the specification. A listing of technical proponents, including their organization designation and telephone number, is on the Internet.

Recommended changes to a UFGS should be submitted as a Criteria Change Request (CCR).

Use of electronic communication is encouraged.

Brackets are used in the text to indicate designer choices or locations where text must be supplied by the designer.
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NOTE: On the drawings, show:

1. Dimensions, details, sections, elevations, and location of equipment.

2. Configuration, slope, and sizes for each excavation.

3. Locations, sizes, and type of temporary containment areas.

4. Locations and details for special supports.
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PART 1 GENERAL

1.1 REFERENCES

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NOTE: Issue (date) of references included in project specifications need not be more current than provided by the latest guide specification. Use of SpecsIntact automated reference checking is recommended for projects based on older guide specifications.
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The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN PETROLEUM INSTITUTE (API)

API PUBL 1628	(1996) A Guide to the Assessment and Remediation of Underground Petroleum Releases
API RP 1604	(1996; R 2001) Closure of Underground Petroleum Storage Tanks

ASTM INTERNATIONAL (ASTM)

ASTM D 4397	(2002) Polyethylene Sheeting for Construction, Industrial, and Agricultural Applications

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2003) Safety -- Safety and Health Requirements

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA 530/F-93/004	(1993; Rev O; Updates I, II, IIA, IIB, and III) Test Methods for Evaluating Solid Waste (Vol IA, IB, IC, and II) (SW-846)
EPA 600/4-79/020	(1983) Methods for Chemical Analysis of Water and Wastes

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

29 CFR 1910	Occupational Safety and Health Standards
40 CFR 280	Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks (UST)

1.2 DESCRIPTION OF WORK

The work includes removing and disposing of underground storage tanks and related work.

1.2.1 Tank Closure

Perform work to close, remove, and dispose of underground storage tanks, and connecting piping; including but not limited to dewatering (if approved), [disposal of contaminated soil,] [laboratory testing,] providing reports which are required by regulatory agencies, and backfilling.

1.2.2 Regulations

Perform work in accordance with local, State, and Federal regulations and 40 CFR 280.

1.3 SUBMITTALS

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NOTE: Submittals must be limited to those necessary for adequate quality control. The importance of an item in the project should be one of the primary factors in determining if a submittal for the item should be required.

A "G" following a submittal item indicates that the submittal requires Government approval. Some submittals are already marked with a "G". Only delete an existing "G" if the submittal item is not complex and can be reviewed through the Contractor's Quality Control system. Only add a "G" if the submittal is sufficiently important or complex in context of the project.

For submittals requiring Government approval on Army projects, a code of up to three characters within the submittal tags may be used following the "G" designation to indicate the approving authority. Codes for Army projects using the Resident Management System (RMS) are: "AE" for Architect-Engineer; "DO" for District Office (Engineering Division or other organization in the District Office); "AO" for Area Office; "RO" for Resident Office; and "PO" for Project Office. Codes following the "G" typically are not used for Navy projects.

Submittal items not designated with a "G" are considered as being for information only for Army projects and for Contractor Quality Control approval for Navy projects.

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Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are [for Contractor Quality Control approval.][for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government.] The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-06 Test Reports

[Laboratory testing reports; G

Including location of soil excavated and associated OVA/FID (organic vapor analyzer/flame ionization device) readings, TPH (total petroleum hydrocarbons), [and] BTEX (benzene, toluene, ethylbenzene, and xylene), [and TCLP (toxicity characteristic leaching procedure)] sampling and test results. If BTEX indicates gasoline, then provide TCLP]

SD-07 Certificates

Site safety and health plan; G

Describe safety and health plan and procedures as related to underground tank removal and pipe removal, and as related to operations associated with petroleum contaminated soils and water. Furnish the name and qualifications based on education, training, and work experience of the proposed Site Safety and Health Officer.

Excavation and material handling plan; G

Field sampling and laboratory testing plan; G

Tank and piping removal and disposal plan; G

Qualification; G

Spill and discharge control plan; G

SD-11 Closeout Submittals

Building permit[, inspection permits,] and other permitsrequired for underground tank removal; G

Results of excavation; G

Including sketch showing location of underground storage tank, sampling locations, and extent of excavation

Tank disposal paperwork; G

Such as copy of UST Notification Form and method of conditioning tank for disposal

[Contaminated soil disposal paperwork; G

Such as laboratory testing reports]

[Contaminated water disposal paperwork; G

Such as laboratory testing results]

Identification of tanks removed and disposed of; G

Including site map showing location of tank and piping

Starting and ending dates of reporting period; G

Closure report; G

Incorporate reports, records, and data into a single binder with the title "SITE ASSESSMENT REPORT" on the cover of the binder.

