Remedial Design Report

The Perx Property

7395 South Broadway

Village of Red Hook

Dutchess County, New York

NYSDEC Environmental Restoration Project

RFB-DCB-16-05

ESI File: DR99140.44

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SECTION 1 - INTRODUCTION

1.1 Purpose

This Remedial Design Report (hereafter referred to as RDR) is designed to address environmental areas of concern at the Perx Property (Site). Remediation at this Site is conducted in accordance with New York State Department of Environmental Conservation (NYSDEC) Restoration Project RFB-DCB-16-05. The Site is owned by Dutchess County (DC) and located at 7395 South Broadway, Village of Red Hook, Dutchess County, New York. DC has engaged the services of independent consultants, Ecosystems Strategies, Inc. (ESI) and Dewkett Engineering, P.C. (DE) to represent DC in technical matters concerning this remediation project.

1.2 Relevant Documents

This RDR refers to Site conditions detailed in the Final Summary Report of Site Investigation and Interim Remedial Activities (Report) prepared by ESI, dated April 2004. Conditions may have changed between the time of this investigatory work and NYSDEC approval of this RDR. Furthermore, conditions unknown at the time of the Report may be present and may materially affect this RDR.

The activities summarized here are specifically designed to produce the remediation outcomes as required by Environmental Restoration Record of Decision, Perx Property Site, Village of Red Hook, Dutchess County, New York, Site Number B-001773 (ROD) prepared by the NYSDEC, dated February 2005.

All remedial work described in this RDR will be in compliance with DRAFT DER-10, Technical Guidance for Site Investigation and Remediation (DER-10), prepared by the NYSDEC, dated December 2002.

1.3 Environmental Areas of Concern

The following summarizes the environmental areas of concern detailed in the Report. Standards used by NYSDEC to determine whether soil and water samples exceed contaminant guidelines are referred to in this RDR as "guidance levels".

1.3.1 Waste Materials

Liquid and solid wastes are present throughout the main on-Site building. The waste is in paper containers, metal barrels and paper barrels. It is considered non-hazardous waste.

A potential ammonia tank related to on-Site refrigeration is in the main processing warehouse.

Asbestos containing materials were used in construction of on-site buildings.

Electrical power to the Site was provided by a private electrical system. This system includes nine or ten pole-mounted transformers. The age of the electrical system suggests the transformers contain polychlorinated biphenyls (PCBs).

1.3.2 Soil Contaminants

The western portion of the Site includes a wetland and was previously an apple orchard. Soil samples from both the wetland and former orchard showed concentrations of arsenic above guidance levels. Sediment samples from the wetland also showed pesticide contamination below guidance levels.

A wastewater treatment plant was located in the north central portion of the Site. Lead was detected at concentrations above guidance levels in two surface samples in the wastewater treatment area.

Two subsurface wastewater treatment tanks and related piping are in a courtyard adjacent to the main building on the east central border of the site. Surface soil samples taken adjacent to the tanks showed concentrations of chlordane above guidance levels. Concentrations of pesticides were below guidance levels in soil samples taken from the invert of each tank.

Petroleum contaminated soil was found at the invert of an underground storage tank (UST), and a spill event was reported to the NYSDEC (Spill File number 0210253). The source of this contamination, the UST, was removed. Field evidence supports the conclusion that the total volume of contaminated soil associated with this spill is less than 50 cubic yards. Soil samples taken to a depth of 12 feet adjacent to the tank showed no evidence of petroleum contamination. A ground water monitoring well was installed adjacent to and down gradient of the tank grave. No volatile organic compounds (VOCs) or polycyclic aromatic hydrocarbons (PAHs) were detected in water samples obtained from this monitoring well.

1.3.3 Storage Tanks

Two fuel storage tanks are adjacent to a maintenance garage at the southern central portion of the property. Analysis of soil obtained from the tank inverts indicates the absence of petroleum contamination.

Two subsurface wastewater treatment tanks and related piping are in a courtyard adjacent to the main building. Sediment sampled taken from floor drains within the main building contained concentrations of pesticides and lead above guidance levels. Concentrations of pesticides below guidance levels were detected in areas where these floor drains connect to the west wastewater treatment area.

1.3.4 Groundwater Conditions

Temporary groundwater monitoring wells were installed in and around the western portion of the former wastewater treatment system. Several groundwater samples from these wells showed low level exceedences of lead, arsenic and barium. Samples from these wells showed no evidence of contamination by VOCs, PAHs or chlorinated pesticides. These results suggest groundwater has not been affected by previous activities at the Site.

SECTION 2 - REMEDIAL DESIGN

This section describes how the remedy selected by NYSDEC (see ROD) will be implemented. Activities related to remediation include building demolition, asbestos abatement, removal of tanks and waste, soil removal and remediation, installation of groundwater monitoring wells and laboratory analysis. The Approved Plans and Specifications for all remedial work are included as Appendix A (Specifications for Demolition – Asbestos Removal), Appendix B (Specifications for Construction and Installation of Groundwater Monitoring Wells, and Appendix C (Specifications for Laboratory Analysis of Soil and Water Samples).

DC or its authorized agents will prepare a Final Remediation Services Engineering Report (Final Report) documenting the satisfactory completion of all remedial tasks detailed in this RDR. The Final Report will be submitted for review and approval by NYSDEC.

2.1 Building Demolition and Waste Removal

All structures on the Site are to be demolished following asbestos abatement procedures. Demolition activities will also include removal and proper disposal of the following:

- Containerized waste chemicals;
- Contaminated floor drains, related piping and any associated soils; and
- The private on-Site electrical system, including pole mounted transformers.

Surface material such as asphalt, concrete, metal, and other miscellaneous materials will be properly recycled or disposed of off-Site as exempt waste, in accordance with NYSDEC Solid Waste regulations. Any subsurface debris encountered during the excavation of on-Site soils will be disposed of in a manner consistent with applicable NYSDEC regulations (6 NYCRR, Part 360).

All waste material transported off of the Site will be managed in a way to minimize impacts to the surrounding community. Specifically:

- A truck loading area will be designated on the Site, underlain with crushed stone which will be maintained on an "as needed" basis to minimize fugitive dust releases as well as transport of site soils onto public roads on truck tires.
- All trucks will be brushed clean of debris or dirt prior to exiting the Site.
- All trucks will be covered and lined to minimize fugitive releases of dirt and other wastes generated at the Site.
- All trucks will exit the Site onto NYS Route 9, travel south to NYS Route 9G, north to NYS Route 199, and west to the NYS Thruway via the Kingston-Rhinecliff Bridge. No trucks will be permitted to utilize local roads. Any deviation to this truck route will occur only after a written request to DC and a written approval from DC. DC will not approve any deviation until NYSDEC is consulted. Map of the Truck Route is attached as Appendix D to this RDR.

Contractors are required to follow applicable federal, state and local regulations for waste removal and disposal, and to minimize dust generation and fugitive discharge of soils off-Site.

2.2 Removal and Disposal of Storage Tanks

ROD requirements include removal of the two fuel tanks remaining on the property, the two wastewater storage tanks adjacent to the main building, and any tanks found during the course of remediation. Removal and disposal of USTs will include, but are not limited to, the following activities:

- Vacuuming and removal of any liquid contents;
- Documenting the tank's size and condition;
- Evaluating and screening associated soils for contamination;
- Excavating, stockpiling, and off-Site disposal of contaminated soils;
- End point sampling of the tank graves; and
- Submitting a tank removal report as required by NYSDEC.

All tanks on Site will be registered with NYSDEC.

2.3 Soil Removal and Remediation

ROD requirements include soil removal and remediation in areas where lead, arsenic, chlordane and petroleum contaminated soils have been identified. Additional soils may warrant removal, based on the results of the Supplement Soil Sampling Plan (see Appendix E of this RDR). Excavated soil will be stockpiled on Site and tested to determine contaminant levels and to determine waste disposal procedures. Remaining soils will be tested to confirm whether excavation has successfully removed the contaminated soil. Soils will be removed until remaining soils are determined through testing to contain contaminant levels at or below TAGM levels or background.

Remaining soils will be tested as per the following frequency:

- For UST removal with no evidence of contamination, one sample per wall collected at the centerline of the UST and two samples at the base collected at the centerline of the UST. Samples will be analyzed for constituents of concern, based on the product stored in the UST.
- For petroleum contaminated soil removal area, one sample per 25 linear feet of wall in the excavation area (minimum of one sample per wall) and one sample per 300 square feet of floor area (minimum of two floor samples). Samples will be analyzed for VOCs (8260) and SVOCs, PAHs only (8270).
- For metals contaminated soil removal areas, one sample per 50 linear feet of wall area (minimum of one sample per wall) and one sample per 500 feet of floor area (minimum of two floor samples). Samples will be analyzed for total weight lead and arsenic.
- For chlordane contaminated soil removal areas, one sample per 25 linear feet of wall in the excavation area (minimum of one sample per wall) and one sample per 300 square feet of floor samples (minimum of two floor samples). Samples will be analyzed for total weight pesticides (8082).

Soil remediation will include importation of clean fill as necessary. Any imported soil or fill must be certified as clean fill according to NYSDEC's Technical and Administrative Guidance Memorandum (TAGM #4046). Imported soils will be tested for VOCs (8260),

SVOCs (8270), PCBs/Pesticides (8082), and TAL metals at a rate of one sample for every 2,500 cubic yards of soil.

The site will be prepared for residential development. This preparation will include re-grading, mulching and seeding.

2.4 Site Security

Contractors will provide for Site security. They will develop a security program, and maintain it for the duration of the project. At a minimum, this program will protect the Site from theft, vandalism and unauthorized entry.

2.5 Health and Safety Plan (HASP)

Contractors will be responsible for preparing and implementing a HASP to address Site-specific health and safety concerns. Contractors are required to review HASP provisions with construction personnel before fieldwork begins.

Contractors must submit their proposed HASP to DC for approval. At a minimum, this HASP will meet the requirements summarized in this section.

Compliance with State and Federal requirements is required of all contractors, subcontractors, consultants and employees on all construction contracts and operations. The contractor is required to adhere to the regulations cited below, where applicable, as well as other Federal, State and Local governmental laws, rules and regulations.

This plan must be reviewed prior to the start of the contract for its appropriateness and periodically reviewed during the contract, and updated as necessary. The Contractor shall meet with the DC periodically to review and discuss the status of safety issues on the project. The Contractor shall post an appropriate notice on the job site that the Project Health and Safety Plan is available for examination on the project. This plan, as a minimum, should include the following items:

- Identification of project and company safety officers
- The Contractor's "Competent Person"
- Hazardous Materials Communication Plan
- Employee Health and Safety Training Program
- Company Safety Policy
- Procedures to address project safety and health
- Procedures for compelling worker compliance with safety and health requirements.
- The Contractor's Emergency Contact Person
- Accident reporting actions and procedures
- Imminent Danger and Emergency Actions
- Work Site Access
- Restricted Areas
- Electrical Safety
- Aerial Lifts, lifting Equipment, and boom devices
- Tree Work
- Equipment Safety Procedures
- Lifting Equipment
- Confined Spaces
- Respirators and respirator use
- Personnel protection clothing and devices
- NYCRR 753 – Underground notification
- Location and contact numbers for the nearest local Emergency Responders.
- Integration and compliance of the New York State Department of Health Community Air Monitoring Plan.

2.6 Quality Control and Quality Assurance

A laboratory will be contracted to conduct soil and groundwater testing for the project. The requirements for this laboratory are detailed in the attached specifications and include certification by the New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program. Laboratory results will be reviewed by independent, qualified professionals as required by NYSDEC and NYSDOH.

Photo-ionization detectors (PID) will be used to screen soil, tanks and other materials for volatile vapors. The PID will be calibrated at the onset of each workday, and a written calibration log will be maintained.

An assessment of subsurface soil characteristics, including soil type, the presence of foreign materials, and field indications of contamination (e.g., unusual coloration patterns, or odors, PID readings) will be made during fieldwork.

2.7 Community Air Monitoring Plan (CAMP)

A Community Air Monitoring Plan (CAMP) will be prepared by the demolition contractor for approval by DC prior to the start of demolition. At a minimum, this CAMP will meet the requirements summarized in this section.

Compliance with State and Federal requirements is required of all contractors, subcontractors, consultants and employees on all construction contracts and operations. The contractor is required to adhere to the regulations cited below, where applicable, as well as other Federal, State and Local governmental laws, rules and regulations.

The Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

Reliance on the CAMP should not preclude simple, common sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to:

- Soil/waste excavation and handling;
- Test pitting or trenching; and,
- The installation of soil borings or monitoring wells.

The monitoring equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.
- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.
- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

All 15-minute readings must be recorded and be available for State (DEC and DOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate concentrations will be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring will be performed using real-time monitoring equipment capable of

measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedence of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m3 above the upwind level and provided that no visible dust is migrating from the work area.
- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m3 of the upwind level and in preventing visible dust migration.

All readings must be recorded and be available for State (DEC and DOH) personnel to review.

2.8 Schedule

Groundwater monitoring wells will be installed and groundwater sampled before demolition and other construction activities begin. Groundwater sampling will continue as directed by NYSDEC. Demolition, asbestos abatement, tank and soil removal and soil remediation will begin in September 2005. Remediation activities are expected to take three months, but will continue as necessary to successfully implement ROD requirements.

2.9 Remedy Effectiveness

Site clean-up will be achieved when remaining soils in the area of excavation are shown to contain concentrations of all compounds at levels below NYSDEC Recommended Soil Clean-Up Objectives, as defined in the NYSDEC's Technical and Administrative Guidance Memorandum #4046 (TAGM), dated January 24, 1994, and subsequent NYSDEC memoranda. Confirmatory sampling should be in accordance with DER10 Section 5.4 Remedial Action Performance Compliance.

2.10 Monitoring and Management Activities

ESI and DE will prepare a site management plan on behalf of DC, which will address any residual contamination, for NYSDEC approval.

The ROD does not require groundwater remediation. Groundwater monitoring wells will be installed, and periodic testing of groundwater conducted to document on-Site water quality. Groundwater monitoring wells will be sampled for dissolved metals (both filtered and unfiltered) on a quarterly basis over the next year to document any change in lead and barium concentrations. Groundwater samples will be collected and analyzed as required under NYSDEC Technical and Administrative Guidance Memorandum #4015, entitled Policy Regarding Alteration of Groundwater Samples Collected For Metals Analysis, dated September 30, 1988.

ESI will develop all newly installed monitoring wells and collect the necessary groundwater samples. All sampling will be conducted in accordance with established NYSDEC protocols, with all groundwater samples collected in sterile containers and stored in cool, dry receptacles. Proper chain of custody procedures will be maintained.

Five wells will be installed and groundwater samples will be collected and analyzed for Total Analyte List metals (both total and dissolved) and Volatile Organic Compounds (VOCs). Additional analytes may be requested by the NYSDEC.

2.11 Easements and Permits

An environmental easement will be prepared and attached to the property title for the Site. At a minimum the environmental easement will:

- Require compliance with the approved site management plan for the western portion of the site;
- Restrict the use of groundwater as a source of potable or process water without necessary water quality treatment as determined by NYSDOH and/or NYSDEC; and,
- Require the property owner to complete and submit to the NYSDEC an institutional control / engineering control certification.

DC will be required to develop and adhere to a site management plan to ensure that such controls are continually maintained in the manner satisfactory to the Department. DC and its successors in title, lessees and lenders are prohibited from challenging the imposition or continuance of such controls, and failure to implement the Department-approved plan or to maintain such controls constitute a violation of the State Assistance Contract and the site management plan.

Permits necessary for site remediation are waived as a condition of participation in the Brownfields Program. DC has prepared and submitted a Stormwater Prevention Plan (SWPP) to the NYSDEC which will be implemented during all activities involving soil disturbance where suspended sediment has the potential to impact nearby surface water (including on-site wetlands).

APPENDIX A

Specifications
Demolition – Asbestos Removal

TECHNICAL SPECIFICATIONS

Specification Number	Specification Title
01001	Roles and Responsibilities
01060	Regulatory Requirements
01310	Project Meetings
01310.1	Progress Schedules
01500	Temporary Facilities
01570	Temporary Soil and Erosion Control
02075	Hazardous Material Abatement - Asbestos Abatement
02220	Site and General Demolition
02821	Fence
02911	Topsoil
02921	Seeding
05210	Removal of Aboveground and Underground Tanks
05220	Removal and Remediation of Contaminated Soils
05202	Contaminated and Hazardous Waste Material
13283	Disposal of Non-Hazardous Industrial Commercial Waste
13284	Identifying Dielectric Fluids
13285	Disposal of PCB Liquid Filled Electrical Equipment

01001
ROLES AND RESPONSIBILITIES

RELATED SECTIONS

A. Regulatory Requirements: Section 01060

B. Project Meetings; Section 01310.

C. Project Schedules; Section 01310.1

D. Construction Facilities and Temporary Controls: Section 01500.

THE CONTRACTOR

The Contractor shall supervise, direct and perform the work in accordance with the true intent and meaning of the contract documents. Unless otherwise expressly provided, the work must be performed in accordance with the best modern practice, with materials and workmanship of the highest quality, all as determined by, and entirely to the satisfaction of, the Engineer. The Contractor shall be responsible for the entire work until completed and accepted by the Owner.

The Contractor shall assume all risks and responsibility and shall complete the work in whatever material and under whatever conditions he may encounter or create, without extra cost to the Owner.

No plea of ignorance or misunderstanding of conditions that exist or that may hereafter exist, or of conditions or difficulties that may be encountered in the execution of the work under this contract, as a result of failure to make the necessary examinations and investigations, will be accepted as an excuse for any failure or omission on the part of a contractor to fulfill in every detail all of the requirements of the contract documents, or will be accepted as a basis for any claims whatsoever for extra compensation or an extension of time.

The Contractor acknowledges that the Owner does not guarantee that all pipes, ducts, utilities and other underground structures are shown on the plans, and that the information given is intended only as a guide to the Contractor. The Contractor shall not claim damages and shall not be entitled to payment because of any omission or faulty location on the plans of any pipes, ducts, utilities or other underground structures.

The Contractor shall do all work and pay all costs of cutting, protecting, supporting, maintaining, relocating and restoring all surface, subsurface or overhead structures, and all other property, including pipes, conduits, ducts, tubes, chambers, and appurtenances, public or private, in the vicinity of the work (except such which by law, franchise, permit contract, consent or agreement the owner thereof is required to protect, support, maintain, relocate or restore), repairing the same if damaged and restoring to their original conditions all areas disturbed. He shall not claim or be entitled to any damages for delay or otherwise by reason of such required work, and he hereby assumes all risks in connection therewith.

DEMOLITION – ASBESTOS REMOVAL
PERX PROPERTY

It is anticipated that the prime contractor shall obtain sub-contractors for specialized portions of work that they are not familiar with or that is beyond their abilities. Sub-Contractors are informed that they must coordinate their portion of the project with the other contractors involved as directed by the prime.

The following table generally delineates the responsibilities of each contractor/sub-contractor.

	General Work Description	Responsibilities
Contract 1 The work specified under Contract 1 pertains to the accompanying bid package.	Building Demolition	1. Removal of frame, concrete block, metal structures, miscellaneous steel/iron conduit and abandoned machinery and other existing debris. 2. Removal of non-contaminated structural foundations and floor slabs. 3. Removal of asphalt, scarifying, topsoil, and regrading of the asphalt pavement removal areas.
	Asbestos Removal	1. Removal of Asbestos materials from building 2. Disposal of materials to certified disposal site.
	Soil Remediation	1. Identification and removal of containers, bags, barrels, and other materials not identified but found throughout the complex. 2. Removal and remediation of lead and arsenic containing areas designated for soil remediation
	Tank Removal	1. Removal of tanks, floor drains, and affiliated piping; a. Removal of contaminated soil. b. Additional testing of soil in removal areas. c. Replacement of contaminated soil with clean material.
	Other	1. Removal, testing, and disposal of electrical transformers. 2. Removal of electric poles and overhead wires. 3. Installation, construction, and maintenance of Soil Erosion Control features and devices.
Contract 2	Monitoring Wells	4. Installation of monitoring wells and testing.

Contract 2 is a separate contract being let simultaneous to, but not as a part of Contract 1.

THE OWNER

The Owner, in addition to those matters expressly made subject to its determination, direction or approval in this contract, shall have the power:

(1) To determine finally any and all questions in relation to this contract and its performance, which determination shall be final and conclusive upon the Contractor.

(2) To modify or change this contract so as to require the performance of extra work, or the omission of contract work, or both, whenever it deems it in their interest to do so;

(3) To suspend (directly or through the Owner's representative including, but not limited to the Owner's Clerk of the Works, Attorney, or Engineer), the whole or any part of the work or terminate the entire project whenever, in its judgment, such suspension or termination is required

(a) in the interest of the Owner generally, or

(b) to coordinate the work of the various Contractors engaged in this project, or

(c) to expedite the completion of the entire project even though the completion of this particular Contract may be thereby delayed, without compensation to the Contractor for such suspension other than extending the time for the completion of the work, as much as it may have been, in the opinion of the Engineer, delayed by such suspension;

(d) to address issues including, but not limited to, worker safety, property damage, personnel at site, workmanship, or materials installed.

(4) If before the final completion of all the work contemplated herein, it shall be deemed necessary by the Owner to take over, use, occupy or operate any part of the completed or partly completed work, the Owner shall have the right to do so and the Contractor will not, in any way, interfere with or object to the use, occupation or operation of such work by the Owner after receipt of notice in writing from the Owner that such or part thereof will be used by the Owner on and after the date specified in such notice.

ENGINEER'S AUTHORITY

The Engineer, in addition to those matters elsewhere herein expressly made subject to his determination, direction or approval, shall have the power, subject to review by the Owner:

To observe the performance of the work;

1. To determine the amount, kind, quality, sequence, and location of the work to be paid for hereunder;
2. To determine all questions in relation to the work, to interpret the drawings, specifications, and addenda;

3. To make minor changes in the work as he deems necessary, provided such changes

do not result in a net increase in the cost to the Owner or to the Contractor of the work to be done under the contract;

4. To amplify the plans, add explanatory information and furnish additional specifications and drawings consistent with the intent of the contract documents.

5. To determine how the work of this contract shall be coordinated with the work of other contractors engaged simultaneously on this project, including the power to suspend any part of the work.

6. To temporarily halt work to address issues including, but not limited to, worker safety, property damage, personnel at site, workmanship, or materials installed.

The foregoing enumeration shall not imply any limitation upon the power of the Engineer, for it is the intent of this contract that all of the work shall be subject to his determination and approval, except where the determination or approval of someone other than the Engineer is expressly called for herein. All orders of the Engineer requiring the Contractor to perform work as contract work shall be promptly obeyed by the Contractor.

The Engineer will not be responsible for the construction means, controls, techniques, sequences, procedures or construction safety.

The Engineer shall promptly make decisions relating to interpretation of the plans and specifications.

PLANS AND SPECIFICATIONS

The plans and specifications comprise the bid package. The plans and specifications were developed by different firms and reflect the concerns of the various firms that developed them. Where the terminology or specific directions differ from those given in other specifications or in the General Conditions set forth in the Project Proposal, the more restrictive language shall apply to the work. The language concerning general contract requirements; EEO, HASP, Insurance, Permits, Fees, found in the General Conditions, shall overrule that found in the various specifications.

SECTION 01060

REGULATORY REQUIREMENTS

PART 1 GENERAL

1.01 CODES

A. General: Comply with the requirements of the various codes referred to in these specifications, except where they conflict with the requirements of these specifications. The referenced codes shall be the date of latest revision in effect at the time of receiving bids, unless the date is given.

B. Electric Work: Conform to the requirements of the latest edition of the National Electrical Code (NEC) unless otherwise shown or specified. The Resident Engineer will be the sole judge of the interpretation of these rules and requirements.

1.02 PERMITS AND INSPECTIONS

A. Obtain a New York Board of Fire Underwriters inspection and certificate for any new or temporary electrical connections.
B. Obtain an underground utility stakeout before beginning any excavation.

1.03 LISTINGS

VACANT.

1.04 COORDINATION WITH ELECTRIC UTILITY COMPANY

A. Comply with the electric utility company requirements for incoming electric service or alteration to the existing electrical service. The utility company is:
CENTRAL HUDSON GAS AND ELECTRIC

1.05 COORDINATION WITH GAS UTILITY COMPANY

A. Comply with the gas utility company requirements for incoming gas service or alteration to the existing gas service. The utility company is:
CENTRAL HUDSON GAS AND ELECTRIC

1.06 COORDINATION WITH MUNICIPALITY FOR WATER CONNECTIONS

A. Comply with the municipal requirements for the connection or alteration of water lines to the municipal utility services. Obtain and pay for all necessary permits from municipal water department. Obtain authority to connect to their existing water mains. The municipal utility company is:
TOWN OF RED HOOK.

1. Make necessary alterations to the existing municipal water mains under supervision of water department's representative.

1.07 COORDINATION WITH MUNICIPALITY FOR SANITARY SEWER CONNECTIONS

A. Comply with the municipal requirements for the connection or alteration of sanitary sewer lines to the municipal utility services. Obtain and pay for all necessary permits from municipal sewer department. Obtain authority to connect to their existing sanitary sewers. The municipal utility company is:
TOWN OF RED HOOK.

1. Make necessary alterations to existing municipal sewer lines under the supervision of sewer department's representative.

1.08 COORDINATION WITH TELEPHONE COMPANY

A. Contact the local telephone company and arrange for the removal and relocation of existing telephone equipment. The local telephone company is:
TACONIC TELEPHONE.

1.09 COORDINATION WITH TELECOMMUNICATIONS ORGANIZATION

A. VACANT

1.10 UTILITY WORK WITHIN STATE HIGHWAY RIGHT-OF-WAY

A. Utility Work, either overhead or underground, within the boundaries of the state highway right-of-way, shall conform with procedures set forth in the following Department of Transportation publications:
1. "Department Rules and Regulations Governing the Accommodation of Utilities Within State Highway Right-of-Way" (Part 131 - Title 17 Transportation).
2. Procedure - "Issuance of Highway Work Permits" (Code 7.12-2).

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

SECTION 01310

PROJECT MEETINGS

PART 1 GENERAL

1.01 INITIAL JOB MEETING

A. The Owner's Repersentative will notify all parties concerned of the time and place of the initial job meeting.

B. The meeting will be conducted by the Owner's Repersentative. In order to insure an orderly procedure, an agenda for the meeting will be developed and a copy will be transmitted to the Contractor prior to the meeting. All items on the agenda, as they apply, will be discussed.
   1. A copy of the Facility's current Visitor Identification Policy and Facility General Regulations will be distributed.

1.02 BI-WEEKLY JOB MEETINGS

A. Unless otherwise directed, job meetings will be held every 2 weeks at a time and place agreed upon by the Owner's Repersentative, and the Contractor. Other interested parties may attend when needed, e.g., subcontractors and representatives from suppliers, public utilities, and local government.

B. The meetings will be conducted by the Owner's Repersentative for the following purposes:
   1. Review job progress, quality of Work, and approval and delivery of materials.
   2. Identify and resolve problems which impede planned progress.
   3. Coordinate the efforts of all concerned so that the project progresses on schedule to on time completion.
   4. Maintain a sound working relationship between the Contractor and the Owner's Repersentative and a mutual understanding of the project requirements.
   5. Maintain sound working procedures.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

SECTION 01310.1
PROGRESS SCHEDULES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Format.
B. Content.
C. Revisions to schedules.
D. Submittals.

1.02 FORMAT

A. Prepare Schedules as a horizontal bar chart with separate bar for each major portion of Work or operation, identifying first work day of each week.

B. Additional information to be shown:
   1) Critical dates
   2) Work dependent on others
   3) Time for testing and results to be returned
   4) Float
   5) Critical Path

C. Scale and Spacing: To provide space for notations and revisions.

D. Sheet Size: Multiples of 11 x 17 inches.

1.03 CONTENT

A. Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction.

B. Identify each item by specification Section number.

C. Identify work of separate stages, separate floors, and other logically grouped activities.

C. Provide sub-schedules for each stage of Work identified in Section 01010 if applicable.

E. Provide sub-schedules to define critical portions of the entire Schedule.

F. Show accumulated percentage of completion of each item, and total percentage of work completed as of the first day of each month.

G. Provide separate schedule of submittal dates for shop drawings, product data, and samples, including Owner furnished products and Products identified under Allowances, and dates reviewed submittals will be required from Engineer. Indicate decision data for selection of finishes.

