



The City of Danbury, CT

Sealed Bid Request

BID TITLE: Bid # 09-09-10-02 "Roberts Ave School Underground Storage Tank Removal"

DATE BID OPENING: Tuesday, September 29, 2009

TIME: 10:00 AM

LOCATION: Purchasing Department, City Hall, 155 Deer Hill Avenue, Danbury, CT 06810

Bid Bond or Certified Check required with bid: 5%

Performance Bond required if awarded bid: Not Applicable

The City of Danbury reserves the right to accept or reject any or all bids or any portion thereof, to waive technicalities, and to award the contract as deemed to best serve the public interest.

Omit State and Federal Taxes

All prices must be FOB Destination (Danbury, CT) unless otherwise specified

Dated in Danbury: September 8, 2009

Purchasing Agent

Charles J. Volpe, Jr., CPPO, CPPB

Pursuant to and in accordance with the Invitation to Bid, Instructions to Bidders, and specifications relating thereto, the undersigned offers to furnish all materials, labor, equipment, tools, supplies and other facilities to remove and dispose of one (1) 5,000-gallon fuel oil tank at Roberts Avenue School, 11 Dr. James roach Way, Danbury, CT as described in the specifications for the price stated below:

See Proposal Page

Work shall begin within _____ days after receipt of order and be completed within _____ days thereafter.

Bid Security (5% of Lump Sum Total, bond/check) in the amount of _____ enclosed.

Company: _____

Phone: _____

Address: _____

Fax: _____

E-mail: _____

Submitted By (signature): _____

Payment Terms: _____

Signed By (print/type): _____

Title: _____

Dated: _____

CITY OF DANBURY
ROBERTS AVENUE SCHOOL
UNDERGROUND STORAGE TANK REMOVAL
DANBURY, CONNECTICUT

CONTRACTOR NAME: _____

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT COST	TOTAL COST
1	MOBILIZATION/DEMOLITION EMPTY, REMOVE AND DISPOSE OF 5,000-GAL UST SYSTEM, PIPING AND APPURTENANCES INCLUDING TOP SLAB, SIDEWALK, CURB AND PAVEMENT. RESTORE SITE: REPLACE SIDEWALK, CURB AND PAVEMENT. FURNISH, PLACE AND COMPACT CLEAN SOIL AND 6-INCH THICK LAYER OF TOPSOIL AND SEED.	Lump Sum	Lump Sum	\$
2	TRANSPORT AND DISPOSE OF TANK CONTENTS OFF-SITE (INCL. WASTE CHARACTERIZATION SAMPLING)	Lump Sum	Lump Sum	\$
3	TRANSPORT AND DISPOSE OF TANK BOTTOMS AND SLUDGE OFF-SITE (INCL. WASTE CHARACTERIZATION SAMPLING)	200 GAL	\$	\$
4	OVER-EXCAVATE CONTAMINATED SOIL BEYOND LIMITS OF EXCAVATION REQUIRED TO COMPLETE ITEM NO. 2 AND STOCKPILE SOIL (OPTION)	2-55 GAL DRUM	\$	\$
5	LOAD OUT, TRANSPORT OFF-SITE AND DISPOSE OF FUEL OIL CONTAMINATED SOIL (OPTION)	100 TON	\$	\$
6	REMOVE AND DISPOSE OF OFF-SITE TANK BOTTOM SLAB IF REQUIRED TO REMOVE CONTAMINATED SOIL (OPTION)	100 TON	\$	\$
7	FURNISH, PLACE AND COMPACT IMPORTED CLEAN SOIL AS REQUIRED TO BACKFILL EXCAVATED CONTAMINATED SOIL BEYOND LIMITS OF EXCAVATION REQUIRED FOR ITEM NO. 2 (OPTION)	Lump Sum	Lump Sum	\$
8	FURNISH, PLACE AND COMPACT 6-INCH THICK LAYER OF TOPSOIL AND SEED IN AREA REQUIRED FOR REMOVAL OF CONTAMINATED SOIL AND BEYOND LIMITS OF RESTORATION REQUIRED TO COMPLETE ITEM NO. 2 (OPTION)	150 TON	\$	\$
9	RESTORE ASPHALT PAVEMENT IN AREA REQUIRED FOR REMOVAL OF CONTAMINATED SOIL AND BEYOND LIMITS OF RESTORATION REQUIRED TO COMPLETE ITEM NO. 2 (OPTION)	2000 SF	\$	\$
10A	RESTORE CONCRETE SIDEWALK WITH BITUMINOUS CONCRETE IN AREA REQUIRED FOR REMOVAL OF CONTAMINATED SOIL AND BEYOND LIMITS OF RESTORATION REQUIRED TO COMPLETE ITEM NO. 2 (OPTION)	200 SF	\$	\$
10B	RESTORE CONCRETE CURB WITH BITUMINOUS CONCRETE IN AREA REQUIRED FOR REMOVAL OF CONTAMINATED SOIL AND BEYOND LIMITS OF RESTORATION REQUIRED TO COMPLETE ITEM NO. 2 (OPTION)	50 SF	\$	\$
10C	COLLECT AND ANALYZE POST-EXCAVATION SOIL SAMPLE FOR VOCs	10 LF	\$	\$
11A	COLLECT AND ANALYZE POST-EXCAVATION SOIL SAMPLE FOR SVOCs	1 EA	\$	\$
11B	COLLECT AND ANALYZE POST-EXCAVATION SOIL SAMPLE FOR ETPH (OPTION)	1 EA	\$	\$
11C	COLLECT AND ANALYZE POST-EXCAVATION SOIL SAMPLE FOR ETPH (OPTION)	10 EA	\$	\$
TOTAL COST = \$				

Notes:

- (1) The above quantities are estimates and Contractor will be paid for actual quantities.
 - (2) The above bid items shall include all cost associated with completing the work specified in the Technical Specifications for this project.
 - (3) The bid price for each bid item shall include all cost associated with the individual bid item.
 - (4) The bid price shall include payment for any and all items required to complete the specified work to the satisfaction of the City and which are not included in other payment items.
- The bid amount for this item shall not exceed 5% of the Total Cost. Payment for up to 25% of the amount of the bid shall be due upon satisfactory mobilization to the site.
Payment for the remainder 75% shall be withheld until satisfactory substantial completion is achieved.

EXCEPTIONS

Page #	Paragraph	Item Description & Alternate Proposal

REFERENCES

List Below at least five (5) references for similar projects, including all information requested. THIS PAGE MUST BE COMPLETED. If Bidders wish to keep their references confidential, this page may be removed from the bid package and submitted with the bid in a separate sealed envelope marked "REFERENCES – CONFIDENTIAL". The City of Danbury is not responsible for maintaining the confidentiality of the references unless this procedure is followed.

1) Client _____
Project Address _____
Approximate \$ Value _____ Date: Started _____ Completed _____
Contact: Name _____ Telephone # _____

2) Client _____
Project Address _____
Approximate \$ Value _____ Date: Started _____ Completed _____
Contact: Name _____ Telephone # _____

3) Client _____
Project Address _____
Approximate \$ Value _____ Date: Started _____ Completed _____
Contact: Name _____ Telephone # _____

4) Client _____
Project Address _____
Approximate \$ Value _____ Date: Started _____ Completed _____
Contact: Name _____ Telephone # _____

5) Client _____
Project Address _____
Approximate \$ Value _____ Date: Started _____ Completed _____
Contact: Name _____ Telephone # _____

Company

Bid Title _____

Street

Bid # _____

City, State, Zip

Telephone #

SPECIFICATIONS

WORK TO BE DONE

This contract includes, but is not limited to, the supplying of all materials, labor, equipment, tools, supplies and other facilities to remove and dispose of one (1) 5,000-gallon fuel oil tank at Roberts Avenue School, 11 Dr. James Roach Way, Danbury, CT as described in these specifications, apparent from visit to site or reasonably inferred from either.

VISIT TO SITE

The contractor shall visit the work site, take all measurements, note all conditions, and fully acquaint himself with the conditions relating to construction and labor so that he may fully understand the facility, difficulty and restrictions attending the execution of the work under this contract.

The contractor shall thoroughly examine and be familiar with the specifications. The failure or omission of the contractor to receive or examine any form, instrument or addendum, or other document, or to visit the site and acquaint himself with conditions there existing, shall in no way relieve him from any obligation with respect to this contract, and shall not entitle him to any extra compensation.

PERMITS

The contractor shall obtain and file all necessary and required permits, notifications, etc. ***There is no permit fee required.***

RUBBISH AND DEBRIS

The contractor shall remove from site and legally dispose of all removed materials, debris, etc. and clean the effected area as work progresses and upon completion of project.

PROTECTION AND DAMAGE

The contractor shall, at all times, properly protect City structures, equipment, grounds, employees and public from harm and damage by providing sufficient barricades, signs, etc.

COMPLETE JOB INTENDED

The contractor shall provide a complete job in all respects. Any work not specifically mentioned in the specifications, but obviously required for a complete and workmanlike job shall be deemed to have been included at no additional cost to the City.

INSTRUCTIONS TO BIDDERS

Sealed bids will be received at the Office of the Purchasing Agent, 155 Deer Hill Avenue, Danbury, CT 06810 until the time and date specified on the cover sheet. Bids received later than the time specified will not be accepted. Amendments to or withdrawal of any section of the submitted bid received later than the time & date set for the bid opening will not be considered. Bid proposals must remain in effect for a minimum of 30 days unless otherwise noted elsewhere in the bid specifications.

BID DOCUMENTS: are available upon receipt of this invitation (if not attached) over the internet at the City's website: www.danbury-ct.gov. Adobe Acrobat reader is required to view this document. If you do not have this software you may download at no cost from Adobe at <http://www.adobe.com>. Businesses without internet access may obtain a copy of the bid by contacting the Purchasing Agent's Office, City Hall, 155 Deer Hill Avenue, Danbury, CT 06810, (203) 797-4571.

BID BONDS: if applicable, shall be in the amount of 5% of the total bid made out in favor of the City of Danbury and issued by a Surety company acceptable to the City of Danbury, and must accompany each bid. A certified check in the same amount may be submitted in lieu of the bid bond. Bids submitted without Certified Check or Bid Bond will not be accepted. The City of Danbury will not be held liable for the accrual of interest on any check held by the City in conjunction with this bid. All checks or bid bonds will be refunded to the unsuccessful bidders after award of the bid. The deposit check or Bid Bond of the successful bidder will be held in escrow until such time as the City determines that the bidder has or will meet their obligations as stated by the bid. If the bidder fails or refuses within a reasonable time after due notice that the contract has been awarded, to execute the same, an amount representing a loss to the City by reason of such failure shall be retained and paid into the City treasury.

REPLIES: whether bid or no bid, must have the bid number clearly identified on the outside of the envelope. Bidders not marking the envelopes with the Bid number and date/time of opening on the envelope will have no recourse against the City of Danbury or its employees. Such bidders run the risk of the bid being opened prior to the scheduled Bid Opening time. Once opened such bids are public record. Any alleged oral agreement made by a bidder or contractor with any agency or employee of the City of Danbury will be disregarded.

FREIGHT: Prices quoted shall be net delivery **F.O.B. Danbury, CT**. All bid prices must include prepaid delivery, assembly, and/or installation (ready for operation and/or use) of all equipment and/or materials to the individual locations(s) as designated by the Purchasing Agent. All bid prices are to be submitted on the sheets provided for this bid. Quantities and pricing are to be listed in accordance with these sheets.

QUESTIONS: Request for interpretation of any portion of the bid may be made by telephone to the Purchasing Agent at 203-797-4571. All replies will be given verbally and a copy of any such inquiry and advice (if deemed vital to the bid by the Purchasing Agent) will be made available to each prospective bidder in the form of an addendum. Bidder should check the City's website for addendums/updates 48 hours prior to the bid opening.

IDENTICAL BIDS: In the event of receipt of identical bids as to offerings, delivery, service, content, price, etc., the bid will be awarded in accordance with the information contained in the bid document, based on first received as to date and time of receipt of the bid.

NON-COLLUSION STATEMENTS: In order for bids to be considered, a non-collusive statement must be submitted with the bid. A sample non-collusive bid statement is attached. Bidders may elect to submit their own notarized non-collusion statement.

CONDITIONAL, QUALIFIED OR NON-RESPONSIVE BIDS/PROPOSALS: All bids/proposals shall be submitted in the form and manner as indicated by the bid documents and bid forms. Any proposal which is not submitted in the form and manner indicated by the bid documents or which contains information, statements, conditions, or qualifications which place conditions or qualifications on the proposal submittal for purposes of making an award, or which alter any proposal terms, conditions, specifications, or forms, which has not been previously approved by written addendum from the Purchasing Agent, or which does not meet legal requirements, shall be declared as a qualified, conditional, or non-responsive proposal and shall be rejected without further consideration. Any proposal response that does not fully respond to and comply with all detailed specifications or requests for information, including execution of proposal forms, may be declared "non-responsive" and recommended for rejection. The City of Danbury shall not be responsible for any errors or omissions by the Offeror.

CONTRACT: A response to an Invitation to Bid (ITB) is an offer to contract with the City of Danbury based upon the terms, conditions and specifications contained in the City's ITB. Bids do not become contract unless and until executed by the City.

TAXES: Omit all State and Federal taxes from the bid. The City of Danbury is exempt from the payment of taxes imposed by Federal government and/or the State of Connecticut.

OWNERSHIP OF DOCUMENTS: All documents, including drawings, plans, specifications, videotapes, or other documents or maps prepared by a contractor pursuant to any agreement arising from this bid shall become the property of the City of Danbury upon completion of the project or any termination of the project prior to the completion of the project.

LEGALITY: All bid offers for commodities, work, materials, or equipment hereunder shall comply in every respect with the laws, specifications and requirements of the State of Connecticut and the Federal government. Contractor will comply with the provisions of the Connecticut Fair Employment Practices Law.

LANGUAGE DISPUTES: Any disputes over the interpretation and/or meaning of any individual terms, conditions, and/or language within this Request for Bid/Proposal document shall be resolved by and at the sole discretion of the City Purchasing Agent in a manner that is in the best interest of, and best advantage to, the City of Danbury, provided any such interpretation shall be reasonable.

RESPONSIBILITY: The Contractor shall save the City of Danbury, its agents or employees, harmless from liability of any kind for all claims of labor payments and materials furnished for this work, and for use of any copyrighted or uncopyrighted composition, secret process patented or unpatented invention, article or application furnished or used in the performance of the contract of which the Contractor is not the patentee, assignee, or licensee. The successful bidder agrees to indemnify and hold harmless the City of Danbury, its agents and employees from any and all liability arising out of the successful bidders' operations, functions and/or supplied items.

The successful bidder, vendor, and/or contractor must protect all property of the City of Danbury (i.e. all floors, furniture, grass, land, etc.) from injury or other damage. Any damage so caused must be repaired by contractor/vendor at his/her own expense. At the completion of work, the vendor and/or contractor must remove from the premises all surplus materials and all debris created by same. The premises must be left in a broom-clean and finished condition acceptable to the owner or its agents. Successful bidder will furnish adequate protection from damage for all work and to repair damage of any kind, for which he or his workers are responsible, to the premises or equipment to his own work or to the work of other contractors.

DEFAULT: It shall be understood that a bidder supplying equipment and/or supplies will be considered to be in default if/when they have not delivered the item(s) within the time constraints listed in this document or subsequent purchase orders and/or contract. Bidders providing a service and/or construction will be considered to be in default if/when they have failed to meet the completion date set forth in this document or its subsequent contract and/ or purchase orders and/ or they have ceased work on the project for a period of fifteen (15) working days, cumulative or consecutive.

TRADE NAME REFERENCES: Any and all references to trade names, types, styles, model numbers, stock numbers or catalogs are intended to be descriptive only and not restrictive. The intention is to indicate to bidders the type and quality of the articles and or materials that will be satisfactory. When reviewing the information, it is the responsibility of the prospective bidder to inform the City of Danbury of any discrepancy that is found (i.e. number listed does not fit item description). Bids received on other makes or models with reference to other catalogs will be considered. The bidder is to clearly state in his/her bid exactly what he/she intends to furnish and to furnish with his/her bid a cut or illustration or other descriptive matter that will clearly indicate and give specification as to the product he/she proposes to furnish. Where a bid is offered on an item other than the trade standard used in the specification the item should be identified on the bid form by entering the MAKE, TRADE NAME AND MODEL NUMBER. It is understood that any substitute and/or alternate that might be offered are guaranteed by the bidder to be of equal or better quality than is referenced in the bid. The item(s) must be equivalent as to function, basic design, type and quality of material, method of construction and any required dimensions. It shall be further understood that during original as well as subsequent shipments spot checks will be performed to insure that the items received are in fact the items offered in the bid. When received, should items/materials prove to be different from what was bid in any way, the bidder agrees to the return of the items and agrees to supply correct items (per bid specifications) at the bidders expense. In the event this return action is required, it is understood the bidder may be subject to removal from the City's approved bidder's list. Bidders are cautioned that surplus, seconds, factory rejects, floor samples, close outs or distressed items are not acceptable and shipments of substitutions, defective or shop-worn equipment will be returned for a full refund at the vendor's expense.