[Cumulative quantities of soil excavated; G

Beginning with start date for each tank and associated piping]

1.4 AREAS OF CONTAMINATION

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NOTE: Unit prices for removal and disposal of temporarily stockpiled contaminated soil which was excavated for tank and piping removal, provision of clean fill material to replace contaminated soils for use in backfilling tank and piping excavations, and removal and disposal of temporarily stored contaminated water shall be included in Section 00200, "Instructions to Bidders" as follows:

ITEM	UNIT	UNIT PRICE	NO. UNITS	EXTENSION
Removal and disposal of stockpiled contaminated soils from excavations for removal of under-ground storage tanks and associated piping.	CUBIC METERS	[$_____]	[_____]	[_____]
Furnish clean fill material for use in backfilling excavations for removal of underground storage tanks and piping.	CUBIC METERS	[$-----]	[-----]	[$-----]
Removal and disposal of stored contaminated water collected during dewatering to remove underground storage tanks and piping.	LITERS	[$-----]	[-----]	[$-----]
Quantities of contaminated soils, fill material and contaminated water shall be estimated taking into consideration site conditions, and age and history of tanks.				

ITEM	UNIT	UNIT PRICE	NO. UNITS	EXTENSION
Removal and disposal of stockpiled contaminated soils from excavations for removal of under-ground storage tanks and associated piping.	CUBIC YARDS	[$_____]	[_____]	[_____]
Furnish clean fill material for use in backfilling excavations for removal of underground storage tanks and piping.	CUBIC YARDS	[$-----]	[-----]	[$-----]
Removal and disposal of stored contaminated water collected during dewatering to remove underground storage tanks and piping.	GALLONS	[$-----]	[-----]	[$-----]
Quantities of contaminated soils, fill material and contaminated water shall be estimated taking into consideration site conditions, and age and history of tanks.				

For some locations, such as a contaminated site scheduled for site remediation, it may be permissible to use contaminated soil materials for backfill in tank and piping excavations. Specifier shall get approval from local regulating authority before using contaminated soil materials.

****

Assume for bidding purposes that soil, [bituminous pavement, concrete slabs,] and water encountered during the removal of the underground tanks are contaminated with [JP-5 fuel oil] [and] [diesel fuel] [and] [gasoline] and shall be handled as specified herein. [Payment for removal from temporary stockpile and disposal of contaminated soil and furnishing clean soil shall be paid for at the contract unit price per cubic meter cubic yard.] Bituminous pavement and concrete slabs shall be washed and disposed of as demolition debris. Wash water shall be collected and stored. [Disposal of contaminated water shall be paid for at the contract unit price per gallon.]

1.5 QUALIFICATION (CONTRACTOR EXPERIENCE)

Submit data for approval showing that the tank removal Contractor, subcontractors, and personnel employed on the project have been engaged in removal, transportation, and disposal of underground tanks and associated piping, are familiar with and shall abide with the following:

a. API RP 1604.

b. 40 CFR 280 and State and local regulations and procedures.

c. Applicable safety rules and regulations.

d. Use of equipment and procedures for testing and vapor-freeing tanks.

e. Handling and disposal of types of wastes encountered in underground tank and pipe removal including disposal of underground tanks and associated piping.

f. Excavation, testing, and disposal of petroleum contaminated soils, liquids, and sludge.

g. Provide documentation that tank removers are certified if locality of project has this requirement.

In addition, furnish data proving experience on at least three prior projects which included types of activities similar to those in this project. Provide project titles, dates of projects, owners of projects, point of contact for each project, and phone numbers of each point of contact.

1.6 COMPLIANCE

Comply with applicable local, State, and Federal regulations, procedures, and 40 CFR 280.

