Intended for
Orange & Rockland Utilities, Inc.

Date
November 20, 2020

Project No.
1940069767

CONSTRUCTION COMPLETION REPORT

OR - HAVERSTRAW CLOVE & MAPLE FORMER MGP, OPERABLE UNIT 1

ROCKLAND, NEW YORK

NYSDEC SITE NUMBER: 3-44-049

REV 1

RAMBOLL Bright ideas. Sustainable change.

CERTIFICATIONS

I, Mark P Millspaugh, certify that I am currently a New York State registered professional engineer, I had primary direct responsibility for the implementation of the subject construction program activities, and I certify that the Remedial Design Work Plan was implemented and that all construction activities were completed in substantial conformance with the Department-approved Remedial Design Work Plan.

_____

Mark P Millspaugh, P.E.
Sterling Environmental Engineering, PC
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EXHIBITS

ACRONYMS AND ABBREVIATIONS

AOC	Administrative Order of Consent
bgs	below ground surface
BSM	Bayshore Soil Management, LLC
CAMP	Community Air Monitoring Plan
CCR	Construction Completion Report
CESP	Clean Earth of Southeast Pennsylvania, LLC
Charter	Charter Contracting Company, Inc.
CQAP	Construction Quality Assurance Plan
DER-10	*DER-10 Technical Guidance for Site Investigation and Remediation*
DGA	dense, graded aggregate
DUSR	Data Usability Summary Reports
eHASP	Environmental Health and Safety Plan
ESMI	ESMI of New York
FAM	Fixed Air Monitoring Station
HASP	Health and Safety Plan
IRM	Interim Remedial Measures
JRSB	Joint Regional Sewerage Board
MGP	manufactured gas plant
NAPL	non-aqueous phase liquid
NOI	Notice of Intent
NRT	Natural Resource Technology, Inc.
NYCRR	New York Codes, Rules, and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
O&R	Orange and Rockland Utilities
OBG	O'Brien and Gere Engineers, Inc.
OSHA	Federal Occupational Safety & Health Administration
OU	Operable Unit
PDIWP	Pre-Design Investigation Work Plan
PM10	particulate matter, 10 micrometers or less in diameter
ppm	parts per million
PVC	polyvinyl chloride
QA/QC	quality assurance/quality control
QAPP	Quality Assurance Project Plan
RA	Remedial Actions
RAO	Remedial Action Objectives
RDWP	Remedial Design Work Plan
RI	Remedial Investigation
ROD	Record of Decision
S/MMP	Soil/Material Management Plan
SCO	Soil Cleanup Objective
SMP	Site Management Plan

SOE	Support of Excavation
SOP	Contractor's Site Operations Plan
SWPPP	Stormwater Pollution Prevention Plan
T&D	Transportation and Disposal Plan
TEP	Technical Execution Plan
TFS	temporary fabric structure
VOC	volatile organic compounds
µg/m3	micrograms per cubic meter

1. BACKGROUND AND SITE DESCRIPTION

This Construction Completion Report (CCR) summarizes the Remedial Actions (RA) completed at Operable Unit 1 (OU-1) of the Orange and Rockland Utilities (O&R) Haverstraw Clove & Maple Former manufactured gas plant (MGP) (the Site), which is identified as Site 3-44-049 by the New York State Department of Environmental Conservation (NYSDEC). This report has been prepared by O'Brien & Gere Engineers Inc. (OBG) part of Ramboll (formerly Natural Resource Technology) on behalf of O&R. This CCR describes only remedial activities completed on OU-1. A Final Engineering Report (FER) will be completed once remedial activities are complete on OU-2 and OU-3 (if necessary).

O&R entered multiple Administrative Orders on Consent (AOC) with the NYSDEC in 1996, 1998 and the latest one executed on March 1999, Index No. D3-0001-98-01. The AOCs required investigation and remediation of the Site. The Remedial Investigation (RI) was conducted, and a Record of Decision (ROD) was issued by NYSDEC for OU-1 in the *ROD, O&R, Haverstraw Clove & Maple Former MGP Unit Number: 1,* dated March 2011. All previous AOCs are listed in the ROD.

The OU-1 portion of the Site is a former MGP and is located at 120 Maple Avenue (parcel 26.62-1-9) in a residential and commercial portion of Haverstraw, Rockland County, New York. The Site is approximately 1.15 acres in size and was operated from 1887 through 1935. OU-1 is bounded by two residential properties to the northwest, a residential apartment complex and a former pond area to the southeast, Clove Avenue to the southwest and Maple Avenue to the northeast (See Figure A). Historical features of the site are shown on Figure B. The boundaries of OU-1 are fully described in Appendix A.

2. SUMMARY OF SITE REMEDY

2.1 Remedial Action Objectives

Based on the results of the Remedial Investigation, per Title 6 New York Codes Rules and Regulations (NYCRR) Part 375, the following Remedial Action Objectives (RAOs) were identified for the Site.

2.1.1 Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of, volatiles from contaminated groundwater.

RAOs for Environmental Protection

- Restore the groundwater aquifer to pre-disposal/pre-release conditions, meet ambient groundwater quality criteria to the extent practicable.
- Prevent the discharge of contaminants to surface water.
- Remove the source of groundwater contamination.

2.1.2 Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with soil exceeding applicable SCOs.
- Prevent inhalation of contaminants, including dust, from the soil exposure to contaminants volatizing from soil.

RAOs for Environmental Protection

- Prevent migration of contaminants that would results in groundwater or surface water contamination.

2.1.3 Soil Vapor

RAOs for Public Health Protection

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at the Site. Prevent inhalation of soil vapor contaminants due to soil vapor intrusion into future buildings.

2.2 Description of Selected Remedy

OU-1 was remediated in accordance with the remedy selected by the NYSDEC in the ROD dated March 2011.

The factors considered during the selection of the remedy are those listed in 6NYCRR 375-1.8. The following are the components of the selected remedy:

1. Excavation and off-site disposal of MGP-impacted source material and contaminated soil to depths ranging from approximately 15 feet to 22 feet below ground surface (bgs).
2. Excavation and off-site disposal of existing former MGP structures, debris, piping, and major obstructions, to the extent practical.

3. Excavation and off-site disposal of impacted soil in the drainage swale area located along the northern boundary of the Site.
4. Soil excavation performed within a temporary structure to control odor, vapor, and dust.
5. Groundwater extraction during construction off-site treatment and disposal, or on-site treatment and discharge in compliance with applicable discharge standards.
6. Excavation of surface soils to a depth of two feet bgs and placement of site cover to allow for restricted residential use of the Site. Construction and maintenance of a soil cover system consisting of at least two feet of soil meeting restricted residential Soil Cleanup Objectives (SCOs) to prevent human exposure to remaining contaminated soil/fill at the Site.
7. Execution and recording of an Environmental Easement to restrict land use and prevent future exposure to any contamination remaining at the Site.
8. Development and implementation of a Site Management Plan (SMP) for long term management of remaining contamination as required by the Environmental Easement, which includes plans for: (1) Institutional and Engineering Controls, (2) monitoring, (3) operation and maintenance and (4) reporting;
9. Periodic certification of the institutional and engineering controls listed above.

3. INTERIM REMEDIAL MEASURES AND REMEDIAL CONTRACTS

3.1.1 Interim Remedial Measures

An on-site cover and fence interim remedial measure (IRM) was completed at OU-1 based on conditions observed during the RI. As a result of the Preliminary Site Assessment in 1997, a small area of surface soil was found to be impacted by coal tar and PAH compounds. Based on this information, several inches of gravel were placed over the location as well as other areas where foot traffic was observed. Also, a fence was installed around the entire Site to restrict access and "No Trespassing" signs were posted (ROD, 2011).

3.2 Operable Units

The Site was divided into three OUs, consisting of:

- OU-1: The MGP parcel and the drainage swale located on the northern boundary of the O&R property, between the former MGP and the property at 104 Maple Avenue. OU-1 is approximately 1.15 acres in size.
- OU-2: Off-site properties including several private residences, an apartment complex, and a portion of Maple Avenue assumed to be impacted. OU-2 is approximately 3 acres in size.
- OU-3: Consists of sediments in the Hudson River embayment.

OU-1 is the subject of this CCR. Remedial Actions for OU-2 and OU-3 (if necessary) will be performed later. A description of the remedial activities performed at OU-1 are provided in Section 4.

3.3 Remedial Contracts

OU-1 is one of several phases utilized to complete remediation of the Site. To implement remedial actions on OU-1, contract documents comprising Contract Drawings, Special Provisions, and Technical Specifications were developed for this specific RA phase.

4. DESCRIPTION OF REMEDIAL ACTIONS PERFORMED

Remedial activities completed at the OU-1 were conducted in accordance with the NYSDEC-approved Remedial Design Work Plan (RDWP) for the Haverstraw Clove & Maple former MGP OU-1 site dated May 2015. All deviations from the RDWP are noted in this CCR.

4.1 Governing Documents

4.1.1 Site Specific Health & Safety Plan

All remedial work performed under this RA was in general compliance with government requirements, including Site and worker safety requirements mandated by Federal Occupational Safety & Health Administration (OSHA).

A site-specific Environmental Health and Safety Plan (eHASP) was submitted by the Remedial Contractor on April 6, 2018. The eHASP was finalized on May 2, 2018. All updates were reviewed by O&R and implemented by the contractor.

The HASP was compiled for all remedial and invasive work performed at the Site.

4.1.2 Quality Assurance Project Plan

The Quality Assurance Project Plan (QAPP) was included as a section in the Pre-Design Investigation Work Plan (PDIWP) approved by the NYSDEC. The QAPP describes the specific policies, objectives, organization, functional activities, and quality assurance/quality control (QA/QC) activities designed to achieve the project data quality objectives.

4.1.3 Construction Quality Assurance Plan

The Construction Quality Assurance Plan (CQAP) managed performance of the Remedial Action tasks through designed and documented QA/QC methodologies applied in the field and in the lab. The CQAP provided a detailed description of the observation and testing activities that were used to monitor construction quality and confirm that remedial construction was in conformance with the remediation objectives and specifications. Specifically, the CQAP provided a detailed description of the documentation sampling requirements and procedures, borrow source testing, compaction, vibration and settlement monitoring. The requirements of the CQAP were included in the technical specifications.

4.1.4 Soil/Materials Management Plan

The elements of the Soil/Materials Management Plan (S/MMP) were provided in the contract drawings and specifications and in the Remedial Contractors Technical Execution Plan (TEP), dated June 6, 2018. The following sections of the TEP provide S/MMP details:

- Section 5 Temporary Fabric Structure (TFS) and Support Equipment Details
- Section 6 Excavation and Backfilling Plan
- Section 7 Stockpile Management and Loading
- Section 10 Dewatering

The TEP is included as Exhibit A.

Excavation and removal of impacted soils occurred in three areas on OU-1:

- Deep excavation in the portion of OU-1 along Maple Avenue as shown on Figure C and D. This work was performed within an engineered support of excavation (SOE) system consisting of steel sheet piling hydraulically pressed to depth and internal steel bracing. The deep excavation was divided in two parts and completed in two phases. The deep excavation was completed in a TFS with a negative air pressure system and effluent treatment.
- Shallow excavation in areas where deep excavation was NOT performed as shown on Figure C and D.
- Shallow excavation in the swale to approximately two feet below final grade as shown on Figure C and D.

Any soil stockpiled outside of the temporary structure was covered. All soil amendment activities took place within the TFS.

4.1.5 Transportation and Disposal Plan

The Remedial Contractor developed a Transportation and Disposal Plan (T&D) as part of the approved TEP.

The following sections of the TEP provide T&D plan details:

- Section 8 Off-site Transportation
- Section 9 Disposal Facilities

Per the specifications, all excavated soil and debris from OU-1 was loaded into trucks for off-site transportation to a permitted treatment or disposal facility. Soils were shipped for thermal treatment. Boulders encountered during excavation were decontaminated to meet disposal facility acceptance requirements. Decontamination took place using brushes, steam cleaners or pressure washers as described in the RDWP.

The Remedial Contractor contracted with multiple third-party subcontractors for transportation and disposal of materials. The trucks used were covered tractor trailers and tri-axle dump trucks. The trucks beds were lined with polyethylene liners and were free of leaks and permitted for use of transporting non-hazardous waste. Valid Part 364 Permits were obtained for each vehicle. Waste was disposed at four facilities, which are listed below:

- Bayshore Soil Management, LLC (BSM) agreed to accept up 38,250 tons of MGP/coal tar impacted soils under BSM#2718-0731, agreement letter dated June 11, 2018.
- Clean Earth of Southeast Pennsylvania, LLC (CESP) agreed to accept up to 29,200 tons of only non-hazardous petroleum-impacted soils including coal tar contaminated soil. Approval letter from CESP was dated June 18, 2018.
- ESMI of New York (ESMI) agreed to accept up to 36,750 tons of coal tar contaminated soils. Approval letter from ESMI was dated June 15, 2018.
- Waste Management High Acres Landfill agreed to accept 500 tons of non-hazardous waste. Approval letter was dated August 8, 2018.

Copies of all the Facility Approval Letters can be found in Appendix F2. Waste Manifests are included in Appendix F5.

4.1.6 Stormwater Pollution Prevention Plan

The erosion and sediment controls for all remedial construction activities were performed in conformance with requirements presented in the New York State Standards and Specification for Erosion and Sediment Control (2016), the site-specific Stormwater Pollution Prevention Plan (SWPPP) dated January 2018, and the Notice of Intent (NOI) filed June 6, 2018. The SWPPP was developed in accordance with Permit No. GP-0-15-002 and accepted engineering practices. Surface water runoff was intercepted and diverted using temporary controls that included temporary swales, berms, silt fence, and hay bales. Inspections were performed regularly and after all storm events and were properly documented

4.1.7 Community Air Monitoring Plan

A Community Air Monitoring Plan (CAMP) (OBG, December 5, 2017) was developed to detail the air monitoring activities at the OU-1 perimeter and to establish action levels. The CAMP fulfilled the general requirements set forth by the NYSDEC in the *DER-10 Technical Guidance for Site Investigation and Remediation* (DER-10) (NYSDEC, 2010). Specifically, Appendix 1A of DER-10 provides general guidance and protocols for the preparation and implementation of a CAMP. In addition, Appendix 1B of DER-10 supplements the contents of DER-10 Appendix 1A and provides additional requirements for fugitive dust/particulate monitoring. The CAMP provided general information regarding emission controls and the action levels, equipment, and documentation requirements during remedial activities. The CAMP was implemented by a third-party contractor and consisted of the installation and operation of eight individual weather-tight fixed air monitoring (FAM) stations installed around the perimeter of OU-1, each equipped with monitoring devices capable of measuring particulates and total and individual VOCs. Downwind concentrations of particulates and VOCs were compared to the upwind (background) concentration to evaluate if action levels established by the CAMP (*i.e.* 5 parts per million (ppm) for VOCs, and 100 micrograms per cubic meter ($\mu g/m^3$) or PM-10 for a 15-minute average) were exceeded. Background data was collected at OU-1 prior to invasive activities. Real-time air monitoring for VOCs was continuous and included after-hours notifications by phone. Integrated confirmation sampling was performed once per week during remedial activities. Odors were monitored at the work locations and at the OU-1 perimeter.

Weekly data summaries generated during the remedial activities are attached in Appendix G. The CAMP results are further discussed in Section 4.2.5.

4.1.8 Contractors Site Operation Plan

The Remedial Contractor's TEP outlined the Contractor's Site Operation Plan, approach, means and methods, sequencing, staffing, and equipment plan to implement the selected remedy. The TEP was reviewed by O&R, OBG, and NYSDEC prior to implementation and was written to comply with the project technical specifications. The TEP can be found in Exhibit A.

4.1.9 Citizen Participation Plan

Prior to the start of construction, O&R met with municipal officials to discuss the project and conducted a public meeting on May 22, 2018 at the Haverstraw Village Hall. O&R distributed bilingual Fact Sheets to residents and business owners to describe the NYSDEC-selected remedy and provide notice about the public information meeting. During the project, two additional Fact Sheets were developed in concert with NYSDEC and distributed to residents.

The Fact Sheets can be found in Exhibit B.

4.2 Remedial Program Elements

4.2.1 Contractors and Consultants

O&R's on-site representative oversaw, coordinated, and documented the work conducted by the Remedial Contractor.

The Remedial Contractor, Charter Contracting Company, Inc. (Charter) under contract to O&R, was responsible for all OU-1 construction activities, including compliance with applicable OSHA health and safety regulations, construction personnel health and safety, implementation of odor control measures (as necessary), traffic control, working hour site security, excavation, material handling and waste management, transportation and disposal, site restoration, and any other tasks outlined in the Remedial Design or the contractor bid and scope package.

OBG, formerly Natural Resource Technology (NRT), under contract to O&R, was responsible for the remedial design, permitting, QC testing, observation of the work, and reviewing submittals and reports provided by the Remedial Contractor. Sterling Environmental Engineering, P.C. was subcontracted by OBG to serve as the engineer of record.

AECOM, under the contract with O&R, was responsible for implementation of the CAMP, maintenance of air sampling logs, and meteorological logs.

The following are the key personnel that were involved with the remedial action activities:

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BSB Construction (Abatement):

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Poughkeepsie, NY 12601
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Contractors and consultants that were subcontracted by the Remedial Contractor are listed on Table 1 found below.