QUANTITY: The quantities and/or materials listed in the specifications/bid sheets may be increased or decreased by the City of Danbury or its designated representative based on actual need at the time the purchase orders are placed.

QUALITY: The City of Danbury reserves the right to reject any proposal in whole or in part offering equipment and/or materials and/or services that in its or its agent's opinion does not meet the quality standards desired. Such decision is final and not subject to further recourse by the bidder.

SAMPLES: forwarded by the bidder will be returned to the bidder at his request and expense. Requests for return of samples must be submitted in writing at the time the sample is given to the City of Danbury or its representative. Samples not returned to the bidder will be disposed of at the discretion of the City of Danbury or its designated representative. Large pieces of equipment submitted for evaluation and inspection are to be picked up by the bidder within 30 days of the bid opening date. The City of Danbury or its designated agent will dispose of items not picked up within 30 days.

AWARD: It is the intent to award this bid in its entirety to one bidder, however, the City reserves the right to award the bid line item by line item if it is deemed in its best interest to do so. In addition, bidders are advised that should budgetary constraints dictate, part, and/or all the items in this bid may be rejected. This decision shall be considered final and not subject to recourse by the bidder.

In determining the lowest or highest responsible bidder, the City reserves the right to consider, in addition to price, the compatibility, quality, cost of maintenance and availability of parts, experience and/or past performance of the bidder, sufficiency of the financial resources of the bidder as relates to the offerings as well as the ability of the bidder to provide future maintenance and service.

Documents previously submitted to the City of Danbury will not be considered as satisfying submission requirements for this bid.

No bidder can claim any contract rights by virtue of bidding alone. Awarding of the contract means actual written notice by letter and a properly executed purchase order to the bidder or bidders to whom the bid has been awarded.

OPTION TO RENEW: This bid, once awarded, may be extended by mutual consent for up to two (2) additional one-year periods.

BONDS (if applicable):

Performance Bond: The Contractor, when awarded the Bid, must submit within 10 days of the bid award, and before beginning the work or signing a contract, a Performance Bond amounting to one hundred percent (100%) of the total amount of the bid. Said performance bond must be in favor of the City of Danbury and executed by a surety company authorized to do business in the State of Connecticut. The City of Danbury reserves the right to retain the Bid Bond or Certified Check on bids below \$25,000.00 as a Performance Bond. On bids of \$25,000.00 or more the Performance Bond may be furnished in the following manner: Performance Bond, Surety Bond, Certified Check, Bank Check, Savings Account in both the City & Vendor's name or Letter of Credit.

Maintenance Bond: The contractor, upon signing a contract and before beginning the work, must submit to the Purchasing Agent a Maintenance Bond to guarantee that if defects in either labor or materials become evident within one year after completion and acceptance of work will be fixed at no cost to the City of Danbury. The maintenance bond may be included as a portion of the Performance Bond or as a separate bond. If it is issued as a separate bond said maintenance bond must be in favor of the City of Danbury and issued by a surety company licensed and authorized to do business in the State of Connecticut.

Labor and Material Bonds: Pursuant to Section 49-41(a) of the Connecticut General Statutes, as may be amended from time to time, a project for the construction, alteration or repair of any public building or public work, where the contract award amount is in excess of \$100,000.00, a labor (payment) and material bond in the full amount of the contract must be furnished to the City with a surety or sureties satisfactory to the City. Said bonds shall be filed with the Purchasing Agent on or before the award date. Any such bond shall have as principal the name of the person awarded the contract.

Consent for Release of Final Payment: AIA Document G707 & G706, or equivalent, must be signed and returned by the Surety Company before final payment will be released to the contractor.

INSURANCE:

Certificate of Insurance: All insurers must have an AM Best rating of A-V11 or better and admitted to do business in the State of Connecticut. All insurance policies must include a Waiver of Subrogation whereby the

insured waives its right to subrogate against the City, its subsidiaries, employees, volunteers, directors and officers. Proof of proper insurance coverage, Workers Compensation Insurance, Liability and Property damage, and Vehicle Insurance shall be filed with the City of Danbury Purchasing Agent within 10 days after the award of the bid. The Certificate of Insurance must name the City of Danbury, 155 Deer Hill Avenue, Danbury, CT 06810, its subsidiaries, employees, volunteers, directors & officers as the "additional insured" and filed with the Purchasing Agent prior to commencement of work. Renewal Certificates of Insurance must be mailed to the Purchasing Agent 10 days prior to the expiration of the required coverage.

Workman's Compensation Insurance: The Contractor shall take out and maintain during the life of the contract adequate Workman's compensation Insurance for all the employees employed on said work. In case any class of employees or subcontractors is engaged in hazardous work under the contract at the site of the work is not protected under the Workman's Compensation statute, the contractor shall provide Workman's Compensation Insurance for the protection of employees not otherwise protected.

Liability Insurance: The Contractor shall take out and maintain for the life of the contract, adequate public liability insurance insuring against liability to persons not employed by him in an amount of not less than \$1,000,000.00 for injuries, wrongful death to any one person and subject to the limit for each person in an amount of not less than \$2,000,000.00 on account of one accident and property damage insurance in an amount of not less than \$1,000,000.00.

Vehicle Insurance: The Contractor shall take out and maintain for the life of the contract, adequate automotive/truck or other vehicle insurance with minimum coverage of \$1,000,000.00 each for both liability and under insured and uninsured motorist as well as any other coverage required by the State of Connecticut or requested by an official of the City of Danbury as relates to the contract.

Additional Security: The City of Danbury reserves the right to require successful bidders to enter into and such security arrangements as are deemed necessary to protect the City of Danbury, its property and goods.

PERMITS: The successful bidder agrees to obtain all work/building permits as might be required. The cost of obtaining such permits is the responsibility of the bidder. The City of Danbury reserves the right to waive local permit fees. In addition, it shall be understood that where property lines are to be considered, bidders are to verify said lines and measurements with proper City Officials prior to commencement of work. It is to be understood that any/all specifications and/or plans or drawings contained in or developed as a result of the bid process are and shall be presented subject to the approval of the City of Danbury planning, zoning and building officials and that awards made prior to said approval are subject to cancellation.

PREVAILING WAGE: When the State of Connecticut Prevailing Wage Rate is applicable to the bid, the successful bidder must submit a Certified Payroll Record prior to any request and/or invoice for payment.

SAFETY:

Machine and/or Equipment Hazard Assessment and Safety Training: Upon delivery of machines and/or equipment, suppliers are required to provide to the end-user employees, at no additional charge, a training session, which will emphasize hazard awareness and assessment and the safe use of such machinery/equipment.

Occupational Safety and Health Act of 1970: Seller shall warrant that the machinery, equipment or other materials covered hereby shall upon delivery to the City of Danbury, be in compliance with the standards required by said Act and any updates as pertain to or reference said Act as well as the standards required by comparable State and local laws, if any, for such machinery, equipment or other materials in effect at the time of delivery.

Machines and/or Equipment Lockout/Tag out: In an effort to comply with OSHA's final rule on the control of hazardous energy sources, vendors must warrant that any and all machines and/or equipment as is covered under this bid will be supplied and/or installed equipped with lockout/tag out devices as prescribed by OSHA.

Toxic Substance Control Act (PL94-469): Seller warrants that each and every chemical substance constituting or contained in the products sold or otherwise transferred to the City of Danbury under this bid and subsequent purchase orders is not on the list of prohibited chemical substances compiled and published by the Administrator of the Environmental Protection Agency pursuant to Act PL94-469 and are otherwise in compliance with said Act.

Hazardous Materials: Any materials required by this bid and subsequent purchase orders that are hazardous under federal, state, or local statute, ordinance, regulation, or agency order will be packaged, labeled, marked and shipped by the seller to comply with all federal, state and local regulations then in effect including but limited to the provisions of the Hazardous Materials Transportation Act and Regulations promulgated there under and will further comply with any special requirements and any policies and procedures of the City of Danbury relating to the purchase of hazardous materials as might be noted on subsequent purchase orders or otherwise communicated to seller in writing.

Material Safety Data Sheets: Shall be provided by the Seller upon delivery to the City of Danbury of any goods having constituents listed in the following references - OSHA 1910, ACHIG Current Threshold Values, DOT HazMat Table 49, IARC Carcinogen List, National Toxicology Program Carcinogen List, and/or Radioactive Materials. These Material Safety Data Sheets must be consistent with and include information required by the OSHA Hazard Communication Standard published as 29 CFR 1910.1200, as the same may be amended or supplemented from time to time.

Asbestos: Bidders are advised that asbestos-containing material may be located in the boiler rooms, pipe tunnels, storage areas and various portions of City buildings. Before proceeding on any contractual work on City buildings or their interiors, it is mandatory that bidders familiarize themselves with the asbestos-containing material and that said material be considered as a health hazard and all precautionary measures according to the Ahera Rules & Regulations be observed. It is the bidder's responsibility to notify all employees and/or subcontractors of this notification.

EEO: The successful bidder shall provide any/all additionally required, affirmative action statements, fair employment plans and non-discrimination programs and statement as might be required by the City of Danbury. In connection with the execution of this bid, subsequent purchase orders and/or contracts, the seller shall not discriminate against any employee or applicant for employment because of age, race, religion, color, sex or national origin. Bidders must comply with all rules & regulations of the Department of Labor with regard to Equal Employment Opportunities as pertains to municipalities.

TERMINATION OF CONTRACT: Any contract entered into by the City and the successful bidder shall provide that the City may terminate the contract upon thirty (30) days notice to the bidder.

The City of Danbury reserves the right to award or reject any or all bids, or any portion thereof, to waive technicalities, and to award the bid and/or contracts to one or more bidders submitting essentially identical proposals and, that in the City's judgment, will best serve the public interest.

The terms and conditions of these "Instructions to Bidders" are made a part this bid.

SAMPLE FORM

Bid # _____

NON-COLLUSION AFFIDAVIT

STATE OF _____ COUNTY OF _____

I, _____ being first duly sworn, deposes and says that:

1. I am _____ of _____, the bidder that has submitted the attached request for bid for _____;
2. I am fully informed respecting the preparation and contents of the attached bid and of all pertinent circumstances respecting such bid;
3. Such bid is genuine and is not a collusive or sham bid;
4. Neither the bidder nor any of its officers, partners, owners, agents, representatives, employees or parties of interest, including this affiant, has in any way colluded, conspired, connived or agreed directly or indirectly with any other bidder, firm or person to submit a collusive or sham bid in connection with the work for which the attached bid has been submitted nor has it in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other bidder, firm or person to fix the price or prices in the attached bid or of any other bidder, or to fix any overhead, profit or cost element of the bid price or the price of any bidder, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the City of Danbury or any person interested in the proposed bid; and
5. The price or prices quoted in the attached bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the bidder or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

Signed _____

Title _____

Subscribed and sworn to before this

_____ day of _____, 20_____.

My commission expires _____

SAMPLE FORM

Bid # _____

- City
- Architect
- Contractor
- Surety
- Other

PROJECT/BID NUMBER:

TO: City of Danbury
 Attn: Purchasing Agent
 155 Deer Hill Avenue
 Danbury, CT 06810

CONTRACTOR: _____

In accordance with the provisions of the contract between the City of Danbury and the contractor as indicated above, the (insert name & address of Surety Co.)

_____, SURETY COMPANY on bond of

(insert name & address of Contractor) _____

_____, CONTRACTOR, hereby approves of the final payment to the Contractor, and agrees that final payment to the Contractor shall not relieve the surety Company of any of its obligations to the City of Danbury as set forth in the Surety Company's bond.

Subscribed and sworn to before this
 ____ day of _____, 20__

Notary Public

My commission expires _____

 Surety Company

 Authorized Representative's Signature

 Title

BID SUBMITTAL CHECKLIST

THE FOLLOWING ITEMS ARE TO BE INCLUDED WITH YOUR BID SUBMITTAL:

- BID COVER SHEET – WITH YOUR COMPANY INFORMATION COMPLETED
- PROPOSAL SHEET(S), IF SEPARATE FROM THE BID COVER SHEET
- EXCEPTIONS PAGE
- REFERENCES PAGE
- BID BOND
- CERTIFICATE OF INSURANCE – PLEASE REMEMBER THAT THE CITY OF DANBURY IS TO BE LISTED AS AN ADDITIONAL INSURED ON THE POLICY
- NON-COLLUSION AFFADAVIT

PLEASE NOTE REPLIES: whether bid or no bid, must have the bid number clearly identified on the outside of the envelope. Bidders not marking the envelopes with the Bid number and date/time of opening on the envelope will have no recourse against the City of Danbury or its employees. Such bidders run the risk of the bid being opened prior to the scheduled Bid Opening time. Once opened such bids are public record. Any alleged oral agreement made by a bidder or contractor with any agency or employee of the City of Danbury will be disregarded.

TECHNICAL SPECIFICATIONS FOR UNDERGROUND TANK SYSTEM REMOVAL AT ROBERTS AVENUE SCHOOL

Prepared for:

City of Danbury
Danbury, Connecticut

Prepared by:

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September 2009

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TECHNICAL SPECIFICATIONS

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SECTION 01000

GENERAL REQUIREMENTS

01001 DESCRIPTION

These General Requirements are hereby made a part of each and every Division and Section of the Specifications. The Contractor shall ensure that each and every subcontractor and material supplier is so informed. Additional provisions of the Specifications are supplementary, and in any case where general conditions are modified, remaining portions of the general article shall remain in effect. In addition, where there are differences in these specifications and the general conditions, the most stringent requirement, as determined by the Engineer, shall apply and remain in effect.

01010 SUMMARY OF WORK

- A. The project is titled, "Underground Tank System Removal" at the Roberts Avenue School. All work is located on property owned by the State of Connecticut. The 5,000-gallon No. 2 fuel oil tank system is located at the Roberts Avenue School, 11 Dr. James Roach Way.
- B. The work to be performed under this Contract consists of providing all equipment, power, labor, materials and incidentals to:
 - 1. Remove and dispose of one (1) 5,000-gallon No. 2 fuel oil underground storage tank (UST) system. The removal includes all contents and appurtenances associated with the tank system (manways, fuel piping, vent piping, tank and monitoring devices, monitoring wells, etc.) exterior to the adjacent building. Removal of overlying materials, including concrete top slab and asphalt paving and soil is required. Removal of the tank bottom concrete slab is not required unless explicitly directed by the Owner to address petroleum contaminated soils.
 - 2. Remove petroleum-impacted soil, if encountered, as directed by the Engineer. Provide specified

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backfill materials for former tank and piping locations and all soil removals. Restore pavement and landscaping as specified and complete additional work as specified.

C. All work shall be performed and completed in accordance with the requirements of 40 CFR Parts 260 through 268, 280 and 281, 29 CFR Part 1910.120, 29 CFR Part 1926, Regulations of Connecticut State Agencies (RCSA) Sections 22a-449(d)-1, 22a-449(d)-101, 22a-449(d)-107, and 22a-449(c)-100 through 119, and all other applicable state and federal regulations.

1. Contractor shall provide, prior to start of work, written documentation including copies of all permits verifying that all proposed off-site disposal locations for tank system, fuel and tank bottom sediment/sludge, petroleum impacted soils, piping and associated appurtenances, and other materials, are licensed and permitted in accordance with all applicable codes, laws, regulations, and standards. Approval from the Engineer and Owner of proposed disposal facilities shall be required prior to mobilization to the site.

2. At completion, Contractor to provide the Owner with written documentation for all waste, including, but not limited to, tank, tank contents, wastewater and soil disposed as follows: (a) Certificate of Destruction/Recycling/Treatment for tank and piping, fuel oil, sludge, waste liquid from tank cleaning, and petroleum impacted soils with quantities of product and materials disposed identified; (b) Bills of Lading for tank and piping; and, (c) Nonhazardous Waste Manifest for nonhazardous waste petroleum products (e.g., fuel oil), wastewaters from tank cleaning, and petroleum impacted soils.

D. The Contractor shall safely maintain the tank and piping excavations open for a period of time not to exceed ten (10) business days, unless otherwise directed by the Engineer, and shall collect and analyze post-excavation soil samples (each sidewall, bottom, pipe trench, and stockpile). Contractor shall utilize proper equipment (e.g., excavator bucket) to collect post-excavation bottom and sidewall soil samples. A minimum of five soil samples shall be collected from

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the tank excavation. Soil samples shall be collected from the tank bottom at each side and directly from the underside. In addition, one soil sample shall be collected per twenty linear feet of piping. All soil samples shall be analyzed for extractable total petroleum hydrocarbons (ETPH - CT Method) and in addition, select one soil sample (worst case) for volatile organic compounds (VOCs - EPA Method 5035/8260). If ground water is present in the excavation, sidewall samples shall be obtained at the water level and one water sample shall be collected. Post excavation sampling shall be performed in accordance with RCSA Sections 22a-449(d)-101 through 113 of the RCSA.