1.7 QUALITY ASSURANCE

1.7.1 Excavation and Material Handling Plan

Describe methods, means, equipment, sequence of operations and schedule to be employed in excavation, transport, handling, and stockpiling of soil during underground tank removal. Fifteen days before beginning tank removal work, submit to the Contracting Officer for approval a material handling plan that describes phases of dealing with the contaminated soil and water as it relates to the proposed tank[s] and piping removal, including methods of excavating, a material handling plan for the contaminated material, soil testing requirements, safety precautions and requirements, and water pumping and collection requirements.

1.7.2 Field Sampling and Laboratory Testing Plan

Describe field sampling methods and quality control procedures. Identify laboratory and laboratory methods to be used for contamination testing. Sample reports shall show sample identification for location, date, time, sample method, contamination level, name of individual sampler, identification of laboratory, and quality control procedures.

1.7.3 Tank and Piping Removal and Disposal Plan

Describe methods, means, sequence of operations, and schedule to be employed in the testing, pumping, cleaning, de-vaporizing, inspecting, removal, and disposal of underground storage tanks and piping.

PART 2 PRODUCTS

2.1 PLASTIC SHEETING

ASTM D 4397.

PART 3 EXECUTION

3.1 REMOVAL AND DISPOSAL OF TANKS

Furnish labor, materials, necessary permits, laboratory tests, and reports and equipment to [remove and dispose of products remaining in the underground tanks; clean and vapor free the underground tanks and connecting piping;] excavate, remove underground tanks and associated piping, and backfill to the level of the adjacent ground; sample soil and water to determine if contaminated; dispose of tanks and associated piping[, and] [petroleum contaminated soil] [and] [water]. Provide work in accordance with 40 CFR 280 and in accordance with appropriate Federal, State, and local regulations.

3.2 SITE SAFETY AND HEALTH PLAN (SSHP)

Furnish safety, health, and accident prevention provisions and develop a Site Safety and Health Plan (SSHP). The SSHP shall incorporate the requirements of 29 CFR 1910 and EM 385-1-1. Site work shall not start until the SSHP is approved by the Contracting Officer.

3.3 SITE SAFETY AND HEALTH OFFICER [CERTIFIED INDUSTRIAL HYGIENIST]

Identify an individual to serve as the Site Safety and Health Officer (SSHO) [Certified Industrial Hygienist (CIH)]. The SSHO [CIH] shall report problems and concerns regarding health and safety to the Contracting Officer. The SSHO [CIH] shall have a working knowledge of local and Federal occupational safety and health regulations, and shall provide training to Contractor employees in air monitoring practices and techniques. The SSHO [CIH or an Industrial Hygiene Technician (IHT) who is under the direction of the CIH] shall provide day to day industrial hygiene support, including air monitoring, training, and daily site safety inspections. The SSHO [CIH or the IHT] shall be trained in the use of the monitoring and sampling equipment, interpretation of data required to implement the SSHP, and to administer the elements of the SSHP. The SSHO [CIH or the IHT] shall remain on site during project operations. The SSHO [CIH] may be assigned other duties, such as project foreman or quality control manager.

3.4 SPILL AND DISCHARGE CONTROL PLAN

Develop, implement, and maintain a comprehensive spill and discharge control plan. The plan shall provide contingency measures for potential spills and discharges from handling and transportation of contaminated soils and water. A possible source of guidance for assessment and remediation is API PUBL 1628.

3.5 EXCLUSION ZONE (EZ) AND CONTAMINATION REDUCTION ZONE (CRZ)

Do not permit personnel not directly involved with the project to enter work zones, called the EZ and CRZ. The EZ shall be an area around the tank a minimum of 3 m 10 feet from the limits of the tank excavation. At the perimeter of the EZ, establish a CRZ. Limits of the CRZ shall be established by the Contractor. Within the CRZ, equipment and personnel shall be cleaned as stated in the paragraph entitled "Personnel and Equipment Decontamination." The Contractor's site office, parking area, and other support facilities shall be located outside the EZ and CRZ. Boundaries of the EZ and CRZ shall be clearly marked and posted. Include a site map, outlining the extent of work zones and location of support facilities, in the SSHP.

3.6 TRAINING

Provide health and safety training in accordance with 29 CFR 1910 prior to starting work. Furnish copies of current training certification statements for personnel prior to initial entry into the work site.