H. Indicate delivery dates for Owner furnished products and Products identified under Allowances.

I. Coordinate content with Schedule of Values specified in Section 01019.

1.04 REVISIONS TO SCHEDULES

A. Indicate progress of each activity to date of submittal, and projected completion date of each activity.

B. Identify activities modified since previous submittal, major changes in scope, and other identifiable changes.

C. Provide narrative report to define problem areas, anticipated delays, and impact on Schedule. Report corrective action taken, or proposed, and its effect including the effect of changes on schedules of separate contractors.

1.05 SUBMITTALS

A. Submit initial Schedules within 15 days after date of Owner-Contractor Agreement. established in Notice to Proceed. After review, resubmit required revised data within ten days.

B. Submit revised Progress Schedules with each every second Application for Payment.

C. Submit the number of opaque reproductions which Contractor requires, plus two copies which will be retained by Engineer.

D. Submit one opaque reproduction and one reproducible transparency.

1.06 DISTRIBUTION

A. Distribute copies of reviewed Schedules to project site file, Subcontractors, suppliers, and other concerned parties.

B. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in Schedules.

END OF SECTION

SECTION 01500

CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 GENERAL

1.01 TEMPORARY UTILITIES

A. General: The Contractor is advised that electric service and potable water is not available on site. The Contractor shall supply all necessary water and electricity to perform the work under this contract within the contract schedule, at no additional cost to the Owner.

B. Temporary electricity: The Contractor shall obtain or provide power service capacity and characteristics as required for construction operations at no cost to the Owner.

C. Temporary lighting for construction purposes: Provide and maintain lighting as necessary to provide for worker safety on the job site at all times during Work. Lighting levels shall be in accordance with industry standards, and governing Labor Laws and Codes.

D. Temporary water service: The Contractor shall provide temporary water source as needed to maintain specified conditions for construction operations at no cost to the Owner.

E. Temporary sanitary facilities: Provide and maintain required facilities and enclosures. Existing facility use is not permitted. Provide facilities at time of project mobilization.

1.02 CONSTRUCTION FACILITIES

A. Field offices and sheds: Designated existing spaces may be used for field offices and for storage:
   1. Paved parking lot area, as approved by Owner's Representative.

B. Vehicular access: Provide unimpeded access for emergency vehicles.
   1. Maintain 20 feet wide driveways with turning space between and around combustible materials.
   2. Provide and maintain access to fire hydrants and control valves free of obstructions.

C. Parking: Use of designated areas for parking facilities by construction personnel is permitted, with the following conditions:

   1. Do not allow vehicle parking on existing street Right-of-Way.
   2. Designate one parking space for Owner.
   3. Designate, provide, and maintain a controlled, stabilized, construction entrance for the duration of the project.
   4. Maintain traffic and parking areas in sound condition.

1.03 TEMPORARY CONTROLS

A. Barriers: Provide durable orange construction barriers to protect Owner's existing property, facilities and adjacent properties from damage from construction operations and demolition.

B. Enclosures and fencing: Provide temporary closure of exterior openings to accommodate acceptable working conditions, and to prevent entry of unauthorized persons.

C. Security: Protect Work and existing premises from theft, vandalism, and unauthorized entry. Maintain program throughout construction period.

D. Water control: Protect building interior, products, and assemblies from rain, or water damage from puddling or running water.

E. Dust control: Execute Work by methods to minimize raising dust from construction operations.

F. Noise control: Provide methods, means, and facilities to minimize noise produced by construction operations.

G. Pest control: Provide methods, means, and facilities to prevent rodents, pests and insects from entering facility.

H. Pollution control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations.

1.04 PROGRESS CLEANING AND WASTE REMOVAL

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in clean and orderly condition daily.

B. Collect and remove waste materials, debris, and rubbish from site periodically and dispose off-site.

1.05 REMOVAL OF TEMPORARY FACILITIES

A. Restore damaged areas to their original condition.

B. Repair existing parking facilities damaged by use, to original condition.

C. Remove temporary materials and construction at Substantial Completion. Restore site to original condition.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

SECTION 01570

TEMPORARY EROSION AND SEDIMENT CONTROL

PART 1 GENERAL

1.01 RESPONSIBILITY

A. Assume responsibility for the temporary control of soil erosion and water pollution resulting from performance of the work of this contract.

B. In the event of conflict between these specifications and the regulation of other Federal, State, or local jurisdictions, the more restrictive regulations shall apply.

1.02 DESCRIPTION

A. The Work shall consist of temporary control measures as required to provide temporary control of soil erosion or water pollution.

B. Temporary measures shall include berms, sedimentation basins, silt screens, mulches, grasses, or other erosion control devices or methods as required.

1.03 AUTHORITY

A. The Owner's Representative has the authority to limit the surface area of erodible earth exposed by earthwork operations and to direct the Contractor to provide immediate temporary or permanent erosion or pollution control measures to minimize damage to property and contamination of watercourses and water impoundments.

1.04 COORDINATION AND SCHEDULING

A. Schedule the work so as to minimize the time that raw earth areas will be exposed to erosive conditions.

B. Coordinate the use of temporary controls with the permanent erosion control features or finish materials shown.

C. Incorporate permanent control features into the work at the earliest practical time.

PART 2 MATERIALS

2.01 MATERIALS

A. Mulches: Hay, straw, wood cellulose, fiber mats, geotextiles, and other materials approved by the Owner's Representative.

B. Grasses: Seed mixture as specified in Section 02921 or other species suitable for temporary cover which will not compete with the grasses sown later for permanent cover.

PART 3 EXECUTION

3.01 WORK AREAS

A. The Owner's Representative may limit the area of clearing and grubbing and earthwork operations in progress commensurate with the Contractor's demonstrated capability in protecting erodible earth surfaces with temporary or permanent erosion control measures.

B. Under no circumstances will the area of erodible earth material exposed at one time exceed 600,000 square feet without prior written approval of the Owner's Representative.

C. The Owner's Representative may increase or decrease the area of erodible earth material exposed at one time as determined by his analysis of project, weather and other conditions.

END OF SECTION

Section 02075
Asbestos Abatement

PART 1.00 - GENERAL

1.1 SCOPE OF WORK

A. The following requirements and conditions apply to the removal of identified asbestos-containing materials. The work is to be performed at the former Perx Property located at 68 South Broadway, Red Hook, New York. The work is to be performed in various buildings located on the property as indicated below.

B. Asbestos-containing materials identified on the property included pipe and pipe fitting insulation, transite, window glazing, grey linoleum, tan linoleum, brown 12"x12" floor tile, red 12"x12" floor tile. All built-up roofing materials throughout the various building as well as the shingled sections of the main building are assumed to be asbestos containing until proven otherwise.

1. Main Building (Main Processing Warehouse) -

Transite materials throughout main building - 23,882 sqft
Grey Linoleum in loading dock shipping office - 100 sqft
Tan Linoleum in loading dock office area - 180 sqft
Brown 12"x12" floor tile in the 2nd floor locker room area - 2050 sqft
Red 12"x12" floor tile in the main office area - 600 sqft
Window Glazing throughout the main building (24) windows - 550 lf
Pipe and pipe fitting insulation throughout the main building - 7500 lf
Roofing Materials throughout the main building (assumed) - 100,000 sqft

2. Maintenance Garage -

Window glazing (3) windows - 50 lf.

3. Waste Treatment Building #1 -

Window glazing (3) windows - 50 lf.
Roofing Materials (assumed) - 600 sqft

4. Old Office Building -

Due to the un-safe condition of the building only materials types, not quantities were observed and noted as follows:

Pipe and pipe fitting insulation
Plaster
Sheetrock
Built-up roofing

C. The above quantities are only approximate and the Contractor will be required to field verify the amounts and remove all ACM contained within the property boundaries at no additional charge to the Owner. The Asbestos Abatement Contractor is

responsible for the confirmation of the actual total quantities of the work to be performed and preparation, filing and fees of any required Site Specific Variance prior to Bidding.

D. The removal and disposal of the ACM in the will be accomplished as per the provisions and conditions listed in New York State Code of Rules and Regulations (NYCRR) Part 56, 12 NYCRR, "Asbestos". The Contractor shall be responsible for all means and methods of abatement including the petitioning the NYS Department of Labor's Engineering Services Unit for any Site-Specific Variance he deems necessary to perform the work in a timely, efficient manner. The cost for such Petition shall be included in the contractor's base pricing. The contractor shall provide copies of any proposed site-specific variances petition applications to the Environmental Consultant for review and approval prior to submission to the NYS DOL.

Primary Methods of Removal/Disposal:

i. For Pipe and Pipe Fitting Insulation Abatement Operations in the locations indicated, the removal shall be performed by NYS Dept. of Labor's Applicable Variance 108 (AV 108) Asbestos Glovebag.

ii. Wherever debris is encountered on the floor in the "Occupied Areas", it shall be addressed as a part of the pre-cleaning of the area. The removal shall be performed by NYS Dept. of Labor's Applicable Variance 105 (AV 105) Incidental Disturbance of an Asbestos Containing Material. This shall be followed by a "surface decontamination of the floor (i.e. dirt/concrete/Finished Flooring) which shall include the HEPA vacuuming of any finished floors or the removal of the top 1" of dirt floors. The extent of this Surface Decontamination shall encompass the specific location of the debris plus a 5' radius from the given location.

iii. For Floor Tile and Mastic Abatement Operations in the locations indicated, the removal shall be performed by NYS Dept. of Labor's Applicable Variance 120 (AV 120) Floor Covering and Mastic Manual Removal.

iv. Asbestos-Containing Roofing Material (ACRM) Abatement –The removal and disposal of the asphalt-based roofing materials, including but not limited to built-up roofing, shingle roofing and the like and various flashings, will be accomplished as per the provisions and conditions listed in the New York State Department of Labor's Applicable Variance 119 (AV 119)- Asbestos Containing Roofing/Flashing Removal.

v. Abatement in Old Office Building - shall be accomplished as per the provisions and conditions listed in the New York State Department of Labor's Applicable Variance 106 (AV 106)- Demolition of Condemned Buildings or Structures. This Applicable Variance shall only be used if the building has been properly condemned by a Structural Engineer.

Should the building not be condemned, then the cleanup shall be performed by a combination of Applicable Variances, Site specific variances and New York State Code of Rules and Regulations (NYCRR) Part 56, 12 NYCRR, "Asbestos".

vi. All other abatement not specifically listed above shall be performed either by New York State Code of Rules and Regulations (NYCRR) Part 56, 12 NYCRR, "Asbestos" or site specific variance applied for by the contractor.

E. The Abatement Contractor will also be required to file all necessary Project Notifications. This includes the normal/standard EPA Notification and the NYS Department of Labor Notification along with any other standard Local notification/ submission requirements. All Notifications shall include/follow the normal submission items/time frame requirements for an asbestos abatement project. The Contractor shall also adhere to the normal Building Occupant Notification requirements.

F. Any air sampling necessary to meet OSHA requirements will be the responsibility of the Abatement Contractor and all associated costs shall be included in his Base Bid.

G. New York State Code of Rules and Regulations (NYCRR) Part 56, 12 NYCRR, "Asbestos". Decontamination Systems shall comply with the requirements of New York State Code of Rules and Regulations (NYCRR) Part 56, 12 NYCRR, "Asbestos" and any approved site-specific variances. The Architect/Engineer shall approve the actual location(s) of the Decontamination Units. The units shall be fully sheathed and secured via lockable doors at the entrance/egress.

H. The Abatement Contractor shall provide all labor and material necessary for removal and disposal of asbestos containing materials or asbestos contaminated materials as shown/referenced on the drawing and described above. ***All Labor must be properly Certified for Asbestos Removal Work.***

I. The phases and hours for this asbestos abatement project must be coordinated with the Facility Representative. The Asbestos Abatement Contractor will perform the work of this contract in a manner that will be least disruptive to the normal use of the non-work areas in and around the building.

J. During the execution of the Abatement Project, if the Contractor believes any work in addition to that listed in these specifications is present in a given work area, he shall immediately bring it to the attention of the Architect/Engineer for review, verification, and authorization prior to proceeding with the additional work. If the Contractor performs the additional work prior to notifying the Engineer, and therefore without verification and authorization, he will not be compensated for such work.

K. The Owner will be obtaining the services of a Third Party Independent Consultant, hereafter referred to as the ECR (Environmental Control Representative), for Project Monitoring and Air Monitoring/Analysis. The contractor shall coordinate all work through the ECR.

1.02 QUALITY ASSURANCE

A. Codes and Standards
   1. Comply with the following codes and standards, except where more stringent requirements are shown or specified:
      a. Code of Federal Regulations (CFR)
         1) 29 CFR 1910.1200, "Hazard Communication" (OSHA)
         2) 29 CFR 1910.134, "Respiratory Protection" (OSHA)
         3) 29 CFR 1910.145, "Specification for Accident Prevention Signs and Tags" (OSHA)
         4) 29 CFR 1926, "Construction Industry" (OSHA)
         5) 29 CFR 1926.58, "Asbestos, Tremolite, Anthophyllite, and Actinolite" (OSHA)
         6) 40 CFR 61, Subpart A, "General Provisions" (EPA)
         7) 40 CFR 61, Subpart M, "National Emission Standard for Hazardous Air Pollutants Asbestos" (EPA)
         8) 40 CFR 763, OPTS-62048E; FRL-3269-8 Federal Register 52, No. 210, Friday October 30, 1987, "Rules and Regulations; Asbestos-Containing Materials in Schools, Final Rule and Notice" (EPA)
         9) 49 CFR 106,107,171-179, "The Transportation Safety Act of 1974, Hazardous Material Transportation Act"
      b. American National Standard Institute (ANSI)
         1) Z9.2-79, "Fundamentals Governing the Design and Operation of Local Exhaust Systems"
         2) Z88.2-80, "Practices for Respiratory Protection"
      c. New York State Code of Rules and Regulations (NYCRR)
         1) Part 56, 12 NYCRR, "Asbestos"
         2) Parts 360 and 364, 6 NYCRR (Disposal and Transportation)
         3) Part 73, 10 NYCRR, "Asbestos Safety Program Requirements"
      d. Local Requirements - Abide by all local requirements, if these requirements are more stringent than state and federal requirements which govern asbestos abatement work or hauling and disposal of asbestos waste then the local requirements shall be followed.
      e. Obtain two (2) copies of 29 CFR 1926.58 and 40 CFR 61, Subparts A & B. Post one copy at the job site and retain one copy on file in the Contractor's office.

B. Records
   1. Every Contractor shall maintain asbestos project records for at least 40 years pursuant to Subpart 56-1.6(a), Part 56, 12 NYCRR.
   2. Each record shall include:
      a. The name, address, and social security number of the asbestos project supervisor.
      b. The location and description of the asbestos project.
      c. The amount of asbestos-containing material that was installed, removed, enclosed, applied, encapsulated or disturbed.
      d. The asbestos project start and completion dates.

1.02 QUALITY ASSURANCE (cont.)

e. The name and address of the waste disposal site where the asbestos waste material was deposited or disposed of.
f. The name and address of any sites used for interim storage of asbestos waste materials prior to final deposit or disposal.
g. The name and address of the asbestos waste material transporters.
h. The name, address and social security number of all persons engaged in the asbestos project.
i. Any information on required New York State forms.

C. Notices and Permits
1. Environmental Protection Agency
a. At least 10 days for both small asbestos projects and large asbestos projects (as defined in Subpart 56-1.4 to 12 NYCRR 56) prior to beginning work on the asbestos-containing materials, send written notification to the Environmental Protection Agency, National Emissions Standards for Hazardous Air Pollutants (NESHAPS) Coordinator, Air Facilities Branch, 26 Federal Plaza, New York 10007, in accordance with 40 CFR 61.145,146. Provide copies to the Architect/Engineer and to the Owner.
b. The notification shall include the following information:
1) Name and Address of Owner.
2) Name and Address of Contractor.
3) Address and description of the building, including its size and age, amount, in cubic feet, of friable asbestos material to be abated, and the nature of contract work.
4) Scheduled starting and completion dates for abatement.
5) Procedures that will be employed to comply with EPA regulations.
6) The name and address of the waste disposal site where asbestos wastes will be deposited.
2. Department of Environmental Conservation
a. Obtain an annual "Industrial Waste Hauler Permit" specifically for asbestos-containing materials from New York State Department of Environmental Conservation, Waste Transporter Section, Room 205, 50 Wolf Road, Albany, NY, 12233, pursuant to Part 364, 6 NYCRR for transporting of waste asbestos-containing materials to a disposal site.
b. Asbestos-containing waste materials to be transported shall be packaged in accordance with Environmental Protection Agency requirements and as specified herein.
3. Local Fire/Rescue Department
a. Consult with the local fire/rescue department in the preparation of the Emergency Procedures Plan for fire and medical emergencies. Notify the local fire/rescue department in writing seven (7) days prior to the start of asbestos removal work. Notification shall be made when the asbestos removal work in each location is complete. A copy of the above notification shall be provided to the ECR.

1.02 QUALITY ASSURANCE (cont'd)

4. New York State Department of Labor
   a. At least 10 days prior to beginning work on the asbestos-containing materials, send written notification to the New York State Department of Labor, Division of Safety and Health, Asbestos Control Program. Provide copies to the Architect/Engineer, the ECR, and to the building Owner.
   b. The notification shall include as a minimum:
      1) The name, address and asbestos handling license number of the Contractor.
      2) The address and description of the building including size/age/prior use.
      3) The amount of asbestos-containing material, in square feet and/ or linear feet, present in the building.
      4) Room designations, if applicable.
      5) The proposed abatement start and completion dates.
      6) The procedures and equipment, including ventilating/exhaust systems that will be employed.
5. Notification of Residential and Business Occupants
   a. Contractor shall post or otherwise provide for a written notification to residential and business occupants ten days prior to the commencement of the work.
   b. If the work is to begin less than ten days after contract execution, the contractor shall post or otherwise provide for a written notification to residential and business occupants at least three days prior to the commencement of the work.
   c. The written notification shall be given to those residential and business occupants of a building, or portion thereof, on the floor or floors and one floor above/one floor below where the actual project is to be conducted. Said written notification shall also be given to those occupants of adjacent buildings who have direct horizontal access to these floors. Posted notice shall be provided at all direct means of access to the floor.
   d. Each notification shall include the following information:
      1) The room, location(s) or area designation of the asbestos project.
      2) The amount and types of asbestos or asbestos material, in square and/or linear feet, involved with the project.
      3) The commencement and completion dates of the project.
      4) The name and asbestos license number of the contractor.
      5) The name and address of the air monitor and laboratory for the project.
   e. No person shall interfere with the obligations of the contractor under this section.
6. a. A copy of all notices shall be kept at the work site. Maintain current permits as required by Federal, State and local jurisdictions for the removal, transporting and disposal or any other regulated activity relative to this work contract.
   b. Maintain current licenses as required by applicable state or local jurisdictions for the removal, transporting, disposal or other regulated activity relative to the work of this contract. Maintain two (2) copies of applicable federal, state and location regulations.

1.02 QUALITY ASSURANCE (cont'd)

c. Post one copy of each at the job site where workers will have ready, easy and daily exposure to the text. Keep on file in contractor's office one copy of each.

D. Medical Requirements
1. Medical Examinations
a. Before exposure to airborne asbestos fibers, provide workers with a comprehensive medical examination as required by 29 CFR 1926.58. This examination is not required if adequate records show the employee has been examined as required by 29 CFR 1926.58 within the past year. The same medical examination shall be given on an annual basis to employees engaged in an occupation involving asbestos fibers and within 30 calendar days before or after the termination of employment in such occupations. Specifically identify X-ray films of asbestos workers to the consulting radiologist and mark medical record jackets with the word "ASBESTOS."
2. Medical Records
a. As required by 29 CFR 1926.58, maintain complete and accurate records of employees' medical examinations for a period of 40 years after termination of employment and make records of the required medical examinations available for inspection and copying to: The Assistant Secretary of Labor for Occupational Safety and Health, the Director of the National Institute for Occupational Safety and Health (NIOSH), authorized representatives of either of them, and an employees' physician upon the request of the employee or former employee.

E. Licensing and Certification
1. The Contractor must submit and display a valid New York State asbestos handling license pursuant to Subpart 56-2.1, Part 56, 12 NYCRR.
2. The Contractor must have on site proof that any persons employed by the Contractor to engage in or supervise work on an asbestos project have a valid New York State asbestos handling certificate from an EPA-approved course pursuant to NYCRR, Title 56, Part 12, Section 56-2.2.

F. Environmental Control Representative (ECR) - The Firm selected for the daily inspection of the work performed and the air monitoring / analysis will be under separate Contract with the Owner.
1. Project Monitoring Duties
a. The Daily on-site representative, referred to hereafter as the Environmental Control Representative (ECR), is authorized by the Owner to oversee all removal work, interpret all procedures and enforce all provisions of the Contract Documents pertaining to asbestos removal and disposal.
b. The ECR is authorized to stop work if, in his judgment, there is substantial non-compliance with the Contract Documents, or there is a situation of serious health risk to workers or occupants due to the performance of work. Such stop work order shall be effective immediately and remain in effect until corrective measures have been taken and the situation has

1.02 QUALITY ASSURANCE (cont'd)

c. been remedied. Standby time required to resolve the situation shall be at the Contractor's expense. The Contractor is required to ensure cooperation of its personnel with the ECR during the inspection of each work area prior to starting asbestos work, during the asbestos abatement work, and during Final inspection of each work area prior to removal of containment barriers.

2. Air Monitoring Duties
   a. The testing laboratory selected for the following scheduled monitoring of airborne concentrations of asbestos fibers will be under separate Contract with the Owner.
   b. The ECR is authorized by the Owner to conduct Pre-Abatement, Abatement, and Final Clearance air sampling.
   c. Personal air samples shall be the responsibility of the Abatement Contractor.
   d. All air samples shall normally be analyzed using NIOSH method 7400 for Phase Contrast Microscopy (PCM), except in the case of Final Clearance Air Samples, which shall be analyzed using NIOSH method 7400 for Phase Contrast Microscopy (PCM) and AHERA TEM method.

H. Respirator Program
   1. The employer shall provide respirators, and ensure that they are used, where required by this section. Respirators shall be used in the following circumstances:
      a. During the interval necessary to install or implement feasible engineering and work practice controls;
      b. In work operations such as maintenance and repair activities, or other activities for which engineering and work practice controls are not feasible;
      c. In work situations where feasible engineering and work practice controls are not yet sufficient to reduce exposure to or below the exposure limit; and
      d. In emergencies.
   2. General
      a. Where respiratory protection is used, the employer shall institute a respirator program in accordance with 29 CFR 1910.134 (b), (d), (e) and (f), and 29 CFR 1926.58.
      b. The employer shall permit each employee who uses a filter respirator to change the filter elements whenever an increase in breathing resistance is detected and shall maintain an adequate supply of filter elements for this purpose.
      c. Employees who wear respirators shall be permitted to leave work areas to wash their faces and respirator face-pieces whenever necessary to prevent skin irritation associated with respirator use.
      d. No employee shall be assigned to tasks requiring the use of respirators if, based on his or her most recent examination, an examining physician determines that the employee will be unable to function normally wearing a respirator, or that the safety or health of the employee or of other employees will be impaired by the use of a respirator. Such employee shall be assigned to another job or given the opportunity to transfer to a different position the duties

1.02 QUALITY ASSURANCE (cont'd)

of which he or she is able to perform with the same employer, in the same geographical area, and with the same seniority, status, and rate of pay he or she had just prior to such transfer, if such a different position is available.

3. Respirator Selection
   a. Where respirators are used, the employer shall select and provide, at no cost to the employee, the appropriate respirator as specified in Table H-3, and shall ensure that the employee uses the respirator provided.
   b. The employer shall select respirators from among those jointly approved as being acceptable for protection by the Mine Safety and Health Administration (MSHA) and the National Institute for Occupational Safety and Health (NIOSH) under the provisions of 30 CFR Part 11.
   c. The employer shall provide a Powered Air Purifying Respirator (PAPR) in lieu of any negative-pressure respirator specified in Table H-3 whenever;
      -An employee chooses to use this type of respirator; and
      -This respirator will provide adequate protection to the employee.

TABLE H-3 - RESPIRATORY PROTECTION FOR ASBESTOS, TREMOLITE, ANTHOPHYLLITE,AND ACTINOLITE FIBERS

Airborne Concentration of Asbestos Fibers	Required Respirator
Not greater than 1 f/cc (10 X PEL)	Half-mask air-purifying respirator equipped with high-efficiency filters
Not greater than 5 f/cc (50 X PEL)	Full face-piece air-purifying respirator equipped with high-efficiency filters
Not greater than 10 f/cc (100 X PEL)	Any powered air-purifying respirator equipped with high-efficiency filters; or any supplied-air respirator operated in continuous flow mode
Not greater than 100 f/cc (1000 X PEL)	Full face-piece supplied air respirator operated in pressure demand mode
Greater than 100 f/cc (or unknown)	Full face-piece supplied air respirator operated in pressure demand mode equipped with an auxiliary positive pressure self-contained breathing apparatus

Notes:
1) Respirators assigned for higher environmental concentrations may be used at lower concentrations.
2) A high-efficiency filter is at least 99.97% efficient against mono-dispersed particles of at least 0.3 microns in diameter.

1.02 QUALITY ASSURANCE (cont'd)

4. Respirator Fit Testing
   a. The employer shall ensure that the respirator issued to the employee exhibits the least possible face-piece leakage and that the respirator is fitted properly.
   b. Employers shall perform either quantitative or qualitative face fit test at the time of initial fitting and at least every six (6) months thereafter for each employee wearing a negative-pressure respirator. The qualitative fit test may be used only for testing the fit of half-mask respirators where they are permitted to be worn. The tests shall be used to select face-pieces that provide the required protection as prescribed in Table H-3.

1.03 QUALIFICATIONS OF CONTRACTOR

A. Training
   1. Contractor shall furnish the Owner proof of his staff's educational training in the hazards of asbestos and at least two removal jobs of asbestos-containing materials by full enclosure, with one involving troweled or sprayed-on material.
   2. Contractor shall submit to the Owner proof of respirator-training and fit-testing and a description of his firm's respiratory program required under 29 CFR 1926.58.
   3. Licensing of Contractors and certification of asbestos workers shall be in accordance with New York State Labor Law Article 30 and Subpart 56-2, Part 56, 12 NYCRR. The Contractor shall submit to the Owner a copy of the asbestos handling license.

B. Medical Surveillance
   1. Contractor shall furnish the Owner evidence of his firm's medical surveillance program required under 29 CFR 1926.58.

C. After Contract Award no subcontracting of asbestos abatement work will be permitted.

1.04 PRE-BID CONFERENCE

A. If called for by the Owner or his agent, the Asbestos Abatement Contractors are required to attend the pre-bid conference. Contractors shall familiarize themselves with the Contract Documents prior to attending the conference. All interested parties must attend the pre-bid meeting and walk-through. Failure to attend may result in disqualification from bidding at the discretion of the Owner.

1.05 PRECONSTRUCTION CONFERENCE

A. Prior to start of preparatory work under this Contract, the Contractor shall attend a pre-construction conference and walk-through attended by Owner, Architect/Engineer, and ECR.

B. Agenda for this conference will include but not necessarily be limited to:
   1. Contractor's scope of work, work plan and schedule.
   2. Contractor's safety and health precautions including protective clothing and equipment and decontamination procedures.
   3. Testing laboratory's air monitoring plan.
   4. Contractor's work procedures including: Methods of job site preparation and decontamination chamber set-up, wetting agents and procedures, and removal methods; respirator procedures; procedures for decontaminating the objects in the "decontamination and abatement" sections, methods of handling removed material and disposal procedures; cleanup procedures and equipment; signs and labels; fire exits and emergency procedures.
   5. Contractor's plan for 24-hour job security both for prevention of theft and for barring entry of curious but unprotected personnel into work areas.

1.05 PRECONSTRUCTION CONFERENCE (Cont.)

6. Temporary utilities.
7. Handling of furniture, books and other moveable objects.
8. Documentation of compliance with environmental laws and standards.
9. Storage of removed asbestos-containing materials.

C. In conjunction with the conference the Contractor shall accompany the Owner and the ECR on a pre-construction walk-through, documenting the existing condition of finishes and furnishings, and reviewing the overall work plan, locations of fire exits, fire protection equipment, water supply and temporary electric tie-in.