1. The Contractor shall not backfill excavations until directed in writing by the Engineer. Upon receipt of satisfactory post-excavation sample data, the Engineer will authorize the Contractor to backfill. The Contractor shall complete backfill of excavations in accordance with the requirements of the Specifications within five working days of authorization to proceed from the Engineer. Soil and clean debris approved by the Engineer for reuse on-site shall be placed below imported backfill where directed by the Engineer.
 2. The Contractor shall prevent surface waters from entering the tank and piping excavations at all times.
 3. The Contractor shall provide and maintain temporary 5-foot high orange construction safety fencing supported with steel posts surrounding open excavations until the excavations are completely backfilled. The fencing shall be on-site and ready for installation prior to commencement of any excavation activities.
 4. The Contractor will obtain the services of an independent, Connecticut certified testing laboratory for analysis of post-excavation soil samples.
- E. The Contractor shall furnish all labor, materials, equipment and tools necessary to perform the work as indicated in the Contract Documents and provide all

incidentals to complete the scope of work consistent with the specified intent.

- F. The Contractor shall prepare and issue all notifications, and apply for and obtain all permits and approvals required to complete the Work. All fees for licenses, permits, tolls, approvals, taxes, tariffs, surcharges, etc. shall be the responsibility of the Contractor.
- G. Unless an alternative construction sequence is approved in advance by the Engineer, the work should be carried out by the Contractor in the order listed below.
 - 1. Prior to ordering materials or starting construction on the project, the Contractor shall submit all appropriate shop drawings, material approval requests (e.g., clean backfill soil source and samples), information regarding proposed analytical laboratory and information regarding proposed disposal facilities, for the Engineer's review. Engineer's approval shall be required prior to start of work at the site.
 - 2. Locate, mark out and protect all underground utilities. Protect all existing lighting.
 - 3. Provide protective barriers around existing trees adjacent to the excavation area. Contractor shall exercise caution when working around trees to prevent damage. Prune trees to prevent damage to branches and facilitate the removal of the UST system and related work. Pruning shall only be performed under the direct supervision of the City of Danbury Tree Warden.
 - 4. Pump any remaining fuel from the tank system and piping into new DOT-approved drums or vacuum truck provided by the Contractor for off-site disposal. Clean all tank and piping interiors for off-site transport and disposal or salvage. The Contractor shall be responsible for the collection, analysis and cost of any waste characterization necessary for disposal.
 - 5. Remove and dispose of existing underground storage tank including top slab, vent and fuel piping, monitoring devices, manholes and other associated

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appurtenances. Groundwater monitoring wells shall be removed entirely with the removal of the UST.

6. Remove and stockpile petroleum-impacted soil, if encountered, as directed by the Engineer. Provide Engineer with access to the tank grave soil sidewalls and bottom for visual inspection of condition. Collection and analysis of soil samples is the responsibility of the Contractor. At the direction of the Engineer, stockpile any petroleum impacted soil and material on site for all required testing by the Contractor. Remove soil and material stockpiles from site for proper offsite disposal/treatment after receipt of soil test data and written approval from Engineer.
 7. Complete site restoration, landscaping and pavement replacement as specified and cleanup to restore area to a condition at least equal to that prior to the start of construction, unless specified otherwise herein.
- H. In the event that bituminous concrete is unavailable due to cold weather conditions, the Contractor shall restore paved surfaces with temporary pavement as specified in Section 9.23 of the Connecticut Department of Transportation Standard Specifications Form 816. The temporary pavement shall be maintained by the Contractor until such time as permanent pavement material becomes available at which time final restoration is to be completed by the Contractor.
- I. Contractor to pump any remaining petroleum product, remove sludge, clean tanks, and dispose of all materials and waste in accordance with all applicable state and federal regulations.
- J. The Contractor shall provide imported, free-draining materials and clean soil as backfill from an off-site source(s) that has been approved by the Engineer. The Contractor may use as backfill suitable excavated material provided it is free of contaminants, organic materials and debris. However, all reuse of existing site materials for backfill must be approved by the Engineer. Provide and place additional free draining materials and clean soil as needed and in accordance

with the specifications. Restore surfaces as specified. Existing material may not be used as backfill until excavation from which fill was removed has been sampled and analyzed and authorization to backfill the excavation has been issued by the Engineer. Contaminated, hazardous or otherwise regulated material may not be used as backfill.

- K. The Contractor should note that the above summary is not complete in every detail of work required.
- L. The Contractor will be held to have examined the work site and to have satisfied himself as to the conditions surrounding the premises as no allowance will be made for failure on his part to do so. The submission of a proposal by the Contractor will be construed as acceptance, by the Contractor, of the specifications as sufficient to enable his supplying the detail of all work contemplated hereunder, all to the approval of the Engineer, and without extra charge. Insofar as possible, the Contractor, in carrying out the Work, must employ such methods and means as will not cause the interruption of or interference with the work of any other Contractor, nor with the normal routine activities at the facility except as otherwise specified herein.
- M. State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction Form 816 is referenced for technical requirements for materials and installation. All Form 816 work shall be included in the Contract at no extra cost to the City. Form 816 basis of payment are excluded from this Contract.

01011 EXAMINATION OF SITE

- A. The specifications have been prepared to provide guidance to the Contractor on the work required. Prior to bidding, all contractors are advised to examine the sites. Failure to visit the sites and note all conditions will in no way relieve the Contractor from completing the Work.

- B. Subsequent to the award of the Contract, the successful Contractor will be granted access to the sites to make detailed measurements, plan access to the work sites and other considerations of the Work. Arrangements for such site visits will be made with the Owner.

01012 PROJECT DOCUMENTS

- A. The Specifications and the Drawings describe and illustrate the materials and labor necessary for the work of this Project.

01013 DRAWINGS FURNISHED

- A. The Contractor will be furnished one set of the Specifications and Drawings on or about the time of execution of the Contract.
- B. The Contractor is provided a copy of site plans showing the tank location and work area in the Drawings.

01015 CONTRACTOR'S USE OF PREMISES

- A. The Contractor shall confine his operations, including storage of supplies, equipment and materials to the Work Area limits shown on the Drawing or as otherwise approved by the Engineer and Owner.
- B. The areas and/or spaces, including their access, shall be maintained free and clear throughout the Contract term.

Parking for Contractor's employees will be limited to an area (or areas) designated by the Engineer or Owner. The Contractor may be required to provide identification stickers or other form of identification for employees' vehicles. The Contractor may be required to arrange for off-site parking for his use.

Contractor shall be responsible for the security of their own equipment and materials on the site.

01016 OCCUPANCY

Owner will occupy premises during entire construction period for conduct of normal operations. The Contractor shall cooperate with Owner in scheduling

operations to minimize conflict and to facilitate Owner usage.

01035 OVERTIME

- A. Normal working hours are 8:00 A.M. to 5:00 P.M., Monday through Friday. If the Contractor desires to work at a time other than normal work hours, on weekends, or on holidays, the Contractor must request permission from the Engineer at least 48 hours in advance of such work. Approval must be received prior to the requested work time.

01040 COORDINATION

- A. Coordinate the work of the several trades to assure the efficient and orderly sequence of construction elements.
- B. See also General Conditions.

01045 CUTTING AND PATCHING

- A. Openings and chases may not be shown on the Drawings. It is the responsibility of the Contractor to provide chases, channels or openings where needed.
- B. After completion of openings, channels and/or chases, the Contractor shall close and finish same.
- C. Permission shall be obtained from the Engineer before cutting beams, arches, lintels or other structural members. Asphalt and concrete ground covers shall be neatly saw cut through their entire thicknesses.
- D. Seal penetrations watertight through floors and walls as needed; restore or preserve fire-rated construction.
- E. See also General Conditions.

01090 STANDARDS, CODES AND SPECIFICATIONS

- A. For products specified by association or trade standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

- B. References to standard specifications and codes refer to the editions current at the bid due date. References include their addenda and errata, if any, and shall be considered a part of these Specifications as if they were printed herein in full.

01100 SPECIAL PROJECT PROCEDURES

- A. At least seventy two (72) hours prior to the start of construction, the Contractor shall notify the following agencies and contacts:
 - 1. Office of the State Fire Marshal at (860) 685-8380.
 - 2. Office of the City of Danbury Fire Marshal.
 - 3. State of Connecticut DEP Underground Storage Tank Program at (860) 424-3374.
 - 4. State of Connecticut Call Before You Dig at (800) 922-4455.
- B. At least 48-hours prior to the start of construction, the Contractor shall provide the Engineer written assurance that the above contacts have been appropriately notified. The Contractor shall transmit to the Engineer at the time of issuance copies of all communications with government agencies related to the Work.
- C. The Contractor shall be responsible for the protection of all existing structures against hydraulic uplift until the removal of such structures has been completed.
- D. The Contractor shall provide documentation to the Owner showing that all materials disposed off-site for the Contract were disposed of in accordance with applicable local and State regulations. The Contractor shall obtain written authorization from the Engineer or Owner prior to removing excavated soil from sites. Approval shall be based on completed observations and/or chemical testing for contamination.
- E. The Contractor shall install a warning tape located a minimum of twelve (12) inches above all remaining conduits, wires, cables, utility pipes, drainage pipes,

under drains or other underground utility exposed by the Contractor. The warning tape shall be of durable impervious material, designed to withstand extended underground exposure without material deterioration or color fade. It shall be of the color assigned to the type of utility for surface markings and shall be durably imprinted with an appropriate warning message. The tape shall also comply with the specific requirements of the utility company that owns the facility. All tapes, unless otherwise directed by the specific utility, shall be detectable to a depth of at least three feet with the least expensive commercial radio type metal locator. Assigned colors are:

1. Green - Storm and sanitary sewers and drainage systems including force mains and other non-hazardous materials.
2. Blue - Water.
3. Orange - Communication lines or cables, including but not limited to telephone, telegraph, fire signals, cable television, civil defense, data systems, electronic controls and other instrumentation.
4. Red - Electric power lines, electric power conduits and other electric power facilities.
5. Yellow - Gas, oil petroleum products, steam, compressed air, compressed gases and all other hazardous materials except water.
6. Brown - Other.
7. Purple - Radioactive materials.

01121 SALVAGEABLE MATERIALS

- A. See Demolition and Alteration Specifications Section 02050.

01210 PRECONSTRUCTION CONFERENCE

- A. The Engineer will organize a Preconstruction Conference and notify the parties concerned.

01220 PROJECT MEETINGS

- A. A schedule of regular project meetings will be established at the Preconstruction Conference.

01310 CONSTRUCTION SCHEDULE

- A. Within 7 calendar days after receiving the Notice to Proceed or at the Preconstruction Meeting, whichever comes first, the Contractor shall submit to the Engineer for review and approval a Construction Progress Schedule listing anticipated dates for the occurrence of major project milestones including but not limited to: submit documentation (e.g., transporter and facility permits, clean soil source information, new product information), Engineer review time, mobilization, piping and tank emptying and cleaning, tank and piping excavation, tank removal, Contractor soil testing (10 workdays), clean soil backfill import, excavation backfill, and surface restoration and cleanup.

01341 SAMPLES

- A. Submit samples of items where specifically required. Furnish information and data for items or materials offered as equals to those specified to establish their equality.
- B. Mark samples to show:
1. Name of project.
 2. Name or trade, type, quality or grade and any further designation necessary to identify the items or materials.
 3. Manufacturer's or supplier's name.
 4. Name of Contractor, and Subcontractor, if any.
- C. Submit samples of size and/or number sufficient to show quality, type, range of color, finish and texture.
- D. Furnished materials shall be equal to approved samples.

01410 TESTING LABORATORY SERVICES

- A. The Contractor will perform environmental quality testing of soils in tank and piping excavations prior to backfilling. The Contractor will collect soil

samples for the following testing: aromatic volatile organic compounds (VOCs) and MTBE (EPA Method 8021 or 8260), semivolatile organic compounds (SVOCs, EPA Method 8270), CT extractable total petroleum hydrocarbons (CT ETPH, CTDPH Method). The Contractor shall be responsible for all other testing and payment as required by these specifications and necessary to complete the work.

01511 TEMPORARY ELECTRICITY AND LIGHTING

- A. At the approval of the Owner, connect to existing available electrical service at tank locations to provide power and lighting using construction-grade extension cords. Contractor shall inspect existing service prior to start of work. Owner will pay cost of energy used from existing outlets if approved by Owner. Contractor shall take appropriate measures to conserve energy including but not limited to turning power off when not in use. The Contractor shall provide electrical and lighting for construction operations as needed to complete work and as required by the Engineer to properly inspect the Work. Some permanent lighting is present from area pole lights near the tank locations. The Contractor shall provide, at his own expense, all connections, extensions and other apparatus required for use of temporary electrical services approved by the Owner or for providing their own electricity and lighting. At the termination of construction, return Owner electrical services to their original condition.

01513 TEMPORARY HEATING, COOLING AND VENTILATING

- A. Provide any required heat and ventilation to maintain specified conditions for construction operations and to protect materials and finishes from damage by temperature or humidity. Costs for such services shall be paid by the Contractor.
- B. Temporary heating and ventilation shall comply with OSHA regulations and other applicable codes, statutes, rules and regulations.

01514 TEMPORARY TELEPHONE

- A. The Contractor shall provide his own telephone.

01515 TEMPORARY WATER

- A. At the approval of the Owner, Contractor may connect to existing Owner facilities near tank locations with garden hoses. Owner will pay for water used for this work if approved by Owner. The Contractor shall not waste water or use faulty equipment. The Contractor shall provide, at his own expense, all connections, extensions and other apparatus required for use of such temporary water services approved by the Owner or for providing their own water. Upon completion of the Contract, the Contractor shall disconnect temporary extensions and return any Owner used water service to its original condition.

01516 TEMPORARY SANITARY FACILITIES

- A. The Contractor can use the nearby restroom facilities at the Owner's facility where work is to be performed.

01518 FIRE PROTECTION

- A. During construction, the Contractor shall be responsible for loss or damage by fire to the work of the Contract until completion. Any fire used by the Contractor for working purposes shall be extinguished when not in use. Bitumen or tar shall be melted on the ground only. No flammable material shall be stored in any building in excess of amounts allowed by the authorities. No gasoline shall be stored in or close to any building including any temporary construction trailer at any time. The Contractor shall assign a responsible onsite employee to be in charge of fire protection measures during construction.

- B. Furnish, at a minimum, two fire extinguishers in accordance with requirements of NFPA 10 and 30A.

01520 CONSTRUCTION EQUIPMENT

- A. The Contractor shall furnish tools, apparatus and appliances, hoists and/or cranes and power for same, scaffolding, runways, ladders, temporary supports and bracing and similar work or material necessary to ensure convenience and safety in the execution of the Contract. The responsibility for design, strength and

safety of all such items shall remain with the Contractor. All such items shall comply with OSHA regulations and applicable local and state codes, statutes, rules and regulations.

01530 BARRIERS AND ENCLOSURES

- A. Provide barriers to prevent public entry into construction areas and to protect existing facilities from damage by operations.
- B. Provide a steel pole-secured orange safety fence around any open excavations or other suitable barriers as approved by the Engineer.
- C. Provide barriers around trees and plants designated to remain. Protect against vehicular traffic, materials dumping, chemically injurious materials, puddling or running water.
- D. Barriers and enclosures shall be in conformance with code requirements. Do not block egress from occupied buildings unless approved by Owner and necessary to further the work of the Contract. In this case, secure the Owner's approval of an alternate egress plan prior to such work.

01535 PROTECTION

- A. Protect buildings, equipment, furnishings, grounds and plantings from damage. Any damage shall be repaired or otherwise made good at cost of the Contractor.
- B. Provide protective coverings and barricades to prevent damage or physical injury. The Contractor shall be held responsible for, and must make good at his own expense, any water or other type of damage due to improper coverings. Protect the public and facility personnel from injury.
- C. Provide temporary protection for installed products. Control traffic in immediate area to minimize damage.

01540 SECURITY

- A. Provide security program and facilities to protect work equipment and area from unauthorized entry, vandalism and theft. Coordinate with Owner's security program.
- B. The Contractor shall be solely responsible for damage, loss or liability due to theft or vandalism of the Contractor's equipment and materials.
- C. All employees of the Contractor and any subcontractors shall be prohibited from carrying such items as weapons, drugs, or alcohol to the site.

01550 TRAFFIC WAYS

- A. The Contractor may use on-site paved roads and parking areas but shall not encumber same or their access unless otherwise approved by the Engineer and Owner. Public roadways shall not be blocked by standing trucks, parked cars, material storage, construction operations, or in any other manner.
- B. Public roads and existing paved roads, drives and parking areas on Owner's property shall be kept free from scrap, waste, or debris due to construction operations and any damage to their surface caused by the Contractor shall be repaired by Contractor at its own expense.