Table 1- Subcontractors Information

Task	Name	Address
Support of Excavation Engineering & Design /noise and vibration monitoring	GZA	249 Vanderbilt Avenue Norwood, MA 02062
Site Survey	Borbas Surveying & Mapping, LLC	402 Main Street Boonton, NJ 07005
Sheet Pile Installation	Blue Iron Foundations & Shoring, LLC	467 Lak Howell Drive, Suite 104 Maitland, FL 32751
Water Treatment System	Lockwood Remediation Technologies, LLC	89 Crawford Street Leominster, MA 01453
Crane Services	Olori Crane Services, Inc.	11 Seeger Drive Nanuet, NY 10954
Filtration	TeraSolve Filtration	1424 Abraham Drive Anderson IN
Disposal Facilities/Trucking	CESP	7 Steel Rd. E Morrisville, PA
Disposal Facilities/Trucking	Shirley Express	470 Hillside Rd Hillside, NJ 0720
Disposal Facilities/Trucking	JC Trucking	-
Disposal Facilities/Trucking	ESMI	304 Towpath Lane Fort Edward, NY
Disposal Facilities/Trucking	Cedar Hill Trucking	1021 River Rd Selkirk, NY
Disposal Facilities/Trucking	BSM	75 Crows Mill Rd Keasby, NJ
Fabric Structures	Mahaffey Fabric Structures	158 Redwood Dr Quakertown, PA 18951
Compaction Testing	Fairway testing	22 N Liberty Dr Stony Point NY 10980
Fence Contractor	Yaboo	95 W Nyack Way West Nyack, NY 10994

4.2.2 Site Preparation

Mobilization began on May 29, 2018 and included site preparation activities consisting of:

- Mobilization of equipment, materials, and personnel
- Installation of additional security fencing
- Installation of erosion and sediment controls
- Surveying to establish baseline conditions and grade
- Utility location, protection, and relocation
- Site clearing and grubbing
- Site grading
- Implementation of traffic controls

A pre-construction meeting was held at the Site with NYSDEC and all contractors on June 13, 2018.

Engineering controls to control dust, odors, erosion, and stormwater were mobilized, setup and installed prior to the start of intrusive activities.

Temporary site trailers were mobilized in July and August 2018.

Documentation of agency approvals required by the RDWP is included in Appendix B. Other non-agency permits relating to the remediation projects are provided in Appendix C.

- Permits obtained include:
  - Building Permit (Com-Addition/Alteration) (Clearing, Grading & Filling) Permit No. BP-2018-060
  - Joint Regional Sewerage Board (JRSB) Discharge Permit, Permit No. 20181
  - Road Opening Permit, Permit No. 4328
  - Electrical Permit, Permit No. BP-2018-060

Building Permit for TFS, Permit No. BP-2018-157A NYSDEC-approved project sign was erected at the project entrance and remained in place during all phases of the Remedial Action. In addition, a second sign with New York State Department of Health (NYSDOH) contact information was posted on the site fencing.

An abandoned gas regulator station was removed during site preparation activities. Prior to demolition, between June 21, 2018 and July 13, 2018, components of the station were tested for asbestos, lead and PCBs by O&R employees with results as follows:

- Above ground painted pipe surfaces – **Positive** for Lead and **Negative** for PCB
- Valve packing – **Positive** for Asbestos packing
- Pipe Interior – **Negative** for PCB
- Concrete pad– **Negative** for Asbestos

O&R contracted with BSB Construction of Poughkeepsie NY (BSB) to perform abatement. BSB properly bagged Asbestos valves and transported for disposal by O&R. Lead paint on the piping was removed and properly containerized by BSB. O&R Gas Department picked up lead waste and transported to the company collection shed for disposal by O&R. All piping that was abated for surface paint was placed into on-site dumpster for disposal by the remedial contractor.

Asbestos abatement, demolition, and disposal of piping from the gas regulator station was completed between July 16, 2018 and July 18, 2018.

4.2.3 General Site Controls

- Pre-Construction Survey – Structural surveys were required for structures within 50 feet of the boundary of OU-1 per the specifications, which included the following properties:
  - 131 Clove Avenue
  - 135 Clove Avenue
  - 104 Maple Avenue

  No response was received after three requests to perform the survey at 104 Maple Avenue, so a survey was not completed.

- Site security – Temporary fencing was installed to supplement the existing fence surrounding portions of OU-1. All on-site equipment was secured and stored within the locked security fence after normal working hours. A security guard was posted during non-working hours, weekends, and holidays.
- Site record keeping- Daily reports were generated by Remedial Contractor's on-site staff to record specific dates and activities that took place during construction. Photographs were taken during the project to document construction activities. The Engineer's on-site representative also kept weekly records of construction activities.
- Erosion and Sediment Control- Daily and weekly inspections were performed in compliance with the SWPPP as well as inspections after storms. Maintenance, repair, and replacement was performed as required. Additional controls (e.g., haybales) were added on Clove Avenue to minimize runoff to neighboring properties.
- Equipment decontamination and residual waste management- As required in the specifications, heavy equipment, materials, and personnel that came into contact with impacted or potentially impacted material were visually inspected and decontaminated. Only those parts of the equipment that had been exposed to impacted materials were decontaminated. Decontamination was performed on a constructed decontamination pad that was relocated as excavation progressed.
- Trucks used for transport of excavated material to the permitted disposal facilities were lined with 6 mil polyethelene impermeable liners prior to loading. The liners extended to fully encapsulate the soil load and were secured under trucks with mesh type covers. For trucks with impermeable tarp covers the liner was not extended over the load.

  After loading and covering the truck was visually inspected and decontaminated, as necessary. Methods used to decontaminate heavy equipment included:

  - Cleaning loose debris with a brush, broom, or spade ½
  - Rinsing equipment with water from a pressure washer, standard ¾" garden hose or 1-½" hose depending on level of cleaning required
- Stockpile methods – Stockpiles were located within the TFS to facilitate loading of soils planned for each day. Prior to TFS erection and during shallow excavation activities, excavated soils were direct loaded for off-site shipment to the extent possible. When necessary short-term stockpiles outside of the TFS were covered with odor suppressing foam and polyethylene tarps.

4.2.4 Nuisance Controls

The following actions were taken for nuisance control and for community protection.

- TFS for deep excavation – A TFS and air handling system that created a negative pressure was erected to control dust and vapor during the deep excavation activities. The air that was removed by the ventilation system was filtered through activated carbon vessels prior to discharge to the atmosphere. The effluent from the air handing system was analyzed daily to ensure system effectiveness and to prevent breakthrough of impacts. The TFS was installed after installation of steel sheet pile components of the SOE. Grading and removal of some soils was performed prior to TFS erection to prepare the site for SOE and TFS installation.
- Air monitoring – Air monitoring (CAMP) was performed 24 hours per day, 7 days a week during intrusive work at eight FAM locations around OU-1 as described in section 4.1.7. This

testing was used to confirm that air leaving the Site during construction met the requirements of the NYSDOH CAMP. Background testing was performed during mobilization activities prior to the start of intrusive activities. Additional detail and reported exceedances are listed in Section 4.2.5. Odor checks were also performed around the site perimeter twice a day by site oversight personnel.

- Noise and vibration monitoring - Noise levels were monitored at the OU-1 perimeter periodically throughout the project to evaluate compliance with the local noise reduction ordinances. Vibration monitoring using real time sensors was performed during support of excavation installation and removal. No noise or vibration related complaint was received during the remedial activities.
- Odor, vapor, and dust control- Various techniques for air emissions control were used during the remedial construction to limit odors, vapor and dust emissions. The techniques included:
  - TFS and air handling system. The system included carbon air treatment vessels which were equipped with sample ports at the influent and outlet, as well as at an interim depth. The ports were sampled daily using a photo-ionization detector (PID)to evaluate treatment system effectiveness and if breakthrough occurred. Additional carbon was added to the treatment vessels on March 1, 2019.
  - Odor suppressant– 7,810 gallons of Rusmar odor suppressing foam concentrate and 770 gallons of BioSolve concentrate were used to address odors during remedial activities. Rusmar foam was dispensed using a pneumatic foam unit to cover stockpiles and open excavations. BioSolv was applied using a pressure washer to active excavation and stockpiling activities.
  - Covering soils with poly sheeting
  - Minimizing open areas to the extent possible.
- Truck traffic- All trucks and equipment leaving the Site were cleaned before driving on the neighborhood roads. Trucks were not be permitted to park or idle along streets to the extent possible. Trucks entered and exited the Site from Clove Avenue using the approved route on the traffic control plan. Flaggers were provided at the Site entrance and intersection of Tor and Maple Avenues. Local police details were also engaged to manage traffic at intersections close to the Site.
- A telephone hotline number was provided for community members to ask questions or raise concerns.
- One complaint was received by neighbors regarding odors that was determined to be not related to remedial activities. The NYSDEC on-site representative and site oversight personnel performed daily walks to ensure that no odors from the work area were present. No other complaints regarding odor, dust, vapor, noise, or vibrations were received during remedial activities.
- A resident on Clove Avenue raised concerns about truck traffic, specifically related to trucks blocking the roadway for emergency vehicles while waiting to enter the Site. O&R representatives worked with the resident, Village officials, and the Remedial Contractor to minimize truck waiting on Clove Avenue and reduce construction-related parking along Clove Avenue to ensure that the road was always passable by emergency vehicles. In addition, an emergency truck pull-off area was established in the event immediate access was needed for

emergency vehicles. O&R also worked with the Remedial Contractor to provide a Village Police Detail at the intersection near OU-1 during trucking activities to ensure safety and minimize traffic delays.

- One truck-related incident was noted. On April 26, 2019 at 09:20 a backfill truck was backing down Driveway #1 to offload backfill material and the truck skidded backward down the driveway. The truck made contact with the TFS entry door and proceeded to slide approximately 7 feet into the TFS, coming to a rest on the hydraulic tank, fuel tank, and under carriage of the truck. The driver was not injured, and the crew quickly responded. By 13:30 the truck was completely extracted and no leaks or punctures were observed on the fuel and hydraulic tanks.

4.2.5 Community Air Monitoring Plan Results

In compliance with the CAMP, the Air Monitoring Contractor conducted community perimeter air monitoring during construction using eight FAM stations, with each station containing monitors for PM10 and volatile organic compounds (VOCs). Monitoring locations were reviewed by NYSDEC and established around the perimeter of the work area. Sampling ran continuously during ground intrusive activities. Downwind concentrations of particulates and VOCs were compared to the upwind (background) concentration to evaluate if action levels established by the CAMP (*i.e.* 5 ppm for VOCs, and 100 µg/m^3 for PM-10 for a 15-minute average) were exceeded. Confirmatory air sampling was also performed using USEPA-approved sampling and analytical methods. These integrated samples for VOCs and PAHs were collected once per week at three locations. Samples were collected for 24-hour periods at one upwind and two downwind locations based on forecasted wind direction for the sample period. Air monitoring results were provided to NYSDEC/NYSDOH and the project team on a weekly basis.

The Air Monitoring Contractor reviewed air monitoring data daily and briefed the Engineer's on-site representative and the Remedial Contractor so that, when necessary, corrective actions could be taken to address the condition causing action levels to be exceeded.

Based on air sampling data collected and summarized in Appendix G, there were no exceedances of VOC action levels due to remediation activities based on FAM unit readings or integrated sampling. The highest total VOC concentration recorded during the project was 15.6 PPM at FAM-6 on 9/3/18 @ 2:15PM which is below the 25.0 PPM Action Level. There was one 15-minute time weighted average exceedance of the 5.0PPM alert level associated with this reading on September 3,2018 however this was a holiday with no work being performed on-site. Therefore, it was determined that the reading was not a result of any site activities.

There were 39 dust monitor exceedance events during the project. The instances of exceedance levels were recorded in the stations on the following dates:

- June 18, 2018- Elevated PM10 caused by excavator moving in area by FAM unit.
- July 2-3, 2018- Elevated PM10 concentrations likely caused by regional/atmospheric conditions (high humidity) and not work-related activity.
- July 11, 2018- PM10 exceedance was reported due to excavator removing concrete near FAM 5 which created dust. Work was then stopped 15 min.
- July 16, 2018- PM10 exceedances at FAM-5, with a peak concentration of 160.2 ug/m^3. This was due to hot work being conducted while inserting sheeting near FAM 5. After hot work

completed, exhaust from crane contributed to further PM10 response level 15-minute alarms at FAM-5.

- July 17, 2018- PM10 15-minute average response level reached at FAM-3,5,8 due primarily to high PM10 background levels based on atmospheric conditions along with hot work conducted near FAM-8 and crane exhaust at the center of the site may have blown toward FAM-3. Pipe removal was the potential cause of the response level in FAM-2. FAM-2 area was sprayed with water to suppress dust.
- July 30, 2018- PM10 exceedance near FAM-4 due to hot work (welding).
- July 31, 2018- PM10 exceedance near FAM-4 due to hot work (welding).
- August 3, 2018- PM10 exceedances due to meteorological conditions. Due to the weather conditions, no work was being conducted at the time that the exceedances occurred.
- August 6, 2018- PM10 response levels reached on FAM-5 to FAM-6 due to high background atmospheric conditions causing haze (aerosols) as well as particulates.
- August 8, 2018- PM10 exceedance in FAM-1 due to excavator moving boulders near FAM-1.
- August 16, 2018- PM10 exceedance occurred at FAM-7 due to hot work near Maple Ave. in between FAM-6 and FAM-7. High background values due to weather-related conditions and changes in wind direction contributed to reaching response level.
- August 17, 2018- PM10 exceedances in FAM-1, FAM-4, FAM-5, FAM-6, FAM-7 and FAM-8 during span of the workday due to meteorological conditions which caused high background of particulate matter.
- August 27, 2018- PM10 exceedances reported at FAM-4 due to crane exhaust blowing towards FAM-4
- August 28, 2018- PM10 exceedances at FAM-1, FAM-3, FAM-4, FAM-5, FAM-6 and FAM-8 due to high background particulate matter concentrations caused by atmospherics conditions.
- August 29, 2018- PM10 exceedances at FAM-1, FAM-6 and FAM-8 due to atmospherics conditions. FAM-8 had exceedances due to hot work
- August 30, 2018- PM10 exceedances at FAM-7 due to hot work. High concentration reached 158.0 ug/m^3.
- September 6, 2018- PM10 exceedances at FAM-8 due to crane exhaust.
- September 7, 2018- PM10 exceedances FAM-6 Exceedances due to hot work.
- September 10, 2018- PM10 exceedances FAM-6 Exceedances due to hot work.
- September 11, 2018- PM10 exceedances FAM-6 Exceedances due to hot work.
- September 12, 2018- PM10 exceedances FAM-6 Exceedances due to hot work
- September 26, 2018- PM10 exceedances at FAM-8 due to vehicle exhaust and hot work
- October 1, 2018- PM10 exceedances at FAM-01 due to hot work and chainsaw smoke
- November 8, 2018- PM10 exceedances at FAM-8 likely due to exhaust from site vehicles.
- November 9, 2018- PM10 exceedances at FAM-8 due to exhaust from site vehicles.

- December 4 and 8, 2018- PM10 exceedances at FAM-8 likely caused by car idling in Head Start.
- January 8, 2019- PM10 exceedances at FAM-1 reached 170 ug/m^3 due to nearby air handler unit starting up and blowing out residual carbon media.
- January 21, 2019- PM10 exceedances at FAM-2 due to exhaust fumes from onsite snowplow idling nearby and upwind from FAM unit.
- January 28, 2019- PM10 exceedances at FAM-1 due to on site soil amendment silo releasing dust plume when turned on.
- January 31, 2019- PM10 exceedances at FAM-6 due to car activity on Maple Ave. causing salt dust from road to be disturbed near FAM unit.
- February 4, 2019- PM10 exceedances at FAM-1 and FAM-8 due to high background particulate matter concentrations caused by atmospheric conditions and not due to site activities.
- February 5, 2019- PM10 exceedances at FAM-1, FAM-6 and FAM-8 due to high background particulate matter concentrations caused by atmospheric conditions and not due to site activities.
- February 25, 2019- PM10 exceedances at FAM-8 and FAM-1 likely blowing out from under the tent fabric due to high winds.
- March 29, 2019- PM10 exceedances at FAM-8 most likely due to car activity.
- April 3, 2019- PM10 exceedances at FAM-2 due to site vehicles and high winds blowing dust from south ramp towards Clove Ave.
- April 8, 2019- PM10 exceedances at FAM-8 likely due to high background concentration.
- May 15, 2019- PM10 exceedances PM10 at FAM-2 caused by dry ground material being swept-up and moved.

Copies of all field data sheets relating to the CAMP are provided in Appendix G.

4.2.6 Reporting

The Remedial Contractor was responsible for preparing and distributing daily reports, describing work activities, staff on site, equipment utilized, SWPPP inspection, and a discussion of any unforeseen or unplanned activities.

O&R was responsible for conducting, documenting, and distributing weekly progress meeting and meeting minutes.

The Air Monitoring Contractor was responsible for documenting and distributing environmental summaries regarding odors, dust, or VOC exceedances. A summary of the results can be found in section 4.2.5.

All daily and weekly reports are included in electronic format in Appendix D. A photo log is included in Appendix E.

4.3 Impacted Material Removal

Impacted media were encountered and managed during implementation of this project, including:

- Excavation of impacted materials
- Treatment of extracted groundwater from excavation dewatering activities.

A list of the SCOs for the contaminants of concern for this project is set forth in Title 6 NYCCR Part 375-6.7(d) for restricted residential use. Each impacted media and associated management methods are described in detail below. Boulders and tree stumps impacted as a result of MGP operations are also discussed below.