3.6.1 On-Site Training

Prior to starting on-site work, a health and safety training class shall be held by the SSHO [CIH] to discuss the implementation of the SSHP. Notify the Contracting Officer 24 hours prior to beginning the training class.

3.6.2 Training Outline

Provide the following:

a. Health and safety organization, including discussion of distribution of functions and responsibilities

b. Organization and components of the SSHP

c. Physical and chemical site hazard identification

d. Basic toxicology and toxicity information

e. Discussion of the EZ and CRZ

f. Protective clothing

g. Respiratory protection

h. Air quality monitoring

i. Personnel exposure guidelines

j. Decontamination procedures

k. Basic first aid review

l. Emergency procedures and contingency plan

m. Site entry and exit procedures

n. Sampling procedures

3.7 PERSONNEL PROTECTION

Furnish appropriate personal safety equipment and protective clothing to personnel and ensure that safety equipment and protective clothing is kept clean and well maintained. Furnish three clean sets of personal protective equipment and clothing for use by the Contracting Officer or official visitors as required for entry into the EZ.

3.8 RESPIRATORY PROTECTION PROGRAM

Develop a respiratory protection program, addressing respirator usage and training, in accordance with 29 CFR 1910 and EM 385-1-1.

3.9 DECONTAMINATION

Decontaminate or properly dispose of personal protective equipment and clothing worn in contaminated areas at the end of the work day. The SSHO [CIH] shall be responsible for ensuring that personal protective clothing and equipment are decontaminated before being reissued.

3.10 FIRST AID AND EMERGENCY RESPONSE EQUIPMENT AND PROCEDURES

Provide appropriate emergency first aid equipment for treatment of exposure to site physical and chemical hazards. Provide and post a list of emergency phone numbers and points of contact for fire, hospital, police, ambulance, and other necessary contacts. Provide and post a route map detailing the directions to the nearest medical facility.

3.11 IGNITION SOURCES

Do not permit ignition sources in the EZ and CRZ.

3.12 PERSONNEL AND EQUIPMENT DECONTAMINATION

Decontaminate personnel and equipment before exiting the work zones.

3.13 WASTE DISPOSAL

The SSHP shall detail the practices and procedures to be utilized to dispose of wastes. Upon completion of the project, certify that equipment and materials were properly decontaminated prior to being removed from the site.

3.14 EMERGENCY RESPONSE REQUIREMENTS

Furnish emergency response and contingency plan in accordance with 29 CFR 1910. In an emergency, take action to remove or minimize the cause of the emergency, alert the Contracting Officer, and institute necessary measures to prevent repetition of the emergency. Equip site-support vehicles with route maps providing directions to the medical treatment facility.

3.15 UNFORESEEN HAZARDS

Notify the Contracting Officer of any unforeseen hazard or condition which becomes evident during work.

3.16 ADDITIONAL REQUIREMENTS

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NOTE: 1. For tanks larger than 15,120 liters 4,000 gallons or for projects that have tanks, some of which are smaller or larger than 15,120 liters 4,000 gallons, select the first optional paragraph and include Section 13219, "Cleaning Petroleum Storage Tanks."

2. For tanks 15,120 liters 4,000 gallonsand smaller, select the second optional paragraph.

****

[Provide additional requirements for cleaning and vapor freeing tank as specified in Section 13219 CLEANING PETROLEUM STORAGE TANKS.]

[Provide clean and vapor free tank in accordance with API RP 1604 and the following:

a. Table of Tank History

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NOTE: Data for these paragraphs should be obtained from the Commanding Officer of the individual Naval facility having tanks for cleaning.

****

Tank Number	Tank Location	Tank Capacity	Date Constructed	Type of Lining (If Applicable)	Type of Fuel	Remarks From the Last Inspection
[_____]	[_____]	[_____]	[_____]	[_____]	[_____]	[_____]
[_____]	[_____]	[_____]	[_____]	[_____]	[_____]	[_____]

b. Fuel Removal

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NOTE: Contact the fuel department of the nearest Naval Supply Center or Depot to determine if dirty residual fuel can be accepted by the Government for reclamation. If not reclaimed by the Government, consider the following: Depending on the amount of residual fuel remaining in the tank after pump down by the Government and the degree of fuel emulsification, the designer, in consultation with the activity, should decide on whether to require fuel/water separation under the scope of this contract, dispose of the mixture as hazardous waste if tests show presence of hazardous constituents, or use other options available to the Government.