1.06 SUBMITTALS

A. Submit the following items for approval by the ECR prior to commencing work involving asbestos-containing materials. No work shall commence until approval has been obtained.
   1. Asbestos Plan
      a. Submit a detailed plan of the work procedures to be used in the removal and demolition of materials containing asbestos. Such plan shall include location of asbestos control areas, decontamination chambers, layout of decontamination chambers, interface of trades involved in the construction, sequencing of asbestos related work, negative air pressure filtration system plan, disposal plan, type of wetting agent and asbestos sealer to be used, and a detailed description of the method to be employed in order to control pollution, including but not limited to emergency procedures for fire and medical emergencies and for failure of seals. This plan must be approved prior to the start of any asbestos work.
      b. Negative air pressure filtration system plan shall include a layout drawing indicating the method of providing air supply into the work area, location of HEPA filtration system, size of ducts, method of sealing ducts, the negative pressure to be maintained within the work area and the method to control this pressure, number of air changes, system manufacturer, size and characteristics, pre-filters and filter life spans and catalog numbers. Provision for maintaining effectiveness of the pre-filters and filters shall be indicated.
   2. Disposal
      a. Submit written evidence that the landfill for disposal is approved for asbestos disposal by the EPA and DEC, and that the landfill to be used for disposal has been notified of the specific project.
   3. Emergency Plan
      a. Submit a detailed plan for fire and medical emergencies.
         1) Fire Emergency
            a) Describe procedures for evacuation, notification of fire department (including phone number) and fire containment.
         2) Medical Emergency
            a) Describe procedures for care of unconscious, contaminated personnel, decontamination of conscious personnel, notification of emergency medical services (including phone number) and first aid care.

1.06 SUBMITTALS (cont'd)

b) Provide names of on site personnel trained in first aid and CPR.

4. Certificates of Compliance
   a. Submit manufacturers' certification that vacuum equipment, ventilation equipment, and other equipment required to contain airborne asbestos fibers conform to ANSI Z9.2.
   b. Submit the name, address and telephone number of the industrial hygienist selected to direct training.
   c. Submit a copy of a valid Contractor's asbestos handling license pursuant to Subpart 56-2.1, Part 56, 12 NYCRR.
   d. Submit certificates signed by each employee that the employee has received training in the proper handling of materials that contain asbestos; understands the health implications and risks involved, including the illnesses possible from exposure to airborne asbestos fibers; understands the use and limits of the respiratory equipment to be used; and understands the results of monitoring of airborne quantities of asbestos as related to health and respiratory equipment.
   e. Submit a copy of each employee's asbestos handling certificate, pursuant to Subpart 56-2.2, Part 56, 12 NYCRR.
   f. Submit the name and experience record of both the supervisor and foreman. Include evidence of knowledge of applicable regulations; evidence of participation in and successful completion of EPA approved training course in asbestos removal and/or supervision of asbestos related work; and experience with asbestos related work in a supervisory position as evidenced through supervision of at least two asbestos abatement contracts.
   g. Submit a copy of the supervisor's asbestos handling certificate pursuant to Subpart 56-2.2, Part 56, 12 NYCRR.
5. Upon completion of the job and as a condition of its acceptance, the Contractor will submit the job log book containing day-to-day record of personnel entering the work area. The Contractor's daily log entries will include any significant events occurring during the abatement project and will be countersigned by the ECR.
6. Submit the name of the independent laboratory employed by the Contractor who will analyze the OSHA mandated employee personal air samples.
7. Submit a list of Contractor's equipment available for asbestos work, including but not limited to negative air machines, type of respirator intended for use on the job, type "C" supplied air systems, scaffolding, decontamination facilities, disposable clothing, etc.
8. Submit Material Safety Data Sheets (MSDS's) for any chemicals brought to the work site.
9. Upon a completion of the job and as a condition of its acceptance, Contractor shall submit all Original Waste Shipment Records in compliance with 40 CFR Part 61 (see Section 1.09).

1.07 DELIVERY AND STORAGE

A. Deliver all materials to the job site in original packages with containers bearing manufacturer's name and label.

1.07 DELIVERY AND STORAGE (cont.)

B. Store all materials at the job site in a suitable and designated area. Store materials subject to deterioration or damage away from wet or damp surfaces and under cover. Protect materials from unintended contamination.
C. Remove damaged or deteriorated materials from the job site. Materials contaminated with asbestos shall be disposed of as asbestos debris as herein specified.

1.08 TEMPORARY UTILITIES

A. Electric
   1. Shut down and lock out electric power to all work areas.
   2. Provide, from Owner's existing system, temporary 120-208 volt, single phase, three wire, 100 amp electric service with Ground Fault Circuit Interrupters (GFCI) for all electric requirements within the asbestos work area. Provide temporary wiring and "weatherproof" receptacles in sufficient quantity and location to serve all negative air units, HEPA vacuum equipment, tools and air monitoring equipment.
   3. Provide temporary lighting with "weatherproof" fixtures for all work areas including decontamination chambers.
   4. All temporary devices and wiring used in the work area shall be capable of decontamination procedures including HEPA vacuuming and wet-wiping.

B. Water
   1. Provide temporary, valved hot and cold water from Owner's existing system. Hot and cold-water service shall be provided to the decontamination chamber's shower and clean room sink. Provide a 3/4" cold-water hose connection at decontamination equipment room.

1.09 ASBESTOS DISPOSAL FORM

A. The Contractor shall submit signed documentation for each day on which asbestos waste is removed from the site. The Waste Manifest shall include the amount of waste removed, the name and address of the permitted asbestos waste transporter, and the quantity of waste received and signed for by the landfill official who accepted final delivery. At each point where possession of the asbestos waste is transferred, the Manifest must be signed by the Agency relinquishing possession and countersigned by the Agency receiving possession. Upon final receipt of the asbestos waste at the designated landfill, the completed and signed forms shall be forwarded to the Owner or the Owner's designated representative before authorization of project completion will be issued. The Contractor shall submit a sample of the Waste Manifest proposed for use with his initial Project Submittal package for review/approval.

B. If a copy of the Manifest signed by the waste site owner or operator is not received by the waste generator within 35 days of the date the waste was accepted by the initial

1.09 ASBESTOS DISPOSAL FORM (Cont.)

transporter, the waste generator shall contact the transporter and/or the disposal site owner or operator to determine the status of the waste shipment. If a signed copy of the Manifest is not received by the waste generator within 45 days of the date the waste was accepted by the initial transporter, the waste generator shall submit an Exception Report to the EPA (reference 40 CFR Part 61).

PART 2.00 - PRODUCTS

2.01 RESPIRATORS

A. Select respirators from those approved by the Mine Safety and Health Administration (MSHA), and the National Institute for Occupational Safety and Health (NIOSH), Department of Health and Human Services.

B. Respirators shall be fit-tested to personnel by an Industrial Hygienist. Fit-tested respirators shall be permanently marked to identify the individual fitted, and use shall be limited to that individual.

C. No respirators shall be issued to personnel without such personnel participating in a respirator training program.

D. High Efficiency Particulate Air (HEPA) respirator filters shall be approved by NIOSH and shall conform to the OSHA requirements in 29 CFR 1910.134.

E. A storage area for respirators shall be provided by the Contractor on the clean room side of any established decontamination chambers where they will be kept in a clean environment.

F. The Contractor shall provide and make available a sufficient quantity of respirator filters so that filter changes can be made as necessary during the workday. Filters will be removed and discarded during the decontamination process. Filters cannot be reused. Filters must be changed if breathing becomes difficult.

G. Filters cannot be used any longer than one 8-hour workday.

H. Respirator filters shall be stored at the project site in the change room of each work area and must be protected from asbestos exposure prior to use.

2.02 PROTECTIVE CLOTHING

A. Provide personnel exposed to airborne concentrations of asbestos fibers with fire retardant disposable protective whole body clothing, head-coverings, gloves and foot coverings. Provide disposable plastic or rubber gloves to protect hands. Cloth gloves may be worn inside the plastic or rubber for comfort, but shall not be used alone. Make sleeves secure at the wrists and make foot coverings secure at the ankles by the use of tape, or provide disposable coverings with elastic wrists or tops.

B. Provide sufficient quantities of protective clothing to assure a minimum of four (4) complete disposable outfits per day for each individual performing abatement work.

C. Eye protection and hard hats shall be provided and made available for all personnel entering any work area.

2.02 PROTECTIVE CLOTHING (cont'd)

D. Authorized Visitors
   1. Any representative of the Owner, Consultant or any regulatory or other agency having jurisdiction over the project shall be considered an authorized visitor.
   2. Authorized visitors shall be provided suitable protective clothing, headgear, eye protection and footwear whenever they are required to enter the work area.
   3. The Contractor will have at least two additional respirators stored on site designated for emergency use only. Appropriate respirator filters, for authorized visitors shall be made available by the Contractor.

2.03 SIGNS AND LABELS

A. In accordance with 40 CFR Part 61, Labels are required on all containers of asbestos containing waste material indicating the name of the generator and location where the waste was generated.

B. Provide danger signs and barrier tapes at all approaches to asbestos control work areas. Locate signs at such distance that personnel may read the sign and take the necessary protective steps required before entering the area. Provide asbestos danger labels affixed to all asbestos materials, scrap, waste, debris and other products contaminated with asbestos.
   1. Provide danger signs in vertical format conforming to 29 CFR 1926.58 (k)(1), minimum 20" x 14", displaying the following:

DANGER
ASBESTOS
CANCER AND LUNG DISEASE
HAZARD
AUTHORIZED PERSONNEL ONLY
RESPIRATORS AND PROTECTIVE
CLOTHING ARE REQUIRED IN THIS AREA

   2. Provide pressure-sensitive asbestos DANGER labels of sufficient size to be clearly legible, displaying the following on any asbestos contaminated material in accordance with 29 CFR 1910.1200(f):

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE
HAZARD

   3. Provide the following pressure-sensitive asbestos labels, of sufficient size to be clearly legible, for display on waste containers (bags or drums) which will be used to transport asbestos contaminated material in accordance with United States Department of Transportation 49 CFR, Parts 171 and 172;

2.03 SIGNS AND LABELS (cont'd)

RQ HAZARDOUS
SUBSTANCE,
SOLID, NOS,
ORM-E, NA 9188
(ASBESTOS)

4. a. Provide 3" wide yellow barrier tape printed with black lettered "CAUTION ASBESTOS REMOVAL". Locate barrier tape across all corridors, entrances and access routes to asbestos work area.
   b. When 3" wide polyethylene warning tape printed "CAUTION ASBESTOS REMOVAL" is used it shall be installed at a height 3 to 4 feet above floor surfaces.
5. Provide log-in sign at entrance to clean room. Sign shall be a minimum 12" x 12" having 1 inch Sans Serif Gothic or Block letters with the legend:

   ALL PERSONS ENTERING WORK AREAS ARE REQUIRED TO SIGN IN

6. In accordance with 40 CFR Part 61, vehicles used to transport asbestos containing waste materials shall be marked with the sign prescribed by OSHA during loading and unloading to warn people of the presence of asbestos.

2.04 NEGATIVE AIR PRESSURE FILTRATION SYSTEM

A. Provide a portable asbestos filtration system that develops a minimum pressure differential of minus 0.02" of water column within all full enclosure areas relative to adjacent unsealed areas and that provides a minimum of 4 air changes per hour in the work area during abatement. Such ventilation systems must be equipped with HEPA filters to prevent the release of asbestos fibers to the environment outside the enclosure and must be operated 24 hours per day during the entire project until the final cleanup is completed and satisfactory results of the final air samples are received from the laboratory. All systems shall be in accordance with ANSI Z9.2. Provide automatic recording instruments to record continuous 24-hour per day monitoring of the pressure differential.
   1. System shall provide a series of pre-filters and filters to provide High Efficiency Particulate Air (HEPA) filtration of particles down to 0.3 microns at 100 % efficiency and below 0.3 microns at 99.97% efficiency. Provide sufficient replacement filters to replace pre-filters every 2 hours, secondary pre-filters every 24 hours, and primary HEPA filters every 600 hours of operation.
   2. A minimum of one additional ventilation unit of at least the same capacity as the primary unit shall be installed and fully functional to be used during primary unit filter changing and in case of primary unit failure.
   3. At no time will the ventilation unit exhaust indoors or within 50 feet of a receptor, or adversely affect the air intake of the building.

2.05 LOG

A. Provide a permanently bound log book of minimum 7-1/2" x 9-1/2" size. Log book shall contain on title page the project name; the name, address and phone number of Owner; name, address and phone number of the ECR; name, address and phone number of Abatement Contractor; name, address and phone number of Contractor's IH; emergency numbers including, but not limited to, local Fire/Rescue department. The log book shall contain a list of personnel approved by the IH for entry into the work area whose signatures acknowledge that they have reviewed and understand all applicable procedures.

B. All entries into the log shall be made by non-washable, permanent ink and such pen shall be strung to or otherwise attached to the log to prevent removal from the log-in area. Under no circumstances shall pencil entries be permitted.

2.06 AIRLESS SPRAYER

A. A centrifugal airless sprayer shall be used to apply amended water to asbestos-containing materials. The sprayer shall be capable of creating a mist, which reduces the potential for fiber release.

2.07 SCAFFOLDING

A. Provide all scaffolding and/or staging as necessary to accomplish the work of this Contract. Scaffolding may be of suspension type or standing type such as metal tube and coupler, tubular welded frame, pole or outrigger type or cantilever type. The type, erection and use of all scaffolding shall comply with all applicable OSHA construction industry standards. Scaffold ends and joints shall be sealed to prevent incursion of asbestos fibers.

2.08 POWER TOOLS

A. Any power tools used to drill, cut into, or otherwise disturb asbestos material shall be equipped with HEPA filtered local exhaust ventilation.

2.09 CHEMICAL PENETRANT (AMENDED WATER)

A. Wet all asbestos-containing materials prior to removal with chemical penetrant, which is mixed and applied in accordance with manufacturer's printed instructions.

2.10 DISPOSAL BAGS, DRUMS, AND STORAGE BAGS

A. Provide clear, yellow, or black 6 mil polyethylene disposal bags pre-printed with asbestos danger labels. Bags shall be sized to fit within sealable drums for transport to an approved disposal site.
B. Provide 30 or 55 gallon capacity fiber or metal drums capable of being sealed air and water tight. Affix asbestos danger labels on lids and at one-third points around drum

2.10 DISPOSAL BAGS, DRUMS, AND STORAGE BAGS (Cont.)

circumference, to assure ready identification.

C. Provide clear 6 mil polyethylene bags to store decontaminated objects from the "decontamination and abatement" zones.

2.11 HEPA VACUUM EQUIPMENT

A. All dry vacuuming performed under this Contract shall be performed with High Efficiency Particulate Air (HEPA) filter equipped industrial vacuums conforming to ANSI Z9.2.

B. Provide tools and specialized equipment including scraping nozzles with integral vacuum hoods connected to a HEPA vacuum with flexible hose.

C. HEPA vacuum equipment that has been previously used on other asbestos abatement sites must have intake and exhaust port openings sealed when not in use.

D. Industrial Wet Vacuum Units, when utilized, shall exhaust to the uptake manifold of the Negative Air Filtration Unit.

PART 3.00 - EXECUTION

3.01 GENERAL REQUIREMENTS

A. Perform asbestos related work in accordance with 40 CFR 61, 29 CFR 1926, NYS ICR Part 56, and as specified herein. Where different requirements are specified, adhere to the more stringent requirements.

B. Should the area beyond the asbestos work area(s) become contaminated with asbestos-containing dust or debris as a consequence of the work, immediately institute emergency procedures. Contaminated non-work areas shall be isolated and decontaminated in accordance with procedures established for asbestos removal. All costs incurred in decontaminating such non-work areas shall be borne by the Contractor at no additional cost to the Owner.

C. Medical approvals and certificates of training shall be on file prior to admittance of any individual to the asbestos control work area. Individuals approved for entry into the work area shall be listed in the log book and shall sign in prior to entry.

D. Prior to start of asbestos abatement work, all heating, ventilation and air conditioning systems associated with the asbestos control work areas shall be shut down and locked out. Also shut down and lock out the building power supplies to the asbestos work area. Provide necessary temporary electric services as specified herein.

E. Perform all asbestos removal work using wet removal procedures. Mix and apply wetting agent in accordance with the manufacturer's written instructions, saturating all asbestos-containing materials prior to and during removal. Dry removal procedures are not permitted. Mix surfactant amended water in accordance with manufacturer's instructions for all water used in wet-wiping clean-up operations.

F. In non-demolition areas only, finishes subject to moisture damage by wet removal methods either through direct contact with water or through high humidity conditions shall be protected.

3.02 PREPARATION

A. All work area preparation requirements shall be as per the provisions and conditions listed in the NYS Department of Labor's Applicable Variance AV 119, AV 120, AV 108, any approved Site Specific Variances and the NYS DOL's Industrial Code Rule Part 56.

B. Provide asbestos danger signs at all approaches to the asbestos work area. Post all emergency exits as emergency exits only on the work area side, and post with asbestos danger signs on the non-work area side. Provide all non-work area stairs and corridors accessible to the asbestos work area with warning tape at the base of stairs and beginning of corridors. Warning tape shall be in addition to danger signs.

3.03 PRE-REMOVAL NOTIFICATION AND INSPECTION

A. Notify the ECR at least 48 hours prior to the start of any removal operations. The ECR shall inspect the work area for compliance with Contract Documents and the approved Asbestos Plan before authorizing start of removal. Smoke tubes shall be used to test the effectiveness of the work area barriers and the personal and waste decontamination areas during this inspection and daily thereafter, and the results, observations and any modifications documented. All deficiencies noted by the ECR during this inspection shall be corrected by the Contractor and rechecked by the ECR prior to the start of any removal.

3.04 AREA DECONTAMINATION

A. All accumulations of asbestos waste material shall be containerized using HEPA vacuums or plastic dust pans, squeegees or non-metal shovels. At least daily and after application of sealer/bonder, all vertical and horizontal polyethylene surfaces shall be HEPA vacuumed and sponge cleaned with amended water until no residue is visible.

B. During visual inspection by the ECR or based on results of air sampling, if it is determined that there is a higher airborne or visual asbestos fiber level than is allowed, the Contractor will clean or re-clean the affected areas at no additional expense to the Owner.

3.05 RESTORATION OF UTILITIES

A. After final clearance, the Contractor shall replace all filters of the associated portions of the existing building HVAC system that were affected by the abatement operations, remove locks and restore power. All temporary power supplies shall be disconnected, power lockouts removed and building power restored. Temporary plumbing shall be removed.

3.06 RESTORATION OF FINISHES

A. Finishes damaged by asbestos removal operations including, but not limited to, plaster/paint damage due to taping of polyethylene sheeting and floor tile lifted due to humid conditions, shall be restored prior to final payment. Finishes unable to be restored shall be replaced under this Contract.

B. Plaster or Wallboard Damage
   1. All damaged surfaces not scheduled for renovation shall be cleaned, spackled and patched as necessary.
   2. All patching shall be primed and then painted with two (2) coats, carefully blended to match adjacent surfaces.

3.06 RESTORATION OF FINISHES (cont'd)

C. Vinyl Tile Flooring and Base
   1. All tile flooring or base not scheduled for renovation and loosened during abatement work shall be reset. Remove old adhesive from substrate and tile or base. Reset tile with grain matching existing pattern. Reset base flush with existing base.
   2. Clean any excess adhesive from flooring or base using neutral type cleaners in accordance with recognized industry standards.

3.14 PROJECT COMPLETION REQUIREMENTS

A. Submission by the Contractor to the Owner of the job log-book as described in Section 1.06, paragraph A.4.

B. Inspection of the work sites by the Engineer's Representative and the Owner's Representative for substantial completion of the Scope of Work. Both representatives shall sign a form provided by the Engineer verifying completion.

C. Submission by the Contractor to the Owner of the waste disposal manifest verifying that all waste generated at the project site has been properly disposed of at an EPA approved waste site.

- END OF SECTION -

SECTION 02220

SITE AND GENERAL DEMOLITION

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

A. Project Meetings; Section 01310.

B. Project Schedules; Section 01310.1

C. Construction Facilities and Temporary Controls: Section 01500.

D. Temporary Soil and Erosion: Section 01570.

E. Asbestos Containing Materials: Section 02075

F. Topsoil: Section 02911.

G. Seeding: Section 02921.

H. Contaminated and Hazardous Waste Material; Section 05202.

I. Removal of Aboveground and Underground Tanks: Section 05210

J. Removal and Remediation of Contaminated Soils: Section 05220

K. Non-Hazardous Materials Removal: Section 13283.

E. Identifying Dielectric Fluids: Section 13284

F. Disposal of PCB Liquid Filled Electrical Equipment: Section 13285

1.02 SUBMITTALS

A. Quality Control Submittals:
   1. Permits: Submit one copy of each permit.
   2. Demolition Plan: Inspect site relative to Contract Documents, Specifications and Demolition Plan for accuracy and contact Engineer in event of discrepancy or conflicts.

1.03 QUALITY ASSURANCE

A. Permits: Before the Work of this Section is started, confirm with Owner that all permits required by Federal, State, and local jurisdictions for all phases and operations of the Work are in place or obtain those absent permits.

B. Demolition Plan: The demolition plan will not relieve the Contractor of complete responsibility for the successful performance of the Work in accordance with goals of the Contract Documents and all applicable Federal, State, and local codes and restrictions.

1.04 PROJECT CONDITIONS

A. Existing Paint: Assume existing painted surfaces to contain lead based paints. Take precautions as required to prevent spread of lead containing particles and dust.

B. Recycle demolition debris to the greatest extent possible. Coordinate with future site development plans as practicable to utilize site demolition debris as may benefit the total project goal.

C. Burning is prohibited.

D. The use of explosives is prohibited.

E. Demolition related equipment shall access the site from the main entrance, unless otherwise approved in writing by the Owner or Engineer.

G. Known asbestos containing materials will be removed from the identified locations as specified by the related Asbestos Containing Materials Specifications.

E. Known lead and arsenic containing soils will be removed from the identified locations as specified by the related Removal and Remediation of Contaminated Soils Specifications

F. Known Tanks, underground and aboveground, contaminated and non-contaminated will be removed from the identified locations as specified by the related Specification for Removal of Aboveground and Underground Storage Tanks.

G. Protect utilities during the Work of this Section, except where they are to be removed as identified by the Contract Documents. Note that Central Hudson Gas & Electric has inspected the site for coordinated removal of electric service and utilities and the Contractor shall contact and coordinate Work with their representatives.

H. Verify the location and status of all utilities within the Contract Limit Line (CLL), which is defined by the Contract Documents and at the least shall represent the boundary limits of the property. Note that the survey shows two (2) structures crossing the property boundary for which the Contractor shall coordinate removals with adjacent property owners and the Town (using a grading easement or other mechanisms)

I. The Contractor shall coordinate with utility representatives as required to accomplish the Work. Sewer, water, gas, electric, and telephone utilities may be disconnected by others after consultation.

J. Disconnect the following utilities:
1. Sewer: Plug or grout inside of nearest manhole. Remove abandoned lateral from the building to a point 5 feet from the building line.
2. Water: Cut and plug at nearest main as appropriate. Install thrust blocks, or rod and clamp, as directed by the owner, at caps and plugs.
3. Gas: Comply with utility regulations.
4. Electric: Comply with National Electric Code, utility regulations and coordinated actions of Central Hudson Gas & Electric.
5. Telephone: Comply with utility regulations.

K. Remove fluorescent lighting fixtures containing ballasts with PCB's and as indicated or specified elsewhere. Dispose of ballasts containing PCB's in compliance with all applicable rules and regulations.

L. Prior to beginning demolition, verify that all utilities serving the building to be demolished have been located and/or disconnected. At a minimum, UFPO should be contacted.

M. Erect temporary security fencing to augment existing fencing around the perimeter of the property to restrict access from the time demolition is started until rough grading is completed.

PART 2 PRODUCTS

2.01 MATERIALS

A. Plugs, Caps, Flanges: Approved cast iron thread plugs, welded caps, or flanges.

B. Grout: ASTM C 476.

C. Thrust Blocks: Minimum 2500 psi concrete.

D. Fill Within Building Foundation: Earth, sand, gravel, or stone with a maximum size of one cubic foot. Combustible materials, metal, glass, or other debris are not acceptable.

E. Selected Fill: Sound, durable, sand, gravel, stone, or blends of these materials, free from organic and other deleterious materials.

Sieve	Percent Passing
4 Inch	100
No. 40	0-70
No. 200	0-15

PART 3 EXECUTION

3.01 PREPARATION

A. Provide temporary six (6) foot high chain link fence, including all required gates, around the site to augment existing fencing as needed to limit access to the site prior to start of the Work. Locate temporary fence where required. Remove temporary fence in its entirety, including all anchorage materials, after completion of backfill operations. Install soil erosion and sediment control measures prior to disturbance of the site in accordance with NOI, Phase II SPDES and/or Stormwater Management Plan directives.

B. Vermin Control: Employ a "Certified Commercial Applicator", certified by the New York State Department of Environmental Conservation, to exterminate rodents and vermin in the building and tunnels to be demolished.

C. Remove drums or containers of hazardous wastes as specified in the Contract Documents. Removal of hazardous wastes in accordance with Federal, State, local regulations and as specified by Contract Documents.

D. Remove loose equipment, materials, supplies, and furnishings (desks, chairs, beds, mattresses, furniture, etc.) from building prior to demolition.

E. Remove all mechanical equipment, piping, etc. from basement and/or roof areas prior to demolition to facilitate demolition in a safe and cost-effective manner.

F. Pump out cesspools, septic tanks, and fuel tanks and remove contents from property in accordance with Contract Documents and Federal, State or local regulations.

3.02 DEMOLITION

A. Coordinate building demolitions with Asbestos removal program to effect a safe and cost-effective site demolition. It may prove beneficial to remove non-Asbestos Containing Materials (ACM) from areas containing ACM prior to

general demolition. Perform demolition in a systematic manner, beginning at the top of the structure and proceeding to lowest basement floor, or other method as beneficial to the project goals. It may prove beneficial to demolish interior sections of building roofs, particularly adjacent to areas in failing conditions, in order to inspect structural conditions of working areas prior to accessing roofs. Complete demolition above each floor level before disturbing supporting members on lower levels.

B. Wet down masonry and plaster materials during demolition to prevent spread of dust and dirt. Wet debris, and/or use temporary enclosures as necessary to limit dust to lowest practicable level. Do not use water to extent of causing flooding, contaminated runoff, or icing.

C. Do not place demolition equipment in buildings where it will create excessive loads on supporting walls, floors, and frames. Promptly remove accumulated debris and materials.

D. Lower structural framing members to ground by hoist or crane.

E. Remove floors over basement construction and remove on-grade slabs.

F. Break lowest basement slabs to less than 3 feet in any dimension.

G. Remove interior walls level to lowest basement slab.

H. Exterior basement walls are to be rubbilized to their lowest elevation or the basement slab, whichever is the greater depth.

I. Remove below grade combustible and/or hazardous materials in accordance with Contract Documents.

J. Remove walks, roads, pavements, curbs, slabs on grade, and fences within project limits, unless shown or directed otherwise.

3.03 DISPOSAL

A. Remove demolition debris and excess fill from site as soon as practicable.

B. Transport demolition debris and excess fill to designated disposal area as soon as practicable. Grade disposal areas to adjacent contours and slope to drain.

C. Do not store, sell, or burn materials on property.

3.04 BACKFILLING AND GRADING

A. Place fill in basements and other voids within the CLL. Where broken concrete and masonry materials are used for backfill, place fill in layers not exceeding twelve (12) inches and compact each layer. Broken concrete and masonry shall not be used as fill material outside the limits defined by the original building foundation walls.

B. Final twelve (12) inches of backfill below topsoil or finished grade elevations shall be selected fill.

C. Rough grade surface to adjacent contours and slope to drain.

D. Rough grade areas to an elevation two (2) inches below adjoining existing grades. Backfill with two (2) inches of topsoil and finish grade surface free of depressions which will trap water. Seed entire area unless indicated otherwise.

3.05 SALVAGE SCHEDULE

A. NONE

END OF SECTION

SECTION 02821

CHAIN LINK FENCE

PART 1 GENERAL

1.01 SCOPE
This section applies to all fencing on this project.

1.02 REFERENCES

A. Comply with ASTM A 53 for requirements of Schedule 40 piping.

1.03 DEFINITIONS

A. Height of Fence: Distance measured from the top of concrete footing to the top of fabric. Fences with buried fabric measured from finished grade to the top of fabric.