A figure of the location of original sources and areas where excavations were performed is shown in Figure C.

4.3.1 Excavation of Impacted Materials

Excavations on the Site were performed to remove the impacted materials per the Remedial Design in three areas as follows:

- Deep excavation to to a maximum depth of approximately 22 feet bgs was performed in the in the portion of OU-1 along Maple Avenue as shown on Figure C. An as-built survey of the excavtion final elavations is provided in Appendix J. The deep excavation was performed in two phases to facilitate excavation support, dewatering operations, and materials management. The south half was completed and backfilled to rough subgrade elevations prior to starting the subsequent phase. The unexcavated portion of the deep excavation footprint was used for excavation support activities, temporary stockpiling, soil amendment as necessary, truck loading and decontamination activities. This work was performed within an engineered SOE system consisting of steel sheet piling hydraulically pressed to depth and internal steel bracing.

  The SOE was designed by GZA as a subconsultant to the Remedial Contractor. The design was reviewed to evaluate compliance with the performance specification provided as part of the Contract Documents. The approved Remedial Design allowed for varying setbacks of the limits of excavation along the southeast property line along Maple Avenue and along the southwest property line along the Head Start property. This flexibility was allowed to avoid the need to encroach upon Maple Avenue or the Head Start property with equipment to safely install the SOE. Based on a request from the Remedial Contractor and approval from the NYSDEC, a 3-foot setback from the property line was allowed along Maple and a 5-foot setback was allowed along Head Start. All other excavation extended to the limits shown in the Remedial Design.

  The sheet pile installation method chosen by the Remedial Contractor used hydraulic force to push the sheets to the desired depth and included a pre-drill attachment designed to allow the sheets to pass obstructions and penetrate the till observed in subsurface investigations. In several areas, predominantly on the northeast limit of the excavation along the drainage swale, the Remedial Contractor was unsuccessful in advancing the sheets to the design depth. As a result, the Contractor and their SOE design engineer proposed an alternate bracing and slotted excavation sequence to address the decreased sheet embedment in several areas. Additional bracing was added, and the slot excavation was commenced. Sensors used to monitor sheet movement indicated movement in excess of design limits after the start of the slot excavation activities. Work was stopped and the Remedial Contractor and GZA then proposed additional bracing and tieback installation along the swale boundary to mitigate

sheet pile movement. Once additional bracing and tiebacks were installed, the deep excavation proceeded to design limits.

Once sheet pile was installed the TFS was erected and an air handling and treatment system was made operational. Internal bracing, consisting of welded steel beams, wales, and struts, was installed to support the sheet piles as excavation progressed.

Once design elevations were reached and verified, visual observation and documentation sampling were conducted and backfill operations were started. As backfill placement progressed, internal bracing was removed. Once backfill reached approximate subgrade elevations all sheet pile except for sheets installed along the swale boundary were removed

Actual limits of the deep excavation are shown on the as-built figure included in Appendix J. Deep excavation was completed on September 19, 2019.

- Shallow excavation to approximately two feet below planned final grade was performed to the design limits in areas where deep excavation was not performed as shown on Figure C. Shallow excavation was completed after backfilling of deep areas and was phased to allow for ongoing site activities and movement of construction facilities located within the shallow excavation limits.

  Actual limits of shallow excavation are shown on the as-built figure included in Appendix J. Shallow excavation was primarily complete on November 26, 2019 with final areas excavated in December and January.

- Upon completion of the shallow excavation, the Remedial Contractor performed shallow excavation in the swale on the northeast boundary of OU-1 to approximately two feet below final grade as shown on Figure C. To avoid impacts to the swale operation in the event of rain, the excavation was sequenced such that excavation and restoration of an area could be performed in a single day to ensure operability prior to any forecast rain. Actual limits of swale excavation are shown on the as-built figure included in Appendix J. Swale excavation was completed on December 18, 2019

Impacted soil removed during excavation was taken off-site for thermal treatment. Prior to being transported off-site for disposal, excavated soils and miscellaneous debris were either direct loaded into trucks or stockpiled within the excavated material staging area where water was allowed to drain from the soils. Soil that remained too wet to transport was amended with Calciment, a drying agent, inside of the TFS prior to loading for off-site transportation. Impacted soils in the excavated material staging area were then loaded into dump trailers and/or triaxle dump trucks and transported to a permitted disposal facility as described in Section 4.1.5.

4.3.1.1 Disposal Details

Table 2 below shows the total quantities of soil material removed from OU-1 and the disposal locations. A total of 34,946 tons of non-hazardous, coal tar/MGP contaminated soil was removed and transported for off-site disposal. A summary of the waste characterization samples, and associated analytical results are summarized in Appendix F.

Letters from applicants to disposal facility owners and acceptance letters from disposal facility owners are attached in Appendix F2.

Table 2 – Disposal Details of Excavated Soil

Facility	Loads	Tons
ESMI	658	24,450
CESP	441	10,045
BSM	19	452
Total	**1,119**	**34,946**

Manifest and bills of lading are included in Appendix F5. One load of soil was rejected at Clean Earth of Southeastern Pennsylvania on December 3, 2018 due to the trucker not having the appropriate Pennsylvania hauling permit. The load was returned to the site and offloaded. The soil was then loaded on a properly permitted truck for transportation to the disposal facility.

4.3.2 Construction Water from Dewatering Activities and Runoff Management

Excavation dewatering occurred as needed during remediation, and all contact water, ground water and decontamination water was all pumped to the temporary treatment system. The system consisted of:

- Dewatering Wells - Four (4) deep wells installed to approximately 30 feet bgs. Each well had a minimum 10-foot length of 8-inch polyvinyl chloride (PVC) well screen connected to 8-inch Schedule 40 PVC riser to the ground surface
- Dewatering Sumps – Sumps were installed as necessary along the perimeter of the excavation to remove standing water that collected within the excavation limits.
- Pumps – 2-inch diameter and 3-inch diameter electric submersible pumps were used to convey collected water to a holding tank within the TFS where it would then be pumped to the water treatment system.
- Water Transmission Lines- Transmission lines were a combination of PVC pipe and flexible hose.
- Water Treatment System- The water treatment system included a weir tank, oil/water separator, bag filtration, carbon treatment, and a flow meter/totalizer. The weir tank held up to 18,000-gallons and the system was designed to treat a flow rate of up to 150 gpm. Treated water was transferred to a 10,000-gallon holding tank where it was then discharged to the JRSB sewer.
- Treated effluent was sampled regularly per the JRSB permit and results were provided to O&R, NYSDEC and the JRSB upon receipt.
- Effluent from the treatment system was discharged to the through a buried pipe to a manhole on Maple Avenue, under the condition of meeting the JRSB Industrial Discharge Permit effluent discharge requirements, and in accordance with the Construction Water Management Plan (2018) prepared by Lockwood Remediation Technologies in behalf of the Remedial Contractor. Approximately 2,513,400 gallons of treated water were discharged during this project.

4.3.3 Debris

No intact gas holder foundation was observed during excavation activities. Brick and concrete rubble, debris and remnants of building foundations were encountered. If required, the concrete rubble was resized prior to transportation with soil to the thermal treatment facilities. Boulders

encountered within the excavation limits were removed, decontaminated when required, and transported off the Site. Tree stumps along Maple Avenue were removed during the clearing and grubbing operation. Approximately 145 tons of boulders were sent to the CESP facility. Approximately 55 tons of tree stumps were transported to Waste Management facility.

4.4 Remedial Performance / Documentation Sampling

Documentation sampling was performed to document conditions at the limit of excavation per the CQAP and as described in the specifications. In March 2018, prior to mobilization samples were collected using direct push technology along the vertical limits of the deep excavation area that would be inaccessible once the SOE was installed. At that time access was not possible along the Maple Avenue limits due to the steep grade. The direct push rig returned to the Site in December of 2019 to collect these samples after the SOE was removed. All other samples were collected during excavation once the Remedial Contractor verified that the design excavation limits had been reached and once any visible signs of nonaqueous phase liquids (NAPL) were removed. A total of 74 documentation samples were collected and analyzed. A table and figure summarizing all end-point sampling is included in Table B and Figure F, respectively, and all exceedances of SCOs are highlighted.

Data Usability Summary Reports (DUSRs) were prepared for all data generated in this remedial performance evaluation program. These DUSRs and the associated raw data are included in Appendices I and H, respectively.

4.5 Imported Backfill

Several types of imported backfill were used in connection with various portions of the project. These included the following:

- Stone – 648 tons
- Asphalt – 132 tons
- Dense, Graded Aggregate (DGA) – 146 tons
- Flowable Fill – 100 yds
- Screening (backfill) – 36,670 tons
- Three Quarter Inch Stone – 11 tons
- Medium Stone Swale – 230 tons
- Topsoil – 674 cubic yards

Analytical results or waivers were obtained for all backfill materials and approvals received from NYSDEC prior to importing and backfilling. Based on NYSDEC guidance all imported materials were also subject to additional Emerging Contaminant Sampling and analysis.

Details for sources of imported backfill with quantities for each source are shown in Appendix K. Chemical analytical results for backfill are also provided in Appendix K. A figure showing locations where backfill was used are included in Figure E.

4.6 Contamination Remaining at The Site

Impacted material was removed to the limits and depths required by the ROD for OU-1 and approved Remedial Design. Limits are shown on the as-built survey provided in Appendix J. Visible NAPL-impacted material observed at the limits of excavation was removed. No observable NAPL remained at the excavation limits. A geotextile fabric demarcation layer was placed at the base of the excavation to delineate clean fill from the underling native soil. Documentation samples were collected to document the conditions that remain after the Remedial Activities. The results of the documentation sampling indicate that impacts above the Restricted Residential SCOs remain in discrete areas at the limits of the excavation. Results of the documentation samples are provided in Table B and shown on Figure F.

In accordance with the ROD, the following tasks are required, to limit the exposure of impacted material:

- Imposition of institution control.
- Excavation Plan which details the provisions for management of future excavation in areas of remaining contamination.

4.7 Soil Cover System

A site cover was installed to allow for restricted residential use of OU-1. The cover consists of minimum of two feet of clean soil in areas where the upper two feet of exposed surface soil may have exceeded the applicable SCOs. The soil cover material meets the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for restricted residential use. The soil cover was placed over a demarcation layer and consisted of clean backfill with the upper six inches consisting of topsoil to maintain a vegetation layer. An Excavation Work Plan, which outlines the procedures required in the event the cover system and/or underlying residual contamination are disturbed, is provided in the SMP.

4.8 Other Engineering Control

The remedy for OU-1 did not require the construction of any other engineering control systems.

4.9 Institutional Controls

The OU-1 remedy requires that an environmental easement be placed on the property to (1) implement, maintain and monitor the Engineering Controls; (2) prevent future exposure to remaining contamination by controlling disturbances of the subsurface contamination; and, (3) limit the use and development of the site to restricted residential uses only.

O&R is currently in the process of executing the environmental easement for the site.

5. DEVIATIONS FROM THE REMEDIAL ACTION WORK PLAN

5.1 Excavation Limit Adjustment

Based on a request from the Remedial Contractor as allowed in the specifications and approval from the NYSDEC, a 3-foot setback from the property line was allowed along Maple Avenue and a 5-foot setback was allowed along Head Start. All other excavation extended to the limits with shown in the Remedial Design. Limits of excavation are shown on the project as-built drawings in Appendix J.

5.2 Sheeting Left in Place

To avoid potential impacts to the swale and surrounding property, steel sheet pile along the swale boundary was cut to 5 feet below final grade and left in place. The location and depth of the sheet pile left in place is shown on Figure G1-3

5.3 Use of Tie Backs

Tie backs were used to provide support to the sheet pile wall along the swale boundary of the deep excavation. Tie backs were necessary due to the inability of the Remedial Contractor to install steel sheet pile to the design depth. Tie backs were de-stressed and left in place upon completion of the excavation in that area. Tie Backs do not extend beyond the property line. The location and details of the de-stressed tiebacks left in place are shown on Figure G4-5.

6. REFERENCES

NYSDEC, 2011. *Record of Decision,* New York State Department of Environmental Conservation, March 2011.

NRT, 2015. *Pre-Design Investigation Work Plan, Clove and Maple Avenues Former MGP Site Operable Unit 1,* Natural Resources Technology, May 2015

NRT, 2018. *Pre-Characterization and Documentation Sampling Work Plan, Clove and Maple Avenues Former MGP Site Operable Unit 1,* Natural Resource Technology, January 2018.

NRT, 2015 *Remedial Design Work Plan (RDWP) for the Haverstraw Clove & Maple former MGP OU-1* Natural Resource Technology, May 2015

NRT, 2018 *Final Remedial Design Drawings and Technical Specifications Natural Resource* Technology, January 2018

TABLES

375-6.8 Soil cleanup objective tables.

(a) Unrestricted use soil cleanup objectives.

Table 375-6.8(a):Unrestricted Use Soil Cleanup Objectives

Contaminant	CAS Number	Unrestricted Use
Metals		
Arsenic	7440-38-2	13 [c]
Barium	7440-39-3	350 [c]
Beryllium	7440-41-7	7.2
Cadmium	7440-43-9	2.5 [c]
Chromium, hexavalent [e]	18540-29-9	1[b]
Chromium, trivalent [e]	16065-83-1	30 [c]
Copper	7440-50-8	50
Total Cyanide [e, f]		27
Lead	7439-92-1	63 [c]
Manganese	7439-96-5	1600 [c]
Total Mercury		0.18 [c]
Nickel	7440-02-0	30
Selenium	7782-49-2	3.9[c]
Silver	7440-22-4	2
Zinc	7440-66-6	109 [c]
PCBs/Pesticides		
2,4,5-TP Acid (Silvex) [f]	93-72-1	3.8
4,4'-DDE	72-55-9	0.0033 [b]
4,4'-DDT	50-29-3	0.0033 [b]
4,4'-DDD	72-54-8	0.0033 [b]
Aldrin	309-00-2	0.005 [c]
alpha-BHC	319-84-6	0.02
beta-BHC	319-85-7	0.036
Chlordane (alpha)	5103-71-9	0.094

Table 375-6.8(a):Unrestricted Use Soil Cleanup Objectives

Contaminant	CAS Number	Unrestricted Use
delta-BHC [g]	319-86-8	0.04
Dibenzofuran [f]	132-64-9	7
Dieldrin	60-57-1	0.005 [c]
Endosulfan I [d, f]	959-98-8	2.4
Endosulfan II [d, f]	33213-65-9	2.4
Endosulfan sulfate [d, f]	1031-07-8	2.4
Endrin	72-20-8	0.014
Heptachlor	76-44-8	0.042
Lindane	58-89-9	0.1
Polychlorinated biphenyls	1336-36-3	0.1
Semivolatile organic compounds		
Acenaphthene	83-32-9	20
Acenapthylene [f]	208-96-8	100 [a]
Anthracene [f]	120-12-7	100 [a]
Benz(a)anthracene [f]	56-55-3	1 [c]
Benzo(a)pyrene	50-32-8	1 [c]
Benzo(b)fluoranthene [f]	205-99-2	1 [c]
Benzo(g,h,i)perylene [f]	191-24-2	100
Benzo(k)fluoranthene [f]	207-08-9	0.8 [c]
Chrysene [f]	218-01-9	1 [c]
Dibenz(a,h)anthracene [f]	53-70-3	0.33 [b]
Fluoranthene [f]	206-44-0	100 [a]
Fluorene	86-73-7	30
Indeno(1,2,3-cd)pyrene [f]	193-39-5	0.5 [c]
m-Cresol [f]	108-39-4	0.33 [b]
Naphthalene [f]	91-20-3	12
o-Cresol [f]	95-48-7	0.33 [b]

Table 375-6.8(a):Unrestricted Use Soil Cleanup Objectives

Contaminant	CAS Number	Unrestricted Use
p-Cresol [f]	106-44-5	0.33 [b]
Pentachlorophenol	87-86-5	0.8 [b]
Phenanthrene [f]	85-01-8	100
Phenol	108-95-2	0.33 [b]
Pyrene [f]	129-00-0	100
Volatile organic compounds		
1,1,1-Trichloroethane [f]	71-55-6	0.68
1,1-Dichloroethane [f]	75-34-3	0.27
1,1-Dichloroethene [f]	75-35-4	0.33
1,2-Dichlorobenzene [f]	95-50-1	1.1
1,2-Dichloroethane	107-06-2	0.02 [c]
cis -1,2-Dichloroethene [f]	156-59-2	0.25
trans-1,2-Dichloroethene [f]	156-60-5	0.19
1,3-Dichlorobenzene [f]	541-73-1	2.4
1,4-Dichlorobenzene	106-46-7	1.8
1,4-Dioxane	123-91-1	0.1 [b]
Acetone	67-64-1	0.05
Benzene	71-43-2	0.06
n-Butylbenzene [f]	104-51-8	12
Carbon tetrachloride [f]	56-23-5	0.76
Chlorobenzene	108-90-7	1.1
Chloroform	67-66-3	0.37
Ethylbenzene [f]	100-41-4	1
Hexachlorobenzene [f]	118-74-1	0.33[b]
Methyl ethyl ketone	78-93-3	0.12
Methyl tert-butyl ether [f]	1634-04-4	0.93
Methylene chloride	75-09-2	0.05

Table 375-6.8(a):Unrestricted Use Soil Cleanup Objectives

Contaminant	CAS Number	Unrestricted Use
n - Propylbenzene [f]	103-65-1	3.9
sec-Butylbenzene [f]	135-98-8	11
tert-Butylbenzene [f]	98-06-6	5.9
Tetrachloroethene	127-18-4	1.3
Toluene	108-88-3	0.7
Trichloroethene	79-01-6	0.47
1,2,4-Trimethylbenzene [f]	95-63-6	3.6
1,3,5-Trimethylbenzene[f]	108-67-8	8.4
Vinyl chloride[f]	75-01-4	0.02
Xylene (mixed)	1330-20-7	0.26

All soil cleanup objectives (SCOs) are in parts per million (ppm).