01560 TEMPORARY CONTROLS

- A. The Contractor shall confine his construction activities only to areas required for the execution of the Work. Land resources within the project areas and outside limits of the Work as may be affected by the work of this Contract shall be preserved in their present condition, or be restored to a condition after completion of construction that will appear to be natural.
- B. The Contractor shall not deface, injure or destroy trees or shrubs, nor remove or cut them without Owner's permission. Ropes or cables shall not be fastened to or attached to trees for anchorages unless approved by the Engineer for emergency use. Where such special emergency use is permitted, wrap the trunk with burlap or rags, and tie softwood cleats over wrapping. Where trees may possibly be defaced, bruised, injured, or damaged by equipment, dumping or other operations,

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protect such trees by placing boards, planks, or poles around them. Monuments and markers shall be protected at all times.

- C. Trees or landscaped features scarred or damaged by Contractor's equipment or operations shall be restored as nearly as possible to original condition by the Contractor. Scars made on trees by equipment, or by the removal of limbs larger than one inch in diameter, shall be coated with an approved tree wound dressing. Trimming or pruning shall be performed in an approved manner. Trimming with axes will not be permitted.
- D. The Contractor shall eliminate all signs of temporary construction facilities such as roads, work areas, structures, foundations, stockpiles of excess or waste materials, or any other vestiges of construction caused by the Contractor.
- E. The Contractor shall not pollute waterways. Refuse, contaminated soil or groundwater, fuels, oils, bitumen, calcium chloride, acids, or toxic materials shall be stored and disposed of in a manner to prevent their entry into any waterways. The Contractor shall comply with applicable federal, state, and municipal laws concerning pollution of waterways. Work under this Contract shall be performed in such a manner that objectionable conditions will not be created on or adjacent to project site areas.
- F. The Contractor shall install a catch basin insert in the nearest downgradient catch basin and surround the catch basin with hay bales to ensure proper sedimentation erosion control measures in the execution of all earthwork and this project. Erosion control structures shall be maintained until soil conditions have been stabilized. No construction shall proceed until the erosion and sedimentation control measures have been installed as the sequence of construction necessitates. Prepare applications, obtain approvals and comply with all applicable soil erosion and sediment control requirements of local, state and federal government agencies.
- G. The Contractor shall maintain excavations, embankments, stockpiles, waste areas, borrow areas, and other work areas within or beyond the project site boundaries free

from dust which would cause a hazard or nuisance to others. Approved methods of stabilization consisting of temporary covers, sprinkling, approved chemical treatment, light bituminous treatment or similar methods will be permitted to control dust. Sprinkling shall be repeated at such intervals as to keep the disturbed area damp at all times. Dust control shall be performed by the Contractor as the work proceeds and whenever a nuisance or hazard occurs as determined by the Engineer.

- H. The Contractor shall maintain facilities constructed for pollution control as long as the operations creating the particular pollutant are being carried out, or until the material concerned has become stabilized to the extent that pollution is no longer created.
- I. If the Contractor locates material that is believed to be contaminated or hazardous on the project, which has not been previously located, the Contractor shall immediately cease work in the area and notify the Engineer. The Engineer will notify the Owner and the Owner will notify the Oil and Chemical Spill Response Division of the Bureau of Waste Management, State of Connecticut Department of Environmental Protection. No work shall be done in an area identified as having contaminated or hazardous material without prior permission of the Engineer.
- J. The Contractor shall take all appropriate safety and health measures in performing work under this Contract. The Contractor is subject to applicable federal and state laws, regulations, ordinances, codes and orders relating to safety and health in effect on the date of this Contract. Due to the nature of the Work, all fire codes shall be strictly followed.
- K. During the performance of work under this Contract, the Contractor shall comply with procedures prescribed for the control and safety of persons visiting the project site. The Contractor is responsible for insuring that his personnel and those of his subcontractors are familiar with and in compliance with safety requirements. The Contractor shall advise the Engineer of any special safety restrictions he has established

so that State personnel can be notified of these restrictions.

01569 CLEANING

- A. The Contractor shall maintain areas under Contractor's control free of waste materials, debris and rubbish. Maintain in a clean and orderly condition.
- B. The Contractor shall control cleaning operations so that dust and other particulars will not adhere to wet or newly-coated surfaces.
- C. The Contractor shall remove waste materials, debris and rubbish from site at a preapproved frequency (no less than weekly) and dispose of off-site. No scrap, debris, or waste materials from the Contractor's work shall remain anywhere on site upon final acceptance of the project.

01590 FIELD OFFICES AND SHEDS

- A. The Contractor may provide, for his own use and at his expense, a suitable office. The on-site locations for such facilities must be preapproved by the Engineer or Owner.
- B. No field office is required for Engineer's or Owner's personnel.
- C. The Contractor shall remove temporary materials, equipment services and construction before Substantial Completion.
- D. The Contractor shall clean and repair damage caused by installation or use of temporary facilities. Restore existing facilities used during construction to specified or original condition.

01610 TRANSPORTING AND HANDLING

- A. Materials and equipment shall be delivered, stored and handled to prevent intrusion of foreign matter and damage by weather or breakage. Packaged materials shall be delivered and stored in original, unbroken packages.

- B. Promptly inspect shipments to assure that products comply with requirements, that quantities are correct and products are undamaged.
- C. Packages, materials and equipment showing evidence of damage will be rejected and replaced at no additional cost to the Owner.

01620 STORAGE AND PROTECTION

- A. Store products in accordance with manufacturer's instructions with seals and labels intact and legible. Store sensitive products in weather-tight enclosures; maintain within temperature and humidity range required by manufacturer.
- B. For exterior storage of fabricated products, place on sloped supports above ground. Cover products subject to deterioration with impervious sheet covering; provide ventilation to avoid condensation.
- C. Contractor shall place and store loose granular material on solid surfaces in a well-drained area; prevent mixing with foreign matter.
- D. Arrange storage to provide access for inspection. Periodically inspect to ensure products are undamaged and are maintained under required conditions. Keep log showing date, time and problems, if any.
- E. Stone, masonry units and similar materials shall be stored on platforms or dry skids and shall be adequately covered and protected against damage.

01710 FINAL CLEANING

- A. The Contractor, preparatory to final inspection, shall provide final cleaning of all work in readiness for use and occupancy of the project by the Owner.
- B. This final cleaning shall be complete in every manner.
- C. If the Contractor fails to clean up, the Owner may do so and the cost thereof shall be charged to the Contractor and may be deducted from any payment made to the Contractor by the Owner.

01720 PROJECT RECORD DOCUMENTS

- A. The Contractor shall keep one copy of the Specifications, Drawings, Addenda, approved Shop Drawings, Change Orders, Schedules and Instructions in good order at the site and marked to record all changes made during construction. The documents shall be available to the Engineer, Owner, or their authorized representatives at all times.
- B. Record Drawings During Construction:
 - 1. The Contractor shall keep two sets of black (or blue) and white prints of the Contract Drawings at the site on which he shall record changes as they occur on the job. Maintain the record sets separate from documents used for construction.
 - 2. Keep documents current; do not permanently conceal any work until required information has been recorded.
 - 3. At the conclusion of construction, the Contractor shall turn one set of the marked-up drawings with recorded changes over to the Engineer.

01740 WARRANTIES

- A. The Contractor shall guarantee all materials and workmanship for a period of at least one year from the date of acceptance of the Work.

01750 SCHEDULES

- A. Unless an alternative construction sequence is approved in advance by the Engineer, the work should be carried out in the order listed in 01010 (Summary of Work)-G-1 through 7 above. A Schedule of Work will be included in the Contract Documents and should include the following items as guidelines for timing of the performance of the Work.
 - 1. Within 7 calendar days after receiving the Notice to Proceed or at the Preconstruction Meeting, whichever comes first, the Contractor shall submit to the Engineer for review and approval a Health

and Safety Plan and a Construction Progress Schedule listing anticipated dates for the occurrence of major project milestones, including, but not limited to, those listed in 01310 (CONSTRUCTION SCHEDULE)-A above.

2. Notification to the appropriate agencies and contacts, including Call Before You Dig, as listed in 01100(SPECIAL PROJECT PROCEDURES), must be completed at least seventy two (72) hours prior to the start of construction.
3. Provide written proof of notification to Engineer that the agencies and contacts specified above at least forty eight (48) hours prior to the start of construction.
4. Specific Site Construction Time:
 - a. In addition to the requirements of the General Conditions, the Contractor shall complete all work within the site construction time limit stated in the Contractor's proposal unless otherwise mutually agreed to conditions or discovered findings (e.g. petroleum-impacted soil) necessitate a schedule change.
 - b. The site construction time shall begin on the date of Notice to Proceed issued by the Owner to the Contractor.
 - c. The Contractor shall make every effort possible to complete this project as soon as possible. Time is of the essence once field construction activities begin.

END OF SECTION

SECTION 02050

DEMOLITION AND ALTERATIONS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This item shall consist of the demolition and alteration of existing facilities as shown on the Drawings and as ordered in accordance with this Specification.

1.02 RELATED WORK

- A. Section 02210: Earth Excavation, Backfill, Grading, Paving and Landscaping
- B. Section 02220: Contaminated Materials Excavation, Staging, Loading, Transportation and Disposal

1.03 SUBMITTALS

- A. The Contractor shall submit written documentation in the form of a bill of lading to the Owner indicating the final disposal locations of each removed tank and piping as well as all other nonregulated materials taken off the site. All disposal locations must be preapproved by the Owner prior to the start of construction.
- B. The Contractor shall submit written documentation in the form of a completed hazardous or nonhazardous waste manifest, as appropriate, to the Owner indicating the final disposal location of any petroleum product, impacted soils, oily water, and tank residue/sludge. All disposal locations must be preapproved by the Owner and Engineer prior to the start of construction.
- C. The Contractor shall submit for Engineer's approval, prior to start of Work, written documentation (e.g., permits, approvals) confirming that all proposed disposal/treatment locations for the tank, petroleum product, impacted soils, piping and appurtenances, residue/sludge and other materials are licensed and permitted in accordance with all applicable codes, laws and standards.

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- D. Where work under this section may disrupt Owner operations or use of facilities, provide detailed demolition plan and schedule to the Engineer for approval.

PART 2 - PRODUCTS

Not Applicable

PART 3 - EXECUTION

3.01 GENERAL

- A. Contractor shall accomplish demolition and removal of existing construction, utilities, equipment, and appurtenances without damaging integrity of existing structures, equipment, and appurtenances that are to remain.
- B. Contractor shall store equipment to be salvaged for relocation on-site where directed by the Engineer, and if necessary, protect from damage during work.
- C. Contractor shall repair or remove and replace items that are damaged by Contractor. Repair and installation of damaged items at no additional compensation and to condition at least equal to that which existed prior to start of work.
- D. Contractor shall exercise all necessary precautions for fire prevention. Acceptable fire extinguisher shall be made available at all times. Burning of demolition debris not permitted on or near site. Use of burning torches will not be permitted without site-specific written authorization from Owner.
- E. Contractor shall provide protection of persons and property throughout progress of work. Proceed in such manner as to minimize spread of dust and flying particles and to provide safe working conditions for personnel.
- F. Contractor shall be allowed to block off traffic flow within designated work area during construction operations.

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- G. Contractor shall obtain permission from the Engineer before abandoning or removing any existing structures, materials, equipment and appurtenances not specified in the specifications.
- H. Contractor shall provide three reference points for any permanent survey marker or monument removed, established by a licensed Connecticut land surveyor and record locations and designations of survey markers and monuments prior to removal.

3.02 DEMOLITION

- A. Confine apparatus, storage of material, demolition work, new construction, and operations of workmen to the designated work area and other areas that will not interfere with continued use and operation of the entire facility. Provide and maintain lights, barriers, and temporary passageways for free and safe access.
- B. Wet down work during demolition operations to prevent dust from arising. All curbing, asphalt and concrete ground covers shall be neatly saw cut through their entire thicknesses.
- C. Provide shoring or bracing where necessary to prevent settlement or displacement of existing or new structures.
- D. Plug with non-shrinking water plug or mortar any remaining holes resulting from removal of vent pipe brackets, return and supply pipes, and other conduits that are removed or abandoned due to demolition and/or removal and match the surfaces to those existing.
- E. Contractor shall excavate and remove the existing tank and appurtenances including the surrounding monitoring wells as indicated on the Drawings. The Contractor shall notify and shall be required to receive approval to start from the Owner at least seven (7) calendar days prior to the start of the tank emptying and excavations. The tank shall be removed and disposed of in accordance with the requirements of RCSA 22a-449(d), NFPA 30, NFPA 326, API 1604, and API 2015. Removal of a tank shall include all necessary pumping out of excess product and residue, purging, defuming, etc. The tank and product removed shall become the

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responsibility of the Contractor and shall be removed from the site and disposed of in accordance with all applicable local, state, and federal laws and regulations.

- F. Tank system piping and conduits exterior to the subject buildings shall be drained of contents and removed by excavation by the Contractor unless otherwise indicated in the Contract Documents or directed in writing by the Engineer prior to removal.
- G. In order to allow for the collection and analysis of soil samples for verification of the presence or absence of fuel contamination, the Contractor shall keep the tank excavation(s) open for a period of time not to exceed ten (10) calendar days. The Contractor shall provide, install and maintain fencing and other appropriate approved barricades to prevent individuals or vehicles from falling into excavations. If existing area lighting does not sufficiently illuminate the work area at night, the Contractor shall also provide orange flashing hazard lighting along the fencing. The Contractor shall prevent surface waters from entering the tank excavation during excavation. The Contractor shall not be entitled to additional compensation for compliance with these requirements.
- H. During removal of the tank and/or appurtenances, if the Contractor encounters material that is believed to be contaminated or hazardous, the Contractor shall immediately cease work in the area and notify the Engineer.
- I. The Engineer will notify the Owner of any discovered petroleum contaminated soils. The Owner will notify the Oil and Chemical Spill Response Division of the Bureau of Waste Management, State of Connecticut Department of Environmental Protection. There shall be no work in any area identified as having contaminated or hazardous material or suspected of having contaminated or hazardous material without prior approval of the Engineer.
- J. The Contractor shall remove existing tank appurtenances as indicated on the drawings and in the specifications.

3.03 TANK ATMOSPHERE

A. Testing

1. The tank atmosphere and the excavation area should be continuously monitored by the Contractor for flammable and combustible vapor concentrations. Monitoring shall be performed with a combustible gas indicator provided by the Contractor which is properly calibrated according to the manufacturer's instructions, and which is thoroughly checked and maintained in accordance with the manufacturer's instructions. Persons responsible for monitoring must be completely familiar with the use of the instrument and the interpretation of the instrument's readings.
2. The tank vapor space is to be tested by placing the combustible gas indicator probe into the fill opening with the drop tube removed or other tank opening. Readings should be taken at the bottom, middle and upper portions of the tank, and the instrument should be cleared after each reading. If the tank is equipped with a non-removable fill tube, readings should be taken through another opening. Liquid product must not enter the probe. Readings of 20 percent or less of the lower explosive limit (LEL) must be obtained before the tank is considered safe for removal from the ground unless otherwise approved by the Engineer.
3. Combustible gas indicator readings may be misleading if the tank atmosphere contains less than 5 percent by volume oxygen, as in a tank vapor-freed with CO₂, N₂, or another inert gas. In general, readings in oxygen-deficient atmospheres will be on the high, or safe, side. Therefore, the Contractor shall also use an oxygen indicator to assess the oxygen concentration in the tanks.

3.04 DISPOSAL AND SALVAGE

- A. Tank, piping, materials, equipment, debris, and associated appurtenances removed, that are not designated for reuse or relocation, become the property of Contractor and shall be hauled from site and disposed of at no additional compensation than already provided for in the bid items.
- B. Remaining fuel product and liquids in the tank system, piping and appurtenances or generated from tank cleaning shall be removed and disposed of off site by the Contractor at the unit rates specified in the Contractor's bid. The Contractor will not be compensated for the removal and disposal of any liquids added by the Contractor to the tank system.
- C. All discovered petroleum impacted soils shall be removed and disposed of offsite by the Contractor at the direction of the Engineer and at the unit rates specified in the Contractor's bid.
- D. The following items listed below are designated for salvage and reuse. Protect or carefully remove, transport, and place at an on-site location as designated by the Owner.

No salvage items are designated for this project except as may be directed by the Owner prior to the start of the work. In regards to reuse of the tank, Connecticut RCSA Section 22a-449(d)-1(e) (3) specifies "No underground component of a facility shall be moved from one location to another without prior written approval of the commissioner."

END OF SECTION

SECTION 02210

EARTH EXCAVATION, BACKFILL, GRADING, PAVING AND LANDSCAPING

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work included under this section consists of Test Pits, Trench Excavation, Mass Excavation, Backfill, Drainage, Paving, Topsoil & Seeding and all other work indicated on the Drawings and not covered in the Specifications.