****

All possible fuel will be pumped or otherwise removed from the tank by the Government. Consider remaining fuel contaminated or waste fuel; [pump into 208 liters 55 gallon drums or other suitable containers for disposal in accordance with approved procedures meeting local, State, and Federal regulations] [provide oil/water separators for further recovery of fuels and turn over to the Government for use]. Dispose of remaining fuel

emulsions in accordance with applicable local, State, and Federal regulations. Drums or tanks used for containerizing waste fuel will be furnished by the [Contractor] [Government]. Oil/water separator for fuel will be furnished by the [Contractor] [Government].

c. Identification of Tanks With Hazardous Waste Sludge and Residue

****
NOTE: Information on the hazardous waste characteristics of sludge in tanks should be provided by the activity. If not, sampling and analysis must be conducted during the 0 to 35 percent design stage to properly define scope and costs.
****

The following [tank is] [tanks are] known or suspected to contain hazardous wastes:

Tank No.	Product	Hazardous Waste, Status, Type, and Basis Known [or Suspect]
[1]	[MOGAS]	[Sludge and sandblast residue; ignitibility and lead]]

3.17 TEMPORARY CONTAINMENT OF EXCAVATED SOIL

Provide temporary containment area near the excavated area. Cover containment area with 0.75 mm 30 mil polyethylene sheeting. Place excavated soil on the impervious barrier and cover with 0.15 mm 6 mil polyethylene sheeting. Provide straw bale berm around the outer limits of the containment area and cover with polyethylene sheets. Secure edges of sheets to keep the polyethylene sheeting in place.

3.18 EXCAVATION

[Provide Contracting Officer with written documentation, no later than 30 days before work begins, that proper State or local authorities have been notified.] Notify the Contracting Officer at least 48 hours prior to start of tank removal work. Stage operations to minimize the time that tank excavation is open and the time that contaminated soil is exposed to the weather. Provide protection measures around the excavation area to prevent water runoff and to contain the soil within the excavation area.

3.18.1 Excavation Procedures

****
NOTE: Acceptable levels of contaminations are dependent on regulations applicable to the location where tanks and piping are being removed. Specifier must verify acceptable levels.

For some locations, such as a contaminated site scheduled for site remediation, it may be permissible to use contaminated soil materials for backfill in tank and piping excavations. Specifier shall get approval from local regulating authority before using contaminated soil materials.

If contaminated soil materials are approved for

backfill, retain first bracketed sentence and delete the second and third bracketed sentences.

****

Excavate as required to remove tanks and piping. Place soil removed from the excavation in a temporary containment area. Collect and temporarily store water runoff from stockpiled soils. [Contaminated soil materials may be used as backfill for tank and pipe excavations.] [To determine soil contamination levels, continuously monitor soil materials excavated to remove tanks with an OVA/FID capable of detecting volatile organic vapors to a minimum of one ppm. Contaminated soils with OVA/FID readings of [10] [_____] ppm or greater shall be further tested for TPH and BTEX as specified herein. Soils with OVA/FID readings less than [10] [_____] ppm may be used as clean backfill.] [Contaminated soils shall be disposed of in accordance with Federal, State, and local regulations.]

3.18.2 Excavation Methods

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NOTE: Acceptable levels of contamination are dependent on regulations applicable to the location where tanks and piping are being removed. Specifier must verify acceptable levels.

****

Select methods and equipment to remove soil to minimize disturbance to areas beyond the limits of the excavation area. Material that becomes contaminated as a result of the Contractor's operations shall be removed and disposed of at no additional cost to the Government. Where excavation extends into groundwater levels, dewatering methods shall be employed on a localized basis to facilitate excavation operations. Water generated by dewatering during excavation required for removal of tanks or piping, surface water collected in open excavation, or water used for washing equipment or existing concrete or bituminous surfaces, shall be collected and tested in accordance with EPA 530/F-93/004 and EPA 600/4-79/020 and state or locally required analyses. Water that contains contaminants above locally acceptable levels shall be disposed of in accordance with Federal, State, and local regulations. Non-contaminated water may be disposed of on-site.

3.18.3 Structures

During excavation activities, if asphalt pavement, concrete slabs, or other structures are encountered, remove and wash with high pressure water cleaning equipment. Remove and dispose of the pavement, concrete, and other structures as specified in Section 02220 DEMOLITION.