Footnotes

[a] The SCOs for unrestricted use were capped at a maximum value of 100 ppm. See Technical Support Document (TSD), section 9.3.

[b] For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value.

[c] For constituents where the calculated SCO was lower than the rural soil background concentration, as determined by the Department and Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site.

[d] SCO is the sum of endosulfan I, endosulfan II and endosulfan sulfate.

[e] The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.

[f] Protection of ecological resources SCOs were not developed for contaminants identified in Table 375-6.8(b) with “NS”. Where such contaminants appear in Table 375-6.8(a), the applicant may be required by the Department to calculate a protection of ecological resources SCO according to the TSD.

(b) Restricted use soil cleanup objectives.

Table 375-6.8(b): Restricted Use Soil Cleanup Objectives

Contaminant	CAS Number	Protection of Public Health				Protection of Ecological Resources	Protection of Ground-water
		Residential	Restricted-Residential	Commercial	Industrial		
Metals							
Arsenic	7440-38-2	16[f]	16[f]	16[f]	16[f]	13[f]	16[f]
Barium	7440-39-3	350[f]	400	400	10,000 [d]	433	820
Beryllium	7440-41-7	14	72	590	2,700	10	47
Cadmium	7440-43-9	2.5[f]	4.3	9.3	60	4	7.5
Chromium, hexavalent [h]	18540-29-9	22	110	400	800	1[e]	19
Chromium, trivalent [h]	16065-83-1	36	180	1,500	6,800	41	NS
Copper	7440-50-8	270	270	270	10,000 [d]	50	1,720
Total Cyanide [h]		27	27	27	10,000 [d]	NS	40
Lead	7439-92-1	400	400	1,000	3,900	63[f]	450
Manganese	7439-96-5	2,000[f]	2,000[f]	10,000 [d]	10,000 [d]	1600[f]	2,000[f]
Total Mercury		0.81[j]	0.81[j]	2.8[j]	5.7[j]	0.18[f]	0.73
Nickel	7440-02-0	140	310	310	10,000 [d]	30	130
Selenium	7782-49-2	36	180	1,500	6,800	3.9[f]	4[f]
Silver	7440-22-4	36	180	1,500	6,800	2	8.3
Zinc	7440-66-6	2200	10,000 [d]	10,000 [d]	10,000 [d]	109[f]	2,480
PCBs/Pesticides							
2,4,5-TP Acid (Silvex)	93-72-1	58	100[a]	500[b]	1,000[c]	NS	3.8
4,4'-DDE	72-55-9	1.8	8.9	62	120	0.0033 [e]	17
4,4'-DDT	50-29-3	1.7	7.9	47	94	0.0033 [e]	136
4,4'- DDD	72-54-8	2.6	13	92	180	0.0033 [e]	14
Aldrin	309-00-2	0.019	0.097	0.68	1.4	0.14	0.19
alpha-BHC	319-84-6	0.097	0.48	3.4	6.8	0.04[g]	0.02
beta-BHC	319-85-7	0.072	0.36	3	14	0.6	0.09
Chlordane (alpha)	5103-71-9	0.91	4.2	24	47	1.3	2.9

Table 375-6.8(b): Restricted Use Soil Cleanup Objectives

Contaminant	CAS Number	Protection of Public Health				Protection of Ecological Resources	Protection of Ground-water
		Residential	Restricted-Residential	Commercial	Industrial		
delta-BHC	319-86-8	100[a]	100[a]	500[b]	1,000[c]	0.04[g]	0.25
Dibenzofuran	132-64-9	14	59	350	1,000[c]	NS	210
Dieldrin	60-57-1	0.039	0.2	1.4	2.8	0.006	0.1
Endosulfan I	959-98-8	4.8[i]	24[i]	200[i]	920[i]	NS	102
Endosulfan II	33213-65-9	4.8[i]	24[i]	200[i]	920[i]	NS	102
Endosulfan sulfate	1031-07-8	4.8[i]	24[i]	200[i]	920[i]	NS	1,000[c]
Endrin	72-20-8	2.2	11	89	410	0.014	0.06
Heptachlor	76-44-8	0.42	2.1	15	29	0.14	0.38
Lindane	58-89-9	0.28	1.3	9.2	23	6	0.1
Polychlorinated biphenyls	1336-36-3	1	1	1	25	1	3.2
Semivolatiles							
Acenaphthene	83-32-9	100[a]	100[a]	500[b]	1,000[c]	20	98
Acenapthylene	208-96-8	100[a]	100[a]	500[b]	1,000[c]	NS	107
Anthracene	120-12-7	100[a]	100[a]	500[b]	1,000[c]	NS	1,000[c]
Benz(a)anthracene	56-55-3	1[f]	1[f]	5.6	11	NS	1[f]
Benzo(a)pyrene	50-32-8	1[f]	1[f]	1[f]	1.1	2.6	22
Benzo(b)fluoranthene	205-99-2	1[f]	1[f]	5.6	11	NS	1.7
Benzo(g,h,i)perylene	191-24-2	100[a]	100[a]	500[b]	1,000[c]	NS	1,000[c]
Benzo(k)fluoranthene	207-08-9	1	3.9	56	110	NS	1.7
Chrysene	218-01-9	1[f]	3.9	56	110	NS	1[f]
Dibenz(a,h)anthracene	53-70-3	0.33[e]	0.33[e]	0.56	1.1	NS	1,000[c]
Fluoranthene	206-44-0	100[a]	100[a]	500[b]	1,000[c]	NS	1,000[c]
Fluorene	86-73-7	100[a]	100[a]	500[b]	1,000[c]	30	386
Indeno(1,2,3-cd)pyrene	193-39-5	0.5[f]	0.5[f]	5.6	11	NS	8.2
m-Cresol	108-39-4	100[a]	100[a]	500[b]	1,000[c]	NS	0.33[e]
Naphthalene	91-20-3	100[a]	100[a]	500[b]	1,000[c]	NS	12

Table 375-6.8(b): Restricted Use Soil Cleanup Objectives

Contaminant	CAS Number	Protection of Public Health				Protection of Ecological Resources	Protection of Ground-water
		Residential	Restricted-Residential	Commercial	Industrial		
o-Cresol	95-48-7	100[a]	100[a]	500[b]	1,000[c]	NS	0.33[e]
p-Cresol	106-44-5	34	100[a]	500[b]	1,000[c]	NS	0.33[e]
Pentachlorophenol	87-86-5	2.4	6.7	6.7	55	0.8[e]	0.8[e]
Phenanthrene	85-01-8	100[a]	100[a]	500[b]	1,000[c]	NS	1,000[c]
Phenol	108-95-2	100[a]	100[a]	500[b]	1,000[c]	30	0.33[e]
Pyrene	129-00-0	100[a]	100[a]	500[b]	1,000[c]	NS	1,000[c]
Volatiles							
1,1,1-Trichloroethane	71-55-6	100[a]	100[a]	500[b]	1,000[c]	NS	0.68
1,1-Dichloroethane	75-34-3	19	26	240	480	NS	0.27
1,1-Dichloroethene	75-35-4	100[a]	100[a]	500[b]	1,000[c]	NS	0.33
1,2-Dichlorobenzene	95-50-1	100[a]	100[a]	500[b]	1,000[c]	NS	1.1
1,2-Dichloroethane	107-06-2	2.3	3.1	30	60	10	0.02[f]
cis-1,2-Dichloroethene	156-59-2	59	100[a]	500[b]	1,000[c]	NS	0.25
trans-1,2-Dichloroethene	156-60-5	100[a]	100[a]	500[b]	1,000[c]	NS	0.19
1,3-Dichlorobenzene	541-73-1	17	49	280	560	NS	2.4
1,4-Dichlorobenzene	106-46-7	9.8	13	130	250	20	1.8
1,4-Dioxane	123-91-1	9.8	13	130	250	0.1[e]	0.1[e]
Acetone	67-64-1	100[a]	100[b]	500[b]	1,000[c]	2.2	0.05
Benzene	71-43-2	2.9	4.8	44	89	70	0.06
Butylbenzene	104-51-8	100[a]	100[a]	500[b]	1,000[c]	NS	12
Carbon tetrachloride	56-23-5	1.4	2.4	22	44	NS	0.76
Chlorobenzene	108-90-7	100[a]	100[a]	500[b]	1,000[c]	40	1.1
Chloroform	67-66-3	10	49	350	700	12	0.37
Ethylbenzene	100-41-4	30	41	390	780	NS	1
Hexachlorobenzene	118-74-1	0.33[e]	1.2	6	12	NS	3.2
Methyl ethyl ketone	78-93-3	100[a]	100[a]	500[b]	1,000[c]	100[a]	0.12

Table 375-6.8(b): Restricted Use Soil Cleanup Objectives

Contaminant	CAS Number	Protection of Public Health				Protection of Ecological Resources	Protection of Ground-water
		Residential	Restricted-Residential	Commercial	Industrial		
Methyl tert-butyl ether	1634-04-4	62	100[a]	500[b]	1,000[c]	NS	0.93
Methylene chloride	75-09-2	51	100[a]	500[b]	1,000[c]	12	0.05
n-Propylbenzene	103-65-1	100[a]	100[a]	500[b]	1,000[c]	NS	3.9
sec-Butylbenzene	135-98-8	100[a]	100[a]	500[b]	1,000[c]	NS	11
tert-Butylbenzene	98-06-6	100[a]	100[a]	500[b]	1,000[c]	NS	5.9
Tetrachloroethene	127-18-4	5.5	19	150	300	2	1.3
Toluene	108-88-3	100[a]	100[a]	500[b]	1,000[c]	36	0.7
Trichloroethene	79-01-6	10	21	200	400	2	0.47
1,2,4-Trimethylbenzene	95-63-6	47	52	190	380	NS	3.6
1,3,5- Trimethylbenzene	108-67-8	47	52	190	380	NS	8.4
Vinyl chloride	75-01-4	0.21	0.9	13	27	NS	0.02
Xylene (mixed)	1330-20-7	100[a]	100[a]	500[b]	1,000[c]	0.26	1.6

All soil cleanup objectives (SCOs) are in parts per million (ppm).
NS=Not specified. See Technical Support Document (TSD).

Footnotes

[a] The SCOs for residential, restricted-residential and ecological resources use were capped at a maximum value of 100 ppm. See TSD section 9.3.

[b] The SCOs for commercial use were capped at a maximum value of 500 ppm. See TSD section 9.3.

[c] The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1000 ppm. See TSD section 9.3.

[d] The SCOs for metals were capped at a maximum value of 10,000 ppm. See TSD section 9.3.

[e] For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the SCO value.

[f] For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the Department and Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site.

[g] This SCO is derived from data on mixed isomers of BHC.

[h] The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.

[i] This SCO is for the sum of endosulfan I, endosulfan II, and endosulfan sulfate.

[j] This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts). See TSD Table 5.6-1.

375-6.9 Development or modification of soil cleanup objectives.

(a) Applicability. This section identifies when and the procedures under which a contaminant-specific soil cleanup objective may be developed or modified.

(1) Soil cleanup objectives for contaminants not included in Tables 375-6.8(a) and (b) may be developed by the remedial party or required by the Department.

(2) Soil cleanup objectives for contaminants included in Tables 375-6.8(a) and (b), may be modified based on site-specific data if desired by the remedial party; as set forth in:

(i) subpart 375-3 for Tracks 3 or 4, as set forth in paragraphs 375-3.8(e)(3) or (4), respectively; or

(ii) subparts 375-2 and 375-4, as set forth in subparagraph 375-2.8(b)(1)(iii) and subparagraph 375-4.8(c)(1)(iii).

(3) Protection of ecological resources soil cleanup objectives were not developed for certain contaminants, which are identified in Table 375-6.8(b) as "NS". Where such contaminants:

(i) appear in Table 375-6.8(a), the applicant may be required by the Department to calculate a protection of ecological resources soil cleanup objective for the contaminant for use in Track 1 and apply such soil cleanup objective where it is lower than the soil cleanup objective set forth in Table 375-6.8(a); or

(ii) are identified as impacting or threatening an ecological resource for a restricted use remedial program the Department may require a protection of ecological resources soil cleanup objective be developed.

(b) New soil cleanup objectives must:

(1) Be developed utilizing the same methodologies that were used by the Department to develop the respective soil cleanup objective, as provided in the Technical Support Document.

(2) Apply the following caps, as set forth in section 9.3 of the Technical Support Document, on any soil cleanup objective included in Tables 375-6.8(a) and (b), with the exception of metals, as set forth in paragraph (3) below, developed for:

(i) unrestricted use, residential use, restricted-residential use and the protection of ecological resources, a maximum value of 100 ppm;

(ii) commercial use, a maximum value of 500 ppm; and

(iii) industrial use and the protection of groundwater a maximum value of 1000 ppm, and

(3) Apply a cap for metals at a maximum value of 10,000 ppm.

(c) Development of unrestricted use soil cleanup objectives. The unrestricted use soil cleanup objective for a compound will be the lowest of the soil cleanup values, calculated as set forth in appendix E of the Technical Support Document, for the protection of groundwater, protection of ecological resources and protection of public health.

(d) Development of restricted use soil cleanup objectives. The protection of:

(1) Groundwater soil cleanup objective will be the values calculated for the protection of groundwater as set forth in appendix E of the Technical Support Document;

(2) Ecological resources soil cleanup objectives will be the values calculated for the protection of ecological resources as set forth in appendix E of the Technical Support Document; and

(3) Public health cleanup objective will be the values calculated for the protection of public health for the identified use of the site, as set forth in appendix E of the Technical Support Document.

(e) Modification of soil cleanup objectives. The contaminant-specific soil cleanup objectives set forth at Tables 675-6.8(a) and (b)[1] may be modified by site specific data as set forth in this subdivision.

[1] Original should read "Tables 375-6.8(a) and (b)"

(1) Contaminant-specific soil cleanup objectives modified in accordance with this subdivision may be utilized by the remedial party for a site remedial program undertaken pursuant to:

(i) subpart 375-3 in Tracks 3 or 4, as set forth in paragraphs 375-3.8(e)(3) or (4), respectively; or

(ii) subparts 375-2 and 375-4, as set forth in subparagraph 375-2.8(b)(1)(ii) and subparagraph 375-4.8(c)(1)(ii).

(2) For the calculation of a protection of groundwater or ecological resources contaminant -specific soil cleanup objective, the site-specific percentage of total organic carbon in the soil at the site may be substituted in the algorithms provided in appendix E of the Technical Support Document.

(3) For the calculation of a protection of public health contaminant-specific soil cleanup objective, site-specific data may be used to modify two of the five exposure pathways, as follows:

(i) for the particulate inhalation pathway six parameters rely on site-specific data; and

(ii) for the volatile inhalation pathway, four parameters rely on site-specific data.

(4) The algorithms to be used for each protection of public health pathway and details on the parameters which can be substituted are included in appendix E of the Technical Support Document.

(f) Use of soil cleanup objectives developed or modified. Once approved by the Department, contaminant-specific soil cleanup objectives developed or modified as set forth in this section may be utilized by the Department at other sites consistent with paragraphs (1) and (2) below.

(1) Contaminant-specific soil cleanup objectives developed for contaminants not included in Tables 375-6.8(a) and (b), as set forth in subdivision 375-6.9(b) above, will be used as guidance and shall be considered by the Department for inclusion in the Tables in this subpart during any subsequent reevaluation of the soil cleanup objectives, as set forth by ECL 27-1415.

(2) Contaminant-specific soil cleanup objectives modified for site specific parameters, as set forth in subdivision 375-6.9(e) above, may be utilized at sites manifesting similar parameters, if approved by the Department.