1.02 RELATED WORK

- A. Section 02050: Demolition and Alterations
- B. Section 02220: Contaminated Materials Excavation, Staging, Transportation and Disposal

1.03 QUALITY ASSURANCE

- A. The Standard Specifications referenced herein shall be State of Connecticut, Department of Transportation, Standard Specifications for Roads, Bridges and Incidental Construction - Form 816, and or addenda hereinafter referred to as "Form 816."
- B. Wherever a percentage of compaction is indicated or specified, use percent of maximum dry density as determined by Method D of AASHTO T-180. The Contractor shall retain the services of qualified field and lab testing services to document compliance with these requirements.

1.04 SUBMITTALS

- A. Submittal of all proposed backfill sources and certifications that free draining material and clean soil used for excavation backfill are in accordance with this specification.
- B. Certified weight scale tickets shall be provided showing the weight of the vehicle at the time of arrival and departure from the backfill source facility as a prerequisite to payment for all backfill material delivered to the site. The weight tickets shall be

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signed and dated by a representative of the Contractor certifying to the accuracy of all measurements, the date and time of arrival and departure of each vehicle, the location where backfill material was procured and the vehicle identification number.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Processed Aggregate Base Course: The subbase shall consist of a clean soil-aggregate mixture of gravel, broken stone or reclaimed miscellaneous aggregate, the latter containing no more than 2% by mass of asphalt cement, placed where shown on the plans or where directed by the Engineer and constructed in accordance with these specifications. All materials for this work shall conform to the requirements of Article M.05.01-1 thru 3 of Form 816.
- B. Free Draining Material: This material shall be furnished and placed in accordance with these specifications and as indicated on the Drawings, or as ordered by the Engineer, or wherever specified. Material for this work shall meet the requirements of Article M.02.07 of Form 816.
- C. Stone: This material shall consist of crushed or broken stone, crushed or uncrushed gravel and reclaimed miscellaneous aggregate conforming to the requirements for No. 6 stone in Article M.01.01 of Form 816.
- D. Bituminous Concrete Pavement: The materials for the bituminous concrete mixture, sources of supply, formula for mix, mix tolerances, approval of mix formula and the control of the mixture shall conform to the requirements of Section M.04 of Form 816 for each class of pavement indicated.
- E. Painted pavement markings: All painted pavement markings shall conform to the requirements of Section 12.09 of Form 816.
- F. Top Soil: The material shall conform to the requirements of subarticle M.13.01-1 of Form 816. The top soil shall also be certified clean and meet the soil requirements specified herein.

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- G. Soil: Imported soil must be dry and free of debris such as ice, rocks, surplus concrete, sticks, roots and litter. Soil imported from offsite for backfill shall meet the residential direct exposure criteria and pollutant mobility criteria (GA standard) defined in CTDEP's Remediation Standard Regulations (RSRs) as specified in Sections 22a-133k-1 through 22a-133k-3 of the Regulations of Connecticut State Agencies (RCSA).
- H. Turf Establishment: The materials and construction methods for this work shall conform to the requirements of Section 9.50 of Form 816, with the exception of the seed mixture. Seed mixtures shall be proportioned by weight as follows:

<u>Common Name</u>	<u>Mixture Percent by Weight</u>	<u>Percent Pure Live Seed</u>
Red Fescues	30	95
Kentucky bluegrass	20	95
Perennial Ryegrass	30	95

Weed seed shall not exceed 1 percent by weight of the total mixture. Wet, moldy, or otherwise damaged seed shall be rejected.

PART 3 - EXECUTION

3.01 DESCRIPTION

- A. Carry out program of excavation, dewatering, sheeting, and bracing in such manner as to eliminate all possibility of undermining or disturbing foundations of existing structures or of work previously completed under this contract.
- B. Make all excavations in open, except as otherwise specified or permitted.
- C. Excavation, trenching and shoring requirements for the protection of employees in accordance with OSHA Regulations, 29 CFR Part 1926 Subpart P shall be employed and enforced.

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- D. Length of trench open at any one time will be controlled by conditions and subject to any limits that may be prescribed by the Engineer.
- E. The Engineer will require that pavement be cut through entire depth with pneumatic tools, without extra compensation to Contractor.
- F. The Engineer may direct that sheeting and bracing be cut off at specified elevation and left in place.
- G. The Engineer may direct in writing to leave in place at any time during the progress of work all sheeting, bracing, etc., that are not indicated to be left in place.
- H. There are pipes, drains, and other utilities in certain locations not indicated on Drawings. No attempt has been made to show all services and completeness or accuracy of information given is not guaranteed. In the case of damages to unmarked underground utilities they are not the responsibility of a "Call-Before-You-Dig" utility.
 - 1. Contractor shall contact "Call-Before-You-Dig" for underground utilities information a minimum of 72 hours prior to start of construction. Contractor shall obtain all available underground utility information from the Owner prior to excavation. Contractor shall locate all known utilities prior to excavation and shall repair/replace all damage, by the Contractor at no extra to the Owner. Utilities damaged by the Contractor shall be repaired with equal materials in a schedule and to the specifications of the Owner.
- I. All existing pipes, poles, wires, utilities, fences, curbs, property line markers, and other structures, which the Engineer decides must be preserved in place without being temporarily or permanently relocated, shall be carefully supported and protected from damage by the Contractor. Should such items be damaged, they shall be restored by the Contractor, without compensation, to at least as good condition as that in which they were found immediately before the Work was begun.

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- J. Whenever the Contractor encounters or damages previously unknown or undocumented existing structures as described below he shall perform all or a portion of the work described as directed in writing by the Engineer to change the location of, remove and restore, or replace such structures, or to assist the Owner thereof in so doing. For all such work outside the written scope of work, the Contractor shall be paid as Extra Work.
- K. In removing existing pipes or other structures, the Engineer shall include for payment only those new materials and labor which, in his judgment, are necessary to replace those unavoidably damaged.
- L. The structures to which the provisions of the preceding two paragraphs shall apply include pipes, wires, and other structures which meet all of the following: (a) are not indicated on the drawings or otherwise provided for, (b) encroach upon or are encountered near and substantially parallel to the edge of the excavation, and (c) in the opinion of the Engineer will impede progress to such an extent that satisfactory construction cannot proceed until they have been changed in location, removed (to be later restored), or replaced.
- M. Branches, limbs and roots shall not be cut except by permission of the City of Danbury Tree Warden.
- N. Restoration of existing property or structures should be done as promptly as practicable and not left until the end of the construction period.
- O. If material unsuitable for foundation (in the opinion of the Engineer) is found at or below the grade to which excavation would normally be carried out in accordance with the drawings and/or specifications, the Contractor shall remove such material to the required width and depth and replace it with thoroughly compacted, material of a type as directed. For all such work the Contractor shall be paid as Extra Work.
- P. Unless otherwise directed by the Engineer or Owner, surplus excavated materials not needed and uncontaminated shall be hauled away and disposed of by the Contractor, at his expense, at appropriate

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locations, and in accordance with arrangements made by him and in accordance with all federal, state and local laws and regulations. Excavated soil may not be removed from the site prior to sampling and chemical analysis and written approval from the Engineer or Owner. The Contractor is responsible for all sampling and analysis for waste characterization and disposal. Contractor must provide certified letter or signed certificate of disposal/treatment indicating disposal of surplus excavated material at an Owner preapproved location.

- Q. During progress of work, the Contractor shall conduct his operations and maintain area of his activities, including sweeping and water sprinkling of paved surfaces and covering of soil stockpiles as necessary, so as to minimize the creation and dispersion of dust. If the Engineer decides that it is necessary to use additional water for more effective dust control, the Contractor shall furnish and apply additional water at no additional cost, as directed. The Contractor shall be paid as extra work if calcium chloride is used for dust control.
- R. In general, and unless other material is indicated on drawings or specified, material used for backfilling trenches and excavations around structures shall be suitable material which was removed in the course of making the construction excavations. Suitable material can be used provided it is free of contaminants, organic materials and debris. Contaminated or hazardous material is unsuitable for use as backfill. Reuse of existing materials for backfill shall be preapproved by the Engineer. If sufficient suitable material is not available from the excavations, the backfill material shall be free draining clean material. Backfill must be dry and free of debris such as ice, rocks, surplus concrete, sticks, roots and litter. Soil imported from offsite for backfill shall meet the residential direct exposure criteria and pollutant mobility criteria (GA standard) defined in CTDEP's Remediation Standard Regulations (RSRs) as specified in the Sections 22a-133k-1 through 22a-133k-3 of the Regulations of Connecticut State Agencies (RCSA). Backfill shall be mechanically compacted to 95% optimum density (AASHTO-T-180 Method D) in 8-inch lifts maximum. The Contractor shall retain the

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services of qualified field and lab testing services to document compliance with these requirements. Material may not be used as backfill until excavation from which fill was removed has been sampled and analyzed, and written authorization to backfill the excavation has been obtained from the Engineer.

- S. The nature of materials will govern both their acceptability for backfill and methods best suited for their placement and compaction in backfill.
- T. Bituminous concrete pavement shall be placed upon a completed sub base, which has been brought to proper grade and cross-section by prescribed means. This work shall be performed in accordance with these specifications and in conformity with the line, grade, and compacted thickness of the existing pavement. Temporary pavement, if required, shall be placed in accordance with Section 9.23 of Standard Specifications Form 816.
- U. All pavement markings disturbed during construction of the project shall be restored equal to preexisting conditions. New pavement markings equal those currently present shall be painted on the newly paved surfaces.
- V. Restoration and establishment of landscaping shall consist of furnishing, placing and shaping topsoil in all landscaped areas to a minimum in-place thickness of 6 inches and in accordance with Standard Specifications Form 816. Underlying imported backfill soils shall meet the requirements specified in Section 3.08 of this specification. Turf establishment in these areas shall consist of providing an accepted uniform stand of established perennial turf grasses by furnishing and placing fertilizer, seed and mulch on all areas to be treated as shown on the Drawings and where designated by the Engineer.

3.02 SEPARATION OF SURFACE MATERIALS

- A. Remove only existing pavement that is necessary for execution of work.
- B. Carefully remove loam and topsoil from excavated areas and store separately for further use or furnish

equivalent loam and topsoil as directed by the Engineer.

3.03 SHEETING AND BRACING

- A. Install temporary shoring and bracing as required to create a safe working environment and prevent settlement or other damage to adjacent grounds and structures resulting from excavation operations. Shore and brace in a manner which will not interfere with progress of other Work or related contracts (if any) on this project. Check shoring and bracing for settlement, and adjust for settlement. Promptly remove temporary shoring, and bracing when no longer required.
- B. Furnish, put in place, and maintain such sheeting, bracing, etc., as may be necessary to support sides of excavation and to prevent any movement of earth that could diminish width of excavation to less than that necessary for proper construction; to prevent undermining of adjacent structures, paving and roadways; and to prevent injury or delay of work.
- C. Drive sheeting ahead of excavation, whenever possible, to avoid loss of material from behind sheeting. Avoid trimming behind face where sheeting will be driven, if excavating below sheeting. Prevent voids, where possible, outside of sheeting and immediately fill any remaining voids with sand, and compact.
- D. Leave in place, as indicated, all sheeting, bracing, etc., that is to be embedded in backfill, or concrete.
- E. Cut off sheeting and bracing at specified elevations when directed by the Engineer.
- F. Carefully remove all sheeting and bracing not to be left in place as not to endanger construction or other structures. Immediately backfill all voids left or caused by withdrawal of sheeting. Use suitable materials and compacting methods.

3.04 DRAINAGE AND DEWATERING

- A. Dewatering will not be required if any ground water is encountered during the tank removal or soil excavation

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unless directed by the Engineer due to unsuitable conditions.

- B. Precautions shall be taken to protect uncompleted work from flooding during storms or from other causes. All pipe lines or structures not stable against uplift during construction or prior to completion shall be thoroughly braced or otherwise protected.
- C. Prevent surface, subsurface or groundwater from flowing into excavations and from flooding the project area, as well as surrounding areas. Do not allow water to accumulate in excavations. Provide suitable temporary pipes, flumes or channels for water that may flow along or across the site of work.
- D. The Contractor shall be prepared to install a sump(s) for dewatering the excavation and shall supply all sump materials, pump(s), hoses and flow meters, and a weir-type tank for temporary water storage and particulate settlement. Under the direction of the Engineer, the Contractor shall be prepared to dispose of recovered water. The Contractor shall dispose of liquid products in accordance with approved procedures, meeting local, state and federal laws and regulations. The potential exists for contaminated groundwater to be present in trenches and tank excavations. The Contractor shall not dispose of any contaminated water into sanitary sewers or stormwater drains. Alternatively, recovered water may be discharged with the approval of and under the direction of the Engineer. If necessary, treatment equipment and discharge permitting will be supplied by the Engineer.
- E. All pumped or drained water shall be disposed of or discharged, as directed by the Engineer, without undue interference to other work, damage to pavements, other surfaces, or property.

3.05 EXCAVATION NEAR EXISTING STRUCTURES

- A. Discontinue digging, by machinery, when excavation approaches pipes, conduits, or other underground structures. Continue excavation by use of hand tools. Include such manual excavation, in work to be done, when incidental to normal excavation and under items involving normal excavation.
- B. Excavate test pits, when determination of exact location of pipe or other underground structure is necessary for doing work properly.
- C. Contractor shall contact "Call Before You Dig" (CBYD) for underground utilities information a minimum of 72 hours prior to start of construction. Written confirmation regarding such contact shall be provided to the Engineer prior to the start of construction. Contractor shall obtain all available underground utility information from CBYD prior to excavation. Contractor shall locate all known utilities prior to excavation and shall repair/replace all damage, by the Contractor, to known utilities at no extra to the Owner. Utilities damaged by the Contractor shall be repaired in a schedule and to the specifications of the Owner.

3.06 CARE AND RESTORATION OF PROPERTY

- A. Enclose, uncut tree trunks adjacent to work, in wooden boxes of such height as may be necessary for protection from injury from piled material, equipment, operations, or otherwise due to work. Excavating machinery and cranes shall be operated with care to prevent injury to trees not to be cut and particularly to overhanging branches and limbs.
- B. All branch, limb, and root cuttings smoothly and neatly done without splitting or crushing. Cut or injured portions neatly trimmed and covered with an application of grafting wax or tree healing paint as directed, when unavoidable injury or cutting to branches.
- C. Protect by suitable means or dig up and temporarily replant and maintain cultivated hedges, shrubs, and plants that might be injured by the Contractor's operations. After construction operations have been

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substantially completed, replant in original positions and care for until growth is reestablished. If cultivated hedges, shrubs, and plants are injured to such a degree as to effect their growth or diminish in their beauty or usefulness, replace by items equal of the kind and quality existing at the start of the Work.

- D. Do not use or operate tractors, bulldozers, or other power-operated equipment on paved surfaces when treads or wheels of which are so shaped as to cut or otherwise injure such surfaces.
- E. Restore all surfaces that have been injured by the Contractor's operations, to a condition at least equal to that in which they were found immediately before work commenced. Suitable materials and methods should be used for such restoration.

3.07 UNAUTHORIZED EXCAVATION

- A. Backfill, with material as directed by the Engineer, when bottom of any excavation is taken out beyond limits indicated or prescribed. This work shall be performed by the Contractor without additional compensation.

3.08 TANK BACKFILL BEDDING & PIPING BEDDING

Not Applicable

3.09 GRAVEL BACKFILL

- A. Gravel backfill placed in accordance with Section 2.13 of Form 816.

3.10 STONE BACKFILL

- A. Backfill excavation depths greater than the depth of the water table with stone conforming to the requirements of Article M.01.01, No. 6, of Form 816.

3.11 PROCESSED AGGREGATE BASE COURSE

- A. Subbase shall be placed in accordance with Section 3.04 of Form 816. The dry density after compaction shall not be less than 95 percent of the dry density for that sub base material when tested in accordance with AASHTO T-180, Method D using a six (6) inch high mold.

3.12 FREE DRAINING MATERIAL

- A. Backfill excavations with free draining material. Free draining material shall be placed in accordance with Section 2.08 of Form 816. Backfill soil source information shall be provided to the Engineer for preapproval to document that the soil is free of contamination and clean in accordance with these specifications.
- B. Open cuts created by the removal of contaminated soil shall be reconstructed by depositing successive layers of backfill for the full width of the excavation, unless a partial width is permitted by the Engineer. No backfill shall be placed on surfaces of snow or ice, nor shall it be placed on frozen or unstable surfaces.
- C. The depths of each layer of backfill, before compaction, shall not exceed 8 inches, unless permitted otherwise by the Engineer.
- D. No stone over 5 inches in its greatest dimension shall be placed within 12 inches of the elevation of the top of the prepared subgrade unless permitted otherwise by the Engineer.
- E. The entire area of each layer shall be uniformly compacted to at least the required minimum density by use of compaction equipment consisting of rollers, compactors, or a combination thereof. Earth-moving and other equipment not specifically manufactured for compaction purposes will not be considered as compaction equipment.
- F. In areas supporting pavement or equipment, the dry density after compaction shall be not less than 95 percent of the dry density for that soil when tested by an independent laboratory retained by the Contractor in accordance with AASHTO T180, Method D.