1.04 SUBMITTALS

A. Shop Drawings: Complete detailed drawings for each height and style of fence and gate required. Include separate schedule for each listing all materials required and technical data such as size, weight, and finish, to ensure conformance to specifications.

B. Product Data: Manufacturer's catalog cuts, specifications, and installation instructions for each item specified.

C. Samples:
1. Fence Fabric: Minimum one square foot.
2. Fence and Gate Posts: Two each, one foot long, if requested.
3. Miscellaneous Materials and Accessories: One each, if requested.

1.05 QUALITY ASSURANCE

A. Comply with standards of the Chain Link Fence Manufacturer's Institute.

B. Provide steel fence and related gates as a complete compatible system including necessary erection accessories, fittings, and fastenings.

C. Posts and rails shall be continuous without splices.

PART 2 PRODUCTS

2.02 STEEL FRAMEWORK (FOR FENCES UP TO 6'-0" HIGH)

A. End Posts, Corner Posts and Pull Posts:
1. Pipe: 2.375 inches OD, 3.65 pounds per linear foot (Schedule 40).

B. Line Posts:
1. Pipe: 1.90 inches OD, 2.72 pounds per linear foot (Schedule 40).

2.03 STEEL FRAMEWORK (FOR FENCES 6'-1" - 10'-0" HIGH)

A. End Posts, Corner Posts and Pull Posts:
1. Pipe: 2.875 inches OD, 5.79 pounds per linear foot (Schedule 40).

B. Line Posts:
1. Pipe: 2.375 inches OD, 3.65 pounds per linear foot (Schedule 40).

2.04 STEEL FRAMEWORK (FOR FENCES 10'-1" - 16' HIGH)

A. End Posts, Corner Posts and Pull Posts:
1. Pipe: 4 inches OD, 9.11 pounds per linear foot (Schedule 40).

B. Line Posts:
1. Pipe: 2.875 inches OD, 5.79 pounds per linear foot (Schedule 40).

2.05 STEEL FABRIC

A. One-piece widths for fence heights up to 12'-0".

B. Chain link, 2-inch mesh, No. 9 gauge.

C. Selvages: Top edge twisted and barbed; bottom edge knuckled.

2.06 SWING GATE POSTS

A. Single width of gate up to 6'-0" wide and less than 10'-0" high:
1. Pipe: 2.875 inches OD, 5.79 pounds per linear foot (Schedule 40).

B. Single width of gate 6'-0" to 12'-0" wide or over 10'-0" high:
1. Pipe: 4 inches OD, 9.11 pounds per linear foot (Schedule 40).

2.07 SWING GATE FRAMES

A. Up to 6'-0" high, and leaf width 8'-0" or less.
1. Pipe: 1.660 inches OD, 2.27 pounds per linear foot (Schedule 40).

B. Height: 6'-0" - 12'-0", or leaf width exceeding 8'-0":
1. Pipe: 1.90 inches OD, 2.72 pounds per linear foot (Schedule 40).

C. Height: 12'-1" - 20'-0".
1. Pipe: 2.375 inches OD, 3.65 pounds per linear foot (Schedule 40).

D. Assemble gate frames by welding or with special steel fittings and rivets for rigid connections. Install mid-height horizontal rails on gates over 10 feet high. When width of gate leaf exceeds 10 feet, install mid-distance vertical bracing of the same size and weight as frame members. When either horizontal or vertical bracing is not required, provide truss rods as cross bracing to prevent sag or twist.

2.08 SWING GATE HARDWARE

A. Hinges: Non-lift-off type, offset to permit 180-degree swing, and of suitable size and weight to support gate. Provide 1-1/2 pair of hinges for each leaf over 6 feet high.

B. Latch: Forked type for single gates 10 feet wide or less. Drop bar type with keeper for double gates and single gates over 10 feet wide complete with flush plate set in concrete. Drop bar length shall be 2/3 the height of the gate. Padlock eye shall be an integral part of latch construction.

C. Holdbacks for Vehicle Gates: Type, which automatically engages the gate leaf and holds it in open position until manually released.

2.09 MISCELLANEOUS MATERIALS AND ACCESSORIES

A. Rails and Post Braces:
1. Pipe: 1.660 inches OD, 2.27 pounds per linear foot (Schedule 40).

B. Fittings and Post Tops: Steel, wrought iron, or malleable iron.
1. Fasteners: Tamper-resistant cadmium plated steel screws.

C. Stretcher Bars: One piece equal to full height of fabric, minimum cross-section 3/16 inch by 3/4 inch.

D. Metal Bands (for securing stretcher bars): Steel, wrought iron, or malleable iron.

E. Wire Ties: Conform to American Steel Wire gauges.
1. For tying fabric to line posts, rails and braces: 9 gauge (.1483 inch) steel wire.

F. Truss Rods: 3/8-inch diameter.

G. Concrete: Portland cement concrete having a minimum compressive strength of 2500 psi at 28 days.

H. Spiral Paper Tubes:

1. Sonotube by Sonoco Products Co., North Second St., Hartsville, SC 29550, (800) 377-2692.
2. Sleek/tubes by Jefferson Smurfit Corp., P.O. Box 66820, St. Louis, Mo 63166, (314) 746-1100.

I. Cold Galvanizing Compound: Single component compound giving 93 percent pure zinc in the dried film, and meeting the requirements of DOD-P-21035A (NAVY).

2.10 FINISHES

A. Steel Framework:
1. Pipe: Galvanized in accordance with ASTM A 53, 1.8 ounces zinc per square foot.

B. Fabric:
1. Galvanized Finish: ASTM A 392 class II zinc coated after weaving, with 2.0 ounces per square foot.

C. Fence and Gate Hardware, Miscellaneous Materials, Accessories:
1. Wire Ties: Galvanized Finish, ASTM A 90 1.6 ounces zinc per square foot, or aluminized finish, ASTM A 809 0.40 ounces per square foot.
2. Hardware and Miscellaneous Items: Galvanized Finish, ASTM A 153 (Table 1).

PART 3 EXECUTION

3.01 PREPARATION

A. Clear and grub along fence line as required to eliminate growth interfering with alignment.

B. Do not begin installation of fence until finished grading has been completed.

3.02 INSTALLATION

A. Space posts equidistant in the fence line with a maximum of 10 feet on center.

B. Setting Posts in Earth: Drill holes for post footings. Set posts in center of hole and fill hole with concrete. Plumb and align posts. Vibrate or tamp concrete for consolidation. Finish concrete in a dome shape above finish grade elevation to shed water. Do not attach fabric to posts until concrete has cured a minimum of 7 days.

C. Locate corner posts at corners and at changes in direction. Use pull posts at all abrupt changes in grade and at intervals no greater than 500 feet. On runs over 500 feet, space pull posts evenly between corner and end posts. On long curves, space pull posts so that the strain of the fence will not bend the line posts.

D. Install top rail continuously through post tops or extension arms, bending to radius for curved runs. Install expansion couplings as recommended by fencing manufacturers.

E. Install bottom and intermediate rails in one piece between posts and flush with post on fabric side using special offset fittings on backstops.

F. Brace corner posts, pull posts, end posts, and gateposts to adjacent line posts with horizontal rails.

G. Diagonally brace corner posts, pull posts, end posts, and gateposts to adjacent line posts with truss rods and turnbuckles.

H. Attach fabric to security side of fence. Maintain a 1-inch clearance above finished grade except when indicated otherwise. Thread stretcher bars through fabric using one bar for each gate and end post and 2 for each corner and pull post. Pull fabric tight so that the maximum deflection of fabric is 2 inches when a 30-pound pull is exerted perpendicular to the center of a panel. Maintain tension by securing stretcher bars to posts with metal bands spaced 15 inches oc. Fasten fabric to steel framework with wire ties spaced 12 inches oc for line posts and 24 inches oc for rails and braces. Bend back wire ends to prevent injury. Tighten stretcher bar bands, wire ties, and other fasteners securely.

1. When fabric height exceeds 12 feet, overlap horizontal splices a minimum of 6 inches at the intermediate rail, and secure with wire ties spaced 12 inches oc.

I. Position bolts for securing metal bands and hardware so nuts are located opposite the fabric side of fence. Tighten nuts and cut off excess threads so no more than 1/8 inch is exposed. Peen ends to prevent loosening or removal of nuts.

1. Secure post tops and extension arms with tamper-resistant screws.

J. Install gates plumb and level and adjust for full opening without interference. Install ground-set items in concrete for anchorage, as recommended by fence manufacturer. Adjust hardware for smooth operation and lubricate where necessary.

K. Restore disturbed ground areas to original condition.

END OF SECTION

SECTION 02911

TOPSOIL

PART 1 GENERAL

1.01 SUBMITTALS

A. VACANT

1.02 QUALITY ASSURANCE

A. Topsoil used on this project shall be tested, and approved before placement.

B. Secure approval before stripping topsoil from a borrow area or delivering topsoil to the project site.

PART 2 PRODUCTS

2.01 TOPSOIL

A. Source: Provide topsoil from areas from which no topsoil has been taken previously and from areas which are producing, or have produced fair to good yield farm crops without unusual fertilization for a minimum period of 10 years, or from arable or cultivable areas supplied with good normal drainage.

2.02 LIMESTONE

A. Provide ground limestone in the producer's standard bags containing not less than 90 percent of calcium and magnesium carbonates equivalent to not less than 45 percent of the mixed oxides of calcium and magnesium and conforming to the following gradations:

Sieve Designation	Percent Passing
No. 100	50-100
No. 20	100

PART 3 EXECUTION

3.01 PREPARATION

A. Grub out and remove all vegetation in the area of the approved topsoil source.

3.02 SPREADING TOPSOIL

A. Perform topsoil-spreading operations only during dry weather.

B. To insure a proper bond with the topsoil, harrow or otherwise loosen the subgrade to a depth of 3 inches before spreading topsoil.

C. Spread topsoil directly upon prepared subgrade to a minimum depth measuring 4 inches after natural settlement in areas to be seeded. In sodden areas the thickness of the topsoil after natural settlement plus the sod shall equal 4 inches. Smooth out unsightly variations, bumps, ridges, and depressions which will hold water. Remove stones, litter, or other objectionable material. Finished surfaces shall conform to the contour lines and elevations indicated on the drawings or fixed by the Director's Representative.

3.03 SPREADING LIMESTONE

A. Spread ground limestone evenly over the topsoiled surface. Incorporate limestone within the top 2 inches of soil prior to finish raking.

B. Apply limestone at the following rate per 1,000 sq ft of topsoil area, corresponding to the hydrogen ion concentration (pH) shown by the soil chemical analysis:

pH	Rate (lb)
4.5 to 5.0	150
5.0 to 5.5	100
5.5 to 6.0	50
6.0 to 6.8	25
Over 6.8	0

END OF SECTION

SECTION 02921

SEEDING

PART 1 GENERAL

1.01 SUBMITTALS

A. Sample: One pound of seed in vendor's unopened package with label and seed analysis.

1.03 DELIVERY STORAGE AND HANDLING

A. Store all seed at the site in a cool dry place as approved by the Owner's Representative. Replace any seed damaged during storage.

1.04 SCHEDULING

A. Time For Seeding: Sow grass seed between March 15th and May 15th or between August 15th and October 1st, except as otherwise approved in writing.

PART 2 PRODUCTS

2.01 SEED

A. Furnish fresh, clean, new-crop seed, with the percentage of weed seed not exceeding 0.1 percent by weight.

B. All seed will be rejected if the label or test analysis indicates any of the following contaminates: Timothy, Orchard Grass, Sheep Fescue, Meadow Fescue, Canada Blue Grass, Alta Fescue, Kentucky 31 Fescue, and Bent Grass.

2.02 MULCH

A. Dry Application, Straw: Stalks of oats, wheat, rye or other approved crops which are free of noxious weed seeds. Weight shall be based on a 15 percent moisture content.

PART 3 EXECUTION

3.01 PREPARATION

A. Seed Bed: Scarify soil to a depth of 2 inches in compacted areas. Smooth out unsightly variations, bumps, ridges, and depressions, which will hold water. Remove stones, litter, or other objectionable material.

3.03 SEEDING

A. Assume all risks when seed is sowed before approval of seed analysis.

B. Do not seed when the wind velocity exceeds 5 miles per hour.

C. Application Rate:
   1. Standard Mixture: 3 pounds per 1000 sq ft.
   2. Special Mixture: 5 pounds per 1000 sq ft.

D. Dry Application: Sow seed evenly by hand or seed spreader on dry or moderately dry soil.

3.04 MULCHING

A. Dry Application: Within 3 days after seeding, cover the seeded areas with a uniform blanket of straw mulch at the rate of 100 pounds per 1000 sq ft of seeded area.

END OF SECTION

SPECIFICATIONS

FOR

REMOVAL OF ABOVEGROUND AND UNDERGROUND STORAGE TANKS

The Perx Property
7395 South Broadway
Village of Red Hook
Dutchess County, New York

Section 05210
NYSDEC Environmental Restoration Project
RFB-DCB-16-05

ESI File: DR99140.44

June 2005

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TABLE OF CONTENTS

SECTION 1 - SUMMARY OF WORK

1.1 PROJECT SUMMARY

A. Definitions

These Specifications for Removal of Aboveground and Belowground Storage Tanks are hereafter referred to as the Specifications. The contracting entity will be Dutchess County Department of Planning (DCDP). NYSDEC refers herein to the New York State Department of Environmental Conservation. The corporate entity awarded this contract and, therefore, responsible for the appropriate and complete implementation (Work) of these Specifications is hereafter referred to as the Contractor. The term Contract Documents will hereafter refer to the contract documents entitled Bid Specifications for Demolition-Asbestos Removal NYSDEC Restoration Project RFB-DCB-16-0. These Specifications are Section 05220 of the Contract Documents.

B. Project Location

The general location of all services detailed in these Specifications is the Perx Property located at 7395 South Broadway, Village of Red Hook, Dutchess County, New York, hereafter referred to as the Site. The Contract Documents include detailed fieldwork maps. Buildings and other locations are referred to in these Specifications using designations keyed on these maps.

C. Summary of Services

DCDP seeks a qualified Contractor to assist DCDP in performing all services necessary for the proper removal and disposal of aboveground storage tanks (ASTs) and underground storage tanks (USTs). Contractor will remove and remediate contaminated soils as deemed necessary by DCDP. DCDP expects that the Contractor will be responsible for the removal and disposal of eight tanks associated with wastewater treatment, two petroleum storage tanks and one dry well.

Tanks removal is limited to a specific portion of the Perx property. Other services being conducted on this Site include demolition and asbestos abatement of all structures, installation of groundwater monitoring wells, and soil excavation and remediation.

D. Limitations

The Contractor is responsible for every part of the Work indicated in Contract documents whether or not it is included in the following limited summary, unless explicitly excluded. These Specifications refer to every part of the Contract documents for the total Work included in this Contract. The award of this Contract is based upon the review, confirmation, and acceptance of the Contractor's qualifications and the acceptance of the Contractor's written bid. Any item left open may result in the bid being ruled "non responsive".

This Work is partially funded with New York State Department of Environmental Conservation (NYSDEC) money through the NYSDEC Environmental Restoration Program. The NYSDEC is not party to the awarded contract.

These Specifications are Section 05210 of NYSDEC Environmental Restoration Project RFB-DCB-16-05 at the Site. Requirements made in Section 05210 will apply except where more stringent requirements are made in NYSDEC Environmental Restoration Project RFB-DCB-16-05.

Requirements made in these Specifications apply except where more stringent requirements are made in the Contract Documents.

E. Relevant Documents

These Specifications are based on Site conditions as detailed in the following documents: Final Summary Report of Site Investigation and Interim Remedial Activities (Report) prepared by Ecosystems Strategies, Inc. (ESI), dated April 2004; and Environmental Restoration Record of Decision, Perx Property Site, Village of Red Hook, Dutchess County, New York, Site Number B-001773 prepared by the NYSDEC, dated February 2005.

1.2. KNOWN ENVIRONMENTAL CONDITIONS

The following summarizes the environmental conditions relevant to these Specifications. Site conditions are detailed in the above-referenced Report. The Contractor is hereby notified that conditions may have changed between the time of this investigatory work and the actual date of contract award. Furthermore, conditions unknown at the time of the April 2004 Report may be present and may materially affect this Contract.

The NYSDEC is aware of Site conditions. Work outlined in these Specifications will be done with the expressed intent of closing NYSDEC Spill File 0210253. Details relevant to NYSDEC Spill File 0210253 are in Section 1.2.D of these Specifications.

Volumes given for soil removal and remediation are approximate and subject to change based on future sampling and analysis by DCDP. Actual volumes will be delineated and confirmed by DCDP via sampling and analysis.

A. Tanks Associated with Wastewater Treatment

Two 5,000 gallon wastewater treatment tanks (Tank 1) are partially submerged in Area A9, adjacent to building B. Contamination above NYSDEC guidance values were found for pesticides, lead, arsenic and several other metals. Field evidence suggests the total volume of non-hazardous contaminated soil subject to soil removal and remediation is approximately seven cubic yards.

Four tanks in the wastewater treatment complex, NW of Building B, will be removed. Tank 4, adjacent Building H, is an underground wastewater treatment tank. Soil borings on either side of the tank showed no petroleum or pesticide contamination. Tank 6 is an upright, 3,-000 gallon tank within building K. Tank 7 is an agitator adjacent Building K. Tank 8 is an underground treatment tank north of Building J (A-12).

Two tanks are located in Area A3, west of the wastewater treatment complex. Tank 9 is an aeration tank and Tank 10 is an underground settling tank. Soil samples collected adjacent to Area A3 (LA-5 and LA-6) showed no contamination with either arsenic or lead.

B. Petroleum Tanks

Two petroleum storage tanks are located immediately east Building D: one 300 gallon waste oil UST (Tank 2) and one 550 gallon fuel oil AST (Tank 3). No petroleum contamination was found in soil samples collected from near the inverts of each tank.

Anecdotal comments from individuals familiar with the Site indicate a large (possibly 10,000-gallon) petroleum tank may be beneath Building B. No field evidence of this UST has been encountered during various Site inspections. No petroleum contamination was found in soil samples collected NE and SW of the building's exterior.

C. Dry Well

Tank 5 is a metal drywell SW of Building B. Contamination above NYSDEC guidance values were found for lead, cadmium, chromium and mercury in soil samples collected adjacent to this well.

D. Other Relevant Environmental Conditions

Soils sampled throughout the Site showed elevated concentrations of lead and arsenic. Elevated levels of other metals were found in isolated soil samples. Contractor should assume contaminated soils will be present near tank sites.

The NYSDEC Spill File 0210253A concerns petroleum contaminated soil at the Site. The petroleum contamination was documented at the north invert of a 750-gallon fuel oil UST located at the northern central portion of the Site. A spill event was reported to the NYSDEC (Spill File number 0210253) and the UST was removed.

Soil samples were collected from a test pit (TP-1) adjacent to the tank. Petroleum was detected in samples collected at 8 feet, but not in those taken at 12 feet. Field evidence suggests the total volume of contaminated soil near the tank grave is less than 50 cubic yards. Groundwater samples from a temporary monitoring well (TMW-1) adjacent and down-gradient of the tank grave showed no petroleum contamination.

1.3. CONTRACTOR USE OF SITE AND PREMISES

The Work of this Contract shall be done in a manner that easily permits continued access to existing facilities and causes the least possible interference with any other activities concurrently being conducted on the Site by DCDP.

1.4 STANDARDS AND GUIDANCE THAT APPLY TO THIS WORK

The following list includes some, but not all, of the standards and guidance that apply to this work. Contractor is responsible for compliance with all relevant standards and guidance.

Industry-common agencies, phrases and publications referenced herein are often abbreviated. Agency acronyms and abbreviations, and publication definitions used within this document are provided in Section 3.

- Resource Conservation and Recovery Act 40 CFR Parts 260-265
- RCRA Information on Hazardous Wastes for Publicly Owned Treatment Works
- NYSDEC TAGM #4046 and subsequent memoranda
- 6NYCRR, Part 360, *et seq.*
- 6NYCRR, Part 370, *et seq.*
- 6NYCRR, Part 612-614
- NYSDEC Spill Prevention Operations Technology Series

1.5 AWARD CRITERIA

The project will be awarded to the lowest cost, responsive, and responsible bidder.

1.6 REJECTION OF ALL BIDS

DCDP reserves the right to reject all bids for reasonable cause.

1.7 SPECIFICATION LANGUAGE

Omissions of words or phrases such as "The Contractor shall," "in conformity with," "shall be," "as noted in the Drawings," shall be supplied by inference in the same manner as they would be supplied by inference when a colon (:) is used within sentences or phrases.

1.8 COORDINATION AND MEETINGS

The Contractor will coordinate all aspects of the Work, including scheduling and submittals, with DCDP to ensure an efficient and orderly sequence of services.

The Contractor will coordinate completion and clean-up of the Work area on an "as needed" basis to ensure Site safety.

1.9 PROGRESS AND COMPLETION

- Normal working hours and normal working days for the Contractor's Work on this project shall be between the hours of 7:30 a.m. and 4:30 p.m., Monday through Friday, excluding holidays, except as otherwise specified, totaling an eight-hour, on-Site working day. Lump sum quoted work assumes eight hours time on Site.

- DCDP may require that part of the Work be done after normal working hours or on other than normal working days.

- The Contractor shall confine activities at project Site to normal working hours and normal working days unless DCDP requires or approves other times or days.

- Should the Contractor desire to carry out part of the Work at times other than normal working hours or days, the Contractor will submit a written request to do so to DCDP together with specific calendar days and hours the Contractor wishes to work and description of activities the Contractor proposes to carry out during those times. Construction activities will not be permitted at times other than those specified or subsequently approved in writing by DCDP. Only those activities specifically approved by DCDP are permitted during hours or on days other than those stipulated as normal working days or hours.

- If necessary to complete Work within Contract time, as adjusted by change orders, the Contractor will request DCDP's approval to work during days or times other than those designated as normal working days or hours, and if DCDP approves, perform Work during such additional times on such days as have been approved at no additional cost. Work during such additional times and on such additional days shall continue only as long as is necessary to complete the Work within the stipulated time period.

1.10 ANTICIPATED PROJECT SCHEDULE

The Contractor will coordinate and prepare a schedule and timetable for performing all services detailed in the Specifications. This schedule will be submitted to DCDP in writing, and once revised through mutual consent of DCDP and the Contractor, will be relied upon to assess Contractor responsiveness. Lack of completion of services in accordance with the approved schedule may be considered by DCDP as lack of responsiveness by the Contractor and, therefore, cause for possible dismissal.

1.11 QUALITY CONTROL

The following list includes some, but not all, of the quality control actions that apply to this Work. The Contractor is responsible for compliance with all relevant quality control actions.

- Monitor quality control over suppliers, manufacturers, products, services, Site conditions, and workmanship to produce Work of specified quality.

- Should instructions to the Contractor from either ESI or regulatory agencies conflict with contract documents, Contractor will request clarification from DCDP before proceeding.

- Comply with specific standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

- Make a good faith effort to assist DCDP in implementing DCDP's Affirmative Action Work Plan (AAWP). The AAWP has been submitted to NYSDEC, and is available for Contractor review.

- Perform Work by persons qualified to produce required and specified quality.

1.12 REFERENCES AND STANDARDS

The following list includes some, but not all, of the activities relevant to the references and standards that apply to this Work. The Contractor is responsible for compliance with all relevant references and standards.

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

- Conform to reference standard by date of issue current on date of Contract

documents except where a specified date is established by code.

- Obtain copies of standards where required by product specification sections.

- The Contractor shall follow referenced items included in Section 1.4 of these Specifications.

1.13 INSPECTION AND TESTING SERVICES

When required, DCDP will perform inspection and testing services specified in individual specification sections.

Reports will be submitted by DCDP to Contractor in duplicate. These reports will indicate inspection observations and compliance or non-compliance with Contract documents.

Inspecting does not relieve the Contractor to perform Work to Contract requirements.

1.14 CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

No temporary sanitary facilities will be provided by DCDP for these services.

Contractor will protect vehicular and pedestrian traffic, stored materials and the Site from damage. Contractor will construct and maintain stockpiles and barriers as detailed in the Contract Documents.

Cleaning and Waste Removal

Contractor will keep areas free of waste materials, debris, and rubbish and will maintain Site in a clean and orderly condition during Work activities.

Contractor will collect and remove waste materials, debris, and rubbish from Site weekly and dispose said materials off-Site in accordance with all applicable Federal, State and local regulations.

It is the expressed responsibility of Contractor to:

- remove temporary utilities, equipment, facilities, and materials prior to final application for payment inspection;
- clean and repair damage caused by Work; and
- restore existing facilities used during construction to original condition and, if appropriate, restore permanent facilities used during construction to specified condition.

Where needed, the Contractor shall hand dig to expose buried utilities.

1.15 SITE-SPECIFIC CLOSE-OUT BILLING PROCEDURES

A. Close-out Procedures

1. Contractor will submit written certification that Contract documents have been reviewed, Work has been inspected, and Work is complete in accordance with Contract documents and ready for DCDP's review.
2. Project close out will not occur until DCDP provides written notice to the NYSDEC certifying project completion.
3. The Contractor will provide submittals to DCDP that are required by governing or other authorities.

B. Final Cleaning

1. Final cleaning prior to final project assessment will be executed by the Contractor.

2. Immediately prior to final inspection, the Contractor shall clean all construction debris generated during actions described herein.

3. The Site shall be cleaned, and construction materials, tools, equipment, sheds, barricades, and other temporary construction shall be removed.

4. Contractor's payment may be withheld if the Site is not cleaned up to DCDP's satisfaction.

5. Requirements of this section shall be in addition to and not in limitation of any special cleaning requirements specified in other sections.

6. The Contractor shall be responsible for the removal and disposal from the Site of all trash and debris that resulted from the Contractor's work.

C. Work Record Documents

The following lists activities relevant to the Work record documents that are required of the Contractor.

1. Maintain on the Site one set of the following documents to record actual revisions to the Work:

   a. Site-specific Health and Safety Plan (HASP);
   b. specifications and drawings;
   c. addenda; and
   d. change orders and other modifications to the Contract.

2. Ensure entries are complete and accurate, enabling future reference by DCDP.

3. Store record documents separate from documents used for construction.

4. Record information concurrent with construction progress.

5. Legibly mark and record at each product section a description of actual products installed, including the following:

   a. manufacturer's name and product model and number;
   b. product substitutions or alternates used; and
   c. changes made by addenda and modifications.

6. Submit documents to DCDP with final application for payment.

SECTION 2 – TECHNICAL SPECIFICATIONS

2.1 GENERAL REQUIREMENTS

All aspects of this Work, including equipment, materials, procedures and performance, shall be in accordance with local, State, and Federal regulations and DRAFT DER-10, Technical Guidance for Site Investigation and Remediation (DER-10), prepared by the NYSDEC, dated December 2002, except as specifically modified herein.

Five groundwater monitoring wells will be installed at the Site by a separate contractor. Contractor will ensure personnel and equipment avoid disturbing these wells.

Contractor will notify DCDP at least 10 business days prior to start of Work. Work will be supervised by DCDP. The Contractor will coordinate sampling and load-out work with DCDP.

Pre-work submissions will include: insurance certificates; disposal facility permit; and permits, certifications, and safe route for Contractor vehicles traveling from Site to disposal facilities for tank contents and scrap metal.

DCDP will determine the final volume of soil to be removed based on field conditions and technical observations.

2.2 SOIL DISPOSAL PLAN

A. Disposal of contaminated soil will be conducted in a manner that meets all requirements of applicable state and federal regulations.

B. Contractor shall not deliver waste to any facility other than the disposal or treatment facility listed on the shipping manifest. The Contractor shall only use the transporter identified in Contractor's Soil Disposal Plan to perform the work.

C. The Contractor, within 10 days of notice of intent to award the Contract, will submit to DCDP a Soil Disposal Plan for review and approval. The Soil Disposal

Plan shall include at a minimum the following items as apply to this Work. The Contractor is responsible for compliance with all soil disposal actions.

1. A schedule of activities related to soil disposal including people to be employed in the excavation and remediation stages, a sequence of operations, the method of excavation, material hauling, proposed equipment, handling of the contaminated materials, and safety precautions and requirements, including proposed safe route for transporting material from the Site to the treatment and/or disposal facility.