Table B. Remedial Performance Documentation Sampling Results (by area)

Orange and Rockland Utilities, Inc. - Haverstraw Clove Ave. & Maple Ave. Former MGP Site
Haverstraw, Rockland County, New York
Operable Unit Number: 01 (OU-1)
Site No. 3-44-049

Parameter	Units	NY Soil RRSCO	Station Name:	DSF-01	DSF-02	DSF-02	DSF-03	DSF-04	DSF-05	DSF-06	DSF-07	DSF-08	DSF-09	DSF-10	DSF-11	DSF-12	DSF-13	DSF-14	DSF-15	DSF-16	DSF-17	DSF-18	DSF-19	DSF-20	DSF-21	DSF-22	DSF-23	DSF-24
			Field Sample ID[1]:	DSF-01.15. 20190314	DSF-02.15. 20190314	DSF-DUP-01. 20190314	DSF-03.15. 20190327	DSF-04.14. 20190327	DSF-05.13. 20190327	DSF-06.13. 20190327	DSF-07.13. 20190327	DSF-08.8. 20190408	DSF-09.8. 20190408	DSF-10.10. 20190411	DSF-11.10. 20190411	DSF-12-14.8' 20190909	DSF-13-15.12' 20190909	DSF-14-7.07' 20190909	DSF-15-7.56' 20190909	DSF-16-5.38' 20190909	DSF-17-4.84' 20190917	DSF-18-5.03' 20190917	DSF-19-5.08' 20190917	DSF-20-7.00' 20190917	DSF-21-6.91' 20190917	DSF-22-37.7' 20191106	DSF-23-31' 20191106	DSF-24-38' 20191113
			Lab Report ID[1]:	DSF-01-15. 20190314	DSF-02-15- 20190314	DSF-DUP-01. 20190314	DSF-03.15. 20190327	DSF-04.14. 20190327	DSF-05.13. 20190327	DSF-06.13. 20190327	DSF-07.13. 20190327	DSF-08.8. 20190408	DSF-09.8. 20190408	DSF-10. 20190411	DSF-11. 20190411	DSF-12-14.8	DSF-13-15.12	DSF-14-7.07	DSF-15-7.56	DSF-16-5.38	DSF-17-4.84 20190917	DSF-17-5.03 20190917	DSF-17-5.08 20190917	DSF-17-7.00 20190917	DSF-17-6.91 20190917	DSF-2237.7 20191106	DSF-2331 20191106	DSF-2438 20191113
				03/14/2019	03/14/2019	03/14/2019	03/27/2019	03/27/2019	03/27/2019	03/27/2019	03/27/2019	04/08/2019	04/08/2019	04/11/2019	04/11/2019	09/09/2019	09/09/2019	09/09/2019	09/09/2019	09/09/2019	09/17/2019	09/17/2019	09/17/2019	09/17/2019	09/17/2019	11/06/2019	11/06/2019	11/13/2019
				15' above MSL	15' above MSL	15' above MSL	15' above MSL	14' above MSL	13' above MSL	13' above MSL	13' above MSL	8' above MSL	8' above MSL	10' above MSL	10' above MSL	14.8' above MSL	15.12' above MSL	7.07' above MSL	7.56' above MSL	5.38' above MSL	4.84' above MSL	5.03' above MSL	5.08' above MSL	7' above MSL	6.91' above MSL	37.7' above MSL	31' above MSL	38' above MSL
				Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag
Cyanide																												
Cyanide, Total	mg/kg	**27**		<0.095 U	<0.088 U	<0.09 U	0.33	0.1 J	0.31 B	<0.094 U	0.17 J	0.19 J	<0.11 U	<0.098 U	<1.7 U	0.35 B	0.44 B	0.28 B	0.30 B	0.33 B	0.28	0.24	0.094 J	0.56	0.095 J	3.7 B	1.2 B	0.34
BTEX																												
Benzene	mg/kg	**4.8**		0.00055 J	0.001 J	0.00078 J	0.00066 J	0.0093	3.810	0.0475	0.0096 J+	0.311	0.0504	0.0466	0.396	<0.00091 U	<0.0013 U	<0.0012 U	0.0030	0.00097 J	<0.0015 U	<0.297 U	<0.139 U	0.0294 J	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
Ethylbenzene	mg/kg	**41**		0.00083 J	0.0011 J	0.00095 J	0.0231	0.102 J+	3.110	--	5.950 J+	0.616	0.0278	0.0976	0.234	<0.00091 U	<0.0013 U	<0.0012 U	0.0035	0.00065 J	<0.0015 U	0.148 J	0.529	0.0445 J	0.0020	<0.0013 U	<0.0012 U	<0.0015 U
Toluene	mg/kg	**100**[a]		0.00098 J	0.0013 J	0.0013 J	0.0029	0.0199 J+	7.890	0.0652	0.095 J+	<0.119 U	0.0077	0.0417	0.0402	<0.00091 U	<0.0013 U	<0.0012 U	0.0039	0.00096 J	0.00091 J	<0.297 U	0.0761 J	0.0592 J	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
Xylene, o	mg/kg	---		0.00054 J	0.00069 J	<0.00056 U	0.0749	0.103 J+	3.880	2.990	2.810 J+	0.340	0.016	0.0713	0.0923	<0.00091 U	<0.0013 U	<0.0012 U	0.0037	0.00057 J	<0.0015 U	0.235 J	0.369	0.0418 J	0.0017	<0.0013 U	<0.0012 U	<0.0015 U
Xylenes, m + p	mg/kg	---		0.00092 J	0.0014 J	0.00096 J	0.0759	0.151 J+	8.190	2.570	6.710 J+	0.527	0.0186	0.121	0.119	<0.0018 U	<0.0025 U	<0.0024 U	0.0069	0.00080 J	<0.0031 U	0.354 J	0.633	0.0997 J	0.0031	<0.0026 U	<0.0023 U	<0.0030 U
Xylenes, Total	mg/kg	**100**[a]		0.0015 J	0.0021 J	<0.0013 U	0.151	0.253 J+	12.100	5.560	9.520 J+	0.867	0.0346	0.192	0.211	<0.0027 U	<0.0038 U	<0.0036 U	0.0106	0.0014 J	<0.0046 U	0.588 J	1.000	0.141 J	0.0049	<0.0038 U	<0.0035 U	<0.0045 U
VOC																												
1,1,1,2-Tetrachloroethane	mg/kg	---		<0.00049 U	<0.00059 U	<0.00062 U	<0.00067 U	<0.00047 U	<0.00052 U	<0.00045 U	<0.00042 U	<0.009 U	<0.00039 U	<0.0098 U	<0.0102 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
1,1,1-Trichloroethane	mg/kg	**100**[a]		<0.00048 U	<0.00057 U	<0.0006 U	<0.00065 U	<0.00045 U	<0.0005 U	<0.00043 U	<0.00041 U	<0.0057 U	<0.00038 U	<0.0061 U	<0.0064 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
1,1,2,2-Tetrachloroethane	mg/kg	---		<0.00043 U	<0.00052 U	<0.00054 U	<0.00058 U	<0.00041 U	<0.00046 U	<0.00039 U	<0.00037 U	<0.0088 U	<0.00034 U	<0.0095 U	<0.0099 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
1,1,2-Trichloroethane	mg/kg	---		<0.00043 U	<0.00052 U	<0.00054 U	<0.00058 U	<0.00041 U	<0.00046 U	<0.00039 U	<0.00037 U	<0.0085 U	<0.00034 U	<0.0092 U	<0.0096 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
1,1-Dichloroethane	mg/kg	**26**		<0.00039 U	<0.00046 U	<0.00048 U	<0.00052 U	<0.00037 U	<0.00041 U	<0.00035 U	<0.00033 U	<0.0072 U	<0.0003 U	<0.0078 U	<0.0081 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
1,1-Dichloroethene	mg/kg	**100**[a]		<0.0004 U	<0.00048 U	<0.0005 U	<0.00054 U	<0.00038 U	<0.00042 U	<0.00036 U	<0.00034 U	<0.0075 U	<0.00032 U	<0.0081 U	<0.0084 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
1,1-Dichloropropene	mg/kg	---		<0.00039 U	<0.00046 U	<0.00048 U	<0.00052 U	<0.00037 U	<0.00041 U	<0.00035 U	<0.00033 U	<0.007 U	<0.0003 U	<0.0075 U	<0.0078 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
1,2,3-Trichlorobenzene	mg/kg	---		<0.00039 U	<0.00046 U	<0.00048 U	<0.00052 U	<0.00037 U	<0.00041 U	<0.00035 U	<0.00033 U	<0.024 U	<0.0003 U	<0.0259 U	<0.027 U	<0.0023 U	<0.0032 U	<0.0030 U	<0.0048 U	<0.0035 U	<0.0038 U	<0.594 U	<0.279 U	<0.121 U	<0.0031 U	<0.0032 U	<0.0029 U	<0.0037 U
1,2,3-Trichloropropane	mg/kg	---		<0.00039 U	<0.00046 U	<0.00048 U	<0.00052 U	<0.00037 U	<0.00041 U	<0.00035 U	<0.00033 U	<0.0155 U	<0.0003 U	<0.0167 U	<0.0174 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.594 U	<0.279 U	<0.121 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
1,2,4-Trichlorobenzene	mg/kg	---		<0.00039 U	<0.00046 U	<0.00048 U	<0.00052 U	<0.00037 U	<0.00041 U	<0.00035 U	<0.00033 U	<0.0212 U	<0.0003 U	<0.0229 U	<0.0238 U	<0.0023 U	<0.0032 U	<0.0030 U	<0.0048 U	<0.0035 U	<0.0038 U	<0.594 U	<0.279 U	<0.121 U	<0.0031 U	<0.0032 U	<0.0029 U	<0.0037 U
1,2,4-Trimethylbenzene	mg/kg	**52**		0.00066 J	0.00054 J	0.00053 J	0.108	1.220 J+	5.450	4.120	13.900 J+	0.634	0.007	0.191	0.0528	<0.00091 U	<0.0013 U	<0.0012 U	0.0020	<0.0014 U	<0.0015 U	1.280	0.809	0.106	0.0078	<0.0013 U	<0.0012 U	<0.0015 U
1,2-Dibromo-3-chloropropane	mg/kg	---		<0.0022 U	<0.0027 U	<0.0028 U	<0.003 U	<0.0021 U	<0.0024 U	<0.002 U	<0.0019 U	<0.0387 U	<0.0018 U	<0.0418 U	<0.0436 U	<0.0023 U	<0.0032 U	<0.0030 U	<0.0048 U	<0.0035 U	<0.0038 U	<2.080 U	<0.976 U	<0.423 U	<0.0031 U	<0.0032 U	<0.0029 U	<0.0037 U
1,2-Dibromoethane	mg/kg	---		<0.00042 U	<0.0005 U	<0.00052 U	<0.00056 U	<0.0004 U	<0.00044 U	<0.00038 U	<0.00035 U	<0.0072 U	<0.00033 U	<0.0078 U	<0.0081 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
1,2-Dichlorobenzene	mg/kg	**100**[a]		<0.00039 U	<0.00046 U	<0.00048 U	<0.00052 U	<0.00037 U	<0.00041 U	<0.00035 U	<0.00033 U	<0.0098 U	<0.0003 U	<0.0106 U	<0.011 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
1,2-Dichloroethane	mg/kg	**3.1**		<0.00039 U	<0.00046 U	<0.00048 U	<0.00052 U	<0.00037 U	<0.00041 U	<0.00035 U	<0.00033 U	<0.0083 U	<0.0003 U	<0.0089 U	<0.0093 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
1,2-Dichloropropane	mg/kg	---		<0.00046 U	<0.00055 U	<0.00058 U	<0.00063 U	<0.00044 U	<0.00049 U	<0.00042 U	<0.00039 U	<0.0062 U	<0.00036 U	<0.0067 U	<0.007 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
1,3,5-Trimethylbenzene	mg/kg	**52**		0.00046 J	<0.00046 U	<0.00048 U	0.069	0.0766 J+	1.830	1.660	4.790 J+	0.199	0.0018	0.0627	0.016 J	0.0033	0.0113	<0.0012 U	0.00086 J	<0.0014 U	0.00043 J	0.355	0.248	0.0281 J	0.0025	<0.0013 U	<0.0012 U	<0.0015 U
1,3-Dichlorobenzene	mg/kg	**49**		<0.00039 U	<0.00046 U	<0.00048 U	<0.00052 U	<0.00037 U	<0.00041 U	<0.00035 U	<0.00033 U	<0.0065 U	<0.0003 U	<0.007 U	<0.0073 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
1,3-Dichloropropane	mg/kg	---		<0.00064 U	<0.00076 U	<0.0008 U	<0.00086 U	<0.00061 U	<0.00067 U	<0.00058 U	<0.00054 U	<0.007 U	<0.0005 U	<0.0075 U	<0.0078 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
1,4-Dichlorobenzene	mg/kg	**13**		<0.00039 U	<0.00046 U	<0.00048 U	<0.00052 U	<0.00037 U	<0.00041 U	<0.00035 U	<0.00033 U	<0.007 U	<0.0003 U	<0.0075 U	<0.0078 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
1,4-Dioxane	mg/kg	**13**		<0.0137 U	<0.0164 U	<0.0172 U	<0.0185 U	<0.013 U	<0.0145 U	<0.0125 U	<0.0117 U	<1.520 U	<0.0108 U	<1.640 U	<1.710 U	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	mg/kg	---		<0.00039 U	<0.00046 U	<0.00048 U	<0.00052 U	<0.00037 U	<0.00041 U	<0.00035 U	<0.00033 U	<0.0083 U	<0.0003 U	<0.0089 U	<0.0093 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
2-Butanone (MEK)	mg/kg	**100**[a]		<0.0025 U	<0.0029 U	<0.0031 U	<0.0033 U	<0.0023 U	<0.0026 U	<0.0022 U	0.0094 J+	<0.0465 U	<0.0019 U	<0.0502 U	<0.0523 U	<0.0045 U	<0.0063 U	<0.0060 U	<0.0097 U	<0.0070 U	<0.0077 U	<2.970 U	<1.390 U	<0.605 U	<0.0062 U	<0.0064 U	<0.0058 U	<0.0075 U
2-Chlorotoluene	mg/kg	---		<0.00039 U	<0.00046 U	<0.00048 U	<0.00052 U	<0.00037 U	<0.00041 U	<0.00035 U	<0.00033 U	<0.0067 U	<0.0003 U	<0.0072 U	<0.0076 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
2-Hexanone	mg/kg	---		<0.0022 U	<0.0026 U	<0.0027 U	<0.0029 U	<0.0021 U	<0.0023 U	<0.002 U	<0.0018 U	<0.0336 U	<0.0017 U	<0.0362 U	<0.0378 U	<0.0045 U	<0.0063 U	<0.0060 U	<0.0097 U	<0.0070 U	<0.0077 U	<1.490 U	<0.697 U	<0.302 U	<0.0062 U	<0.0064 U	<0.0058 U	<0.0075 U
4-Chlorotoluene	mg/kg	---		<0.00039 U	<0.00046 U	<0.00048 U	<0.00052 U	<0.00037 U	<0.00041 U	<0.00035 U	<0.00033 U	<0.0085 U	<0.0003 U	<0.0092 U	<0.0096 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
4-Isopropyltoluene	mg/kg	---		<0.00039 U	<0.00046 U	<0.00048 U	0.0207	0.0223 J+	0.0336	0.486	1.250 J+	0.0652	<0.0003 U	0.019 J	<0.0093 U	0.0016	0.0087	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	0.110 J	0.0815 J	<0.0605 U	0.00067 J	<0.0013 U	<0.0012 U	<0.0015 U
4-Methyl-2-Pentanone (MIBK)	mg/kg	---		<0.0029 U	<0.0035 U	<0.0037 U	<0.004 U	<0.0028 U	<0.0031 U	<0.0027 U	<0.0025 U	<0.0387 U	<0.0023 U	<0.0418 U	<0.0436 U	<0.0045 U	<0.0063 U	<0.0060 U	<0.0097 U	<0.0070 U	<0.0077 U	<1.490 U	<0.697 U	<0.302 U	<0.0062 U	<0.0064 U	<0.0058 U	<0.0075 U
Acetone	mg/kg	**100**[b]		0.034	0.0845 J	0.0335 J	0.133	0.0365 J+	0.0683	0.152 B	0.0946 B	<0.080 U	0.0167	<0.0864 U	<0.0901 U	0.0203	0.0218	0.0152	0.0238	0.0588	0.0286	<2.970 U	<1.390 U	<0.605 U	0.0257	0.0323	0.0080	<0.0075 U
Acetonitrile	mg/kg	---		<0.0026 U	<0.0031 U	<0.0033 U	<0.0035 U	<0.0025 U	<0.0028 U	<0.0024 U	<0.0022 U	<0.062 U	<0.0021 U	<0.0669 U	<0.0698 U	<0.0045 U	<0.0063 U	<0.0060 U	<0.0097 U	<0.0070 U	<0.0077 U	<5.940 U	<2.790 U	<1.210 U	<0.0062 U	<0.0064 U	<0.0058 U	<0.0075 U
Acrolein	mg/kg	---		<0.0051 U	<0.0061 U	<0.0064 U	<0.0069 U	<0.0048 U	<0.0054 U	<0.0046 U	<0.0043 U	<0.0774 U	<0.004 U	<0.0836 U	<0.0872 U	<0.0227 U	<0.0317 U	<0.0301 U	<0.0483 U	<0.0348 U	<0.0384 U	<7.430 U	<3.480 U	<1.510 U	<0.0311 U	<0.0319 U	<0.0292 U	<0.0373 U
Acrylonitrile	mg/kg	---		<0.0021 U	<0.0025 U	<0.0026 U	<0.0028 U	<0.002 U	<0.0022 U	<0.0019 U	<0.0018 U	<0.031 U	<0.0016 U	<0.0334 U	<0.0349 U	<0.0045 U	<0.0063 U	<0.0060 U	<0.0097 U	<0.0070 U	<0.0077 U	<1.490 U	<0.697 U	<0.302 U	<0.0062 U	<0.0064 U	<0.0058 U	<0.0075 U
Allyl chloride	mg/kg	---		<0.00039 U	<0.00046 U	<0.00048 U	<0.00052 U	<0.00037 U	<0.00041 U	<0.00035 U	<0.00033 U	<0.0067 U	<0.0003 U	<0.0072 U	<0.0076 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
Benzyl Chloride	mg/kg	---		<0.00039 U	<0.00046 U	<0.00048 U	<0.00052 U	<0.00037 U	<0.00041 U	<0.00035 U	<0.00033 U	<0.0119 U	<0.0003 U	<0.0128 U	<0.0134 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<1.490 U	<0.697 U	<0.302 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
Bromobenzene	mg/kg	---		<0.00039 U	<0.00046 U	<0.00048 U	<0.00052 U	<0.00037 U	<0.00041 U	<0.00035 U	<0.00033 U	<0.0083 U	<0.0003 U	<0.0089 U	<0.0093 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
Bromochloromethane	mg/kg	---		<0.00039 U	<0.00046 U	<0.00048 U	<0.00052 U	<0.00037 U	<0.00041 U	<0.00035 U	<0.00033 U	<0.0083 U	<0.0003 U	<0.0089 U	<0.0093 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
Bromodichloromethane	mg/kg	---		<0.00055 U	<0.00065 U	<0.00068 U	<0.00074 U	<0.00052 U	<0.00058 U	<0.0005 U	<0.00047 U	<0.007 U	<0.00043 U	<0.0075 U	<0.0078 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
Bromoform	mg/kg	---		<0.0004 U	<0.00048 U	<0.0005 U	<0.00054 U	<0.00038 U	<0.00042 U	<0.00036 U	<0.00034 U	<0.0103 U	<0.00032 U	<0.0111 U	<0.0116 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
Bromomethane	mg/kg	---		<0.0004 U	<0.00048 U	<0.0005 U	<0.00054 U	<0.00038 U	<0.00042 U	<0.00036 U	<0.00034 U	<0.0101 U	<0.00032 U	<0.0109 U	<0.0113 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	0.0620 J	0.0312 J	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
Carbon Disulfide	mg/kg	---		<0.00049 U	<0.00058 U	<0.00061 U	0.00081 J	0.0005 J+	0.0006 J	<0.00044 U	<0.00041 U	<0.0059 U	<0.00038 U	<0.0064 U	<0.0067 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
Carbon Tetrachloride	mg/kg	**2.4**		<0.00039 U	<0.00047 U	<0.00049 U	<0.00053 U	<0.00037 U	<0.00041 U	<0.00036 U	<0.00033 U	<0.008 U	<0.00031 U	<0.0086 U	<0.009 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
Chlorobenzene	mg/kg	**100**[a]		<0.00039 U	<0.00047 U	<0.00049 U	<0.00053 U	<0.00037 U	<0.00041 U	<0.00036 U	<0.00033 U	<0.0049 U	<0.00031 U	<0.0053 U	<0.0055 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
Chloroethane	mg/kg	---		<0.00066 U	<0.00078 U	<0.00082 U	<0.00089 U	<0.00062 U	<0.00069 U	<0.0006 U	<0.00056 U	<0.0085 U	<0.00052 U	<0.0092 U	<0.0096 U	<0.0023 U	<0.0032 U	<0.0030 U	<0.0048 U	<0.0035 U	<0.0038 U	<0.297 U	<0.139 U	<0.0605 U	<0.0031 U	<0.0032 U	<0.0029 U	<0.0037 U
Chloroform	mg/kg	**49**		<0.00041 U	<0.00049 U	<0.00051 U	<0.00055 U	<0.00039 U	<0.00043 U	<0.00037 U	<0.00035 U	<0.0054 U	<0.00032 U	<0.0059 U	<0.0061 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U