- G. In landscaped areas, the compaction shall be not less than 90 percent of the dry density for that soil when tested by an independent laboratory retained by the Contractor in accordance with AASHTO T180, Method D.
- H. If necessary to obtain the required compaction, water shall be added to acquire optimum moisture content.
- I. The Contractor shall coordinate and assist with the testing and inspection being performed by the Engineer. This work may include, but is not limited to, providing material, samples, digging test pits, and revising work as required to assure that the construction complies with the specifications.

3.13 BITUMINOUS CONCRETE PAVEMENT

- A. Bituminous concrete pavement and subbase shall be placed in accordance with Sections 2.12, 4.06 and 9.22 of Form 816. Square or rectangular cuts must be made on all existing pavement edges. Make faces straight and vertical, with one pair of faces, where practical, parallel to the direction of traffic. Replaced paving shall consist of the following: a minimum 8-inch compacted processed aggregate base course and a rolled course of Class 2 bituminous concrete with a minimum thickness of 2 inches or match the existing pavement thickness, whichever is greatest. Driveway pitch shall be equal to existing surrounding conditions or 1/4" per foot (2%) from center to outside edge as directed by the Engineer. Any required replacement curbing shall be equal to existing.
- B. Materials
 - 1. Processed Aggregate Base course shall be in accordance with Subsection 3.11, above.
 - 2. Bituminous Concrete - Class 2, Form 816, Section M04.05
 - 3. Tack coat
 - 4. General - Asphalt concrete and all related items shall meet the requirements of Form 816, Section 4.06.

- C. Painted Pavement Markings shall be applied following the completed installation of the bituminous concrete pavement. Markings shall be applied to replace markings present at the start of the Work and as directed by the Engineer and Owner, in accordance with Form 816, Section 12.09.

3.14 TOPSOIL

- A. Topsoil shall be placed and shaped in accordance with Section 9.44 of Form 816. Topsoil source information, chemical test data, and samples shall be provided to the Engineer for preapproval to document that the soil is free of contamination and clean in accordance with these specifications.

3.15 TURF ESTABLISHMENT

- A. Turf establishment shall be completed in accordance with Section 9.50 of Form 816, except that mowing and a second application of fertilizer will not be required. It is expected that a reasonable stand of grass will be achieved by the Contractor, or re-application of seed fertilizer or mulch will be required at no cost to the Owner.

3.16 ROCK EXCAVATION

- A. The Contractor shall assume that all excavation will be earth; if rock shall be encountered, the Contractor shall be compensated extra as per State's Document "Earth and Rock Excavation" of Form 816 and included separately in the Contractor's bid.

3.17 CONCRETE SIDEWALKS

- A. Concrete sidewalk and curbing repairs shall be patched with bituminous concrete. Bituminous concrete pavement and subbase shall be placed in accordance with Sections 2.12, 4.06 and 9.224.06 of Form 816. Square or rectangular cuts must be made on all existing edges.

3.18 SEDIMENT EROSION CONTROLS

- A. The Contractor shall incorporate the specified sedimentation erosion control measures in the execution

DIVISION 2
SECTION 02210
EARTH EXCAVATION, BACKFILL
GRADING, PAVING AND LANDSCAPING
PAGE 15

of all earthwork and surface restoration activities. At a minimum, erosion control measures shall include soil pile covers and catch basin filter fabric inserts and hay bales at downgradient catch basins and filter fabric fence barriers to intercept and retain sediment runoff from disturbed or unprotected construction areas. Drawings indicate some of the required erosion control measures and the required soil stockpile controls. All such measures shall be installed in accordance with the Connecticut Guidelines for Soil Erosion and Sediment Control. The Contractor shall maintain erosion control structures until surface restoration is completed. After approved by the Engineer, such controls shall then be removed and disposed of by the Contractor at no additional compensation. No construction shall proceed until the Contractor has installed the erosion and sedimentation controls as the sequence of construction necessitates.

END OF SECTION

SECTION 02220

CONTAMINATED MATERIALS EXCAVATION, STAGING, LOADING,
TRANSPORTATION AND DISPOSAL

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The procedures outlined in this Technical Specification shall be followed during the excavation, staging, loading, transportation, and disposal of contaminated materials generated according to the following scenarios:
1. Contaminated soil generated during excavation and construction activities, and
 2. Contaminated liquid, No. 2 fuel oil product, and solid waste, other than soil, such as concrete debris from slab produced by the Contractor during construction/demolition and decontamination activities.
- B. The Contractor shall be responsible for all sampling and analyses required for disposal. The Contractor shall be responsible for properly characterizing for disposal all material prior to removing material from the site. The results of all waste characterization analyses shall be submitted to the Engineer prior to removal from the site.
- C. All waste generated by the Work, including all excavated material not approved for reuse on site by the Engineer and owner, shall be removed from the site after approval by the Engineer and within 10 business days of the time the waste is generated and transported directly to an approved disposal facility as specified. Storage of any waste on-site overnight shall be permitted in the manner and location specifically approved by the Engineer and Owner.
- D. The Contractor shall load contaminated soil into trucks for transportation to a disposal/treatment facility

licensed to accept such waste soil. For contaminated soil removal and disposal, "polluted" soils are defined based on CTDEP's Remediation Standard Regulations (RSRs) as specified in the Sections 22a-133k-1 through 22a-133k-3 of the Regulations of Connecticut State Agencies (RCSA). The Contractor shall load and transport contaminated liquid and solid waste, other than soil, to an approved and permitted waste disposal/treatment facility.

- E. Materials removed from the site shall only be transported directly to facilities which have received prior approval of the Engineer and Owner. No materials shall be added to or removed from transport vehicles between their time of departure from the site and their time of arrival at the approved facility for their disposal.
- F. The Contractor shall use only properly permitted Owner-approved waste transporters. All vehicles and drivers shall be permitted and licensed in accordance with all applicable federal, state and local laws and regulations including the laws and regulations of governing agencies which have jurisdiction over areas through which the waste will be transported.
- G. The Contractor shall be responsible for screening drivers of waste transportation vehicles prior to use and prior to departure from the site. Vehicle drivers with a history or record of unsafe vehicle operation shall be banned by the Contractor from the project.
- H. Vehicles used to transport waste materials shall be designed, equipped, operated and maintained to prevent leakage, spillage or airborne emissions of waste during transport. Appropriate controls shall be used to contain odors during loading and shipping of waste. Only safe, suitable and well-maintained vehicles, which are properly labeled/placarded, manned, permitted and registered to perform the required transportation services shall be used. All vehicles shall be decontaminated as necessary, including truck tires and undercarriages, prior to leaving the site. The Contractor shall be responsible for supplying all labor, materials, equipment and supplies for

decontaminating the vehicles used and shall be responsible for off-site disposal of wastes resulting from any decontamination.

- I. Certified weight scale tickets showing the weight of the vehicle at the time of arrival and departure from the disposal facility shall be provided as a prerequisite to payment for all waste material transported off-site. The weight tickets shall be signed and dated by a representative of the Contractor certifying to the accuracy of all measurements, the date and time of arrival and departure of each vehicle, the disposal location and the vehicle identification number.
- J. The Contractor shall continuously monitor the regulatory compliance status of all waste transporters and disposal facilities used and proposed for use. If, at any time, the Contractor becomes aware of a potential or actual change in the regulatory compliance status of any waste transporters or disposal facilities used or proposed for use, the Contractor shall immediately notify the Engineer of such potential or actual change and, in consultation with the Engineer and owner, make arrangements to divert waste to alternate approved transporters and disposal facilities.
- K. The Contractor shall complete all required manifest forms and bills of lading as required by applicable laws and regulations for transportation and disposal of materials off-site. The Contractor shall provide copies of all required manifests and bills of lading to the Engineer along with all requested backup documentation. The Owner or its designated representative will sign manifests and bills of lading. The Contractor shall be responsible for assuring that all notifications, labeling, documentation, sampling, analysis, transportation and disposal requirements of the disposal facility, and federal, state and local governments are complied with and properly documented.
- L. Contractor's bid price shall include restoration of excavated and disturbed surfaces as a result of the tank closure activities including: (1) topsoil,

fertilizer, seeding, and mulch; and (2) sweeping paved areas. Damage to existing paved surfaces and curbing necessary to complete the tank closure by the Contractor shall be repaired and/or restored by the Contractor according to applicable drawings and specifications at the specified unit cost.

1.02 RELATED WORK

- A. Section 02050: Demolition and Alterations.
- B. Section 02210: Earth Excavation, Backfill, Grading, Paving, and Landscaping.

1.03 QUALITY ASSURANCE

- A. Where "Form 816" is used, it shall mean "State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 816, 2004."
- B. Scales used for determination of weight for contaminated soil disposal and imported clean backfill soil shall be certified by the State of Connecticut.
- C. Soil encountered during the tank removals which is contaminated shall be managed by the Contractor at the Engineer's direction. Soil management shall also include tank grave sampling and testing of soils by the Contractor to determine if soil is contaminated.

1.04 SUBMITTALS

- A. The Contractor or approved subcontractors shall prepare and submit to the Engineer, prior to the initiation of the tank removals and any contaminated soils excavation, a Health and Safety Plan (HASP) for work associated with any potential contaminated soils at the site. This plan shall address all of the activities which the Contractor will perform in fulfillment of the Contract, and shall comply in all aspects with OSHA regulations for hazardous waste operations (29 CFR 1910.120). The Contractor shall make the HASP available to authorized personnel who require access to any contaminated area or exclusion zone. The health

and safety of the Contractor's employees remains solely the responsibility of the Contractor.

- B. The Contractor or his approved subcontractor shall prepare and submit to the Engineer, prior to the initiation of the contaminated or hazardous material handling work, a list of personnel expected to be engaged in site activities and certify that said personnel have completed the training requirements stipulated in 29 CFR 1910.120, are currently monitored under a medical surveillance program in compliance with those regulations, and that they are fit for work under Level C conditions. The Contractor or his approved subcontractor shall provide documentation of appropriate OSHA training for all site personnel.
- C. The Contractor shall prepare and maintain all material shipment records required by applicable Federal, State, and local laws and regulations. These records shall include but not be limited to: scale tickets, bill of lading, and manifests. The Contractor shall provide copies of all documentation to the Engineer.
- D. The Contractor shall submit written documentation to the Engineer prior to any removals from the site identifying the final proposed disposal/treatment location of contaminated liquid, soils, and solid wastes for approval by the Owner. At that time, the Contractor shall also submit copies of all permits granting approval of the location for material disposed/treated of at any offsite facility including but not limited to any permitted landfill or thermal destruction facility.
- E. Following all waste removals, the Contractor shall provide Certificates of Treatment/Destruction/Recycling from the facilities to the Owner for all regulated and hazardous wastes removed from the site.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Plastic Sheet: Provide polyethylene plastic sheeting with a minimum thickness of 6 mil and a minimum width

of ten (10) feet. Plastic sheeting of 10 mil thickness will also be required as specified.

- B. Hay Bales: Provide bales made of hay with forty pounds minimum weight and one hundred and twenty pounds maximum weight. Wood stakes shall be a minimum of 1 inch by 1 inch nominal size by a minimum of 3 feet long.
- C. Silt Fence: Silt fence shall meet the requirement in Section 7.55 and conform to Article M.08.01-26 of Form 816. Silt fence shall be installed as recommended by the manufacturer for the specific use or purpose intended.
- D. DOT Approved Shipping Drums: Any shipping drums used shall be new U.S. DOT approved shipping drums compatible with liquid and semi-liquid contaminated materials present at the site. Drums shall comply with requirements of 49 CFR Part 173 and shall be labeled in accordance with 49 CFR Part 172.
- E. All vehicles used by Contractor or subcontractor to transport contaminated regulated liquid and solid waste, shall be registered with the CTDEP. Transport vehicles and loading and unloading procedures shall also meet all appropriate State and Federal DOT standards.

PART 3 - EXECUTION

3.01 HEALTH AND SAFETY

- A. Requirements of 29 CFR 1910.120 and 29 CFR 1926 Subpart P shall be followed by the Contractor and all of his approved subcontractors.

3.02 LOCATION OF CONTAMINATED SOIL

- A. If the Contractor locates material that is believed to be contaminated on the project, he shall immediately cease work in the area and contact the Engineer. If the Engineer cannot be contacted, the Contractor shall contact the Owner's Representative.

3.03 DRAINAGE AND DEWATERING

- A. Dewatering will not be required if any ground water is encountered during the tank removal or soil excavation unless directed by the Engineer due to unsuitable conditions.
- B. Precautions shall be taken to protect uncompleted work from flooding during storms or from other causes. All pipe lines or structures not stable against uplift during construction or prior to completion shall be thoroughly braced or otherwise protected.
- C. Prevent surface, subsurface or groundwater from flowing into excavations and from flooding the project area, as well as surrounding areas. Do not allow water to accumulate in excavations. Provide suitable temporary pipes, flumes or channels for water that may flow along or across the site of work.
- D. The Contractor shall be prepared to install a sump(s) for dewatering the excavation and shall supply all sump materials, pump(s), hoses and flow meters, and a weir-type tank for temporary water storage and particulate settlement. Under the direction of the Engineer, the Contractor shall be prepared to dispose of recovered water. The Contractor shall dispose of liquid products in accordance with approved procedures, meeting local, state and federal laws and regulations. The potential exists for contaminated groundwater to be present in trenches and tank excavations. The Contractor shall not dispose of any contaminated water into sanitary sewers or stormwater drains. Alternatively, recovered water may be discharged with the approval of and under the direction of the Engineer. If necessary, treatment equipment and discharge permitting will be supplied by the Engineer.
- E. All pumped or drained water shall be disposed of or discharged, as directed by the Engineer, without undue interference to other work, damage to pavements, other surfaces, or property.

3.04 REMOVAL AND STAGING OF CONTAMINATED SOIL

- A. Area Preparation: Prior to beginning excavation, all standing liquids and associated tank bottom sediments and sludge shall be removed from the tank and underground piping as described in Section 02050, Demolition and Alterations.
- B. Excavation: The State of Connecticut Department of Environmental Protection (CTDEP) Regulations Sec 22a-133K-1 through Sec 22a-133K-3 shall be used by the Engineer for the standard in determining the limits for contaminated soil excavation. The excavation of contaminated soil shall not extend below the water table more than one (1) foot, below areas which may compromise structural integrity of buildings or utilities, nor below barriers to contaminant movement such as clay, silt lenses, or termination of soil at the bedrock surface unless indicated on the plans or ordered by the Engineer. If necessary the Engineer, with guidance from a CTDEP representative, if present, will determine the reasonable depth of contaminated soil excavation. The Contractor shall safely maintain the tank and piping excavations open for a period of time not to exceed ten (10) business days, unless otherwise directed by the Engineer, and shall collect and analyze post-excavation soil samples (each sidewall, bottom, pipe trench, and stockpile). Contractor shall utilize proper equipment (e.g., excavator bucket) to collect post-excavation bottom and sidewall soil samples. Additional excavation may be required as directed by the Engineer. The area shall be backfilled by the Contractor only after receiving written authorization from the Engineer.
- C. Staging: Excavated soil that has been preliminarily classified as "contaminated" material shall be staged on-site in the following manner as directed by the Engineer.
1. All excavated soil shall be underlain by a 30-mil plastic sheet of sufficient size to ensure that seepage of soil or water is prevented.
 2. All excavated soil shall be covered with a 6-mil plastic sheet of sufficient size to ensure that

infiltration of precipitation or generation of dust is prevented. The cover shall be held in place with two (2) rows of hay bales continuously around the perimeter to form a soil-retaining trough. Wrap bottom 30-mil plastic sheet over trough and under outer hay bales.

3. The staging area shall be inspected regularly by the Contractor to ensure that the cover or other containment structure has not been damaged, and that there is no apparent leakage from the pile. If the plastic cover has been damaged, or there is evidence of seepage from the piles, the Contractor shall replace the plastic sheet cover material as needed to prevent the release of materials to the environment from the piles. It is the Contractor's responsibility to prevent the pile from releasing contaminants to the environment throughout the duration of the project. The staging area is restricted to within the work area limits shown on the Drawings unless approved otherwise by the Engineer or Owner.

4. All labor, tools, materials, and equipment necessary for containment of excavated soil shall be provided by the Contractor.

D. Decontamination of personnel and equipment shall be conducted in accordance with Decontamination Procedures as described in the Contractor's HASP. At a minimum, all equipment contacting contaminated soil shall be steam cleaned with hot water prior to departing the work site.