2. Information on the proposed waste transporter to include name, address, telephone number, contact person, USEPA and NYS Transporter ID numbers, and all necessary permits and authorizations for waste to be transported from the Site to treatment or disposal facilities. This information will include a copy of all agreements between Contractor and any transporting subcontractor.
   Any use of substitute or additional transporters must have prior written approval from DCDP and if substituted must not increase DCDP's cost.

3. Information on the proposed treatment and/or disposal facility to include facility name, address, contact person, a list of all facility operating permits, licenses, and signed letters of agreement necessary to allow the facility to treat or dispose of the waste as specified in this Contract. This information will include a copy of all agreements between Contractor and the selected disposal and/or treatment facility. The Contractor shall be responsible for communicating to DCDP the list of analytical parameters required by the disposal facility. Any use of substitute or additional facilities must have prior written approval from DCDP and if substituted must not increase DCDP's cost.

2.3 TANK REMOVAL AND DISPOSAL

A. General Requirements

1. All Work, including tank removal, cleaning, dismantling, handling, transportation and disposal, shall be conducted in accordance with all applicable Federal, State and local regulations, and DER-10.

2. Tanks and associated dispensers, accessories, piping, vents, electrical wiring, conduits and appurtenances shall be removed and properly disposed of by the Contractor.

3. Unless otherwise specified, tanks and piping become the property of the Contractor and shall be legally disposed of off-Site at the Contractor's expense. Contractor will document disposal by bill of sale or disposal manifest.

4. Tanks and piping will not be considered construction debris and will not be disposed of in conjunction with other exhumed debris.

5. Contractor will notify DCDP immediately of any evidence of tank leakage encountered prior to removal.

6. Contractor will be responsible for soil removal and remediation for each tank encountered.

B. Disposal of Tank Contents

1. Encountered tanks used for petroleum storage will be visually inspected by the Contractor to determine if product remains in the tank. Contractor will pump out material in tanks and test tanks for flammable vapors prior to tank removal.

2. Material removed from tanks and piping will be contained in properly licensed

waste trucks or dedicated 55-gallon covered drums. Waste trucks and drums will contain material from only one tank, and will be labeled to identify contents and the specific tank from which the contents were removed.

3. Contractor will verify volume of material contained in each drum.

4. As directed by DCDP, Contractor will dispose of tank and piping contents and cleaning wastewater generated in association with tank removal work at an approved facility in accordance with local, State, and Federal regulations and DER-10.

5. Contractor must remove drummed waste within 15 working days of the date generated. The Contractor is responsible for proper labeling and manifesting of drummed waste.

6. Contractor must document final disposal point of drummed wastes. Contractor will submit to DCDP a report of each off-Site shipment of drummed waste and a copy of proper waste shipping documents.

C. Tank Removal

1. Pipe plugs shall be installed in all tank openings, and the tanks shall be removed onto an adjacent surface lined with six (6) mil PVC sheeting.

2. A sufficient number of holes shall be made in the tank to render it unfit for further use. Residual material remaining in tank will be drained into containers.

3. Absorbent material shall be available to collect any material spilled during tank cleaning and draining.

4. Tanks determined empty will be separated from other stockpiled material and will be considered to be scrap metal.

5. Soil excavated during tank removal will be stockpiled in dedicated areas for testing by DCDP. Each stockpile will contain material from only one tank, and will be labeled to identify contents and the specific tank grave from which the soil was removed. Contractor will construct and maintain stockpiles and barriers as detailed in the Contract Documents.

6. DCDP may require Contractor to dispose of contaminated soil at an approved facility in accordance with local, State, and Federal regulations and DER-10.

2.4 SOIL REMOVAL AND REMEDIATION

A. Soil Excavation

Contractor will mark out boundaries of areas to be excavated in consultation with DCDP. DCDP will determine the final dimensions of soil excavation based on field conditions and technical observations. Unless expressly permitted by the NYSDEC, soils exceeding NYSDEC guidance levels will not be allowed to remain in the ground.

The Contractor will exercise due care to minimize on-Site transport and/or handling of contaminated soils.

The Contractor will decontaminate excavation equipment at the conclusion of the soil excavation activities. Decontamination will involve the physical removal of all accumulated dirt and the washing of equipment to remove contaminated tines.

B. On-Site Soil Stockpiling

Soil excavated will be stockpiled in dedicated areas for testing by DCDP. Each stockpile will contain material from only one excavation area. Stockpiles will be clearly labeled with suspected contaminants and the specific area from which the soil was removed. Contractor will construct and maintain stockpiles and barriers as detailed in the Contract Documents.

Stockpiled excavated soils will be stored on double-lined, 6-mil polyethylene plastic sheeting and covered with a single sheet of 6-mil plastic. The pile will be located to minimize the likelihood of direct contact with standing water. The integrity of the overlaying plastic will be periodically inspected, and replacement of the plastic will occur when appropriate until such time as all soils are removed from the Site.

C. Off-Site Transportation

If required to do so by DCDP, Contractor must remove contaminated soil within 15 working days of the date generated. DCDP

The Contractor will document transportation activities in proper manifest forms and records as required by the appropriate agencies for verifying the materials and quantities of each load in unit of volumes or weight. Copies of each manifest shall be submitted to DCDP within four business days following shipment and within three business days after notification of receipt of the facility. Any manifest discrepancies shall be reported immediately to DCDP and shall be resolved by the Contractor to the satisfaction of DCDP.

Excavated materials will be removed from the property by an appropriately licensed hauler who will be responsible for exiting the Site and traveling on a pre-determined truck route. Trucks will be covered and leak-proof, and appropriate measures will be taken to control the generation of fugitive dust from the trucks during transport. The Contractor shall ensure that trucks are protected against contamination by properly covering and lining them with compatible material (such as polyethylene) or by decontaminating them prior to any use other than hauling contaminated materials.

The Contractor shall furnish and be responsible for all labor, equipment, supplies, and incidental costs required to transport contaminated soil from the load-out location to the off-Site disposal and/or treatment facility and to acquire the necessary transportation permits and any other items and services required for transporting contaminated materials for disposal at an approved off-Site facility.

Contractor shall not deliver waste to any facility other than the disposal or treatment facility listed on the shipping manifest. The Contractor shall only use the transporter identified in Contractor's Soil Disposal Plan to perform the work.

The Contractor shall be held responsible for any and all actions necessary to remedy situations involving material spilled in transit or mud and dust tracked off-Site. This cleanup shall be accomplished at the Contractor's expense.

Contractor shall not combine contaminated materials from other projects with materials from the project Site.

D. Off-Site Disposal or Treatment

The Contractor shall only use the disposal or treatment facilities identified in the Soil Disposal Plan.

Contractor must document final disposal point of contaminated soil. Contractor will submit to DCDP a report of each off-Site shipment of contaminated soil and a copy of applicable complete manifests and supporting documentation of waste disposal.

Contractor shall be responsible for acceptance of the material at an approved facility, ensure that the facility is properly permitted to accept the stated material, and ensure that the facility provides the stated treatment and/or disposal services.

DCDP reserves the right to contact and visit the disposal and/or treatment facility and regulatory agencies to verify the agreement to accept the waste material and to verify any other information provided. This does not in any way relieve the Contractor of responsibilities under this Contract.

In the event that the identified and approved facility ceases to accept the stated materials, it is the Contractor's responsibility to locate an alternative approved

and permitted facility for accepting materials. The Contractor is responsible for making the necessary arrangements to use the facility, and any alternative facility must be approved in writing by DCDP in the same manner and with the same requirements as for the original facility. This shall be done with no extra cost or delays to Site activities.

E. Site Restoration

Contractor will restore Site using clean fill and re-grading excavated areas. DCDP will inform Contractor of location and volume of clean fill available on Site. Contractor will import soil as necessary to complete Site restoration. Any imported soil must be certified as clean fill according to NYSDEC standards. All filled areas will be compacted, as necessary, to provide appropriate load-bearing capability.

2.5 CONTRACTOR WORKSHEET

Contactor will return with their bid the following information regarding the basis on which their lump sum bid is made to DCDP.

Part 1. Per Tank costs and lump sum bid for tank removal according to Specifications

Tank Number	Tank Type	Number of tanks	Price per tank	Total price
1	Wastewater treatment, 5,000 gallon	2		
2	UST, 300 gallon	1		
3	AST, 550 gallon	1		
4	Wastewater treatment	1		
5	Dry well	1		
6	Wastewater treatment, 3,000 gallons	1		
7	Agitator	1		
8	Wastewater treatment	1		
9	Aeration	1		
10	Wastewater treatment	1		
			Total for Tank Removal	

Part 2. Removal and remediation of non-hazardous chlordane contaminated soil according to Specifications

Cost per cubic yard of soil ___$_____

Lump sum for seven cubic yards of soil __$_____

Part 3. Total Bid for all Work according to Specifications

Lump sum for all Work ___$_____

SECTION 3 - REFERENCE

3.1 ABBREVIATIONS and ACRONYMS

ASTM – American Society for Testing and Materials

CFR – Code of Federal Regulations

EPA - Environmental Protection Agency

NYS – New York State

OSHA – Occupational Safety and Health Standards

3.2 PUBLICATIONS

ASTM INTERNATIONAL

- ASTM D 1586 – (1999) Penetration Test and Split-Barrel Sampling of Soils
- ASTM D – 1587 – (2000) Thin-Walled Tube Sampling of Soils for Geotechnical Purposes
- ASTM D – 1785 – (2004a) Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120
- ASTM D 2487 – (2000) Soils for Engineering Purposes (Unified Soil Classification System)
- ASTM D 2188 – (2000) Description and Identification of Soils (Visual – Manual Procedure)
- ASTM D 4397 – (2002) Polyethylene Sheeting for Construction, Industrial, and Agricultural Applications
- ASTM D 5088 – (2002) Decontamination of Field Equipment Used at Nonradioactive Waste Sites
- ASTM F 883 (2004) Padlocks

UNITED STATES NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

- 29 CFR 1910 - Occupational Safety and Health Standards

SPECIFICATIONS

FOR

REMOVAL AND REMEDIATION
OF CONTAMINATED SOILS

The Perx Property
7395 South Broadway
Village of Red Hook
Dutchess County, New York

Section 05220
NYSDEC Environmental Restoration Project
RFB-DCB-16-0

ESI File: DR99140.44

June 2005

Prepared by:

Ecosystems Strategies, Inc.
24 Davis Avenue
Poughkeepsie, New York 12603
(845) 452-1658

TABLE OF CONTENTS

SECTION 1 - SUMMARY OF WORK

1.1 PROJECT SUMMARY

A. Definitions

These Specifications for Removal and Remediation of Contaminated Soils are hereafter referred to as the Specifications. The contracting entity will be Dutchess County Department of Planning (DCDP). NYSDEC refers herein to the New York State Department of Environmental Conservation. The corporate entity awarded this contract and, therefore, responsible for the appropriate and complete implementation (Work) of these Specifications is hereafter referred to as the Contractor. The term Contract Documents will hereafter refer to the contract documents entitled Bid Specifications for Demolition-Asbestos Removal NYSDEC Restoration Project RFB-DCB-16-0. These Specifications are Section 05220 of the Contract Documents.

B. Project Location

The general location of all services detailed in these Specifications is the Perx Property located at 7395 South Broadway, Village of Red Hook, Dutchess County, New York, hereafter referred to as the Site. The Contract Documents include fieldwork maps. Buildings and other locations are referred to in these Specifications using designations keyed on these maps.

C. Summary of Services

DCDP seeks a qualified Contractor to assist DCDP in performing all services necessary for the proper removal and remediation of non-hazardous contaminated soils. It is currently estimated that the Contractor will be responsible for removal and remediation of 3,350 cubic yards of non-hazardous lead and arsenic contaminated soils and 50 cubic yards of non-hazardous petroleum contaminated soils.

This Work is limited to the specific portions of the Perx property as indicated in the Contract Documents. Other services being conducted on this Site include demolition and asbestos abatement of all structures, installation of groundwater monitoring wells, and tank removal.

D. Limitations

The Contractor is responsible for every part of the Work indicated in the Contract documents whether or not it is included in the following limited summary unless explicitly excluded. These Specifications refer to every part of the Contract documents for the total Work included in this Contract. The award of this Contract is based upon the review, confirmation, and acceptance of the Contractor's qualifications and the acceptance of the Contractor's written bid. Any item left open may result in the bid being ruled "non responsive".

This Work is partially funded with the NYSDEC money through the NYSDEC Environmental Restoration Program. The NYSDEC is not party to the awarded contract.

Requirements made in these Specifications apply except where more stringent requirements are made in the Contract Documents.

E. Relevant Documents

These Specifications are based on Site conditions as detailed in the following documents: Final Summary Report of Site Investigation and Interim Remedial Activities (Report) prepared by Ecosystems Strategies, Inc. (ESI), dated April 2004; and
Environmental Restoration Record of Decision, Perx Property Site, Village of Red Hook, Dutchess County, New York, Site Number B-001773 prepared by the NYSDEC, dated February 2005.

1.2 KNOWN ENVIRONMENTAL CONDITIONS

The following summarizes the environmental conditions relevant to these Specifications. Site conditions are detailed in the above-referenced Report. The Contractor is hereby notified that conditions may have changed between the time of this investigatory work and the actual date of contract award. Furthermore, conditions unknown at the time of the April 2004 Report may be present and may materially affect this Contract.

The NYSDEC is aware of Site conditions. Work outlined in these Specifications will be done with the expressed intent of closing NYSDEC Spill File 0210253. Details relevant to NYSDEC Spill File 0210253 are in Section 1.2.B of these Specifications.

Volumes given for soil removal and remediation are approximate and subject to change based on future sampling and analysis by DCDP. Actual volumes will be delineated and confirmed by DCDP via sampling and analysis.

Soils sampled throughout Site showed elevated concentrations of lead and arsenic. Elevated levels of other metals were found in isolated soil samples. Contractor should assume soils to be removed are contaminated with lead and arsenic.

- Lead and arsenic contaminated soils in the former orchard (A-6 and sections of A-4 and A-5), to the extent of the wetland buffer (east, west and south) and north to the property line will be subject to removal and remediation. Assuming an excavation depth of 1.5 feet, remediation in this area will require removal and replacement of approximately 3,300 cubic yards of non-hazardous lead and arsenic contaminated soil. Previous investigation documented two areas of miscellaneous construction and demolition debris to a depth of 3 feet below surface grade (A-4 and A-5). Outside of the wetland buffer, these debris will be subject to removal and remediation. Within the wetland buffer, only visible debris will be removed.

- Approximately 50 cubic yards of non-hazardous petroleum contaminated soil (A-8) will be subject to removal and remediation. Petroleum contamination was documented at the north invert of a 750-gallon fuel oil UST located at the northern central portion of the Site. A spill event was reported to the NYSDEC (Spill File number 0210253) and the UST was removed. Soil samples were taken from a test

pit (TP-1) adjacent to the tank. Petroleum was detected in samples collected at 8 feet, but not in those collected at 12 feet.

- Approximately 6.5 cubic yards of non-hazardous lead and arsenic contaminated soils in the former wastewater treatment lagoon (A-1), soil will be subject to removal and remediation.

- Approximately 2.5 cubic yards of non-hazardous lead and arsenic contaminated soils SW of the wastewater treatment complex (A-7) will be subject to removal and remediation.

1.3. CONTRACTOR USE OF SITE AND PREMISES

The Work of this Contract shall be done in a manner that easily permits continued access to existing facilities and causes the least possible interference with any other activities concurrently being conducted on the Site by DCDP.

1.4 STANDARDS AND GUIDANCE THAT APPLY TO THIS WORK

The following list includes some, but not all, of the standards and guidance that apply to this work. Contractor is responsible for compliance with all relevant standards and guidance.

Industry-common agencies, phrases and publications referenced herein are often abbreviated. Agency acronyms and abbreviations, and publication definitions used within this document are provided in Section 3.

- Resource Conservation and Recovery Act 40 CFR Parts 260-265
- RCRA Information on Hazardous Wastes for Publicly Owned Treatment Works
- NYSDEC TAGM #4046 and subsequent memoranda
- 6NYCRR, Part 360, *et seq.*
- 6NYCRR, Part 370, *et seq.*

1.5 AWARD CRITERIA

The project will be awarded to the lowest cost, responsive, and responsible bidder.

1.6 REJECTION OF ALL BIDS

DCDP reserves the right to reject all bids for reasonable cause.

1.7 SPECIFICATION LANGUAGE

Omissions of words or phrases such as "The Contractor shall," "in conformity with," "shall be," "as noted in the Drawings," shall be supplied by inference in the same manner as they would be supplied by inference when a colon (:) is used within sentences or phrases.

1.8 COORDINATION AND MEETINGS

The Contractor will coordinate all aspects of the Work, including scheduling and submittals, with DCDP to ensure an efficient and orderly sequence of services.

The Contractor will coordinate completion and clean up of the Work area on an "as needed" basis to ensure Site safety.

1.9 PROGRESS AND COMPLETION

- Normal working hours and normal working days for the Contractor's Work on this project shall be between the hours of 7:30 a.m. and 4:30 p.m., Monday through Friday, excluding holidays, except as otherwise specified, totaling an eight-hour, on-Site working day. Lump sum quoted work assumes eight hours time on Site.

- DCDP may require that part of the Work be done after normal working hours or on other than normal working days.

- The Contractor shall confine activities at project Site to normal working hours and normal working days unless DCDP requires or approves other times or days.

- Should the Contractor desire to carry out part of the Work at times other than normal working hours or days, the Contractor will submit a written request to do so to DCDP together with specific calendar days and hours the Contractor wishes to work and description of activities the Contractor proposes to carry out during those times. Construction activities will not be permitted at times other than those specified or subsequently approved in writing by DCDP. Only those activities specifically approved by DCDP are permitted during hours or on days other than those stipulated as normal working days or hours.

- If necessary to complete Work within Contract time, as adjusted by change orders, the Contractor will request DCDP's approval to work during days or times other than those designated as normal working days or hours, and if DCDP approves, perform Work during such additional times on such days as have been approved at no additional cost. Work during such additional times and on such additional days shall continue only as long as is necessary to complete the Work within the stipulated time period.

1.10 ANTICIPATED PROJECT SCHEDULE

The Contractor will coordinate and prepare a schedule and timetable for performing all services detailed in the Specifications. This schedule will be submitted to DCDP in writing, and once revised through mutual consent of DCDP and the Contractor, will be relied upon to assess Contractor responsiveness. Lack of completion of services in accordance with the approved schedule may be considered by DCDP as lack of responsiveness by the Contractor and, therefore, cause for possible dismissal.

1.11 QUALITY CONTROL

The following list includes some, but not all, of the quality control actions that apply to this Work. The Contractor is responsible for compliance with all relevant quality control actions.

- Monitor quality control over suppliers, manufacturers, products, services, Site conditions, and workmanship to produce Work of specified quality.

- Should instructions to the Contractor from either DCDP or regulatory agencies conflict with contract documents, Contractor will request clarification from DCDP before proceeding.

- Comply with specific standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

- Make a good faith effort to assist DCDP in implementing DCDP's Affirmative Action Work Plan (AAWP). The AAWP has been submitted to NYSDEC, and is available for Contractor review.

- Perform Work by persons qualified to produce required and specified quality.

1.12 REFERENCES AND STANDARDS

The following list includes some, but not all, of the activities relevant to the references and standards that apply to this Work. The Contractor is responsible for compliance with all relevant references and standards.

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

- Conform to reference standard by date of issue current on date of Contract Documents except where a specified date is established by code.

- Obtain copies of standards where required by product specification sections.

- The Contractor shall follow referenced items included in Section 1.4 of these Specifications.

1.13 INSPECTION AND TESTING SERVICES

DCDP will perform inspection and testing services as required.

Reports will be submitted by DCDP to the Contractor in duplicate. These reports will indicate inspection observations and compliance or non-compliance with Contract documents.

Inspecting does not relieve the Contractor to perform Work to Contract requirements.

1.14 CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

A. No temporary sanitary facilities will be provided by DCDP for these services.

B. Contractor will protect vehicular and pedestrian traffic, stored materials and the Site from damage. Contractor will construct and maintain stockpiles and barriers as detailed in Contract Documents. In particular, Contactor will ensure that the five groundwater monitoring wells present on the Site remain undisturbed.

C. Cleaning and Waste Removal

1. Contractor will keep areas free of waste materials, debris, and rubbish and will maintain Site in a clean and orderly condition during Work activities.

2. Contractor will collect and remove waste materials, debris, and rubbish from Site weekly and dispose said materials off-Site in accordance with all applicable Federal, State and local regulations.

D. It is the expressed responsibility of Contractor to:

1. remove temporary utilities, equipment, facilities, and materials prior to final application for payment inspection;

2. clean and repair damage caused by Work; and

3. restore existing facilities used during construction to original condition and, if appropriate, restore permanent facilities used during construction to specified condition.

E. Where needed, the Contractor shall hand dig to expose buried utilities.

1.15 SITE-SPECIFIC CLOSE-OUT PROCEDURES

A. Close-out Procedures

1. Contractor will submit written certification that Contract documents have been reviewed, Work has been inspected, and Work is complete in accordance with Contract documents and ready for DCDP's review.

2. Project close out will not occur until DCDP provides written notice to the NYSDEC certifying project completion.

3. The Contractor will provide submittals to DCDP that are required by governing or other authorities.

B. Final Cleaning

1. The Contractor will execute final cleaning prior to final project assessment.

2. Immediately prior to final inspection, the Contractor shall clean all construction debris generated during actions described herein.

3. The Site shall be cleaned, and construction materials, tools, equipment, sheds, barricades, and other temporary construction shall be removed.

4. Contractor's payment may be withheld if the Site is not cleaned up to DCDP's satisfaction.

5. Requirements of this section shall be in addition to and not in limitation of any special cleaning requirements specified in other sections.

6. The Contractor shall be responsible for the removal and disposal from the Site of all trash and debris that resulted from the Contractor's work.

C. Work Record Documents

The following lists activities relevant to the Work record documents that are required of the Contractor.

1. Maintain on the Site one set of the following documents to record actual revisions to the Work:
   a. Site-specific Health and Safety Plan (HASP);
   b. specifications and drawings;
   c. addenda; and
   d. change orders and other modifications to the Contract.

2. Ensure entries are complete and accurate, enabling future reference by DCDP.

3. Store record documents separate from documents used for construction.

4. Record information concurrent with construction progress.

5. Legibly mark and record at each product section a description of actual products installed, including the following:

   a. manufacturer's name and product model and number;
   b. product substitutions or alternates used; and
   c. changes made by addenda and modifications.

6. Submit documents to DCDP with final application for payment.

D. Final Report

Documentation of all soil removal and remediation activities will be submitted to DCDP. Communication with the NYSDEC will be maintained by DCDP, and the Contractor will minimize contact with the NYSDEC. No written communication will be issued by the Contractor to the NYSDEC unless expressly authorized by DCDP

SECTION 2 - TECHNICAL SPECIFICATIONS

2.1 SOIL DISPOSAL PLAN

A. Disposal of contaminated soil will be conducted in a manner that meets all requirements of applicable state and federal regulations.

B. Contractor shall not deliver waste to any facility other than the disposal or treatment facility listed on the shipping manifest. The Contractor shall only use the transporter identified in Contractor's Soil Disposal Plan to perform the work.

C. The Contractor, within 10 days of notice of intent to award the Contract, will submit to DCDP Contractor's Soil Disposal Plan for review and approval. The Soil Disposal Plan shall include at a minimum the following items as apply to this Work. The Contractor is responsible for compliance with all soil disposal actions.

1. A schedule of activities related to soil disposal including people to be employed in the excavation and remediation stages, a sequence of operations, the method of excavation, material hauling, proposed equipment, handling of the contaminated materials, and safety precautions and requirements, including proposed safe route for transporting material from the Site to the treatment and/or disposal facility.

2. Information on the proposed waste transporter to include name, address, telephone number, contact person, USEPA and NYS Transporter ID numbers, and all necessary permits and authorizations for waste to be transported from the Site to treatment or disposal facilities. This information will include a copy of all agreements between Contractor and any transporting subcontractor.

   Any use of substitute or additional transporters must have prior written approval from DCDP and if substituted must not increase DCDP's cost.

3. Information on the proposed treatment and/or disposal facility to include facility name, address, contact person, a list of all facility operating permits, licenses, and signed letters of agreement necessary to allow the facility to treat or dispose of the waste as specified in this Contract. This information will include a copy of all agreements between Contractor and the selected disposal and/or treatment facility. The Contractor shall be responsible for communicating to DCDP the list of analytical parameters required by the disposal facility. Any use of substitute or additional facilities must have prior written approval from DCDP and if substituted must not increase DCDP's cost.

2.2 SOIL REMOVAL AND REMEDIATION

A. General Requirements

1. All aspects of this Work, including equipment, materials, procedures and performance, shall be in accordance with local, State, and Federal regulations and DRAFT DER-10, Technical Guidance for Site Investigation and Remediation (DER-10), prepared by the NYSDEC, dated December 2002, except as specifically modified herein.

2. Five groundwater monitoring wells will be installed at the Site by a separate contractor. Contractor will ensure personnel and equipment avoid disturbing these wells.

3. Contractor will notify DCDP at least 10 business days prior to start of Work. Work will be supervised by DCDP. The Contractor will coordinate sampling and load-out work with DCDP.

4. Contractor will be prepared, upon authorization by DCDP, to direct soil or material removal consistent with any requirements set forth by NYSDEC.

B. Soil Excavation

Contractor will mark out boundaries of areas to be excavated in consultation with DCDP.

Excavations will be made to a depth of 1.5 feet unless otherwise noted. DCDP will determine the final dimensions of soil excavation based on field conditions and technical observations. Unless expressly permitted by the NYSDEC, soils exceeding NYSDEC guidance levels will not be allowed to remain in the ground.

The Contractor will exercise due care to minimize on-Site transport and/or handling of contaminated soils.

The Contractor will decontaminate excavation equipment at the conclusion of the soil excavation activities. Decontamination will involve the physical removal of all accumulated dirt and the washing of equipment to remove contaminated tines.

C. On-Site Soil Stockpiling

Soil excavated will be stockpiled in dedicated areas for testing by DCDP. Each stockpile will contain material from only one excavation area. Stockpiles will be clearly labeled with suspected contaminants and the specific area from which the soil was removed. Contractor will construct and maintain stockpiles and barriers as detailed in the Contract Documents.

Stockpiled excavated soils will be stored on double-lined, 6-mil polyethylene plastic sheeting and covered with a single sheet of 6-mil plastic. The pile will be located to minimize the likelihood of direct contact with standing water. The integrity of the overlaying plastic will be periodically inspected, and replacement of the plastic will occur when appropriate until such time as all soils are removed from the Site.

D. Off-Site Transportation to Disposal or Treatment Facility

If required to do so by DCDP, Contractor must remove contaminated soil within 15 working days of the date generated. DCDP will determine the final volume of soil to be removed based on field conditions and technical observations.

The Contractor will document transportation activities in proper manifest forms and records as required by the appropriate agencies for verifying the materials and quantities of each load in unit of volumes or weight. Copies of each manifest shall be submitted to DCDP within four business days following shipment and within three business days after notification of receipt of the facility. Any manifest discrepancies shall be reported immediately to DCDP and shall be resolved by the Contractor to the satisfaction of DCDP.

Excavated materials will be removed from the property by an appropriately licensed hauler who will be responsible for exiting the Site and traveling on a pre-determined truck route. Trucks will be covered and leak-proof, and appropriate measures will be taken to control the generation of fugitive dust from the trucks during transport. The Contractor shall ensure that trucks are protected against contamination by properly covering and lining them with compatible material (such as polyethylene) or by decontaminating them prior to any use other than hauling contaminated materials.

The Contractor shall furnish and be responsible for all labor, equipment, supplies, and incidental costs required to transport contaminated soil from the load-out location to the off-Site disposal and/or treatment facility and to acquire the necessary transportation permits and any other items and services required for transporting contaminated materials for disposal at an approved off-Site facility.

Contractor shall not deliver waste to any facility other than the disposal or treatment facility listed on the shipping manifest. The Contractor shall only use the transporter identified in Contractor's Soil Disposal Plan to perform the work.

The Contractor shall be held responsible for any and all actions necessary to remedy situations involving material spilled in transit or mud and dust tracked off-Site. This cleanup shall be accomplished at the Contractor's expense.