Table B. Remedial Performance Documentation Sampling Results (by area)

Orange and Rockland Utilities, Inc. - Haverstraw Clove Ave. & Maple Ave. Former MGP Site
Haverstraw, Rockland County, New York
Operable Unit Number: 01 (OU-1)
Site No. 3-44-049

Parameter	Units	NY Soil RRSCO	Station Name:	DSF-01	DSF-02	DSF-02	DSF-03	DSF-04	DSF-05	DSF-06	DSF-07	DSF-08	DSF-09	DSF-10	DSF-11	DSF-12	DSF-13	DSF-14	DSF-15	DSF-16	DSF-17	DSF-18	DSF-19	DSF-20	DSF-21	DSF-22	DSF-23	DSF-24
			Field Sample ID[1]:	DSF-01.15.20190314	DSF-02.15.20190314	DSF-DUP-01.20190314	DSF-03.15.20190327	DSF-04.14.20190327	DSF-05.13.20190327	DSF-06.13.20190327	DSF-07.13.20190327	DSF-08.8.20190408	DSF-09.8.20190408	DSF-10.10.20190411	DSF-11.10.20190411	DSF-12-14.8'20190909	DSF-13-15.12'20190909	DSF-14-7.07'20190909	DSF-15-7.56'20190909	DSF-16-5.38'20190909	DSF-17-4.84'20190917	DSF-18-5.03'20190917	DSF-19-5.08'20190917	DSF-20-7.00'20190917	DSF-21-6.91'20190917	DSF-22-37.7'20191106	DSF-23-31'20191106	DSF-24-38'20191113
			Lab Report ID[1]:	DSF-01-15.20190314	DSF-02-15-20190314	DSF-DUP-01.20190314	DSF-03.15.20190327	DSF-04.14.20190327	DSF-05.13.20190327	DSF-06.13.20190327	DSF-07.13.20190327	DSF-08.8.20190408	DSF-09.8.20190408	DSF-10.20190411	DSF-11.20190411	DSF-12-14.8	DSF-13-15.12	DSF-14-7.07	DSF-15-7.56	DSF-16-5.38	DSF-17-4.84 20190917	DSF-17-5.03 20190917	DSF-17-5.08 20190917	DSF-17-7.00 20190917	DSF-17-6.91 20190917	DSF-2237.7 20191106	DSF-2331 20191106	DSF-2438 20191113
				03/14/2019	03/14/2019	03/14/2019	03/27/2019	03/27/2019	03/27/2019	03/27/2019	03/27/2019	04/08/2019	04/08/2019	04/11/2019	04/11/2019	09/09/2019	09/09/2019	09/09/2019	09/09/2019	09/09/2019	09/17/2019	09/17/2019	09/17/2019	09/17/2019	09/17/2019	11/06/2019	11/06/2019	11/13/2019
				15' above MSL	15' above MSL	15' above MSL	15' above MSL	14' above MSL	13' above MSL	13' above MSL	13' above MSL	8' above MSL	8' above MSL	10' above MSL	10' above MSL	14.8' above MSL	15.12' above MSL	7.07' above MSL	7.56' above MSL	5.38' above MSL	4.84' above MSL	5.03' above MSL	5.08' above MSL	7' above MSL	6.91' above MSL	37.7' above MSL	31' above MSL	38' above MSL
				Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag
VOC continued																												
Chloromethane	mg/kg	---		<0.00042 U	<0.00051 U	<0.00053 U	<0.00057 U	<0.0004 U	<0.00045 U	<0.00039 U	<0.00036 U	<0.008 U	<0.00033 U	<0.0086 U	<0.009 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
Chloroprene	mg/kg	---		<0.00039 U	<0.00046 U	<0.00048 U	<0.00052 U	<0.00037 U	<0.00041 U	<0.00035 U	<0.00033 U	<0.0127 U	<0.0003 U	<0.0137 U	<0.0142 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
cis-1,2-Dichloroethene	mg/kg	100[a]		<0.00039 U	<0.00046 U	<0.00048 U	<0.00052 U	<0.00037 U	<0.00041 U	<0.00035 U	<0.00033 U	<0.0083 U	<0.0003 U	<0.0089 U	<0.0093 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
cis-1,3-Dichloropropene	mg/kg	---		<0.00042 U	<0.00051 U	<0.00053 U	<0.00057 U	<0.0004 U	<0.00045 U	<0.00039 U	<0.00036 U	<0.008 U	<0.00033 U	<0.0086 U	<0.009 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
Cyclohexane	mg/kg	---		<0.00039 U	<0.00047 U	<0.00049 U	<0.00053 U	<0.00037 U	<0.00041 U	0.0123	<0.00033 U	<0.0075 U	<0.00031 U	<0.0081 U	<0.0084 U	<0.00091 U	0.00037 J	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
Dibromochloromethane	mg/kg	---		<0.00053 U	<0.00063 U	<0.00066 U	<0.00071 U	<0.0005 U	<0.00055 U	<0.00048 U	<0.00045 U	<0.0116 UJ	<0.00041 UJ	<0.0125 U	<0.0131 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
Dibromomethane	mg/kg	---		<0.00056 U	<0.00066 U	<0.00069 U	<0.00075 U	<0.00053 U	<0.00059 U	<0.0005 U	<0.00047 U	<0.008 U	<0.00044 U	<0.0086 U	<0.009 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
Ethyl acetate	mg/kg	---		<0.00039 U	<0.00046 U	<0.00048 U	<0.00052 U	<0.00037 U	<0.00041 U	<0.00035 U	<0.00033 U	<0.0083 U	<0.0003 U	<0.0089 U	<0.0093 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.594 U	<0.279 U	<0.121 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
Ethyl methacrylate	mg/kg	---		<0.00039 U	<0.00047 U	<0.00049 U	<0.00053 U	<0.00037 U	<0.00041 U	<0.00036 U	<0.00033 U	<0.0083 U	<0.00031 U	<0.0089 U	<0.0093 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
Freon 113	mg/kg	---		<0.00039 U	<0.00046 U	<0.00048 U	<0.00052 U	<0.00037 U	<0.00041 U	<0.00035 U	<0.00033 U	<0.0067 U	<0.0003 U	<0.0072 U	<0.0076 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
Freon 12	mg/kg	---		<0.00052 U	<0.00062 U	<0.00065 U	<0.0007 U	<0.00049 U	<0.00054 U	<0.00047 U	<0.00044 U	<0.0085 U	<0.00041 U	<0.0092 U	<0.0096 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
Isobutanol	mg/kg	---		<0.006 U	<0.0072 U	<0.0075 U	<0.0081 U	<0.0057 U	<0.0063 U	<0.0055 U	<0.0051 U	<0.323 U	<0.0047 U	<0.348 U	<0.363 U	<0.0227 U	<0.0317 U	<0.0301 U	<0.0483 U	<0.0348 U	<0.0384 U	<22.300 U	<10.500 U	<4.530 U	<0.0311 U	<0.0319 U	<0.0292 U	<0.0373 U
Isopropylbenzene	mg/kg	---		<0.00047 U	<0.00056 U	<0.00059 U	0.0116	0.0222 J+	0.0539	0.440	1.870 J+	0.0735	0.00092 J	0.0132 J	0.0114 J	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	0.0868 J	0.108 J	<0.0605 U	0.00048 J	<0.0013 U	<0.0012 U	<0.0015 U
Methacrylonitrile	mg/kg	---		<0.00042 U	<0.0005 U	<0.00052 U	<0.00056 U	<0.0004 U	<0.00044 U	<0.00038 U	<0.00035 U	<0.0142 U	<0.00033 U	<0.0153 U	<0.016 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.594 U	<0.279 U	<0.121 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
Methyl acetate	mg/kg	---		<0.00046 U	0.00072 J	<0.00057 U	<0.00061 U	<0.00043 U	0.0024	0.0031	0.0061 J+	<0.0083 U	0.00057 J	0.021 J	<0.0093 U	0.00076 J	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	0.0026	0.424 J	<0.279 U	0.0532 J	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
Methyl methacrylate	mg/kg	---		<0.0018 U	<0.0021 U	<0.0022 U	<0.0024 U	<0.0017 U	<0.0019 U	<0.0016 U	<0.0015 U	<0.0129 U	<0.0014 U	<0.0139 U	<0.0145 U	<0.0023 U	<0.0032 U	<0.0030 U	<0.0048 U	<0.0035 U	<0.0038 U	<0.892 U	<0.418 U	<0.181 U	<0.0031 U	<0.0032 U	<0.0029 U	<0.0037 U
Methylcyclohexane	mg/kg	---		<0.00043 U	<0.00052 U	<0.00054 U	0.0036	0.0018 J+	0.0196	0.161	0.0182 J+	0.0214 J	<0.00034 U	<0.0084 U	<0.0087 U	<0.00091 U	0.0020	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
Methylene chloride (DCM)	mg/kg	100[a]		<0.0006 U	<0.00072 U	<0.00075 U	<0.00081 U	<0.00057 U	<0.00063 U	<0.00055 U	<0.00051 U	<0.0116 U	<0.00047 U	<0.0125 U	<0.0131 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	0.00050 J	<0.0012 U	<0.0015 U
Methyl-tert-butyl-ether	mg/kg	100[a]		<0.00039 U	<0.00046 U	<0.00048 U	<0.00052 U	<0.00037 U	<0.00041 U	<0.00035 U	<0.00033 U	<0.0085 U	<0.0003 U	<0.0092 U	<0.0096 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
Naphthalene	mg/kg	100[a]		0.0025 J+	0.0019	0.0025	0.0159	48.300 J+	**198.000** J+	**105.000** J+	**116.000** J+	14.700	0.325	8.470	1.700	0.0034	0.0053	<0.0012 U	0.0367	<0.0014 U	0.0015 J	57.300	13.800	5.940	0.0395	<0.0013 U	<0.0012 U	<0.0015 U
n-Butylbenzene	mg/kg	100[a]		<0.00039 U	<0.00046 U	<0.00048 U	<0.00052 U	0.0055 J+	0.0096	0.105	0.384 J+	<0.0155 U	<0.0003 U	<0.0167 U	<0.0174 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.594 U	<0.279 U	<0.121 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
n-Propylbenzene	mg/kg	100[a]		<0.00039 U	<0.00046 U	<0.00048 U	0.0026	0.0115 J+	0.0392	0.139	0.698 J+	<0.0085 U	<0.0003 U	<0.0092 U	<0.0096 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	0.0670 J	<0.0605 U	0.00046 J	<0.0013 U	<0.0012 U	<0.0015 U
Propionitrile	mg/kg	---		<0.0032 U	<0.0039 U	<0.004 U	<0.0044 U	<0.0031 U	<0.0034 U	<0.0029 U	<0.0028 U	<0.0671 U	<0.0025 U	<0.0725 U	<0.0756 U	<0.0045 U	<0.0063 U	<0.0060 U	<0.0097 U	<0.0070 U	<0.0077 U	<2.970 U	<1.390 U	<0.605 U	<0.0062 U	<0.0064 U	<0.0058 U	<0.0075 U
sec-Butylbenzene	mg/kg	100[a]		<0.00039 U	<0.00046 U	<0.00048 U	0.0016 J	0.0021 J+	0.005	0.0483	0.082 J+	<0.008 U	<0.0003 U	<0.0086 U	<0.009 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
Styrene	mg/kg	---		<0.00039 U	<0.00046 U	<0.00048 U	0.0011 J	0.008 J+	0.160	0.0268	0.0648 J+	0.0071 J	0.00035 J	0.0089 J	<0.007 U	<0.00091 U	0.00041 J	<0.0012 U	0.0011 J	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	0.00033 J	<0.0013 U	<0.0012 U	<0.0015 U
tert-Butyl Alcohol	mg/kg	---		0.008	0.0124	0.0093 J	0.0087 J	0.0073 J+	0.0177	0.0136	0.0096 J+	<0.0568 U	0.0038 J	<0.0613 U	<0.064 U	0.0039 J	0.0060 J	0.0107	0.0050 J	0.0079	0.0055 J	<2.970 U	<1.390 U	<0.605 U	0.0040 J	0.0126	0.0036 J	0.0069 J
tert-Butylbenzene	mg/kg	100[a]		<0.00042 U	<0.00051 U	<0.00053 U	<0.00057 U	<0.0004 U	<0.00045 U	<0.00039 U	<0.00036 U	<0.0114 U	<0.00033 U	<0.0123 U	<0.0128 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.594 U	<0.279 U	<0.121 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
Tetrachloroethene	mg/kg	19		<0.00046 U	<0.00055 U	<0.00058 U	<0.00063 U	<0.00044 U	<0.00049 U	<0.00042 U	<0.00039 U	<0.009 U	<0.00036 U	<0.0098 U	<0.0102 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
trans-1,2-Dichloroethene	mg/kg	100[a]		<0.0004 U	<0.00048 U	<0.0005 U	<0.00054 U	<0.00038 U	<0.00042 U	<0.00036 U	<0.00034 U	<0.0067 U	<0.00032 U	<0.0072 U	<0.0076 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
trans-1,3-Dichloropropene	mg/kg	---		<0.00045 U	<0.00053 U	<0.00056 U	<0.0006 U	<0.00042 U	<0.00047 U	<0.00041 U	<0.00038 U	<0.0075 U	<0.00035 U	<0.0081 U	<0.0084 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
Trichloroethene	mg/kg	21		<0.00039 U	<0.00046 U	<0.00048 U	<0.00052 U	<0.00037 U	<0.00041 U	<0.00035 U	<0.00033 U	<0.0085 U	<0.0003 U	<0.0092 U	<0.0096 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
Trichlorofluoromethane	mg/kg	---		<0.00039 U	<0.00046 U	<0.00048 U	<0.00052 U	<0.00037 U	<0.00041 U	<0.00035 U	<0.00033 U	<0.0062 U	<0.0003 U	<0.0067 U	<0.007 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
Vinyl acetate	mg/kg	---		<0.0004 U	<0.00048 U	<0.0005 U	<0.00054 U	<0.00038 U	<0.00042 U	<0.00036 U	<0.00034 U	<0.0413 U	<0.00032 U	<0.0446 U	<0.0465 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<1.490 U	<0.697 U	<0.302 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U
Vinyl Chloride	mg/kg	0.9		<0.00039 U	<0.00046 U	<0.00048 U	<0.00052 U	<0.00037 U	<0.00041 U	<0.00035 U	<0.00033 U	<0.0077 U	<0.0003 U	<0.0084 U	<0.0087 U	<0.00091 U	<0.0013 U	<0.0012 U	<0.0019 U	<0.0014 U	<0.0015 U	<0.297 U	<0.139 U	<0.0605 U	<0.0012 U	<0.0013 U	<0.0012 U	<0.0015 U