3.05 TRANSPORTATION

A. Drums

1. If drums are utilized, the Contractor shall load and transport the drums of contaminated liquid and solid waste, other than soil, to the appropriate permitted waste disposal/treatment facilities, as arranged by the Contractor and approved by the Engineer and Owner.

2. Leaking or deteriorated drums shall be overpacked prior to shipping.
3. Drums containing waste shall not be double stacked at any times on site or during transportation.
4. Truck beds and walls must be clean and smooth to prevent damage to the drums.
5. Drums shall be secured, as needed, to prevent shifting during transport.

B. Bulk Material:

1. All vehicles used by the Contractor to transport hazardous waste, "contaminated" and regulated liquid, solid waste, and soil shall be registered with the CTDEP as required by law. The materials shall be covered or protected during transport to ensure that seepage of waste material, water or dust into or out of the vehicle is prevented. Transport vehicles, gross vehicle weight and loading and unloading procedures shall meet all appropriate state and federal DOT standards.
2. The Contractor shall load and transport nonhazardous bulk waste material, other than soil, to a permitted solid waste disposal/recycling facility, as arranged by the Contractor and preapproved by the Engineer and Owner.
3. Bulk solids shall be kept several inches below the top of the truck container.
4. The load shall be secured to prevent shifting or release during transport.

3.06 DISPOSAL

- A. Based on the finalized soil classification provided by the Contractor and reviewed by the Engineer, contaminated soil shall be loaded by the Contractor onto vehicles for transport to a permitted disposal/treatment facility in the following manner:

1. Contaminated soil will be loaded for transportation by the Contractor and transported to the disposal/treatment facility. Contaminated soil loading and transportation arrangements will be coordinated between the Contractor and the Engineer. The Contractor shall coordinate his work schedule with the schedule of vehicles to minimize loading time for those vehicles.
 2. No contaminated soil shall be loaded onto vehicles until the Engineer has completed his review of the soil laboratory analytical results and approval from the Engineer is received by the Contractor.
 3. During loading operations and final clean-up of the staging area, the Contractor shall prevent the mixing of contaminated soil with non-contaminated existing soil at the staging area. The Contractor shall pay for disposal of all additional soil that the Engineer deems to be contaminated as a result of the Contractor's failure to comply with this requirement.
- B. The Contractor shall coordinate the disposal of work generated materials which may be contaminated including reasonable amounts of materials generated by the Engineer and the Owner and at no cost to the Owner. These waste materials include decontamination rinse water, disposable personal protective equipment (PPE), and miscellaneous disposable support equipment.
- C. Concentrations of contaminated soil and liquid and solid waste that exceed the federal and state hazardous waste characteristic limits or state solid waste disposal facility limits will be evaluated on an individual basis in conjunction with standard EPA and state requirements. These waste materials will be sampled and properly classified by the Contractor. Based on the Contractor's waste determination, characterized hazardous waste will be manifested and managed by the Contractor according to all applicable EPA and state hazardous waste regulations 40 CFR Parts 260 through 268 and RCSA 22a-449(c)-101 through 109.

3.07 DECONTAMINATION PROCEDURES

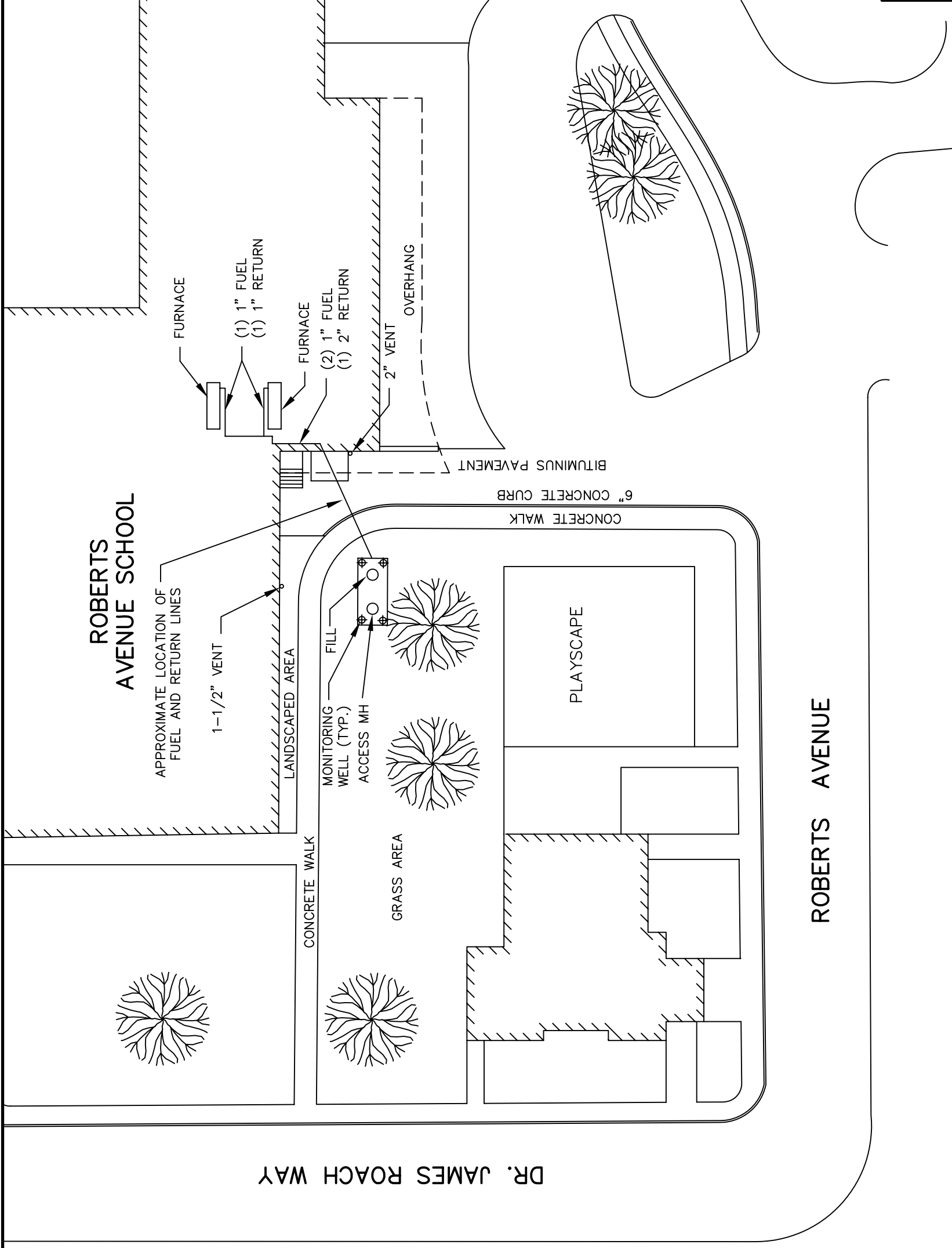
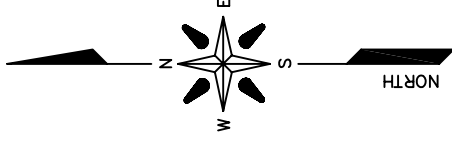
DIVISION 2
SECTION 02220
CONTAMINATED MATERIALS
EXCAVATION, STAGING,
LOADING, TRANSPORTATION
AND DISPOSAL
PAGE 12

- A. The Contractor shall furnish labor, materials, water, power, tools, and equipment for decontamination of all personnel, equipment and supplies that enter the contaminated work area or are exposed to contaminated material.
- B. Methods - The decontamination procedure shall follow the requirements of 29 CFR 1910.120, as described in the Contractor's HASP and specified herein.
- C. Personnel Decontamination: The Contractor shall provide and maintain a decontamination area which is to be located in the decontamination zone. The Contractor shall coordinate the location of the decontamination zone with the Engineer. Decontamination of personnel and equipment is required after performance of activities in the exclusion zone (Hot Zone). The personnel decontamination area may be in the form of a mobile trailer or field station. Personnel decontamination shall, at a minimum, consist of: safe work practice, use of disposable protective clothing, personal hygiene, personal decontamination before breaks and each time workers exit the exclusion zone, and at the completion of each work day to prevent worker exposure and the spread of contaminants offsite. The Contractor shall use Chapter 10 of NIOSH Publication No. 85-115 when designing a decontamination plan. This plan shall be in conformance with the requirements of 29 CFR 1910.120 and include those requirements specified herein.
 - 1. Routine Decontamination:
 - a. Routine decontamination shall follow the guidelines of 29 CFR 1910.120.
 - 2. Emergency Decontamination: Should a worker be splashed with contaminants, the worker shall be immediately escorted to the field decontamination station and be decontaminated in accordance with Contractor's HASP.
- D. Equipment:

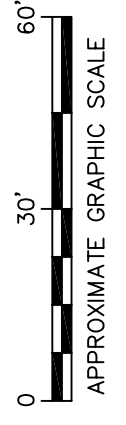
DIVISION 2
SECTION 02220
CONTAMINATED MATERIALS
EXCAVATION, STAGING,
LOADING, TRANSPORTATION
AND DISPOSAL
PAGE 13

1. All equipment shall be provided to the work site free of contamination. The Engineer retains express authority to prohibit from the site any equipment which in his opinion has not been thoroughly decontaminated prior to arriving at the project location. Any decontamination of the Contractor's equipment prior to arrival at the site shall be at the expense of the Contractor. The Contractor is prohibited from decontaminating equipment on the project site which is not thoroughly decontaminated upon arrival.
 2. All equipment involved in Exclusion Zone (Hot Zone) activities shall be decontaminated each time it is removed from the Exclusion Zone. Equipment decontamination shall be performed in conformance with the requirements of 29 CFR 1910.120 as described in the Contractor's HASP.
 3. The Contractor shall decontaminate all equipment which comes in contact with contaminated material, either directly or indirectly, (i.e., excavation, sampling and testing equipment), after completion of work at one location (i.e., tank excavation) and prior to beginning work at another location, if so directed by the Engineer.
- E. Rinse water used for decontamination which contains chemicals used during decontamination or which may contain hazardous chemicals or pollutants from the equipment which was decontaminated shall be collected by the Contractor in drums or removed in bulk with the tank contents for proper offsite disposal by the Contractor, unless otherwise directed by the Engineer.

END OF SECTION



NOTE:
SITE PLAN WAS CREATED BY
TRACING AN AERIAL MAP AND
IS THEREFORE APPROXIMATE IN
SCALE AND LOCATION.

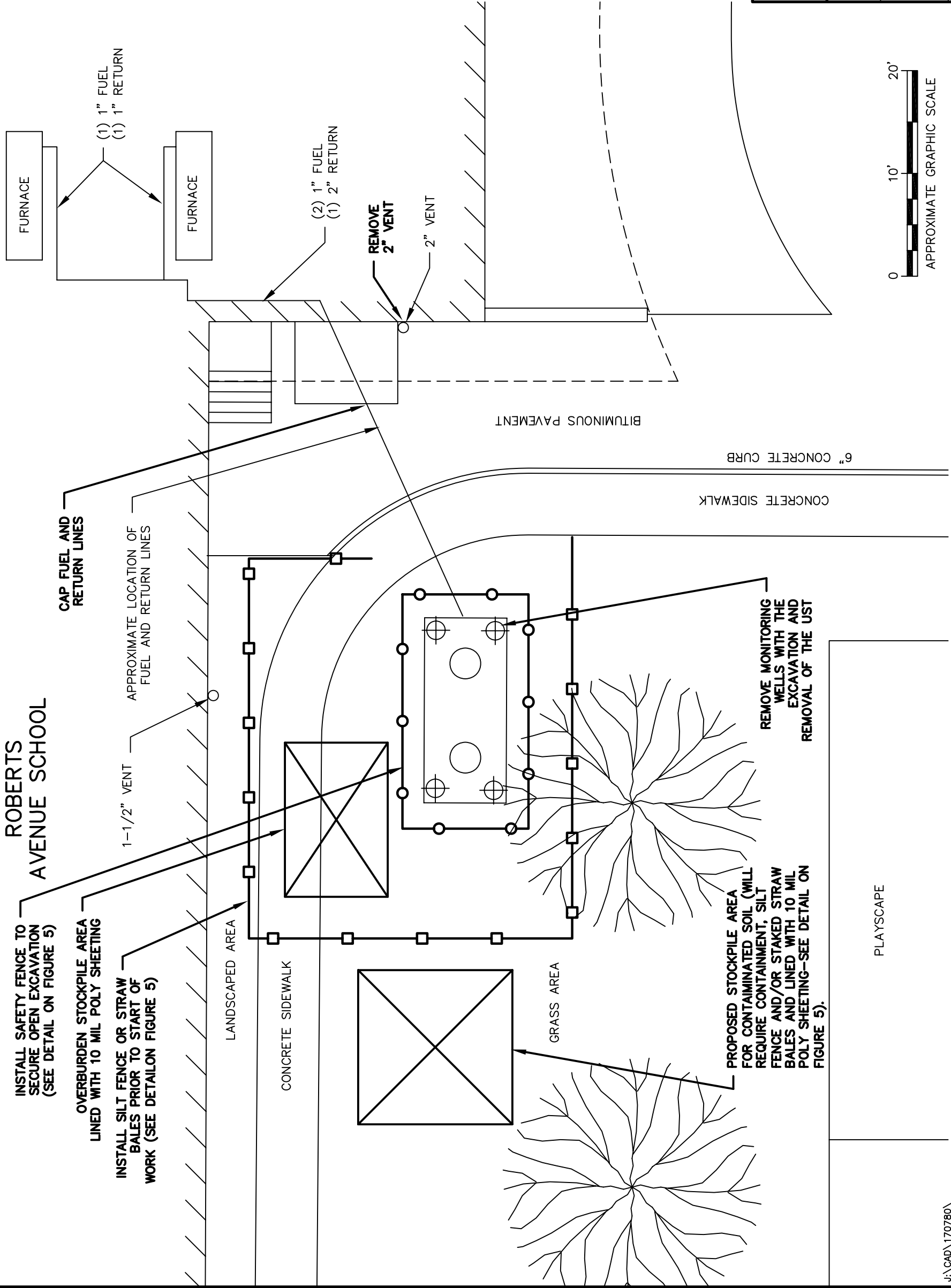
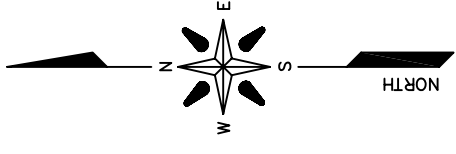


21 Griffin Road North
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CITY OF DANBURY
ROBERTS AVENUE SCHOOL

FIGURE 2
5,000 GALLON FUEL OIL
TANK LOCATION PLAN

Date: 08/20/09 Project No. 170780-000000-000000



NOTE:
SITE PLAN WAS CREATED BY
TRACING AN AERIAL MAP AND
IS THEREFORE APPROXIMATE IN
SCALE AND LOCATION.