Contractor shall not combine contaminated materials from other projects with materials from the project Site.

E. Off-Site Disposal or Treatment

The Contractor shall only use the disposal or treatment facilities identified in the Contractor's Soil Disposal Plan.

Contractor must document final disposal point of contaminated soil. Contractor will submit to DCDP a report of each off-Site shipment of contaminated soil and a copy of applicable complete manifests and supporting documentation of waste disposal.

Contractor shall be responsible for acceptance of the material at an approved facility, ensure that the facility is properly permitted to accept the stated material, and ensure that the facility provides the stated treatment and/or disposal services.

DCDP reserves the right to contact and visit the disposal and/or treatment facility and regulatory agencies to verify the agreement to accept the waste material and to verify any other information provided. This does not in any way relieve the

Contractor of his responsibilities under this Contract.

In the event that the identified and approved facility ceases to accept the stated materials, it is the Contractor's responsibility to locate an alternative approved and permitted facility for accepting materials. The Contractor is responsible for making the necessary arrangements to use the facility, and any alternative facility must be approved in writing by DCDP in the same manner and with the same requirements as for the original facility. This shall be done with no extra cost or delays to Site activities.

F. Site Restoration

Contractor will restore Site using clean fill and re-grading excavated areas. DCDP will inform Contractor of location and volume of clean fill available on Site. Contractor will import soil as necessary to complete Site restoration. Any imported soil must be certified as clean fill according to NYSDEC standards. All filled areas will be compacted, as necessary, to provide appropriate load-bearing capability.

2.3 CONTRACTOR WORKSHEET

Contactor will return with their bid the following information regarding the basis on which their lump sum bid is made to DCDP.

Per type of contamination and lump sum bid for removal and remediation of contaminated soils according to the attached Specifications

Contamination type	Estimated cubic yards	Price per cubic yard	Total price
Lead and arsenic	3,500		
Petroleum	50		
		TOTAL BID	

SECTION 3 - REFERENCE

3.1 ABBREVIATIONS and ACRONYMS

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CFR – Code of Federal Regulations

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3.2 PUBLICATIONS

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- ASTM D – 1785 – (2004a) Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120
- ASTM D 2487 – (2000) Soils for Engineering Purposes (Unified Soil Classification System)
- ASTM D 2188 – (2000) Description and Identification of Soils (Visual – Manual Procedure)
- ASTM D 4397 – (2002) Polyethylene Sheeting for Construction, Industrial, and Agricultural Applications
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- ASTM F 883 (2004) Padlocks

UNITED STATES NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

- 29 CFR 1910 - Occupational Safety and Health Standards

05202
CONTAMINATED AND HAZARDOUS WASTE MATERIAL REMOVAL

PART 1 GENERAL

1.01 SUMMARY
This work shall consist of the removal, characterization, transportation, and disposal of all contaminated materials and hazardous waste from locations indicated in the plans or as directed by the Engineer.

1. Types of waste to be removed include, but are not limited to: waste paint, automobile batteries, used/unused solvent and fuels, mercury-containing items, propane tanks, refrigerants, waste oil, TV/video display monitors, fluorescent lamps and containers of unknown liquid substances.
2. All hazardous and specialty regulated materials for removal and disposal will be included in this item unless a specific item is otherwise included for their disposal elsewhere in the contract.

MATERIALS None specified

CONSTRUCTION DETAILS

1.02 REFERENCES
All potentially contaminated or hazardous materials must be properly characterized and recycled or treated/disposed of in accordance with all applicable regulations including but not limited to:

a) 49 CFR 100 to 179,
b) 40 CFR 260 to 272,
c) 6 NYCRR Part 360,
d) 6 NYCRR Part 364
e) and 6 NYCRR Parts 371-376.

The Contractor is responsible for choosing appropriate disposal facilities and identifying those facilities to the Engineer. In addition, the Contractor is responsible for all sampling and analyses requirements specified by the receiving disposal or recycling facilities.

1.03 DESCRIPTION
The site(s) where material is to be removed is as indicated on the plans or as ordered by the Engineer. Materials may consist of one or more of the following list:

1. *Drums and Containers with Unknown Substances:* Contents of the drums must be sampled and characterized prior to disposal. Contents of the drum must not be mixed with any other materials until contents are positively identified.
2. *Empty Drums and Containers:* Drums and containers that have had all of the contents removed by common practices and have less than 25.4 mm (1") and less than 3% of

the original product are considered "empty" and non-hazardous even if the material they contained classified as hazardous. "Empty" containers may be returned to the manufacturer or sent to a reconditioner or handled as scrap metal, cardboard, etc. and are exempt from waste transporter requirements when destined for such reuse. "Empty" containers are nonhazardous industrial waste when otherwise disposed.

3. *Lead Batteries:* NYS law requires retailer/distributers to accept used automotive/truck/RV batteries back for recycling at no charge (two per month maximum without new battery purchase).
4. *Mercury:* Any mercury containing equipment including, but not limited to, thermostats, switches, thermometers, and fluorescent lamps are hazardous wastes due to the mercury toxicity characteristic and must be removed from the equipment and disposed of as hazardous waste in accordance with 6 NYCRR part 371. Thermostats and lamps may also be handled in accordance with the alternate requirements for universal hazardous wastes, 6 NYCRR Subpart 374-3.
5. *Paint:* Most unused paints, including waterborne, have a flashpoint below 140_ F and therefore require handling and disposal as ignitable waste (D001). Potential also exists for the waste to have a toxicity characteristic for lead (D008) and chromium (D007).
6. *PCB (Polychlorinated Biphenyl) Ballasts in Fluorescent Lamps:* Some older fluorescent lamp (light) fixtures have ballasts that contain PCBs that must be disposed of as a PCB hazardous waste.
7. *Refrigerants:* Refrigerants from air conditioning and refrigeration units containing regulated chlorofluorocarbons [CFCs] and hydrochlorofluorocarbons [HCFCs]-refrigerants must be removed from the equipment and recycled in accordance with EPA regulation, 40 CFR Part 82, Subpart F, ensuring proper removal from the units by an EPA certified technician using certified equipment.
8. *Solvents (paint thinner) and Fuels:* Solvents and fuels typically have a flashpoint below 140_ F and therefore require handling and disposal as ignitable hazardous waste (D001). Fuels may be contained within equipment and require removal prior to disposal.
9. *TVs/Video Display Monitors - Cathode Ray Tubes (CRTs)*: CRTs are the video display components of televisions and computer monitors. CRT glass typically contains enough lead to be classified as hazardous waste when it's being recycled or disposed of and as such must be handled as hazardous waste.
10. *Used Oil:* Used oil that is destined for recycling or burning for energy recovery is not regulated as a hazardous waste. Examples of used oils include: spent motor oil, hydraulic oil, cutting oil, transmission fluid, fuel oils, and greases. The used oil should be sent to an authorized recycler or fuel blender using a permitted waste hauler.

1.04 SUBMITTALS

Within 30 calendar days after the contract is awarded, the Contractor shall submit to the Engineer for review and approval, a Materials Handling Plan. The Materials Handling Plan must be approved in writing by the Engineer prior to the Contractor's commencement of work within the defined areas. The Materials Handling Plan shall, at a minimum include:

A. Detailed written procedures to be used to load and transport the materials to conveying vehicles.
B. An outline of the Contractor's intended methods for, transportation, recycling and/or disposal as applicable. This will include:

1. The method of recycling or treatment/disposal that will be used.
2. Identification of and information on the Contractor's proposed off-site recycling or treatment/disposal facility(s) with the following information: facility name, address, responsible contact person(s) and a copy of each disposal facility's current operating permit that indicates both the type of materials allowed and not allowed for final disposal.
3. A signed letter of agreement from each facility to accept the waste as specified in the contract, listing of all permits, licenses, waste transporter permits (and any permits from any other states as necessary) authorizing the shipment of wastes of this description to the designated facility as they pertain to this Contract. The letter must also clearly state the facility's requirements for any sampling and analysis of the waste prior to disposal. This information will include at a minimum:
4. Identification of and information on the Contractor's proposed waste transporter to include: name, address, telephone number, responsible contact, NYS Waste Transporter ID number, and any and all necessary permit authorizations for the waste anticipated to be transported from the site(s) to treatment/disposal facilities.

C. The Contractor shall verify and document that the transporter has a current waste transporter's permit authorizing the transport of the project waste streams to the intended final disposal facility(s) subject to the approval of the Engineer. The Contractor shall coordinate all shipments and arrivals at the disposal facility to meet project schedule requirements. The Contractor shall complete any required shipping papers/manifests, placarding, and weighing/load measurements and provide documentation / copies to the Engineer.

D. The Contractor shall ensure that trucks that are used to transport any materials during the project protect against contamination to the environment. This will be accomplished by properly covering and lining the trucks with compatible material and/or by decontaminating them prior to any use other than hauling contaminated materials. The Contractor shall verify that any trucks/tankers used to transport liquid or materials are not leaking.

E. The Contractor will use only the transporters listed in the Materials Handling Plan. The Contractor must obtain written approval of the Engineer prior to any change in the use of listed transporters.

F. The Contractor shall not combine contaminated materials from other projects with materials from the Project Site(s).

G. The Contractor shall ensure that materials are transported to the intended facility(s) listed in the Materials Handling Plan. If the Contractor desires to transport materials to a facility other than the ones listed in the Materials Handling Plan, written approval from the Engineer must be obtained prior to any work

1.05 QUALITY ASSURANCE

Pre-Work Conference: Before the Work of this Section is scheduled to commence, a conference will be held by the Owner's Representative at the Site for the purpose of reviewing the Contract Documents, discussing requirements for the Work, and reviewing the Work procedures.

1.06 PROJECT CONDITIONS

Environmental Requirements: Comply with all applicable governmental agency codes, rules, and regulations for handling non-hazardous industrial, commercial and non-industrial waste.

PART 2 PRODUCTS

2.01 MATERIALS FOR USE DURING DISPOSAL PROCEDURE

Furnish materials which meet all applicable governmental agency codes, rules and regulations.

PART 3 EXECUTION

3.01 PERFORMANCE

Remove, and dispose of the materials in accordance with all applicable governmental agency codes, rules, and regulations.

END OF SECTION

SECTION 13283
DISPOSAL OF NON-HAZARDOUS INDUSTRIAL/COMMERCIAL WASTE

PART 1 GENERAL

1.01 REFERENCES

A. 6 NYCRR.

1.02 DEFINITIONS

A. Definitions and Abbreviations:
   1. NYCRR: New York State Codes, Rules, and Regulations. (Available from New York State Department of Environmental Conservation, Division of Solid & Hazardous Waste, 625 Broadway, Albany, NY 12233-0001 [518] 457-6603).

1.03 DESCRIPTION

A. Remove the contaminated underground fuel tanks, fuel oil piping, fuel oil, and contaminated soils from the site as directed by Owner's Representative and as indicated on plans. The Work of this Contract includes the removal, transporting and disposal of this material as an industrial/commercial waste.

1.04 SUBMITTALS

A. Quality Control Submittals:
   1. Detailed list of the codes, rules and regulations which are understood to govern the Work. This list must cite specific title, chapter, and section of the citation.
   2. Listing of licenses or permits issued by government agencies authorizing the handling of the waste by the qualified Company, transporter, and operator of the disposal facility.
   3. Detailed step by step procedure indicating how the Work is to be accomplished. Procedure shall also include information for off-site Work, such as:
      a. Method of disposal.
      b. Owner and operator of the disposal facility.
      c. Location of the disposal facility.
      d. Method of transporting to the disposal facility.
   4. Qualified Company Data:
      a. Name, address, and telephone number.
      b. Brochure explaining services offered.
      c. Experience directly applicable to the required services.
      d. Type and listing of equipment proposed to be used for the Work.

1.05 QUALITY ASSURANCE

A. Qualified Company: The Work shall be performed by a qualified Company having at least 3 years experience directly applicable to the services required.

B. Pre-Work Conference: Before the Work of this Section is scheduled to commence, a conference will be held by the Owner's Representative at the Site for the purpose of reviewing the Contract Documents, discussing requirements for the Work, and reviewing the Work procedures.

1.06 PROJECT CONDITIONS

A. Environmental Requirements:
   1. Comply with all applicable governmental agency codes, rules, and regulations for handling non-hazardous industrial, commercial and non-industrial waste.

PART 2 PRODUCTS

2.01 MATERIALS FOR USE DURING DISPOSAL PROCEDURE

A. Furnish materials which meet all applicable governmental agency codes, rules and regulations.

PART 3 EXECUTION

3.01 PERFORMANCE

A. Remove, and dispose of the materials in accordance with all applicable governmental agency codes, rules, and regulations.

END OF SECTION

ITEM 13284
IDENTIFYING DIELECTRIC FLUIDS

PART 1 GENERAL

1.01 DEFINITIONS

A. Definitions and Abbreviations:

1. PCB: Polychlorinated Biphenyls.
2. PPM: Parts per million.
3. TSCA/EPA: Toxic Substance Control Act, administered by the U.S. Environmental Protection Agency.
4. ELAP: Environmental Lab Accreditation Program, administered by New York State Department of Health.

1.02 DESCRIPTION

A. PCB Contamination Analysis of Fluids: Analyze the dielectric fluids in the designated equipment to determine into which TSCA/EPA classification the unidentified fluid belongs:

1. A non-PCB product (PCB content less than 50 PPM).
2. A PCB-contaminated product (50 PPM to 500 PPM PCB).
3. A PCB product (liquids containing 500 PPM or greater PCB).

B. Analyze the fluid in the following equipment:

1. Pole Mounted Transformers located on Perx's Property. Identified as location "A-10" on the plans.

1.03 SUBMITTALS

A. Quality Control Submittals:

1. Testing Laboratory Data:

a. Name, address, and telephone number.

b. Brochure explaining services offered.

c. Experience directly applicable to the required services.

d. Type of equipment and methods proposed to be used for the analysis.

B. Contract Closeout Submittals:

1. Final Report; include the following information for each sample tested:

a. Name, location, and identification number of equipment from which the sample was taken.

b. Type of analytic procedure used.

c. PCB concentration (PPM).

d. Type of PCB (Aroclors found).

e. Generic identification of non-PCB product (mineral oil, silicone, etc.).

f. Name of person performing test.

1.04 QUALITY ASSURANCE

A. Testing Laboratory: An environmental laboratory possessing a valid ELAP certificate of approval shall perform the analysis, using gas chromatography/electron capture techniques or other acceptable practices.

1.05 PROJECT CONDITIONS

A. Environmental Requirements:

1. Comply with applicable governmental agency codes, rules, and regulations for handling PCB fluids and articles.

PART 2 PRODUCTS

2.01 ACCESSORIES FOR LABORATORY ANALYSIS

A. Sterile containers, etc., as required by the testing laboratory.

2.02 LABELS

A. For Equipment Containing Non-PCB Products; Either of the Following:

1. Pressure sensitive 6 x 6 inches TSCA/EPA label stating "CERTIFIED The dielectric fluid ...", etc. Include laboratory name and date on label.

2. Engraved aluminum or phenolic plates, minimum size 3/4 x 2-1/2 inches stating "THIS EQUIPMENT DOES NOT CONTAIN PCB's - TESTED BY (insert name) LABORATORY (insert date)."

B. For PCB - Contaminated and PCB Products; Both of the Following:

1. Pressure sensitive 6 x 6 inches TSCA/EPA label stating "CAUTION CONTAINS PCB's ...", etc.

2. Engraved aluminum or phenolic, minimum size 3/4 x 2-1/2 inches stating "TESTED BY (insert name) LABORATORY (insert date)".

PART 3 EXECUTION

3.01 PERFORMANCE

A. Obtain fluid samples from the equipment in accordance with the procedures set forth by the testing laboratory.

1. Clearly label equipment and liquid samples for identification purposes.

B. After test results have been received, permanently affix the appropriate non-PCB or PCB labels on the equipment.

ITEM 13284
IDENTIFYING DIELECTRIC FLUIDS

PART 1 GENERAL

1.01 DEFINITIONS

A. Definitions and Abbreviations:

1. PCB: Polychlorinated Biphenyls.
2. PPM: Parts per million.
3. TSCA/EPA: Toxic Substance Control Act, administered by the U.S. Environmental Protection Agency.
4. ELAP: Environmental Lab Accreditation Program, administered by New York State Department of Health.

1.02 DESCRIPTION

A. PCB Contamination Analysis of Fluids: Analyze the dielectric fluids in the designated equipment to determine into which TSCA/EPA classification the unidentified fluid belongs:

1. A non-PCB product (PCB content less than 50 PPM).
2. A PCB-contaminated product (50 PPM to 500 PPM PCB).
3. A PCB product (liquids containing 500 PPM or greater PCB).

B. Analyze the fluid in the following equipment:

1. Pole Mounted Transformers located on Perx's Property. Identified as location "A-10" on the plans.

1.03 SUBMITTALS

A. Quality Control Submittals:

1. Testing Laboratory Data:

a. Name, address, and telephone number.

b. Brochure explaining services offered.

c. Experience directly applicable to the required services.

d. Type of equipment and methods proposed to be used for the analysis.

B. Contract Closeout Submittals:

1. Final Report; include the following information for each sample tested:

a. Name, location, and identification number of equipment from which the sample was taken.

b. Type of analytic procedure used.

c. PCB concentration (PPM).

d. Type of PCB (Aroclors found).

e. Generic identification of non-PCB product (mineral oil, silicone, etc.).

f. Name of person performing test.

1.04 QUALITY ASSURANCE

A. Testing Laboratory: An environmental laboratory possessing a valid ELAP certificate of approval shall perform the analysis, using gas chromatography/electron capture techniques or other acceptable practices.

1.05 PROJECT CONDITIONS

A. Environmental Requirements:

1. Comply with applicable governmental agency codes, rules, and regulations for handling PCB fluids and articles.

PART 2 PRODUCTS

2.01 ACCESSORIES FOR LABORATORY ANALYSIS

A. Sterile containers, etc., as required by the testing laboratory.

2.02 LABELS

A. For Equipment Containing Non-PCB Products; Either of the Following:

1. Pressure sensitive 6 x 6 inches TSCA/EPA label stating "CERTIFIED The dielectric fluid ...", etc. Include laboratory name and date on label.

2. Engraved aluminum or phenolic plates, minimum size 3/4 x 2-1/2 inches stating "THIS EQUIPMENT DOES NOT CONTAIN PCB's - TESTED BY (insert name) LABORATORY (insert date)."

B. For PCB - Contaminated and PCB Products; Both of the Following:

1. Pressure sensitive 6 x 6 inches TSCA/EPA label stating "CAUTION CONTAINS PCB's ...", etc.

2. Engraved aluminum or phenolic, minimum size 3/4 x 2-1/2 inches stating "TESTED BY (insert name) LABORATORY (insert date)".

PART 3 EXECUTION

3.01 PERFORMANCE

A. Obtain fluid samples from the equipment in accordance with the procedures set forth by the testing laboratory.

1. Clearly label equipment and liquid samples for identification purposes.

B. After test results have been received, permanently affix the appropriate non-PCB or PCB labels on the equipment.

ITEM 13285
DISPOSAL OF PCB LIQUID FILLED ELECTRICAL EQUIPMENT

PART 1 GENERAL

1.01 REFERENCES

A. 6 NYCRR, Parts 361, 364, 370, 371, 372, 373, and 376.

B. 29 CFR, Part 1910.120.

C. 40 CFR, Parts 260, 261, 262, 263, 264, 265, 268, and 761.

D. 49 CFR, Parts 171, 172, and 173.

E. ANSI/IEEE Standard 799.

1.02 DEFINITIONS

A. Definitions and Abbreviations:

1. PCB: Polychlorinated Biphenyls.

2. PPM: Parts per million.

3. NYCRR: New York State Codes, Rules, and Regulations.

4. CFR: Code of Federal Regulations.

5. TSD Facility: Treatment, Storage, Disposal Facility.

1.03 DESCRIPTION

A. The existing electrical equipment contains fluid with 50 or more ppm but less than 500 of PCBs which identifies, within the scope of State and Federal regulations, the fluid and equipment as PCB contaminated.

1. The equipment is located on various privately owned utility poles on the Perx's Property. These 4 poles are notated as area "A-10" on the general plan.

1.04 SUBMITTALS

A. Quality Control Submittals:

1. Detailed list of the codes, rules and regulations which are understood to govern the Work. This list must cite specific title, chapter, and section of the citation.

2. Detailed plan for notifying proper local, state, and federal authorities of any incident, required to be reported, that occurs during the handling and transportation of this hazardous waste.

3. Detailed plan for containment and cleanup of any PCB spill that occurs during the handling and transportation of the PCB liquid.

4. Listing of licenses or permits issued by government agencies authorizing the handling of PCB products by the Service Company, transporter, and operator of the TSD Facility.

5. Resume for each person handling PCB products at the Site. Include:
   a. Hazardous materials training.
   b. Licenses, permits, or certificates authorizing the handling of PCB products.
   c. Number of years performing similar hazardous materials work.
   d. Three recent job locations performing similar work.

6. Detailed step by step procedure indicating how the Work is to be accomplished. Procedure shall also include information for off-site Work, such as:
   a. Method of disposal.
   b. Owner and operator of the TSD Facility.
   c. Location of the TSD Facility.
   d. Method of transporting to the TSD Facility.
   e. Name and address of the transporter, if different from the service company.

7. Service Company Data:
   a. Name, address, and telephone number.
   b. Brochure explaining services offered.
   c. Experience directly applicable to the required services.
   d. Type and listing of equipment proposed to be used for the Work.
   e. Licenses, permits, or certificates authorizing the handling of PCB products.

8. Transporter Company Data:
   a. Name, address, and telephone number.
   b. Brochure explaining services offered.
   c. Experience directly applicable to the required services.
   e. Type and listing of equipment proposed to be used for the Work.
   f. Licenses, permits, or certificates authorizing the handling of PCB products.

9. Treatment, Storage, Disposal Facility Data:
   a. Name, address, and telephone number.
   b. Brochure explaining services offered.
   c. Experience directly applicable to the required services.
   d. Type and listing of equipment proposed to be used for the Work.
   e. Licenses, permits, or certificates authorizing the handling of PCB products.

B. Contract Closeout Submittals:

1. Generator's Copies of Hazardous Waste Manifest and Other Documents:
   a. Deliver the generator's copies to the Director's Representative for delivery to appropriate facility personnel.

1.05 QUALITY ASSURANCE

A. Service Company: The Work shall be performed by a qualified company specifically permitted by the U. S. Environmental Protection Agency, Region 2 to operate as a commercially operated PCB smelting or incineration disposal company.

1.06 PROJECT CONDITIONS

A. Environmental Requirements:

1. Comply with applicable governmental agency codes, rules, and regulations for handling PCB fluids and articles.

PART 2 PRODUCTS

2.01 MATERIALS FOR USE DURING DISPOSAL PROCEDURE

A. Furnish the required drums, containers, and other materials which meet applicable governmental agency codes, rules and regulations.

PART 3 EXECUTION

3.01 PERFORMANCE

A. Remove, and thermally destroy by smelting and incineration, the PCB fluids and articles in accordance with applicable governmental agency codes, rules, and regulations. No PCB fluids or articles shall be disposed of by landfill.

DEMOLITION – ASBESTOS REMOVAL
PERX PROPERTY

Section 99069
SIGNS FOR REMEDIAL PROGRAMS

Part 1: Instructions

1.01 Signs are required at sites where remedial activities are being performed under one of the following remedial programs:

State Superfund, Voluntary Cleanup Program (VCP), Brownfield Cleanup Program (BCP), Environmental Restoration Program (ERP), Brownfield Opportunity Area (BOA) Program (note: activities under this program would be for investigation).

Part 2: Sign Requirements

2.01 Size: Horizontal format - 96" wide by 48" high

2.02 Construction Materials: Aluminum or wood blank sign boards with vinyl sheeting.

2.03 Inserts: "Site Name", "Site Number", "Name of Party Performing Remedial Activities" and "Municipal Executive".
Indicate position, size and topography for specific inserts.

2.04 Color Scheme:

2.04.1 Copy surrounding DEC logo – - PMS 355
"NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION"

DEC logo: PMS 301 Blue
PMS 355 Green

2.04.2 Program Text: PMS 301
PERX PROPERTY ENVIRONMENT RESTORATION PROGRAM PROJECT
ERP PROJECT No: B00177
Site Name, Site Number, Party Performing Remedial Activities PMS 355

2.04.3 Project Sponsors:
Names of Governor, Commissioner, Municipal Executive PMS 301
Transform the Past.....Build for the Future PMS 355

2.05 Type Specifications:
All type is Caslon 540, with the exception of the logotype.
Format is: center each line of copy with small caps and initial caps.

2.06 Production Notes:
96" wide x 48" high aluminum blanks will be covered with vinyl sheeting to achieve background color. Copy and logo will be silk screened on this surface.

See attached format

1996 CLEAN WATER / CLEAN AIR BOND ACT

PERX PROPERTY ENVIRONMENT RESTORATION PROGRAM PROJECT
ERP PROJECT No: B00177

PROJECT SPONSORS: DUTCHESS COUNTY & TOWN/VILLAGE OF RED HOOK

GEORGE E. PATAKI, *Governor*
DENISE M. SHEEHAN, *Acting Commissioner*
WILLIAM R. STEINHAUS, *Dutchess County Executive*

Transform the Past.... Build for the Future

APPENDIX B

Specifications
Construction and Installation of Groundwater Monitoring Wells

SPECIFICATIONS

FOR

CONSTRUCTION AND INSTALLATION

OF GROUNDWATER MONITORING WELLS

The Perx Property
7395 South Broadway
Village of Red Hook
Dutchess County, New York

ESI File: DR99140.44

June 2005

Prepared by:

Ecosystems Strategies, Inc.
24 Davis Avenue
Poughkeepsie, New York 12603
(845) 452-1658

SECTION 1 - SUMMARY OF WORK

1.1 PROJECT SUMMARY

A. Definitions

These Specifications for Construction and Installation of Groundwater Monitoring Wells are hereafter referred to as the Specifications. The contracting entity will be Dutchess County Department of Planning (DCDP). NYSDEC refers herein to the New York State Department of Environmental Conservation. The corporate entity awarded this contract and, therefore, responsible for the appropriate and complete implementation (Work) of these Specifications is hereafter referred to as the Contractor. DCDP has engaged the services of an independent consultant, Ecosystems Strategies, Inc. (ESI) to represent DCDP in technical matters with the Contractor.

B. Project Location

The general location of all services detailed in these Specifications is the Perx Property located at 7395 South Broadway, Village of Red Hook, Dutchess County, New York, hereafter referred to as the Site. Site location and fieldwork maps are provided as Attachment A.

C. Summary of Services

DCDP seeks a qualified Contractor to assist DCDP in performing all services necessary for the proper construction and installation of monitoring wells. The purpose of monitoring well installation is to document the presence or absence of lead in groundwater. It is currently estimated that the Contractor will be responsible for the construction and installation of five overburden-monitoring wells. All wells will be stick-up, overburden wells.

Construction and installation of monitoring wells are limited to a specific portion of the Perx property. Well locations are indicated on the attached fieldwork map. Other services being conducted on this Site include demolition and asbestos abatement of all structures, tank removal, and soil excavation and remediation.

D. Limitations

The Contractor is responsible for every part of the Work indicated in Contract documents whether or not it is included in the following limited summary. These Specifications refer to every part of the Contract documents for the total Work included in this Contract. The award of this Contract is based upon the review, confirmation, and acceptance of the Contractor's qualifications and the acceptance of the Contractor's written bid. Any item left open may result in the bid being ruled "non responsive".

This Work is partially funded with the NYSDEC money through the NYSDEC Environmental Restoration Program. The NYSDEC is not party to the awarded contract.

E. Relevant Documents

These Specifications are based on Site conditions as detailed in the following documents: Final Summary Report of Site Investigation and Interim Remedial Activities (Report) prepared by ESI, dated April 2004; and Environmental Restoration Record of Decision, Perx Property Site, Village of Red Hook, Dutchess County, New York, Site Number B-001773 prepared by the NYSDEC, dated February 2005.

1.2. KNOWN ENVIRONMENTAL CONDITIONS

The following summarizes the environmental conditions relevant to these Specifications. Site conditions are detailed in the above-referenced Report; however, the Contractor is hereby notified that conditions may have changed between the time of this investigatory work and the actual date of contract award. Furthermore, conditions unknown at the time of the April 2004 Report may be present and may materially affect this Contract.