3.19 TESTING

[3.19.1 Stockpiled Soils

****

NOTE: Acceptable levels of contamination are dependent on regulations applicable to the location where tanks and piping are being removed. Specifier shall verify acceptable levels.

For some locations such as a contaminated site scheduled for site remediation, it may be

permissible to use contaminated soil materials for backfill in tank and piping excavations. Specifier shall get approval from local regulating authority before using contaminated soil materials.

If contaminated soil materials are approved for backfill, delete paragraph.

****

Soils with OVA/FID readings of [10] [_____] ppm or greater shall be further sampled and tested for TPH and for BTEX in accordance with EPA 530/F-93/004 and EPA 600/4-79/020, and for toxicity characteristic leaching procedure (TCLP) for lead if leaded gasoline was stored in or near the underground tank being removed. For stockpiled soils, provide a minimum of one test for every [77] [_____] cubic meters [100] [_____] cubic yards for TPH, and one test for every [77] [19] [_____] cubic meters [100] [25] [_____] cubic yards for BTEX and TCLP. Soils that contain [50] [_____] ppm or more TPH, [10] [_____] ppm or more BTEX or have TCLP reading of [10] [_____] ppm lead or virgin petroleum products are considered contaminated materials. Soils which are less than the above may be used as clean fill. Furnish results to the Contracting Officer within 24 hours after the results are obtained.

]3.19.2 Testing Under Tank After Removal of Tank

****

NOTE: Testing requirements are dependent on regulations applicable to the location where underground tanks and piping are being removed. Specifier must verify number of tests required and required location for tests.

****

If tank is [6] [_____] m [20] [_____] feet or less in length, take [two] [_____] samples. Each sample shall be [0.60] [_____] m [2] [_____] feet from each end of the tank and [0.60] [_____] m [2] [_____] feet below the bottom of the excavation. If the tank is greater than [6] [_____] m [20] [_____] feet, take [three] [_____] samples. Two samples shall be [0.60] [_____] m [2] [_____] feet from each end of the tank and [0.60] [_____] m [2] [_____] feet below the bottom of the excavation. A third sample shall be taken from the middle of the tank area and [0.60] [_____] m [2] [_____] feet below the bottom of the excavation. Samples shall be analyzed for TPH, BTEX, and TCLP. Sampling and analysis shall conform to standards specified above for stockpiled soils. Soil shall be sampled and analyzed for TPH, and for BTEX in accordance with EPA 530/F-93/004 and EPA 600/4-79/020, and a TCLP test if soil is contaminated with leaded gasoline. Soils that contain [50] [_____] ppm or more TPH, [10] [_____] ppm or more BTEX, or have TCLP reading of [10] [_____] ppm of lead or virgin petroleum products are considered contaminated materials. Soils which are less than the above may be used as clean fill. Furnish results to the Contracting Officer within 24 hours after the results are obtained. Along with the results furnish a sketch showing underground tank, sampling location, and extent of excavations.

3.19.3 Testing Along Piping

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NOTE: Testing requirements are dependent on regulations applicable to the locations where tanks and piping are being removed. Specifier must verify

number of tests required and required location for tests.

****

For every [7.5] [_____] m [25] [_____] linear feet of product delivery piping, [for every change in direction,] [and at every mechanical joint] take [one] [_____] soil sample and analyze for TPH, BTEX, and TCLP. Sampling and analysis of soil materials shall conform to standards specified above in the paragraph entitled "Testing Under Tank After Removal of Tank."

3.20 WATER DISPOSAL

Dewatering will be permitted only with approval of Contracting Officer. Water generated during removal of tanks and piping shall be stored and tested. If contaminated, transport and dispose of water in [an EPA approved disposal site in compliance with Federal, State, and local requirements] [accordance with Federal, State, and local requirements]. Non-contaminated water may be disposed of on-site.

3.21 SECURING TANK SYSTEM

a. API RP 1604. Remove stored product from the tank using one of the following methods:

(1) Drain product lines into the tanks.

(2) Remove liquids and sludge from tanks. Hydrocarbon products, sludge, and wastewater recovered from the tanks shall be the property of the Contractor and shall be disposed of in [an EPA approved site in compliance with Federal, State, and local requirements] [accordance with applicable Federal, State, and local requirements].