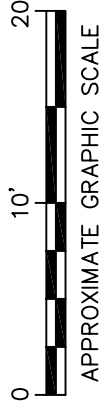


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ROBERTS AVENUE SCHOOL
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FIGURE 3
5,000 GALLON FUEL OIL
TANK REMOVAL PLAN

Date: 08/20/09 Project No. 170780-000000-000000



INSTALL SAFETY FENCE TO
SECURE OPEN EXCAVATION
(SEE DETAIL ON FIGURE 5)

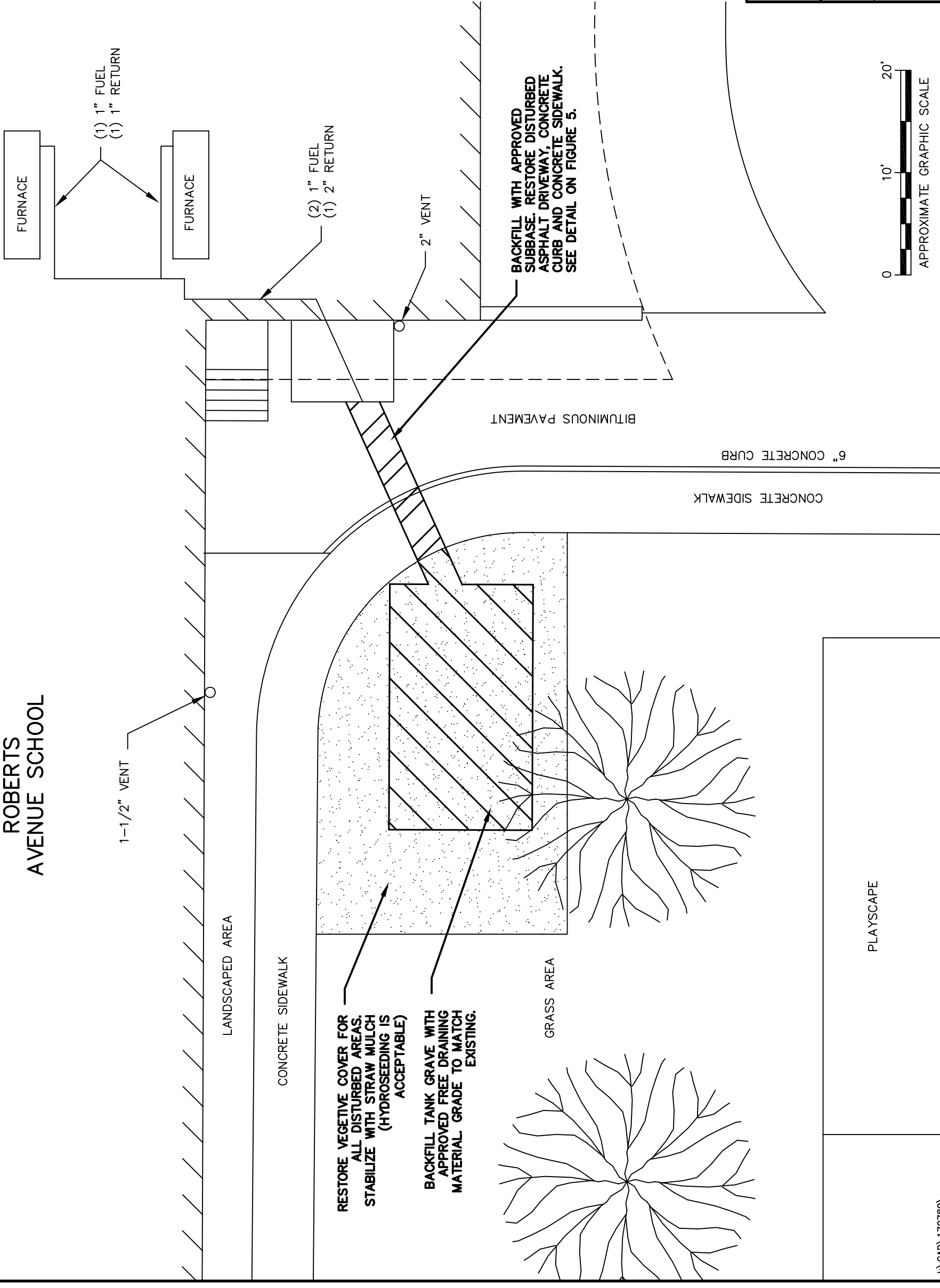
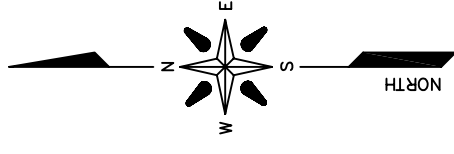
OVERBURDEN STOCKPILE AREA
LINED WITH 10 MIL POLY SHEETING

INSTALL SILT FENCE OR STRAW
BALES PRIOR TO START OF
WORK (SEE DETAIL ON FIGURE 5)

PROPOSED STOCKPILE AREA
FOR CONTAMINATED SOIL (WILL
REQUIRE CONTAINMENT, SILT
FENCE AND/OR STAKED STRAW
BALES AND LINED WITH 10 MIL
POLY SHEETING--SEE DETAIL ON
FIGURE 5).

REMOVE MONITORING
WELLS WITH THE
EXCAVATION AND
REMOVAL OF THE UST

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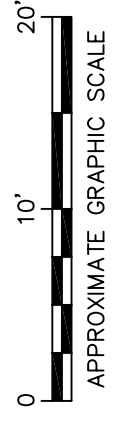



RESTORE VEGETIVE COVER FOR ALL DISTURBED AREAS. STABILIZE WITH STRAW MULCH (HYDROSEEDING IS ACCEPTABLE)

BACKFILL TANK GRAVE WITH APPROVED FREE DRAINING MATERIAL. GRADE TO MATCH EXISTING.

BACKFILL WITH APPROVED SUBBASE. RESTORE DISTURBED ASPHALT DRIVEWAY, CONCRETE CURB AND CONCRETE SIDEWALK. SEE DETAIL ON FIGURE 5.

- NOTES:**
- 1) SITE PLAN WAS CREATED BY TRACING AN AERIAL MAP AND IS THEREFORE APPROXIMATE IN SCALE AND LOCATION.
 - 2) CONTRACTOR SHALL RESTORE ALL AREAS DISTURBED BY WORK. RESTORATION LIMITS SHOWN ARE INTENDED TO BE CONCEPTUAL ONLY.



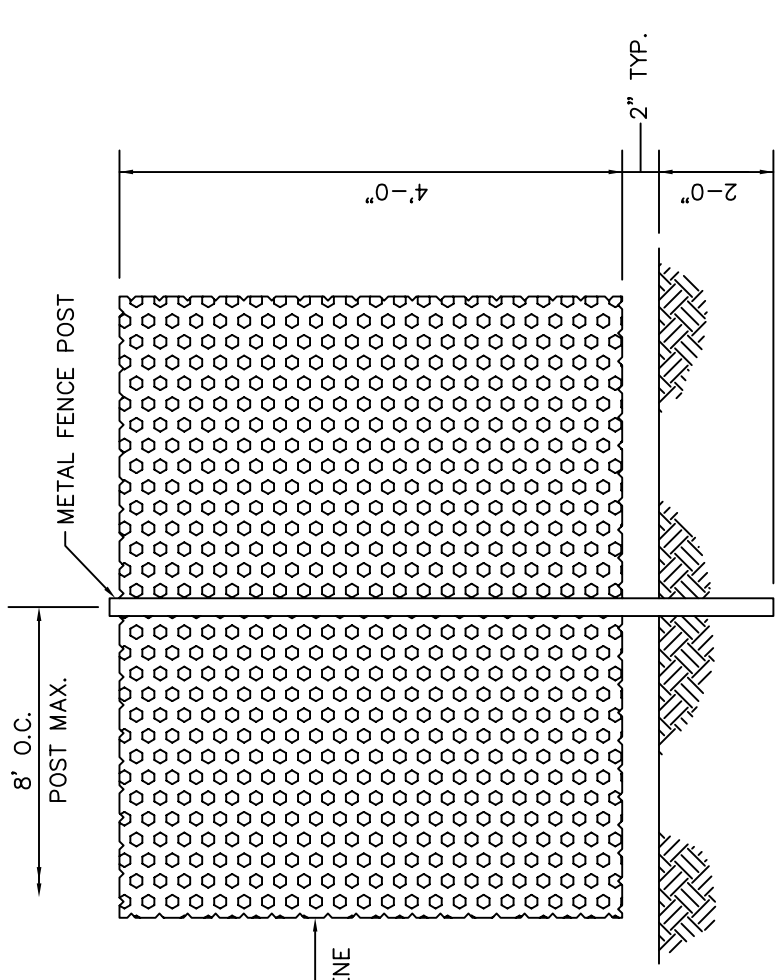


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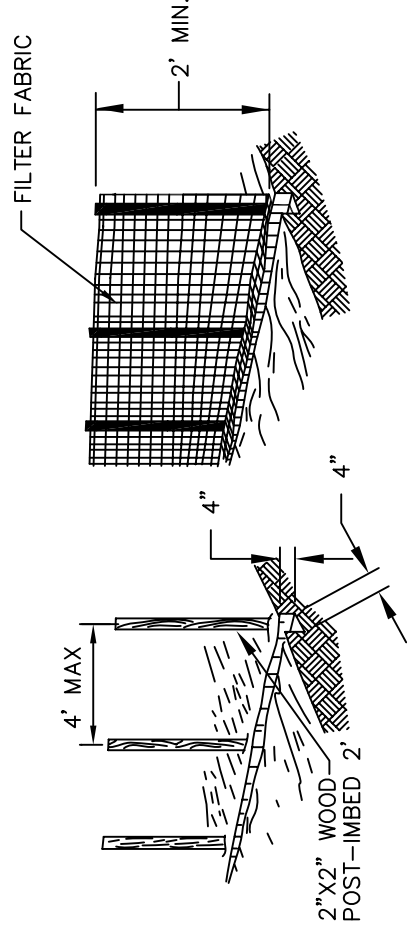
CITY OF DANBURY
ROBERTS AVENUE SCHOOL
ROBERTS AVENUE, DANBURY, CONNECTICUT

FIGURE 4
BACKFILL, GRADING AND
SURFACE RESTORATION

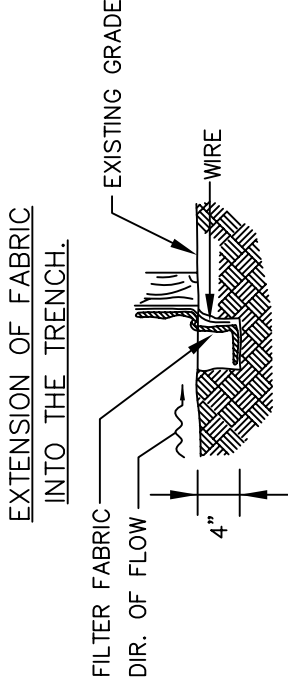
Date: 08/20/09 Project No. 170780-000000-000000



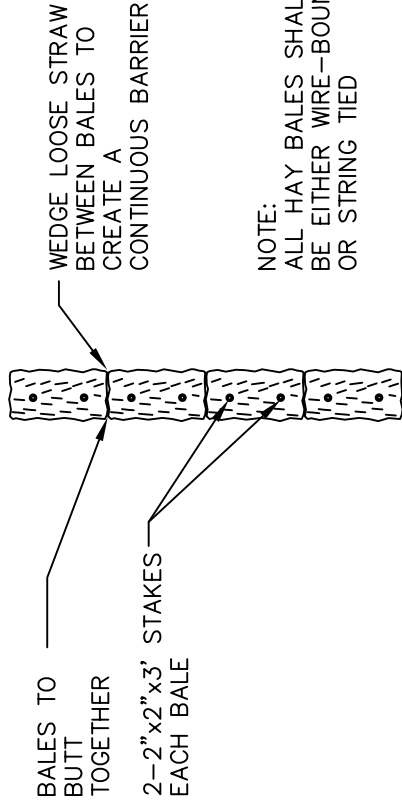
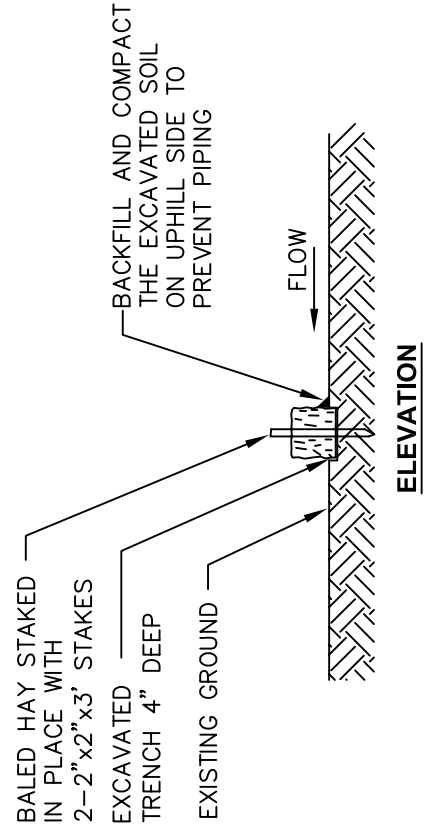
SAFETY FENCE DETAIL
NTS



1. SET POSTS AND EXCAVATE A 4" X 4" TRENCH UPSLOPE ALONG THE LINE OF POSTS.
2. STAPLE FILTER FABRIC TO THE POSTS AND EXTEND INTO TRENCH.
3. BACKFILL AND COMPACT THE EXCAVATED SOIL INTO THE TRENCH.



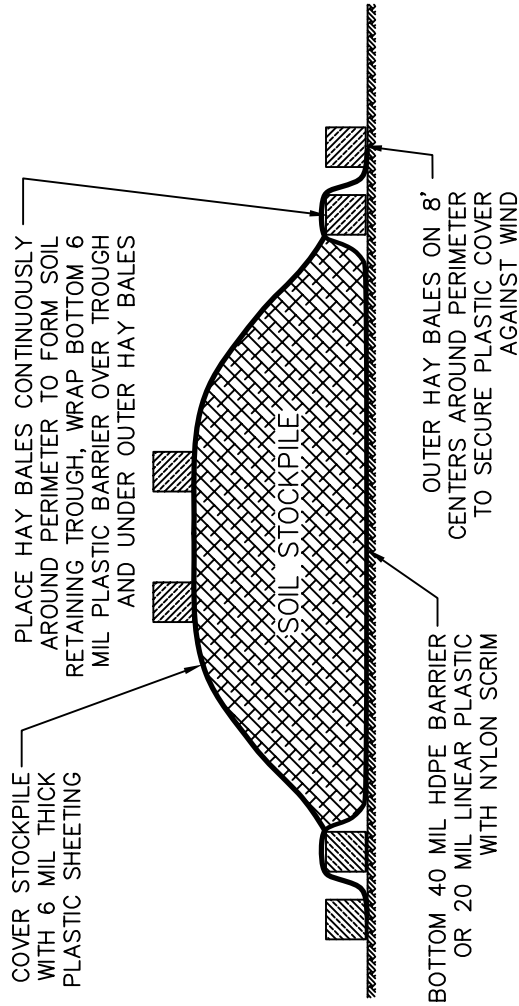
SILT FENCE
NTS



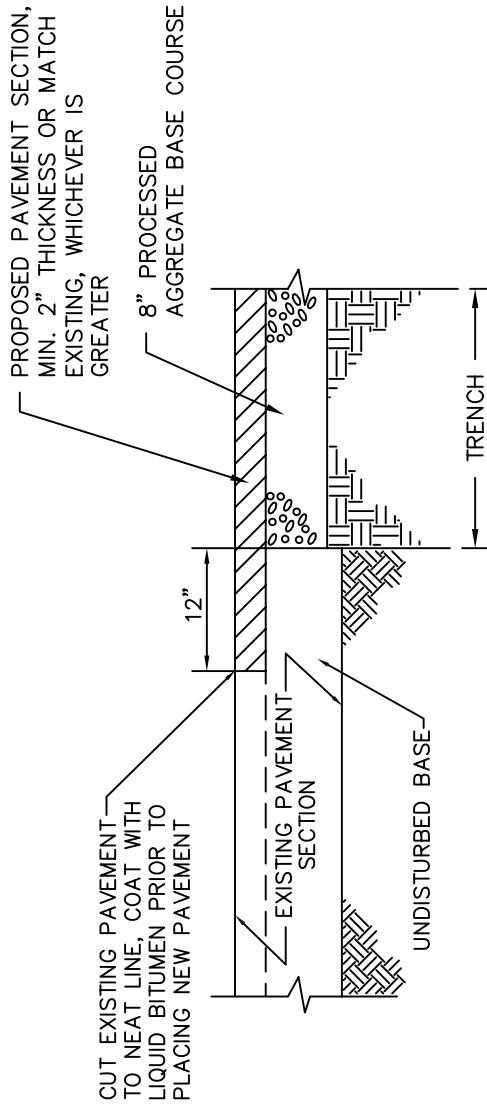
PLAN

TEMPORARY SEDIMENT AND EROSION CONTROL BARRIER-HAY BALES
NTS

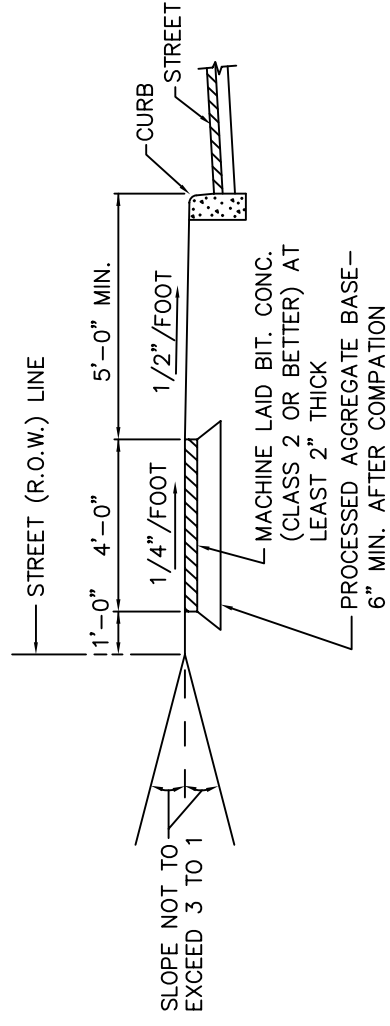
NOTE:
ALL HAY BALES SHALL BE EITHER WIRE-BOUND OR STRING TIED



TYPICAL SOIL STOCKPILE - PETROLEUM IMPACTED SOIL
NTS



PAVEMENT DETAIL
NTS



BITUMINOUS CONCRETE SIDEWALKS
N.T.S.



CITY OF DANBURY
ROBERTS AVENUE SCHOOL

**FIGURE 5
DETAILS**

Date: 08/20/09 Project No. 170780-000000-000000