The NYSDEC is aware of Site conditions. Work outlined in these Specifications will be done with the expressed intent of closing NYSDEC Spill File 0210253.

- Four temporary monitoring wells (TMW) were installed near the former wastewater treatment system. TMW locations are noted on the attached fieldwork maps. Results of laboratory analysis of groundwater samples from these wells are summarized in Attachment B. All TMW exhibited exceedences of NYSDEC Groundwater Protection Standards for total lead (peak concentration of 223 ppb). Groundwater samples obtained from TMW-3 and TMW-4 also exhibited NYSDEC Groundwater Protection Standards exceedences for barium (peak concentration of 2,670 ppb). No pesticide contamination of groundwater was detected in these wells.

- Soils sampled throughout the Site showed elevated concentrations of lead and arsenic. Elevated levels of other metals were found in isolated soil samples. Contractor should assume contaminated soils will be present in the vicinity of well placement.

  NYSDEC Spill File 0210253A concerns petroleum contaminated soil at the Site. Petroleum contamination was documented at the north invert of a 750-gallon fuel oil UST located at the northern central portion of the Site. A spill event was reported to the NYSDEC (Spill File number 0210253) and the UST was removed. Soil samples were taken from a test pit (TP-1) adjacent to the tank. Petroleum was detected in samples collected at 8 feet, but not in those collected at 12 feet. Groundwater samples from TMW-1, a well adjacent and down-gradient of the tank grave, showed no petroleum contamination (Attachment B).

1.3. CONTRACTOR USE OF SITE AND PREMISES

The Work of this Contract shall be done in a manner that easily permits continued access to existing facilities and causes the least possible interference with any other activities concurrently being conducted on the Site by DCDP.

Any and all locks or security features installed by the Contractor will be shared with DCDP and ESI so that DCDP can maintain unrestricted Site access.

1.4. PROJECT OVERSIGHT AND MANAGEMENT

DCDP has hired ESI to act on its behalf with regard to interpretation and implementation of these Specifications. The Contractor will be responsible for all written requirements from ESI which are made on behalf of DCDP and which are agreed to in writing by DCDP.

Substantive modification by the Contractor of activities detailed in these Specifications is prohibited unless the Contractor obtains approval of such modifications in writing from DCDP.

1.5 STANDARDS AND GUIDANCE THAT APPLY TO THIS WORK

The following list includes some, but not all, of the standards and guidance that apply to this work. Contractor is responsible for compliance with all relevant standards and guidance.

Industry-common agencies, phrases and publications referenced herein are often abbreviated. Agency acronyms and abbreviations, and publication definitions used within this document are provided in Section 3.

- Resource Conservation and Recovery Act 40 CFR Parts 260-265
- RCRA Information on Hazardous Wastes for Publicly Owned Treatment Works
- NYSDEC TAGM #4046 and subsequent memoranda
- 6NYCRR, Part 360, *et seq.*
- 6NYCRR, Part 370, *et seq.*

1.6 ADDITIONAL BID SUBMITTAL REQUIREMENTS

The following is a list of items the Contractor will submit with the bid. These items are in addition to the requirements stated elsewhere in these Specifications and on the Bidder Response Form (Attachment D).

- Documentation that all workers are familiar with applicable codes and standards and are familiar with all procedures concerning their intended purposes on the project.

- A table showing the following information:

  - roster of all payroll employees who have received OSHA-required 40-hour training as defined in 29CFR 1910.120 (e);

  - the date of the last 8-hour refresher training course each employee attended; and

  - a list of all employees who have received an 8-hour supervisor's training course.

- The name of the employee who was last given a physical that meets the 29 CFR 1910.120 (f) medical monitoring requirements and the date of that physical.

1.7 AWARD CRITERIA

The project will be awarded to the lowest cost, responsive, and responsible bidder.

1.8 REJECTION OF ALL BIDS

DCDP reserves the right to reject all bids for reasonable cause.

1.9 SPECIFICATION LANGUAGE

Omissions of words or phrases such as "The Contractor shall," "in conformity with," "shall be," "as noted in the Drawings," shall be supplied by inference in the same manner as they would be supplied by inference when a colon (:) is used within sentences or phrases.

1.10 COORDINATION AND MEETINGS

The Contractor will coordinate all aspects of the Work, including scheduling and submittals, with ESI to ensure an efficient and orderly sequence of services.

The Contractor will coordinate completion and clean-up of the Work area on an "as needed" basis to ensure Site safety.

1.11 PROGRESS AND COMPLETION

- Normal working hours and normal working days for the Contractor's Work on this project shall be between the hours of 7:30 a.m. and 4:30 p.m., Monday through Friday, excluding holidays, except as otherwise specified, totaling an eight-hour, on-Site working day. Lump sum quoted work assumes eight hours time on Site.

- DCDP may require that part of the Work be done after normal working hours or on other than normal working days.

- The Contractor shall confine activities at project Site to normal working hours and normal working days unless DCDP requires or approves other times or days.

- Should the Contractor desire to carry out part of the Work at times other than normal working hours or days, the Contractor will submit a written request to do so to DCDP together with specific calendar days and hours the Contractor wishes to work and description of activities the Contractor proposes to carry out during those times.

Construction activities will not be permitted at times other than those specified or subsequently approved in writing by DCDP. Only those activities specifically approved by DCDP are permitted during hours or on days other than those stipulated as normal working days or hours.

- If necessary to complete Work within Contract time, as adjusted by change orders, the Contractor will request DCDP's approval to work during days or times other than those designated as normal working days or hours, and if DCDP approves, perform Work during such additional times on such days as have been approved at no additional cost. Work during such additional times and on such additional days shall continue only as long as is necessary to complete the Work within the stipulated time period.

1.12 ANTICIPATED PROJECT SCHEDULE

- The Contractor will coordinate and prepare a schedule and timetable for performing all services detailed in the Specifications. This schedule will be submitted to DCDP in writing, and once revised through mutual consent of DCDP and the Contractor, will be relied upon to assess Contractor responsiveness. Lack of completion of services in accordance with the approved schedule may be considered by DCDP as lack of responsiveness by the Contractor and, therefore, cause for possible dismissal.

- It is the intent of DCDP to have the wells installed prior to the demolition of the structures.

- All wells must be installed within three weeks of award.

- "As built" well construction drawings must be submitted within five weeks of award.

1.13 QUALITY CONTROL

The following list includes some, but not all, of the quality control actions that apply to this Work. The Contractor is responsible for compliance with all relevant quality control actions.

- Monitor quality control over suppliers, manufacturers, products, services, Site conditions, and workmanship to produce Work of specified quality.

- Should instructions to the Contractor from either ESI or regulatory agencies conflict with contract documents, Contractor will request clarification from DCDP before proceeding.

- Comply with specific standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

- Make a good faith effort to assist DCDP in implementing DCDP's Minority and Women's Business – Equal Opportunity Program Workplan (MWW). The MWW has been submitted to NYSDEC, and is available for Contractor review.

- Perform Work by persons qualified to produce required and specified quality.

- Comply with the provisions included in Attachment 4, Mandatory Contract Clauses, Municipal Assistance for Environmental Remediation Projects, prepared by NYSDEC, dated July 2004. These mandatory contract clauses are provided with this document as Attachment C.

1.14 REFERENCES AND STANDARDS

The following list includes some, but not all, of the activities relevant to the references and standards that apply to this Work. The Contractor is responsible for compliance with all relevant references and standards.

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

- Conform to reference standard by date of issue current on date of Contract documents except where a specified date is established by code.

- Obtain copies of standards where required by product specification sections.

- The Contractor shall follow referenced items included in Section 1.5 of these Specifications.

1.15 INSPECTION AND TESTING SERVICES

- When required, ESI will perform inspection and testing services specified in individual specification sections.

- Reports will be submitted by ESI to DCDP and Contractor in duplicate. These reports will indicate inspection observations and compliance or non-compliance with Contract documents.

- Inspecting does not relieve the Contractor to perform Work to Contract requirements.

1.16 CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

- No temporary sanitary facilities will be provided by DCDP for these services.

- Contractor will protect vehicular and pedestrian traffic, stored materials and the Site from damage.

- Cleaning and Waste Removal

    - Contractor will keep areas free of waste materials, debris, and rubbish and will maintain Site in a clean and orderly condition during Work activities.

- Contractor will collect and remove waste materials, debris, and rubbish from Site weekly and dispose said materials off-Site in accordance with all applicable Federal, State and local regulations.

It is the expressed responsibility of Contractor to:

- remove temporary utilities, equipment, facilities, and materials prior to final application for payment inspection;
- clean and repair damage caused by Work; and
- restore existing facilities used during construction to original condition and, if appropriate, restore permanent facilities used during construction to specified condition.

Where needed, the Contractor shall hand dig to expose buried utilities.

1.17 SITE-SPECIFIC CLOSE-OUT BILLING PROCEDURES

A. Close-out Procedures

Contractor will submit written certification that Contract documents have been reviewed, Work has been inspected, and Work is complete in accordance with Contract documents and ready for DCDP's review.

Project close out will not occur until ESI provides written notice to the NYSDEC certifying project completion.

The Contractor will provide submittals to DCDP that are required by governing or other authorities.

B. Final Cleaning

1. Final cleaning prior to final project assessment will be executed by the Contractor.

2. Immediately prior to final inspection, the Contractor shall clean all construction debris generated during actions described herein.

3. The Site shall be cleaned, and construction materials, tools, equipment, sheds, barricades, and other temporary construction shall be removed.

4. Contractor's payment may be withheld if the Site is not cleaned up to DCDP's satisfaction.

5. Requirements of this section shall be in addition to and not in limitation of any special cleaning requirements specified in other sections.

6. The Contractor shall be responsible for the removal and disposal from the Site of all trash and debris that resulted from the Contractor's work.

C. Work Record Documents

The following lists activities relevant to the Work record documents that are required of the Contractor.

1. Maintain on the Site one set of the following documents to record actual revisions to the Work:

    a. Site-specific Health and Safety Plan (HASP);
    b. specifications and drawings;
    c. addenda; and
    d. change orders and other modifications to the Contract.

2. Ensure entries are complete and accurate, enabling future reference by DCDP.

3. Store record documents separate from documents used for construction.

4. Record information concurrent with construction progress.

5. Legibly mark and record at each product section a description of actual products installed, including the following:

    a. manufacturer's name and product model and number;
    b. product substitutions or alternates used; and
    c. changes made by addenda and modifications.

6. Submit documents to DCDP with final application for payment.

SECTION 2 – TECHNICAL SPECIFICATIONS

2.1 SITE PREPARATION SERVICES

A. Health and Safety Plan (HASP)

1. The Contractor will be responsible for preparing and implementing the HASP.

2. Within seven days after the effective date of this Contract, the Contractor shall submit to DCDP any requested changes to the HASP. Any requested changes will be in writing and must be approved by DCDP before the Notice to Proceed with the Work will be issued.

3. DCDP has the right to stop Work at any time if, at the sole discretion of DCDP, the Contractor is not adequately implementing or enforcing the HASP. DCDP may also, at its sole discretion, order and implement remedial measures to correct any deficiencies. All costs for suspension or stoppage of work and all remedial costs shall be at the Contractor's expense.

4. The Contractor must employ a qualified individual to function as the Site Health and Safety Officer (HSO) for the project. The HSO must be responsible to the Contractor and have the authority and knowledge necessary to implement the Site HASP and verify compliance with applicable safety and health requirements.

    a. At a minimum, the Site HSO shall have the following responsibilities and authority to perform the following functions:

        i. be present at all times during Site operations;
        ii. have the authority to enforce the HASP and stop operations if personnel safety and health may be jeopardized;
        iii. effect evacuation of the Site if necessary; and
        iv. evaluate monitoring data to make field decisions regarding safety and health.

b. The Site HSO shall meet the following minimum qualifications:

i. possess a sound working knowledge of State and Federal occupational safety and health regulations;
ii. training and working knowledge in the use of all necessary health and safety monitoring equipment required to work under this Contract;
iii. forty (40) hours of training in hazardous materials safety and health, plus training in confined space entry excavation operations, standard first aid, and cardiopulmonary resuscitation, plus eight (8) hours supervisory training; and
iv. have a minimum of four (4) years experience in the environmental and health and safety services field, chemical industry, or chemical waste disposal industry, more than 50% of which must be in the area of industrial hygiene and/or environmental safety.

5. Prior to the start of Work, the Contractor will submit HASP implementation procedures including the following:

a. safety precautions for each phase of the Work;

b. identify appropriate requirements of 29 CFR 1910 and DRAFT DER-10, Technical Guidance for Site Investigation and Remediation prepared by the NYSDEC, dated December 2002 (DER-10).

c. identify safety equipment and procedures to be available and used during the project; and

d. the names and qualifications based on education, training, and work experience of the proposed HSO and the members of the well installation crew.

B. Personnel Protective Equipment and Levels of Protection

1. The Contractor shall use personal protective equipment (PPE) when engineering and/or work practice controls have been deemed impractical or insufficient to protect employees during Site operations.

2. The Contractor shall select PPE based on an evaluation of performance characteristics, Site-specific tasks, and known or suspected hazards and shall assemble the PPE into levels of protection (LOP) or ensembles appropriate for the Site.

C. Equipment Calibration

The Contractor is responsible for maintaining properly operating field screening and health and safety equipment on the Site during fieldwork. Equipment used on Site for screening purposes, e.g., photo-ionization detector (PID), will be calibrated on a daily basis. A complete calibration log will be maintained on the Site, available for inspection by the NYSDEC and/or DCDP.

D. Agency Notification [To Be Conducted By Others]

ESI is responsible for notifying the NYSDEC and DCDP in writing at the following times:

1. when ESI and Contractor have finalized Site HASP as outlined in Section 2.1.A.2;
2. prior to the initiation of Work to provide the name (and certifications) of the proposed analytical laboratory;
3. three working days prior to the initiation of Work;
4. prior to implementing substantive variations to the activities detailed in these Specifications; and
5. within 24 hours of receipt of written laboratory data.

2.2 WELL CONSTRUCTION AND INSTALLATION

A. General Requirements

1. Each system, including equipment, materials, installation, and performance, shall be in accordance with local, State, and Federal regulations and DER-10, except as specifically modified herein.

2. In addition the HASP procedures described in Section 2.1, pre-work submissions will include:
    a. insurance certificates;
    b. disposal facility permit;
    c. safe route for Contractor vehicles traveling from Site to disposal facility; and
    d. product data for well casing, well screening, filter pack(s), neat cement grout, and bentonite seal.

3. Deliver materials in an undamaged condition. Unload and store with minimal handling. Store materials in on-Site enclosures or under protective coverings. Store plastic and rubber materials, jointing materials, and other materials of similar composition under cover, out of direct sunlight. Store materials off the ground. Keep insides of pipes and fittings free of dirt and debris. Replace defective or damaged materials with new materials.

4. Notify ESI at least 10 business days prior to commencement of work. Drilling and installation of the monitoring wells shall be monitored by ESI. Drilling, and any other equipment, introduced to the well shall be decontaminated before and after each use in accordance with ASTM D 5088.

B. Construction and Installation

1. Well installation shall be in accordance with DER-10, and as indicated on the Site field map (Attachment A). Borehole shall be advanced using conventional 4 1/4-inch hollow stem auger. ESI may require an alternate drilling method prior to drilling. Drill crew shall be experienced and trained in drilling and safety requirements for contaminated sites.

2. Drill cuttings will be contained in dedicated and labeled 55-gallon covered drums for testing by ESI. ESI may require Contractor to dispose of cuttings at an approved facility in accordance with local, State, and Federal regulations and DER-10.

3. Once the water table is encountered, the auger shall be advanced a minimum of eight (8) feet to have sufficient water in the monitoring well to obtain a sample.

4. Borehole shall be stable and shall be verified straight before beginning installation.

C. Casings and Screens

1. PVC Piping

ASTM F 480, Type 1, Grade 1, PVC, Schedule 40, with flush threaded joint fittings. Threaded joints shall be provided with nitrile o-ring gaskets.

Well casings, screens, plugs, and caps shall be decontaminated prior to delivery by the manufacturer and shall be certified clean. Materials shall be delivered, stored, and handled in such manner as to ensure that grease, oil, or other contaminants do not contact any portion of the well screen and casing assembly prior to installation. If directed by ESI, the well screen and casing assembly shall be cleaned with high pressure water prior to installation. Personnel shall wear clean cotton or surgical gloves while handling the assembly. When the assembly has been installed at the appropriate elevation, it shall be adequately secured to preclude movement during placement of the filter packs and annular seals. The top of the well casing shall be capped during filter pack placement.

2. Well Screen

ASTM D 1785, Schedule 40, PVC, two-inch (2") diameter screen, 0.10 machine-slotted construction, flush threaded joint ends.

Slots shall be even in width, length, and separation. Screen length shall be installed in the bottom of the well with the screen interval straddling the water table. Whenever possible, the screen interval shall extend two feet above the water table. Field conditions may require that full 10-foot length screens be cut down; if so, screen must be cut at the bottom of the screened interval, to allow the threads at the top of the screen length to be joined with the riser casing.

If the water table is less than 8 feet below grade, the length of the PVC screen, sand filter, bentonite seal may be reduced - in that order - to size the well to fit the shallow water table.

3. Riser Casing

The top of the riser casing shall extend three (3) feet above the ground surface.

D. Filter Packs and Sealants

1. Annular Space Filter Packs

Primary and secondary filter packs shall be placed as indicated on the approved well construction drawings to fill the entire annular space between the screen and casing assembly and the outside wall of the borehole. The filter packs will occupy the annular space from the bottom of the well to 1 to 2 feet above the top of the screened interval. Place both the primary and secondary filters with a tremie pipe in accordance with EPA 600-4-89-034 and ASTM D 5092. Placement of the primary and secondary filters by gravity or free fall methods is not allowed. Control speed of filter placement to prevent bridging and to allow for settlement. Prior to commencement of work, equipment and methods required to place filters shall be approved by ESI.

Primary filter pack shall consist of clean, durable, well-rounded, and washed quartz or granite, with less than 5 percent non-siliceous material. Filter sand will be greater than 0.01 inch diameter. The filter pack shall not contain organic matter or friable materials. The filter pack shall allow free flow of water in the well, and shall prevent the infiltration of aquifer materials.

Secondary filter pack materials will have gradation in accordance with ASTM D 5092. Materials will be clean, durable, well-rounded, and washed quartz or granite. Pack shall not contain organic matter or friable materials. Filter sand will be greater than 0.01 inch diameter.

2. Seals

   a. Bentonite Seal

      A three-foot bentonite seal shall be placed above the secondary filter. Bentonite base grout shall be in accordance with ASTM D 5092.

      Bentonite shall be placed as a slurry through a tremie pipe. Control speed of bentonite placement to prevent bridging or segregation of slurry. Additional water shall be added to the annular space as directed by the ESI to ensure complete hydration of the bentonite. Bentonite shall cure a minimum of 1 hour before the placement of cement grout to ensure complete hydration and expansion of the bentonite.

   b. Neat Cement Grout

      Cement grout shall be placed in the annular space above the bentonite seal to within one (1) foot of the top of the well casing. Cement grout shall be placed as a slurry through a tremie pipe, and injected under pressure to reduce chance of voids. Grout shall be injected in one continuous operation until full strength grout flows out at the ground surface without evidence of drilling cuttings or fluid. Cement grout shall cure a minimum of 48 hours before beginning well development operations.

Provide neat cement grout in accordance with ASTM D 5092. Cement shall be in accordance with ASTM C 150. Quick setting admixtures shall not be allowed. Drilling mud or cuttings shall not be used as a sealing material.

E. Bottom Plugs

Provide flush threaded solid plug at the bottom of the well. Plug shall be the same material as the well casing or screen to which it is attached. Joints shall be wrapped with fluoropolymer tape and provided with nitrile O-ring gaskets.

F. Locking Well Cap

Provide flush threaded, weatherproof, and non-removable locking well cap on the top of the well. Well cap shall be of the same material as the well casing to which it is attached. Well cap shall accommodate padlock. Provide a long shackled padlock in accordance with ASTM F 883. Provide two keys for the padlock, and turn them over to the ESI. Locks at the five well sites shall be keyed alike.

2.3 CLEANUP

Upon completion of the tasks specified in Section 2.2, Contractor will remove all debris and surplus materials from the Site.

Contractor will install vegetation fences around each well.

2.4 POST-INSTALLATION SUBMISSIONS

A. Well Installation Report

Provide report, containing the following data for each well: project name and location, well designation, date and time of well installation, depth of well from top of casing to bottom of well, and screen length.

B. Monitoring Well Location Survey

Upon completion of well installation and acceptance by ESI, a certified, "to scale"

Monitoring Well Survey Map will be prepared and submitted that includes well locations and all other surveyed data. This map will be prepared by a State certified surveyor. The survey shall document the vertical elevations of the top of the casing pipe and the ground surface elevation adjacent to each well.

All on-Site groundwater monitoring wells will be surveyed vertically to the nearest 0.01 foot and horizontally to an accuracy of one-tenth of a second latitude and longitude. The surveyed measurements will be referenced to the North American Datum of 1983 (NAD83) and National Geodetic Vertical Datum of 1929 (NGVD29).

C. "As Built" Drawings

Submit "as built" well construction drawings showing components and details of well casing, well screen, filter pack, annular seal, and associated items. Details will include diameter of drilled hole; casing diameter; well screen diameter, length, location, and slotted opening size; limits of primary and secondary filter packs, limits of bentonite seal and grout seal; and type of cap, cover, or seal required at top.

SECTION 3 - REFERENCE

3.1 ABBREVIATIONS and ACRONYMS

ASTM – American Society for Testing and Materials

CFR – Code of Federal Regulations

EPA - Environmental Protection Agency

NYS – New York State

OSHA – Occupational Safety and Health Standards

3.2 PUBLICATIONS

ASTM INTERNATIONAL

- ASTM A 53 – (1999b) Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless
- ASTM C 117 – (2004) Materials Finer Than 75 micrometer (No. 200) Sieve in Mineral Aggregates by Washing
- ASTM C 136 – (2004) Sieve Analysis of Fine and Coarse Aggregates
- ASTM C 150 – (2004a) Portland Cement
- ASTM D 1586 – (1999) Penetration Test and Split-Barrel Sampling of Soils
- ASTM D – 1587 – (2000) Thin-Walled Tube Sampling of Soils for Geotechnical Purposes
- ASTM D – 1785 – (2004a) Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120
- ASTM D 2487 – (2000) Soils for Engineering Purposes (Unified Soil Classification System)
- ASTM D 2188 – (2000) Description and Identification of Soils (Visual – Manual Procedure)
- ASTM D 4397 – (2002) Polyethylene Sheeting for Construction, Industrial, and Agricultural Applications

- ASTM D 5088 – (2002) Decontamination of Field Equipment Used at Nonradioactive Waste Sites
- ASTM D 5092 – (2004e1) Design and Installation of Ground Water Monitoring Wells in Aquifers
- ASTM F 883 (2004) Padlocks

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

- EPA 600-4-89-034 – (1990) Handbook of Suggested Practices for the Design and Installation of Groundwater Monitoring Wells

UNITED STATES NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

- 29 CFR 1910 - Occupational Safety and Health Standards

APPENDIX C

Specifications
Laboratory Analysis of Soil and Water Samples

SPECIFICATIONS

FOR

LABORATORY ANALYSIS OF SOIL AND WATER SAMPLES

The Perx Property
7395 South Broadway
Village of Red Hook
Dutchess County, New York

ESI File: DR99140.44

June 2005

Prepared by:

Ecosystems Strategies, Inc.
24 Davis Avenue
Poughkeepsie, New York 12603
(845) 452-1658

TABLE OF CONTENTS

SECTION 1 - SUMMARY OF WORK

1.1 PROJECT SUMMARY

A. Definitions

These Specifications for Laboratory Analysis of Soil and Water Samples are hereafter referred to as the Specifications. The contracting entity will be Dutchess County Department of Planning (DCDP). The corporate entity awarded this contract and, therefore, responsible for the appropriate and complete implementation (Work) of these Specifications is hereafter referred to as the Contractor. DCDP has engaged the services of an independent consultant, Ecosystems Strategies, Inc. (ESI) to represent DCDP in technical matters with the Contractor.

B. Project Location

The general location of samples collected for these Specifications is the Perx property located at 7395 South Broadway, Village of Red Hook, Dutchess County, New York, hereafter referred to as the Site. Other services being conducted at this Site include demolition and asbestos abatement of all structures, installation of groundwater monitoring wells, soil excavation and remediation, and tank removal.

C. Summary of Services

DCDP seeks a qualified Contractor to assist DCDP in performing "as needed" laboratory analyses of soil and groundwater samples collected at the Site. The contractor will be responsible for completing all necessary chemical analyses for on-site soil and groundwater.

The soil analyses will be used to determine whether soil excavation activities meet regulatory requirements. Groundwater samples will used to confirm the absence of contaminants in groundwater collected from 5 on-site monitoring wells.

Other soil and groundwater analyses may be required as the on-site activities progress.

D. Limitations

The Contractor is responsible for every part of the Work indicated in the contract documents whether or not it is included in the following limited summary. These Specifications refer to every part of the contract documents for the total Work included in this Contract. The award of this Contract is based upon the review, confirmation, and acceptance of the Contractor's qualifications and the acceptance of the Contractor's written bid. Any item left open may result in the bid being ruled "non responsive".

This Work is partially funded with New York State Department of Environmental Conservation (NYSDEC) money through the NYSDEC Environmental Restoration Program. The NYSDEC is not party to the awarded contract.

E. Relevant Documents

These Specifications are based on Site conditions as detailed in the following documents: Final Summary Report of Site Investigation and Interim Remedial Activities (Report) prepared by ESI, dated April 2004; and Environmental Restoration Record of Decision, Perx Property Site, Village of Red Hook, Dutchess County, New York, Site Number B-001773 prepared by NYSDEC, dated February 2005.

1.2. PROJECT OVERSIGHT AND MANAGEMENT

DCDP has hired ESI to act on its behalf with regard to interpretation and implementation of these Specifications. The Contractor will be responsible for all written requirements from ESI which are made on behalf of DCDP and which are agreed to in writing by DCDP.

Substantive modification by the Contractor of activities detailed in these Specifications is prohibited unless the Contractor obtains approval of such modifications in writing from DCDP.

1.3 LABORATORY CERTIFICATION

The selected Contractor will be certified for all anticipated analyses of groundwater and soil samples collected on the site. This certification will be through the Environmental Laboratory Approval Program (ELAP) of the New York State Department of Health (NYSDOH). All required quality assurance and quality control procedures will be followed by the Contractor in accordance with NYSDOH and NYSDEC requirements.

1.4 ADDITIONAL BID SUBMITTAL REQUIREMENTS

In addition to the requirements stated elsewhere in these Specifications and on the Bidder Response Form (Attachment B), the Contractor will submit with the bid documentation of the following:

- ELAP certification;
- familiarity of all workers with applicable codes and standards; and
- familiarity of all workers with procedures concerning their intended purposes on the project.

1.5 AWARD CRITERIA

The project will be awarded to the lowest cost, responsive, and responsible bidder.

1.6 REJECTION OF ALL BIDS

DCDP reserves the right to reject all bids for reasonable cause.

1.7 SPECIFICATION LANGUAGE

Omissions of words or phrases such as "The Contractor shall," "in conformity with," "shall be," "as noted in the Drawings," shall be supplied by inference in the same manner as they would be supplied by inference when a colon (:) is used within sentences or phrases.

1.8 COORDINATION AND REPORTS

- The Contractor will coordinate all aspects of the Work, including scheduling and submittals, with ESI to ensure an efficient and orderly sequence of services.

- All soil and groundwater analyses will be completed and written laboratory results provided to ESI (in both written and electronic form) within seven (7) business days after samples are received by the Contractor. Any deficiencies will be addressed immediately and additional sampling scheduled, if necessary.

- A Data Usability Summary Report will be prepared by an independent party as outlined in Appendix 2B, Guidance for the Development of Data Usability Summary Reports, DRAFT DER-10, Technical Guidance for Site Investigation and Remediation (DER-10), prepared by NYSDEC, dated December 2002.

1.9 QUALITY CONTROL

The following list includes some, but not all, of the quality control actions that apply to this Work. The Contractor is responsible for compliance with all relevant quality control actions.