(3) Remove flammable or combustible liquids.

b. Cap the fill pipe, gage pipe, tank vapor recovery fitting, and vapor return.

c. Cap the product piping at the service station island, at associated buildings, or where indicated if pumps are removed; [or leave pumps connected and locked].

d. Disconnect electric power to the pumps.

e. Leave vent piping open.

3.22 REMOVAL OF UNDERGROUND TANKS [ANCHORS,] [SLABS,] AND ASSOCIATED PIPING

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NOTE: Notification of tank closure procedures may vary by State. Consult and abide by closure procedures for the appropriate State.

****

3.22.1 Preparation

API RP 1604. Remove the fill pipe, gage pipe, vapor recovery truck connection, submersible pumps, and drop tube. Cap or remove non-product

piping, except vent piping. Plug tank openings so that vapors will exit through vent piping during the vapor-freeing process.

3.22.2 Purging

Remove flammable vapors in accordance to API RP 1604. Tanks shall be certified as "vapor free" prior to further work.

3.22.3 Cleaning and Testing

Cleaning and tank atmosphere testing shall be in accordance with [Section 13219 CLEANING PETROLEUM STORAGE TANKS,] [specification,] and with API RP 1604. Distribution (product delivery) piping shall be cleaned and removed [or the piping shall be cleaned, filled with concrete, and abandoned in place]. Test the tank atmosphere and the excavation area for flammable or combustible vapor concentrations, with a combustible gas indicator until the tank is removed from the excavation and from the site.

3.22.4 Tank Removal

****
NOTE: Contractor shall provide the Contracting Officer with disposal documentation in accordance with EPA, Federal, State, and local regulations.
****

Plug or cap accessible holes. One plug shall have a minimum 3 mm 1/8 inch vent hole. Excavate around the tank to uncover it for removal. Remove the tank from the excavation and place it on a level surface and render it useless in accordance with API RP 1604. Provide warning labels on tank if tank contained leaded fuels. Warning shall read as follows or similar wording:

"TANK HAS CONTAINED LEADED GASOLINE

NOT VAPOR FREE

NOT SUITABLE FOR STORAGE OF FOOD OR LIQUIDS INTENDED FOR HUMAN OR ANIMAL CONSUMPTION

DATE OF REMOVAL: MONTH/DAY/YEAR"

Make tank unusable for future use, then transport and dispose of tank [at an EPA approved disposal site in accordance with applicable local, State, and Federal regulations] [in accordance with Federal, State, and local regulations].

3.23 INSPECTIONS

Arrange for and perform required inspections. Provide copies of inspections to Contracting Officer.

3.24 CLOSURE REPORT (SITE ASSESSMENT REPORT)

Provide the Contracting Officer a Site Assessment Report in a single binder notebook which shall contain a collection of reports, records, starting and ending dates of reporting period, inspections, documentation, and data as follows:

a. Complete UST Notification Form (within 30 days of closure).

b. Description of work, including removal procedures, number of tanks removed, identification of tanks removed and disposed of, cubic yards of excavated soil, location of disposal sites, and dates of excavation.

c. Site plan, including location of tanks and piping, limits of excavation, sampling points, results of excavation, and depths.

d. Laboratory testing reports, copies of data and test results from testing laboratory.

e. Tank disposal paperwork, contaminated soil disposal paperwork, and contaminated water disposal paperwork.

f. Certifications required by implementing agency.

g. Building permit[, inspection permits,] and other permitsrequired for underground tank removal, notifications, and inspection reports.

[h. Cumulative quantities of soil excavated, beginning with start date for each tank and associated piping.]

3.25 SPILLS OF CONTAMINATED SOILS

Use appropriate vehicles and operating practices to prevent spillage or leakage of contaminated materials from occurring during operations. Inspect vehicles leaving the area of contamination to ensure that no contaminated materials adhere to the wheels or undercarriage.

3.26 BACKFILL

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NOTE: LANTNAVFACENGCOM projects should use LANTNAVFACENGCOM Section 02315N in lieu of Section 02300 below.

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Provide backfill, compaction, grading, and seeding in accordance with Section 02300 EXCAVATION. [Line the excavation with two plastic sheets before backfilling.]

-- End of Section --