Table B. Remedial Performance Documentation Sampling Results (by area)

Orange and Rockland Utilities, Inc. - Haverstraw Clove Ave. & Maple Ave. Former MGP Site
Haverstraw, Rockland County, New York
Operable Unit Number: 01 (OU-1)
Site No. 3-44-049

Station Name:			DSF-01	DSF-02	DSF-02	DSF-03	DSF-04	DSF-05	DSF-06	DSF-07	DSF-08	DSF-09	DSF-10	DSF-11	DSF-12	DSF-13	DSF-14	DSF-15	DSF-16	DSF-17	DSF-18	DSF-19	DSF-20	DSF-21	DSF-22	DSF-23	DSF-24
Field Sample ID[1]:			DSF-01.15.20190314	DSF-02.15.20190314	DSF-DUP-01.20190314	DSF-03.15.20190327	DSF-04.14.20190327	DSF-05.13.20190327	DSF-06.13.20190327	DSF-07.13.20190327	DSF-08.8.20190408	DSF-09.8.20190408	DSF-10.10.20190411	DSF-11.10.20190411	DSF-12-14.8'20190909	DSF-13-15.12'20190909	DSF-14-7.07'20190909	DSF-15-7.56'20190909	DSF-16-5.38'20190909	DSF-17-4.84'20190917	DSF-18-5.03'20190917	DSF-19-5.08'20190917	DSF-20-7.00'20190917	DSF-21-6.91'20190917	DSF-22-37.7'20191106	DSF-23-31'20191106	DSF-24-38'20191113
Lab Report ID[1]:			DSF-01-15.20190314	DSF-02-15-20190314	DSF-DUP-01.20190314	DSF-03.15.20190327	DSF-04.14.20190327	DSF-05.13.20190327	DSF-06.13.20190327	DSF-07.13.20190327	DSF-08.8.20190408	DSF-09.8.20190408	DSF-10.20190411	DSF-11.20190411	DSF-12-14.8	DSF-13-15.12	DSF-14-7.07	DSF-15-7.56	DSF-16-5.38	DSF-17-4.84 20190917	DSF-17-5.03 20190917	DSF-17-5.08 20190917	DSF-17-7.00 20190917	DSF-17-6.91 20190917	DSF-2237.7 20191106	DSF-2331 20191106	DSF-2438 20191113
Parameter	Units	NY Soil RRSCO	03/14/2019	03/14/2019	03/14/2019	03/27/2019	03/27/2019	03/27/2019	03/27/2019	03/27/2019	04/08/2019	04/08/2019	04/11/2019	04/11/2019	09/09/2019	09/09/2019	09/09/2019	09/09/2019	09/09/2019	09/17/2019	09/17/2019	09/17/2019	09/17/2019	09/17/2019	11/06/2019	11/06/2019	11/13/2019
			15' above MSL	15' above MSL	15' above MSL	15' above MSL	14' above MSL	13' above MSL	13' above MSL	13' above MSL	8' above MSL	8' above MSL	10' above MSL	10' above MSL	14.8' above MSL	15.12' above MSL	7.07' above MSL	7.56' above MSL	5.38' above MSL	4.84' above MSL	5.03' above MSL	5.08' above MSL	7' above MSL	6.91' above MSL	37.7' above MSL	31' above MSL	38' above MSL
			Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag
SVOC																											
1,2,4,5-Tetrachlorobenzene	mg/kg	---	<0.0075 U	<0.007 U	<0.0069 U	<0.0075 U	<0.0074 U	<0.0088 U	<0.0073 U	<0.008 U	<0.0085 U	<0.0084 U	<0.0077 U	<0.0076 U	<0.103 U	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	<0.114 U	<0.108 U	<0.116 U
1,2,4-Trichlorobenzene	mg/kg	---	<0.0064 U	<0.006 U	<0.006 U	<0.0065 U	<0.0064 U	<0.0075 U	<0.0063 U	<0.0069 U	<0.0073 U	<0.0072 U	<0.0066 U	<0.0066 U	<0.103 U	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	<0.114 U	<0.108 U	<0.116 U
1,2-Dichlorobenzene	mg/kg	**100**[a]	<0.0097 U	<0.009 U	<0.0089 U	<0.0097 U	<0.0096 U	<0.0113 U	<0.0094 U	<0.0103 U	<0.011 U	<0.0108 U	<0.0099 U	<0.0098 U	<0.103 U	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	<0.114 U	<0.108 U	<0.116 U
1,2-Dinitrobenzene	mg/kg	---	<0.0204 U	<0.0191 U	<0.0188 U	<0.0205 U	<0.0202 U	<0.0238 U	<0.0199 U	<0.0218 U	<0.0232 U	<0.0229 U	<0.0208 U	<0.0208 U	<0.103 U	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	<0.114 U	<0.108 U	<0.116 U
1,2-Diphenylhydrazine	mg/kg	---	<0.0097 U	<0.009 U	<0.0089 U	<0.0097 U	<0.0096 U	<0.0113 U	<0.0094 U	<0.0103 U	<0.011 U	<0.0108 U	<0.0099 U	<0.0098 U	<0.103 U	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	<0.114 U	<0.108 U	<0.116 U
1,3-Dichlorobenzene	mg/kg	**49**	<0.0075 U	<0.007 U	<0.0069 U	<0.0075 U	<0.0074 U	<0.0088 U	<0.0073 U	<0.008 U	<0.0085 U	<0.0084 U	<0.0077 U	<0.0076 U	<0.103 U	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	<0.114 U	<0.108 U	<0.116 U
1,4-Dichlorobenzene	mg/kg	**13**	<0.0075 U	<0.007 U	<0.0069 U	<0.0075 U	<0.0074 U	<0.0088 U	<0.0073 U	<0.008 U	<0.0085 U	<0.0084 U	<0.0077 U	<0.0076 U	<0.103 U	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	<0.114 U	<0.108 U	<0.116 U
1,4-Dinitrobenzene	mg/kg	---	<0.015 U	<0.0141 U	<0.0139 U	<0.0151 U	<0.0149 U	<0.0175 U	<0.0147 U	<0.016 U	<0.0171 U	<0.0168 U	<0.0153 U	<0.0153 U	<0.103 U	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	<0.114 U	<0.108 U	<0.116 U
2,2-Oxybis(1-chloropropane)	mg/kg	---	<0.0161 U	<0.0151 U	<0.0149 U	<0.0161 U	<0.016 U	<0.0188 U	<0.0157 U	<0.0172 U	<0.0183 U	<0.018 U	<0.0164 U	<0.0164 U	<0.103 U	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	<0.114 U	<0.108 U	<0.116 U
2,4-Dinitrotoluene	mg/kg	---	<0.0097 U	<0.009 U	<0.0089 U	<0.0097 U	<0.0096 U	<0.0113 U	<0.0094 U	<0.0103 U	<0.011 U	<0.0108 U	<0.0099 U	<0.0098 U	<0.103 U	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	<0.114 U	<0.108 U	<0.116 U
2,6-Dinitrotoluene	mg/kg	---	<0.0129 U	<0.0121 U	<0.0119 U	<0.0129 U	<0.0128 U	<0.015 U	<0.0126 U	<0.0138 U	<0.0147 U	<0.0144 U	<0.0131 U	<0.0131 U	<0.103 U	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	<0.114 U	<0.108 U	<0.116 U
2-Chloronaphthalene	mg/kg	---	<0.0064 U	<0.006 U	<0.006 U	<0.0065 U	<0.0064 U	<0.0075 U	<0.0063 U	<0.0069 U	<0.0073 U	<0.0072 U	<0.0066 U	<0.0066 U	<0.103 U	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	<0.114 U	<0.108 U	<0.116 U
2-Naphthalenamine	mg/kg	---	<0.0172 U	<0.0161 U	<0.0159 U	<0.0172 U	<0.017 U	<0.020 U	<0.0168 U	<0.0183 U	<0.0195 U	<0.0192 U	<0.0175 U	<0.0175 U	<0.205 U	<0.201 U	<0.196 U	<0.208 U	<0.205 U	<0.205 U	<0.203 U	<0.205 U	<0.202 U	<0.211 U	<0.228 U	<0.216 U	<0.231 U
2-Nitroaniline	mg/kg	---	<0.0129 U	<0.0121 U	<0.0119 U	<0.0129 U	<0.0128 U	<0.015 U	<0.0126 U	<0.0138 U	<0.0147 U	<0.0144 U	<0.0131 U	<0.0131 U	<0.205 U	<0.201 U	<0.196 U	<0.208 U	<0.205 U	<0.205 U	<0.203 U	<0.205 U	<0.202 U	<0.211 U	<0.228 U	<0.216 U	<0.231 U
3,3-Dichlorobenzidine	mg/kg	---	<0.0408 U	<0.0382 U	<0.0377 U	<0.0409 U	<0.0404 U	<0.0475 U	<0.0399 U	<0.0436 U	<0.0464 U	<0.0457 U	<0.0416 U	<0.0415 U	<0.205 U	<0.201 U	<0.196 U	<0.208 U	<0.205 U	<0.205 U	<0.203 U	<0.205 U	<0.202 U	<0.211 U	<0.228 U	<0.216 U	<0.231 U
3-Nitroaniline	mg/kg	---	<0.0215 U	<0.0201 U	<0.0198 U	<0.0215 U	<0.0213 U	<0.025 U	<0.021 U	<0.0229 U	<0.0244 U	<0.0241 U	<0.0219 U	<0.0219 U	<0.205 U	<0.201 U	<0.196 U	<0.208 U	<0.205 U	<0.205 U	<0.203 U	<0.205 U	<0.202 U	<0.211 U	<0.228 U	<0.216 U	<0.231 U
4-Bromodiphenyl ether	mg/kg	---	<0.0097 U	<0.009 U	<0.0089 U	<0.0097 U	<0.0096 U	<0.0113 U	<0.0094 U	<0.0103 U	<0.011 U	<0.0108 U	<0.0099 U	<0.0098 U	<0.103 U	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	<0.114 U	<0.108 U	<0.116 U
4-Chloroaniline	mg/kg	---	<0.0129 U	<0.0121 U	<0.0119 U	<0.0129 U	<0.0128 U	<0.015 U	<0.0126 U	<0.0138 U	<0.0147 U	<0.0144 U	<0.0131 U	<0.0131 U	<0.205 U	<0.201 U	<0.196 U	<0.208 U	<0.205 U	<0.205 U	<0.203 U	<0.205 U	<0.202 U	<0.211 U	<0.228 U	<0.216 U	<0.231 U
4-Chlorodiphenyl ether	mg/kg	---	<0.0086 U	<0.008 U	<0.0079 U	<0.0086 U	<0.0085 U	<0.010 U	<0.0084 U	<0.0092 U	<0.0098 U	<0.0096 U	<0.0088 U	<0.0087 U	<0.103 U	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	<0.114 U	<0.108 U	<0.116 U
4-Nitroaniline	mg/kg	---	<0.0086 U	<0.008 U	<0.0079 U	<0.0086 U	<0.0085 U	<0.010 U	<0.0084 U	<0.0092 U	<0.0098 U	<0.0096 U	<0.0088 U	<0.0087 U	<0.205 U	<0.201 U	<0.196 U	<0.208 U	<0.205 U	<0.205 U	<0.203 U	<0.205 U	<0.202 U	<0.211 U	<0.228 U	<0.216 U	<0.231 U
Acetophenone	mg/kg	---	<0.0086 U	<0.008 U	<0.0079 U	<0.0086 U	<0.0085 U	<0.010 U	<0.0084 U	<0.0092 U	<0.0098 U	<0.0096 U	<0.0088 U	<0.0087 U	<0.103 U	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	0.0223 J	<0.108 U	<0.116 U
Aniline	mg/kg	---	<0.0161 U	<0.0151 U	<0.0149 U	<0.0161 U	<0.016 U	<0.0188 U	<0.0157 U	<0.0172 U	<0.0183 U	<0.018 U	<0.0164 U	<0.0164 U	<0.205 U	<0.201 U	<0.196 U	<0.208 U	<0.205 U	<0.205 U	<0.203 U	<0.205 U	<0.202 U	<0.211 U	<0.228 U	<0.216 U	<0.231 U
Atrazine	mg/kg	---	<0.0118 U	<0.011 U	<0.0109 U	<0.0118 U	<0.0117 U	<0.0138 U	<0.0115 U	<0.0126 U	<0.0134 U	<0.0132 U	<0.012 U	<0.012 U	<0.103 U	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	<0.114 U	<0.108 U	<0.116 U
Benzaldehyde	mg/kg	---	<0.0182 U	<0.0171 U	<0.0169 U	<0.0183 U	<0.0181 U	<0.0213 U	<0.0178 U	<0.0195 U	<0.0208 U	<0.0204 U	<0.0186 U	<0.0186 U	<0.205 U	<0.201 U	<0.196 U	<0.208 U	<0.205 U	<0.205 U	<0.203 U	<0.205 U	<0.202 U	<0.211 U	0.0320 J	0.164 J	0.0424 J
Benzidine	mg/kg	---	<0.0343 U	<0.0321 U	<0.0317 U	<0.0345 U	<0.034 U	<0.040 U	<0.0336 U	<0.0367 U	<0.0391 U	<0.0385 U	<0.035 U	<0.035 U	<0.205 U	<0.201 U	<0.196 U	<0.208 U	<0.205 U	<0.205 U	<0.203 U	<0.205 U	<0.202 U	<0.211 U	<0.228 U	<0.216 U	<0.231 U
Benzoic Acid	mg/kg	---	<0.0075 U	<0.007 U	<0.0069 U	<0.0075 U	<0.0074 U	<0.0088 U	<0.0073 U	<0.008 U	<0.0085 U	<0.0084 U	<0.0077 U	<0.0076 U	<0.554 U	<0.542 U	<0.529 U	<0.561 U	<0.553 U	<0.555 U	<0.548 U	<0.553 U	<0.546 U	<0.570 U	<0.616 U	<0.584 U	<0.625 U
Benzyl alcohol	mg/kg	---	<0.0193 B	0.0197 B	0.0203 B	<0.0194 U	<0.0191 U	<0.0225 U	<0.0189 U	<0.0206 U	<0.022 U	<0.0217 U	<0.0197 U	<0.0197 U	<0.103 U	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	<0.114 U	<0.108 U	<0.116 U
Biphenyl	mg/kg	---	<0.0075 U	<0.007 U	<0.0069 U	0.304	2.060	3.140	3.750	40.500	0.540	<0.0084 U	0.498	<0.0076 U	<0.103 U	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	3.350	0.196	0.483	<0.106 U	0.0223 J	<0.108 U	<0.116 U
Bis(2-Chloroethoxy)methane	mg/kg	---	<0.0097 U	<0.009 U	<0.0089 U	<0.0097 U	<0.0096 U	<0.0113 U	<0.0094 U	<0.0103 U	<0.011 U	<0.0108 U	<0.0099 U	<0.0098 U	<0.103 U	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	<0.114 U	<0.108 U	<0.116 U
Bis(2-Chloroethyl)ether	mg/kg	---	<0.0139 U	<0.0131 U	<0.0129 U	<0.014 U	<0.0138 U	<0.0163 U	<0.0136 U	<0.0149 U	<0.0159 U	<0.0156 U	<0.0142 U	<0.0142 U	<0.103 U	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	<0.114 U	<0.108 U	<0.116 U
Bis(2-Ethylhexyl)phthalate	mg/kg	---	0.0434 B	0.0323 B	0.0346 B	0.0226 J	0.0969 J	<0.0088 U	0.0313 J	0.0946 J	<0.0085 U	<0.0084 U	0.0223 J	<0.0076 U	0.760	0.309	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	0.0717 J	<0.102 U	<0.101 U	<0.106 U	0.106 J	0.201	<0.116 U
Butyl benzyl phthalate	mg/kg	---	<0.0075 U	<0.007 U	<0.0069 U	<0.0075 U	<0.0074 U	<0.0088 U	<0.0073 U	<0.008 U	<0.0085 U	<0.0084 U	<0.0077 U	<0.0076 U	<0.103 U	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	<0.114 U	<0.108 U	<0.116 U
Caprolactam	mg/kg	---	<0.0193 U	<0.0181 U	<0.0179 U	<0.0194 U	<0.0191 U	<0.0225 U	<0.0189 U	<0.0206 U	<0.022 U	<0.0217 U	<0.0197 U	<0.0197 U	<0.205 U	<0.201 U	<0.196 U	<0.208 U	<0.205 U	<0.205 U	<0.203 U	<0.205 U	<0.202 U	<0.211 U	<0.228 U	<0.216 U	<0.231 U
Carbazole	mg/kg	---	<0.0075 U	<0.007 U	<0.0069 U	<0.0075 U	<0.0074 U	<0.0088 U	<0.0073 U	0.915	<0.0085 U	<0.0084 U	<0.0077 U	<0.0076 U	<0.103 U	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	0.380	0.658	0.205
Dibenzofuran	mg/kg	**59**	<0.0086 U	<0.008 U	<0.0079 U	0.193	1.120	1.080	1.590	6.530	0.313	<0.0096 U	0.273	<0.0087 U	0.0656 J	0.485	<0.0980 U	<0.104 U	<0.102 U	0.146	1.860	0.0920 J	0.245	<0.106 U	0.0852 J	0.228	0.0495 J
Diethyl phthalate	mg/kg	---	<0.0086 U	<0.008 U	<0.0079 U	<0.0086 U	<0.0085 U	<0.010 U	<0.0084 U	<0.0092 U	<0.0098 U	<0.0096 U	<0.0088 U	<0.0087 U	<0.103 U	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	<0.114 U	<0.108 U	<0.116 U
Dimethyl phthalate	mg/kg	---	<0.0075 U	<0.007 U	<0.0069 U	<0.0075 U	0.0153 J	<0.0088 U	<0.0073 U	0.122	<0.0085 U	<0.0084 U	<0.0077 U	<0.0076 U	<0.103 U	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	<0.114 U	<0.108 U	<0.116 U
Di-n-butyl phthalate	mg/kg	---	<0.0086 U	<0.008 U	<0.0079 U	<0.0086 U	<0.0085 U	0.0544 J	<0.0084 U	<0.0092 U	<0.0098 U	<0.0096 U	<0.0088 U	<0.0087 U	<0.103 U	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	<0.114 U	0.0237 J	<0.116 U
Di-n-octyl phthalate	mg/kg	---	<0.0075 U	<0.007 U	<0.0069 U	<0.0075 U	<0.0074 U	<0.0088 U	<0.0073 U	<0.008 U	<0.0085 U	<0.0084 U	<0.0077 U	<0.0076 U	<0.103 U	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	<0.114 U	<0.108 U	<0.116 U
Hexachlorobenzene	mg/kg	**1.2**	<0.0118 U	<0.011 U	<0.0109 U	<0.0118 U	<0.0117 U	<0.0138 U	<0.0115 U	<0.0126 U	<0.0134 U	<0.0132 U	<0.012 U	<0.012 U	<0.103 U	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	<0.114 U	<0.108 U	<0.116 U
Hexachlorobutadiene	mg/kg	---	<0.0107 U	<0.010 U	<0.0099 U	<0.0108 U	<0.0106 U	<0.0125 U	<0.0105 U	<0.0115 U	<0.0122 U	<0.012 U	<0.0109 U	<0.0109 U	<0.103 U	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	<0.114 U	<0.108 U	<0.116 U
Hexachlorocyclopentadiene	mg/kg	---	<0.0118 U	<0.011 U	<0.0109 U	<0.0118 U	<0.0117 U	<0.0138 U	<0.0115 U	<0.0126 U	<0.0134 U	<0.0132 U	<0.012 U	<0.012 U	<0.205 U	<0.201 U	<0.196 U	<0.208 U	<0.205 U	<0.205 U	<0.203 U	<0.205 U	<0.202 U	<0.211 U	<0.228 U	<0.216 U	<0.231 U
Hexachloroethane	mg/kg	---	<0.0097 U	<0.009 U	<0.0089 U	<0.0097 U	<0.0096 U	<0.0113 U	<0.0094 U	<0.0103 U	<0.011 U	<0.0108 U	<0.0099 U	<0.0098 U	<0.103 U	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	<0.114 U	<0.108 U	<0.116 U
Isophorone	mg/kg	---	<0.0064 U	<0.006 U	<0.006 U	<0.0065 U	<0.0064 U	<0.0075 U	<0.0063 U	<0.0069 U	<0.0073 U	<0.0072 U	<0.0066 U	<0.0066 U	<0.103 U	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	<0.114 U	<0.108 U	<0.116 U
Nitrobenzene	mg/kg	---	<0.0129 U	<0.0121 U	<0.0119 U	<0.0129 U	<0.0128 U	<0.015 U	<0.0126 U	<0.0138 U	<0.0147 U	<0.0144 U	<0.0131 U	<0.0131 U	<0.103 U	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	<0.114 U	<0.108 U	<0.116 U
N-Nitrosodiethylamine	mg/kg	---	<0.0139 U	<0.0131 U	<0.0129 U	<0.014 U	0.0177 J	<0.0163 U	<0.0136 U	<0.0149 U	<0.0159 U	<0.0156 U	<0.0142 U	<0.0142 U	<0.103 U	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	<0.114 U	<0.108 U	<0.116 U
N-Nitrosodimethylamine	mg/kg	---	<0.0161 U	<0.0151 U	<0.0149 U	<0.0161 U	<0.016 U	<0.0188 U	<0.0157 U	<0.0172 U	<0.0183 U	<0.018 U	<0.0164 U	<0.0164 U	<0.103 U	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	<0.114 U	<0.108 U	<0.116 U
N-Nitroso-di-n-butylamine	mg/kg	---	<0.0118 U	<0.011 U	<0.0109 U	<0.0118 U	<0.0117 U	<0.0138 U	<0.0115 U	<0.0126 U	<0.0134 U	<0.0132 U	<0.012 U	<0.012 U	<0.103 U	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	<0.114 U	<0.108 U	<0.116 U
N-nitrosodi-n-propylamine	mg/kg	---	<0.0086 U	<0.008 U	<0.0079 U	<0.0086 U	<0.0085 U	<0.010 U	<0.0084 U	<0.0092 U	<0.0098 U	<0.0096 U	<0.0088 U	<0.0087 U	<0.103 U	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	<0.114 U	<0.108 U	<0.116 U
N-Nitrosodiphenylamine	mg/kg	---	<0.0086 U	<0.008 U	<0.0079 U	<0.0086 U	<0.0085 U	<0.010 U	<0.0084 U	<0.0092 U	<0.0098 U	<0.0096 U	<0.0088 U	<0.0087 U	0.192	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	<0.114 U	<0.108 U	<0.116 U
Pentachlorobenzene	mg/kg	---	<0.0118 U	<0.011 U	<0.0109 U	<0.0118 U	<0.0117 U	<0.0138 U	<0.0115 U	<0.0126 U	<0.0134 U	<0.0132 U	<0.012 U	<0.012 U	<0.103 U	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	<0.114 U	<0.108 U	<0.116 U
Pyridine	mg/kg	---	<0.0193 U	<0.0181 U	<0.0179 U	<0.0194 U	<0.0191 U	<0.0225 U	<0.0189 U	0.347	<0.022 U	<0.0217 U	<0.0197 U	<0.0197 U	<0.205 U	<0.201 U	<0.196 U	<0.208 U	<0.205 U	<0.205 U	<0.203 U	<0.205 U	<0.202 U	<0.211 U	<0.228 U	<0.216 U	<0.231 U
Resorcinol	mg/kg	---	<0.015 U	<0.0141 U	<0.0139 U	<0.0151 U	<0.0149 U	<0.0175 U	<0.0147 U	<0.016 U	<0.0171 U	<0.0168 U	<0.0153 U	<0.0153 U	<0.103 U	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	<0.114 U	<0.108 U	<0.116 U
N-Nitrosopyrrolidine	mg/kg	---	<0.0129 U	<0.0121 U	<0.0119 U	<0.0129 U	<0.0128 U	<0.015 U	<0.0126 U	<0.0138 U	<0.0147 U	<0.0144 U	<0.0131 U	<0.0131 U	<0.103 U	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	<0.114 U	<0.108 U	<0.116 U