- Monitor quality control over suppliers, manufacturers, products, services, and workmanship to produce Work of specified quality.

- Should instructions to the Contractor from either ESI or regulatory agencies conflict with contract documents, Contractor will request clarification from DCDP before proceeding.

- Comply with specific standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

- Make a good faith effort to assist DCDP in implementing DCDP's implementing DCDP's Minority and Women's Business – Equal Opportunity Program Workplan (MWW). The MWW has been submitted to NYSDEC, and is available for Contractor review.

- Perform Work by persons qualified to produce required and specified quality.

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

- Comply with the provisions included in Attachment 4, Mandatory Contract Clauses, Municipal Assistance for Environmental Remediation Projects, prepared by Division of Environmental Remediation, NYSDEC, dated July 2004. These mandatory contract clauses are provided with this document as Attachment A.

1.1 CLOSE-OUT BILLING PROCEDURES

- The Contractor will submit written certification that contract documents have been reviewed and that Work is complete and ready for DCDP's review.

- Project close out will not occur until ESI provides written notice to the NYSDEC certifying project completion.

- The Contractor will provide submittals to DCDP that are required by governing or other authorities.

SECTION 2 – TECHNICAL SPECIFICATIONS

2.1 LABORATORY ANALYSIS

A. Materials

All sampling containers necessary for groundwater and soil analyses will be provided by the Contractor.

B. Analytical Requirements

1. All Work will be conducted in accordance with Section 2, Quality Assurance for Sampling and Laboratory Analysis, DER-10.

2. The laboratory must be certified for all analyses to be performed using NYS Analytical Services Protocols (ASP). At a minimum, analyses that are required for wastes generated in the course of this project include the following:

- Volatile organic compounds (VOCs), soil and groundwater;
- Semi-volatile organic compounds (SVOCs), polycyclic aromatic hydrocarbons (PAHs) only, soil;
- Chlorinated pesticides, soil and groundwater;
- Target Analyte List (TAL) metals, total weight;
- TAL metals, filtered and unfiltered; and
- TAL metals, Toxicity Characteristic Leaching Procedure (TCLP), soil.

3. Summary of Anticipated Samples

   Summary of anticipated number of samples for specific analytes

Analyte Group	Soil	Groundwater
VOCs	10	5
SVOCs, PAHs only	10	0
Chlorinated pesticides	15	5
TAL metals (total weight)	15	0
TAL metals (filtered)	0	5
TAL metals (unfiltered	0	5
TAL metals (TCLP)	2	0

4. Additional analyses as specified by the designated disposal facility permit may be required. These additional analyses include but are not limited to the following:

   - pH;
   - Total organic halides;
   - Total petroleum hydrocarbons;
   - Polychlorinated biphenyls;
   - Ignitability;
   - Metals and reactivity, reactive cyanide; and
   - Metals and reactivity, reactive sulfide.

2.2 PROJECT SCHEDULE

It is anticipated that all soil and groundwater samples will be submitted to the Contractor within six months of the award.

2.3. MEASUREMENT AND PAYMENT

The quantity to be measured for payment shall be unit price per sample per analysis. The ultimate total value of the contract will be determined based on the actual number of analyses provided by the Contractor times the unit price for each analysis. Payment will be made upon completion of all work performed.

SECTION 3 - REFERENCE

3.1 ABBREVIATIONS and ACRONYMS

CFR – Code of Federal Regulations

EPA - Environmental Protection Agency

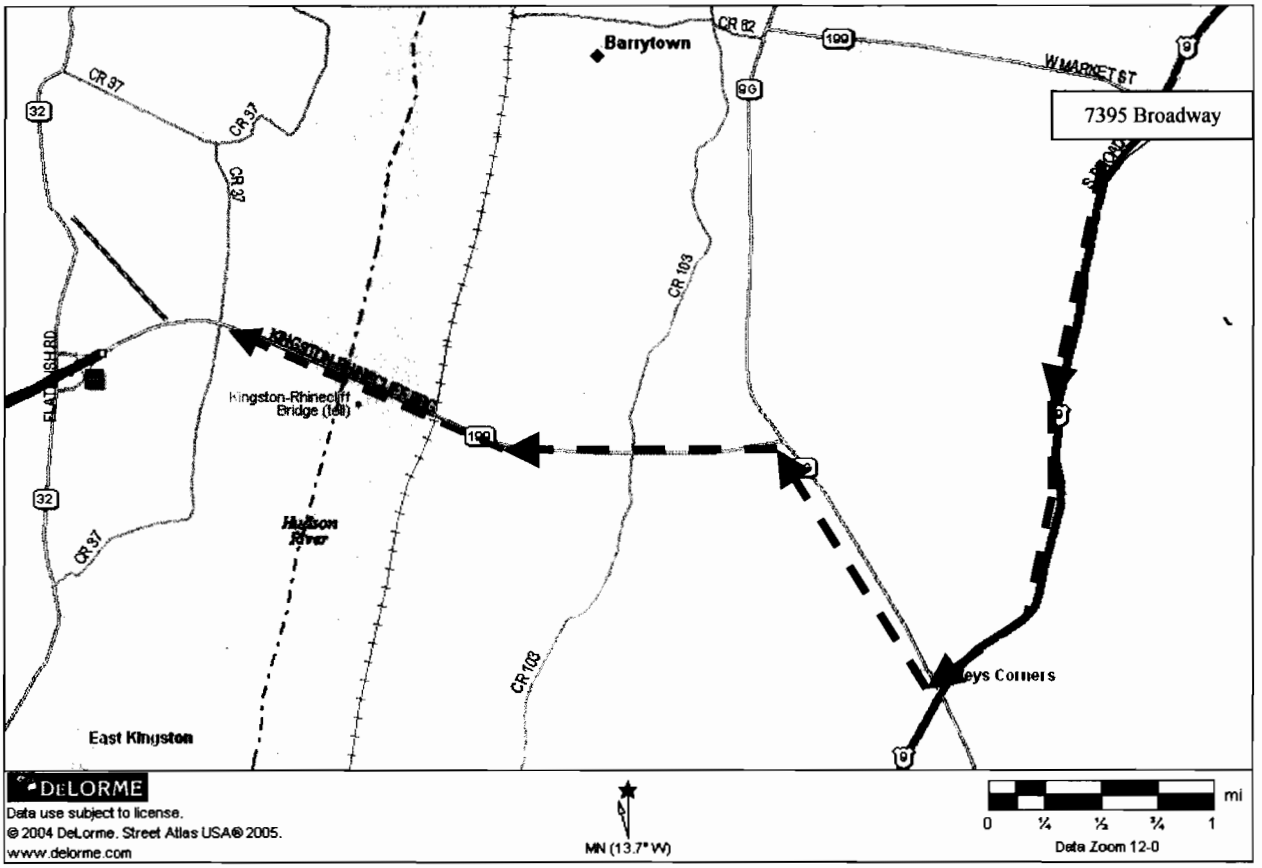
NYS – New York State

OSHA – Occupational Safety and Health Standards

APPENDIX D

Map – Truck Route

Truck Route



All trucks will exit the Site onto NYS Route 9, travel south to NYS Route 9G, north to NYS Route 199, and west to the NYS Thruway via the Kingston-Rhinecliff Bridge.

APPENDIX E

Supplemental Soil Sampling Plan

Ecosystems Strategies, Inc.
Environmental Services and Solutions
24 Davis Avenue, Poughkeepsie, New York 12603-2332
TEL: 845-452-1658 • FAX: 845-485-7083
•EMAIL: mail@ecosystemsstrategies.com

Supplemental Soil Sampling Plan

Perx Property
7395 South Broadway, Village of Red Hook
Dutchess County, New York
DR99140.44
September 2005

1.0 INTRODUCTION

1.1 Purpose

This Supplemental Soil Sampling Plan (Sampling Plan) outlines sampling procedures to be carried out for the purpose of augmenting the documentation of soil integrity on the Perx Property, located at 7395 South Broadway, Village of Red Hook, Dutchess County, New York. Specifically, soil sampling and analysis will be conducted for the purpose of documenting the presence or absence of significant levels of lead, arsenic, and/or chlorinated pesticides.

1.2 Site Location and Description

The subject property is defined as the 20.8-acre Perx property and structures located at 7395 South Broadway, Village of Red Hook, Dutchess County, New York. The property comprises five tax lots (Village of Red Hook Tax ID: Map 6272, Block 10, Lots 265576, 298593, 278603, 209574 and 305666). A site location map depicting the location of the subject property is provided as an attachment.

The Perx property is an irregularly shaped parcel which has 104 feet of frontage on the western side of South Broadway and extends approximately 1,370 feet westward where there is 50 feet of frontage on the eastern side of Smith Street. Several structures are located on the eastern portion of the property and are associated with the property's historic usage as an apple processing facility, and a frozen food processing and packaging plant. The remains of a wastewater treatment facility are located near the northern property line on the eastern half of the property and on the central southern portion of the property. The western portion of the property is undeveloped land that contains overgrown grasses, wetland areas, and woods (including a former orchard area).

For the purpose of this Sampling Plan, the areas to be sampled, hereafter referred to as the "Site" will consist of areas of the Perx property located (respectively) immediately west and south of the main on-site structure (Area A), in the northern central portion of the property within the former orchard area (Area B); and in the northwestern section of the property (Area C). Maps indicating sampling locations are included as an attachment.

1.3 Objectives

The objectives of the work to be conducted by ESI are as follows:

- To document the presence or absence of pesticide related contaminants in surface and subsurface soils within specified portions of the Site; and,
- To modify, if warranted, proposed soil removal activities in these areas.

2.0 SUPPLEMENTAL SOIL SAMPLING PLAN

2.1 Summary of Services

ESI will provide the following services to achieve the objectives specified in Section 1.3:

- Extend approximately 30 soil cores on the Site to a depth of 24 inches below surface grade (bsg);
- Collect samples from the first four inches (0-4" bsg) and last four inches (20-24"bsg) of soil;
- Analyze soil samples for arsenic and lead as well as chlorinated pesticides; and,
- Document the on-site presence or absence of pesticide related contaminants through laboratory analysis of surface and subsurface soil samples for total weight lead, total weight arsenic, and total weight chlorinated pesticides.

This Sampling Plan is divided into individual sections that describe the proposed fieldwork to be conducted by ESI on the Perx property (Section 2.2), laboratory analysis of samples (Section 2.3), report preparation (Section 2.4), and a time schedule (Section 2.5).

2.2 Fieldwork Methodology

2.2.1 Site Preparation Services

Prior to the initiation of fieldwork, a request for a complete utility markout of the subject property will be submitted by ESI as required by New York State Department of Labor regulations. Confirmation of underground utility locations was secured and a field check of the utility markout will be conducted prior to the extension of soil cores.

2.2.2 Sample Collection

ESI proposes to extend approximately 15 soil cores on each portion of the Site for a total of approximately 30 cores, arranged in a grid pattern, and modified as needed to account for encountered field conditions. Sample locations will be recorded using a Garmin™ GPS unit.

All soil cores will be extended by ESI personnel using a hand-held, direct-push GeoProbe™ sampling spoon equipped with a slide hammer and disposable acetate sleeves (used to prevent the cross contamination of soil samples). Sampling will be conducted at each boring location to a depth of two feet below grade or until refusal is reached (up to two subsequent offset sample locations will be utilized should refusal be reached before the two foot depth at the original boring).

Samples of soil material will be collected from each of the soil borings from the first four inches (0-4" bsg) and last four inches (20-24") of soil. At each sample location a sufficient volume of material will be collected for the proposed analyses.

An assessment of subsurface soil characteristics, including soil type, the presence of foreign materials and field indications of contamination (e.g., unusual coloration patterns, or odors) will be made by ESI personnel during the extension of each soil core. ESI personnel will maintain independent field logs documenting physical characteristics and any field indications of contamination for all encountered material at each coring location.

All fieldwork (including sample collection and decontamination procedures) will be conducted by ESI personnel in a manner consistent with established NYSDEC protocols. The sampling spoon will be decontaminated using an Alconox™ soap and water wash, then rinsed using a sequence of water, 10% nitric acid, and water prior to the initiation of fieldwork and after the collection of each sample to avoid cross-contamination between samples. Dedicated gloves will be used at each sample location to place the collected material into glass jars pre-cleaned at the laboratory.

All sample containers will be placed in a cooler immediately after sample collection and will be maintained at cool temperatures prior to transport to the laboratory. The soil samples will be transported via courier to York Analytical Laboratories, Inc. (York Laboratories), a New York State Department of Health-certified laboratory (ELAP Certification Number 10854) for chemical analyses. Appropriate chain-of-custody procedures will be followed.

2.3 Laboratory Analysis

Samples of soil material collected from the first four inches (0-4" bsg) and last four inches (20-24" bsg) of soil at each core will be submitted to York Laboratories. All soil samples collected from the 0-4" depth will be analyzed for total weight lead, total weight arsenic, and total weight chlorinated pesticides (USEPA Method 8082). Should significant concentrations of any of these contaminants be detected in the 0-4" sample of a core, the 20-24" sample from that core will then be analyzed for the contaminants detected in the surface sample in order to determine the vertical extent of contamination.

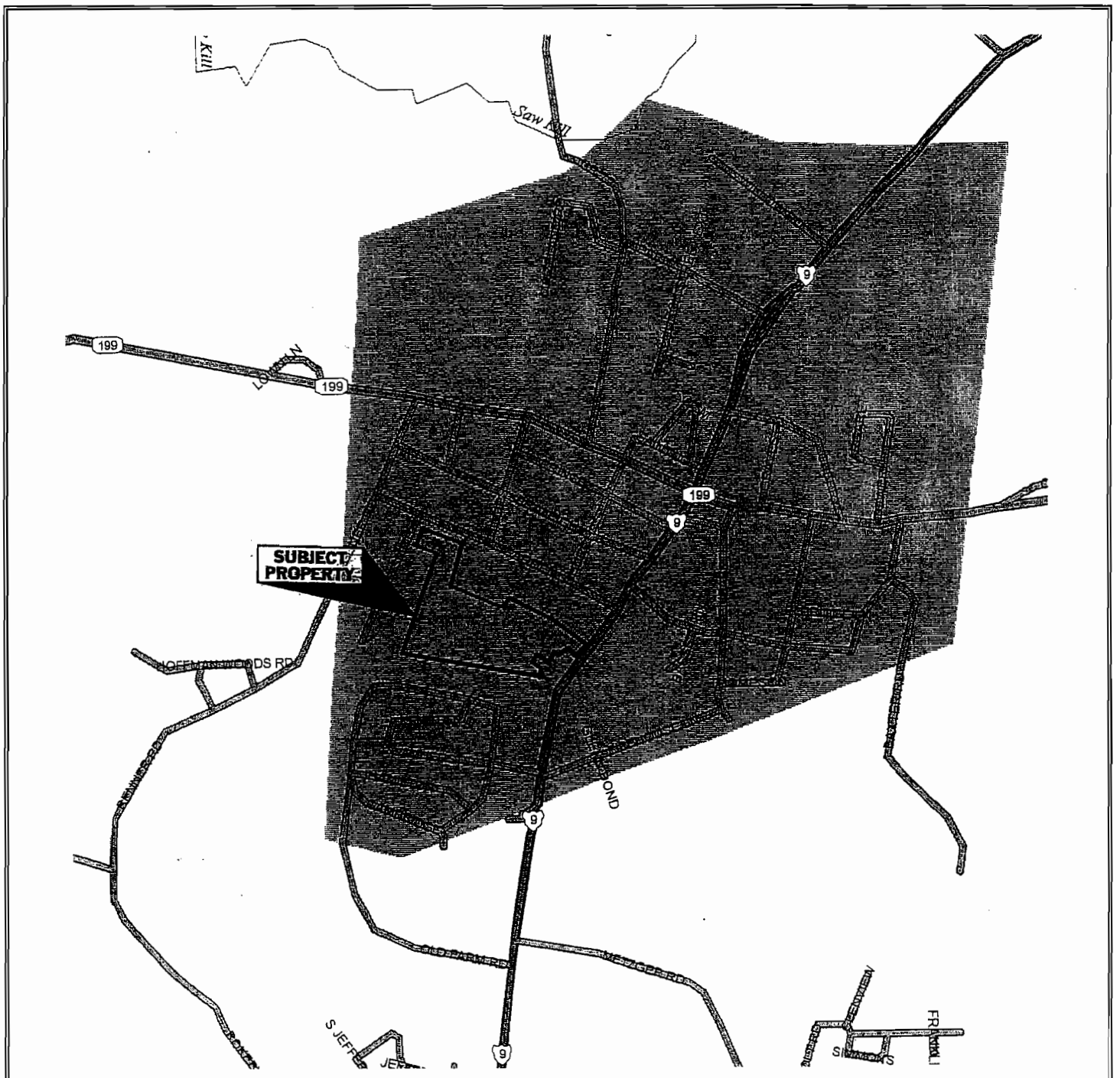
2.4 Report Preparation

Upon completion of all investigative services, a final Supplemental Soil Sampling Report will be prepared. The report will include a summary of all field activities, including fieldwork methodology and observations, copies of laboratory data, maps, and other pertinent information. An interpretation of all data will be provided. The report will document site conditions and provide recommendations for any further environmental testing or remediation, if warranted.

2.5 Proposed Schedule

The schedule outlined below will be maintained to the extent feasible.

Fieldwork is scheduled to be completed on Thursday, September 1, 2005. Laboratory data will be available by the end-of-business on September 7, 2005. A final report will be available by the end-of-business on September 11, 2005.



Source: DeLorme USA Atlas 2001

Site Location Map

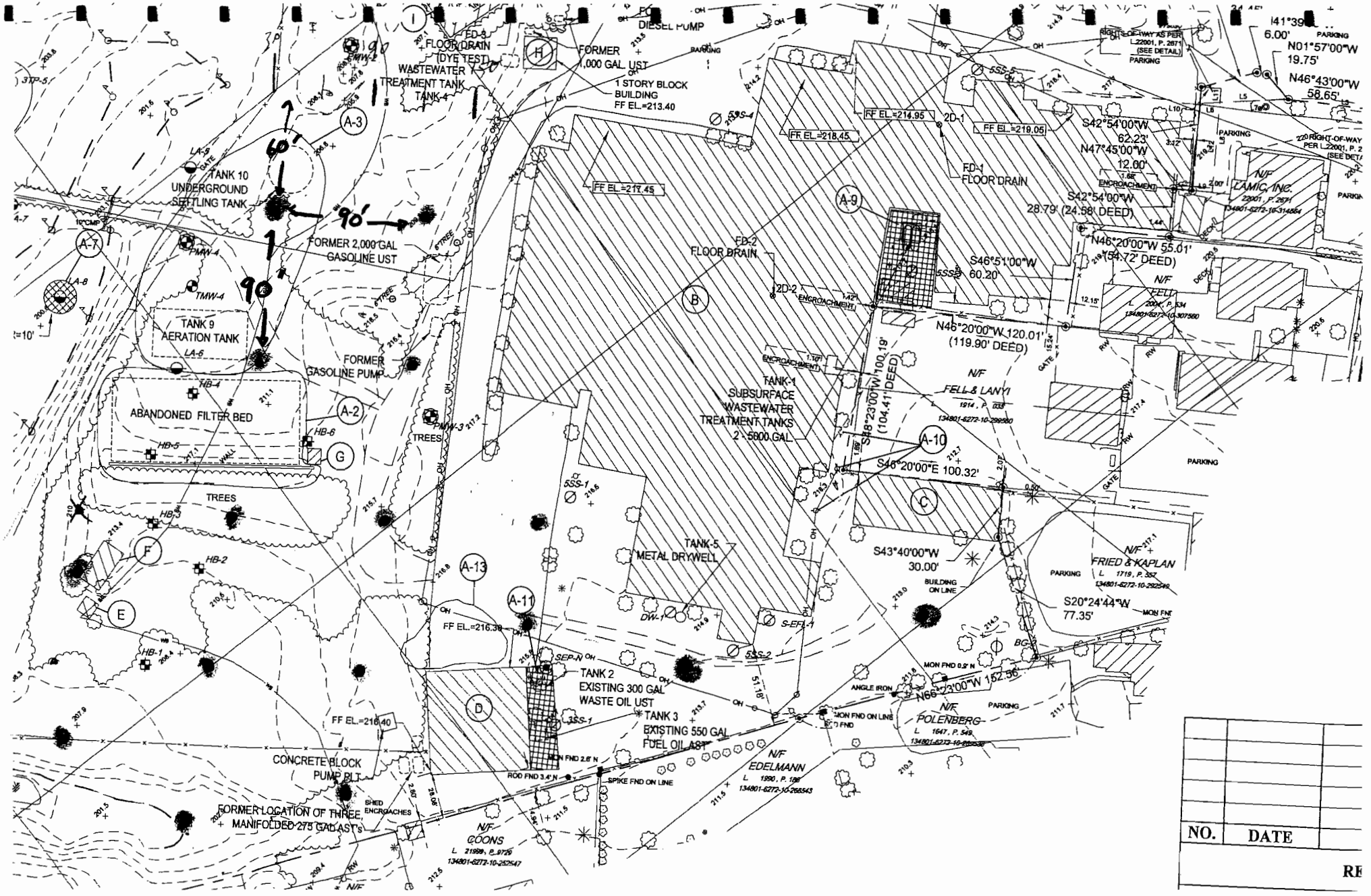
Perx Property
7395 South Broadway
Village of Red Hook
Dutchess County, New York

N

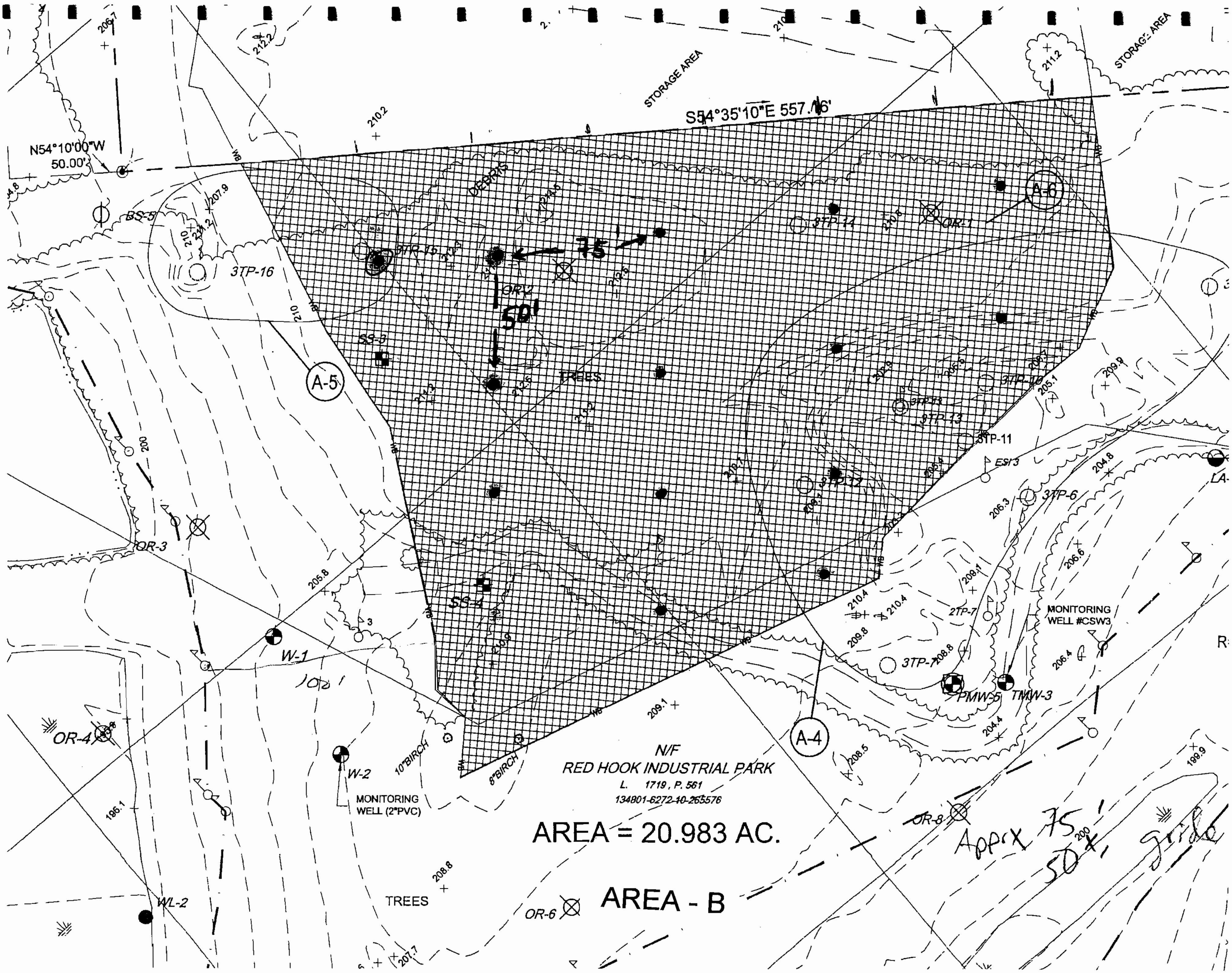
ESI File: DR99140.40

Date: September 2005

Attachment


TANK 10
UNDERGROUND
SETTLING TANK
TANK 9
AERATION TANK
ABANDONED FILTER BED
FORMER 2,000 GAL
GASOLINE UST
FORMER
GASOLINE PUMP
TREES
CONCRETE BLOCK
PUMP PLT
FORMER LOCATION OF THREE,
MANIFOLDED 275 GAL AST's
FD-3
FLOOR DRAIN
(DYE TEST)
WASTEWATER
TREATMENT TANK
TANK 4
FORMER
1,000 GAL UST
1 STORY BLOCK
BUILDING
FF EL.=213.40
DIESEL PUMP
FF EL.=214.95
FF EL.=218.45
FF EL.=219.05
FF EL.=217.45
FF EL.=216.39
FF EL.=216.40
FD-1
FLOOR DRAIN
FD-2
FLOOR DRAIN
TANK-1
SUBSURFACE
WASTEWATER
TREATMENT TANKS
2 - 5000 GAL
TANK-5
METAL DRYWELL
TANK 2
EXISTING 300 GAL
WASTE OIL UST
TANK 3
EXISTING 550 GAL
FUEL OIL AST
N/F
LAMIC, INC.
22001, P. 2671
134801-6272-10-314854
N/F
FELL
2004, P. 534
134801-6272-10-307560
N/F
FELL & LANYI
1914, P. 033
134801-6272-10-299580
N/F
FRIED & KAPLAN
L 1719, P. 357
134801-6272-10-292549
N/F
POLENBERG
L 1647, P. 549
134801-6272-10-285538
N/F
EDELMANN
L 1990, P. 198
134801-6272-10-268543
N/F
COONS
L 21999, P. 9726
134801-6272-10-252547
N41°39'
6.00'
N01°57'00"W
19.75'
N46°43'00"W
58.65'
S42°54'00"W
62.23'
N47°45'00"W
12.00'
S42°54'00"W
28.79' (24.58' DEED)
N46°20'00"W 55.01'
(54.72' DEED)
S46°51'00"W
60.20'
N46°20'00"W 120.01'
(119.90' DEED)
S18°23'00"W 100.19'
(104.41' DEED)
S46°20'00"E 100.32'
S43°40'00"W
30.00'
S20°24'44"W
77.35'
N66°23'00"W 152.56'
RIGHT-OF-WAY AS PER
L 22001, P. 2671
(SEE DETAIL)
PARKING
BUILDING
ON LINE
ENCROACHMENT
NO.
DATE

AREA - A


S54°35'10"E 557.16'
N54°10'00"W
50.00'
STORAGE AREA
DEBRIS
TREES
A-4
A-5
A-6
3TP-14
3TP-15
3TP-16
3TP-6
3TP-7
3TP-11
3TP-12
3TP-13
2TP-7
OR-1
OR-2
OR-3
OR-4
OR-6
OR-8
SS-3
SS-4
BS-5
W-1
W-2
WL-2
PMW-5
TMW-3
MONITORING
WELL #CSW3
MONITORING
WELL (2"PVC)
10"BIRCH
8"BIRCH
N/F
RED HOOK INDUSTRIAL PARK
L. 1719, P. 561
134801-6272-10-265576
AREA = 20.983 AC.
AREA - B
75'
50'
Appx 75' 50' Grids

AREA - C

• — Sampling Points

Proposed Sampling Near Smith Street