Table B. Remedial Performance Documentation Sampling Results (by area)

Orange and Rockland Utilities, Inc. - Haverstraw Clove Ave. & Maple Ave. Former MGP Site
Haverstraw, Rockland County, New York
Operable Unit Number: 01 (OU-1)
Site No. 3-44-049

			Station Name:	DSF-01	DSF-02	DSF-02	DSF-03	DSF-04	DSF-05	DSF-06	DSF-07	DSF-08	DSF-09	DSF-10	DSF-11	DSF-12	DSF-13	DSF-14	DSF-15	DSF-16	DSF-17	DSF-18	DSF-19	DSF-20	DSF-21	DSF-22	DSF-23	DSF-24
			Field Sample ID[1]:	DSF-01.15.20190314	DSF-02.15.20190314	DSF-DUP-01.20190314	DSF-03.15.20190327	DSF-04.14.20190327	DSF-05.13.20190327	DSF-06.13.20190327	DSF-07.13.20190327	DSF-08.8.20190408	DSF-09.8.20190408	DSF-10.10.20190411	DSF-11.10.20190411	DSF-12-14.8'20190909	DSF-13-15.12'20190909	DSF-14-7.07'20190909	DSF-15-7.56'20190909	DSF-16-5.38'20190909	DSF-17-4.84'20190917	DSF-18-5.03'20190917	DSF-19-5.08'20190917	DSF-20-7.00'20190917	DSF-21-6.91'20190917	DSF-22-37.7'20191106	DSF-23-31'20191106	DSF-24-38'20191113
			Lab Report ID[1]:	DSF-01-15.20190314	DSF-02-15-20190314	DSF-DUP-01.20190314	DSF-03.15.20190327	DSF-04.14.20190327	DSF-05.13.20190327	DSF-06.13.20190327	DSF-07.13.20190327	DSF-08.8.20190408	DSF-09.8.20190408	DSF-10.20190411	DSF-11.20190411	DSF-12-14.8	DSF-13-15.12	DSF-14-7.07	DSF-15-7.56	DSF-16-5.38	DSF-17-4.84 20190917	DSF-17-5.03 20190917	DSF-17-5.08 20190917	DSF-17-7.00 20190917	DSF-17-6.91 20190917	DSF-2237.7 20191106	DSF-2331 20191106	DSF-2438 20191113
				03/14/2019	03/14/2019	03/14/2019	03/27/2019	03/27/2019	03/27/2019	03/27/2019	03/27/2019	04/08/2019	04/08/2019	04/11/2019	04/11/2019	09/09/2019	09/09/2019	09/09/2019	09/09/2019	09/09/2019	09/17/2019	09/17/2019	09/17/2019	09/17/2019	09/17/2019	11/06/2019	11/06/2019	11/13/2019
Parameter	Units	NY Soil RRSCO		15' above MSL	15' above MSL	15' above MSL	15' above MSL	14' above MSL	13' above MSL	13' above MSL	13' above MSL	8' above MSL	8' above MSL	10' above MSL	10' above MSL	14.8' above MSL	15.12' above MSL	7.07' above MSL	7.56' above MSL	5.38' above MSL	4.84' above MSL	5.03' above MSL	5.08' above MSL	7' above MSL	6.91' above MSL	37.7' above MSL	31' above MSL	38' above MSL
				Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag
PAH																												
2-Methylnaphthalene	mg/kg	---		<0.0054 U	<0.005 U	<0.005 U	2.220	15.600	28.500	25.200	506.000	3.170	<0.006 U	0.959	<0.0055 U	0.0855 J	0.197	<0.0980 U	<0.104 U	<0.102 U	0.118	13.900	0.345	1.330	<0.106 U	0.0743 J	0.0915 J	0.0720 J
Acenaphthene	mg/kg	100[a]		0.022 J	<0.006 U	<0.006 U	2.110	12.200	7.430	20.200	**133.000**	3.100	<0.0072 U	1.960	<0.0066 U	1.670	9.310	0.0222 J	<0.0519 U	<0.0512 U	0.566	5.870	0.261	1.030	<0.0528 U	0.234	0.257	0.0609
Acenaphthylene	mg/kg	100[a]		0.0266 J	<0.007 U	<0.0069 U	0.506	2.770	7.350	3.770	30.000	1.290	<0.0084 U	1.440	<0.0076 U	1.720	3.940	0.0341 J	0.0268 J	<0.0512 U	1.680	18.900	0.999	2.160	0.0703	0.661	2.210	0.725
Anthracene	mg/kg	100[a]		0.044 J	<0.008 U	<0.0079 U	1.230	6.390	7.030	10.300	48.600	3.120	<0.0096 U	2.300	<0.0087 U	3.160	11.200	0.0334 J	<0.0519 U	<0.0512 U	2.700	17.700	1.350	2.910	0.0825	0.935	1.220	0.639
Benzo(a)anthracene	mg/kg	1[f]		0.052 J	<0.005 U	0.0182 J	0.652	**3.270**	**4.000**	**4.810**	**29.400**	**1.320**	<0.006 U	**1.260**	0.0104 J	**4.460**	**11.000**	0.0573	0.0374 J	<0.0512 U	**2.670**	**14.800**	**1.230**	**2.760**	0.114	**3.130**	**2.680**	**1.930**
Benzo(a)pyrene	mg/kg	1[f]		0.0505 J	<0.004 U	0.0128 J	0.528	**2.540**	**3.240**	**3.670**	**28.000**	**1.010**	<0.0048 U	**1.030**	<0.0044 U	**4.610**	**10.600**	0.0472 J	0.0321 J	<0.0512 U	**2.700**	**14.500**	**1.090**	**2.660**	0.120	**3.800**	**3.200**	**2.570**
Benzo(b)fluoranthene	mg/kg	1[f]		0.0407 J	<0.005 U	<0.005 U	0.406	**1.970**	**2.500**	**2.920**	**20.700**	0.771	<0.006 U	0.779	<0.0055 U	**3.620**	**7.870**	0.0420 J	<0.0519 U	<0.0512 U	**2.030**	**11.300**	0.821	**2.070**	0.106	**3.700**	**4.410**	**2.640**
Benzo(g,h,i)perylene	mg/kg	100[a]		0.0264 J	<0.005 U	<0.005 U	0.209	0.967	1.260	1.400	12.700	0.409	<0.006 U	0.445	<0.0055 U	2.190	4.590	<0.0490 U	0.0210 J	<0.0512 U	1.270	6.500	0.470	1.270	0.0676	3.000	4.420	2.180
Benzo(k)fluoranthene	mg/kg	3.9		0.0162 J	<0.005 U	<0.005 U	0.167	0.811	0.986	1.040	**7.440**	0.294	<0.006 U	0.314	<0.0055 U	1.340	2.850	<0.0490 U	<0.0519 U	<0.0512 U	0.835	**4.410**	0.309	0.843	0.0449 J	3.360	3.510	2.400
Chrysene	mg/kg	3.9		0.0398 J	<0.005 U	<0.005 U	0.594	3.040	3.640	**4.610**	**27.600**	1.240	<0.006 U	1.160	<0.0055 U	**4.230**	**10.000**	0.0428 J	0.0228 J	<0.0512 U	2.360	**12.900**	1.100	2.490	0.0787	3.540	3.350	2.510
Dibenz(a,h)anthracene	mg/kg	0.33[e]		<0.0064 U	<0.006 U	<0.006 U	0.0534 J	0.252	0.323	**0.360**	**2.760**	0.0998	<0.0072 U	0.103	<0.0066 U	**0.439**	**0.906**	<0.0490 U	<0.0519 U	<0.0512 U	0.225	**1.120**	0.0936	0.234	<0.0528 U	**0.636**	**0.913**	**0.472**
Fluoranthene	mg/kg	100[a]		0.0884	<0.005 U	0.023 J	1.620	7.780	9.000	12.400	65.300	3.340	0.0131 J	2.910	<0.0055 U	7.690	20.800	0.0886	0.0569	<0.0512 U	5.230	29.600	2.090	5.130	0.184	7.400	5.340	4.020
Fluorene	mg/kg	100[a]		0.0231 J	<0.006 U	<0.006 U	1.430	8.100	9.430	13.000	66.300	2.880	<0.0072 U	2.600	<0.0066 U	1.540	7.380	0.0234 J	<0.0519 U	<0.0512 U	1.780	17.500	0.991	2.290	0.0360 J	0.251	<0.0541 U	0.0702
Indeno(1,2,3-cd)pyrene	mg/kg	0.5[f]		0.0274 J	<0.007 U	<0.0069 U	0.196	**0.925**	**1.200**	**1.360**	**11.700**	0.380	<0.0084 U	0.386	<0.0076 U	**1.960**	**4.080**	0.0220 J	<0.0519 U	<0.0512 U	**1.190**	**6.120**	0.392	**1.140**	0.0599	**3.050**	**3.970**	**2.170**
Naphthalene	mg/kg	100[a]		0.0656	<0.006 U	<0.006 U	0.619	2.880	48.400	21.500	**1.250**	2.810	0.102	0.466	0.0169 J	0.0924	<0.0502 U	<0.0490 U	<0.0519 U	<0.0512 U	0.115	5.400	0.147	0.548	<0.0528 U	0.161	<0.0541 U	0.131
Phenanthrene	mg/kg	100[a]		0.0621	<0.005 U	0.013 J	4.480	26.500	30.300	18.800	**182.000**	8.840	0.0422 J	8.550	0.0154 J	3.870	23.600	0.0609	0.0226 J	<0.0512 U	7.170	61.000	4.610	9.700	0.243	2.920	4.070	1.330
Pyrene	mg/kg	100[a]		0.147	0.0136 J	0.0382 J	2.250	11.800	14.000	17.200	82.700	4.340	0.0159 J	4.020	<0.0055 U	11.800	29.100	0.130	0.0722	0.0187 J	7.760	43.600	3.340	7.630	0.352	5.780	4.980	3.740
Phenol																												
2,3,4,6-Tetrachlorophenol	mg/kg	---		<0.0129 U	<0.0121 U	<0.0119 U	<0.0129 U	<0.0128 U	<0.015 U	<0.0126 U	<0.0138 U	<0.0147 U	<0.0144 U	<0.0131 U	<0.0131 U	<0.205 U	<0.201 U	<0.196 U	<0.208 U	<0.205 U	<0.205 U	<0.203 U	<0.205 U	<0.202 U	<0.211 U	<0.228 U	<0.216 U	<0.231 U
2,4,5-Trichlorophenol	mg/kg	---		<0.0129 U	<0.0121 U	<0.0119 U	<0.0129 U	<0.0128 U	<0.015 U	<0.0126 U	<0.0138 U	<0.0147 U	<0.0144 U	<0.0131 U	<0.0131 U	<0.205 U	<0.201 U	<0.196 U	<0.208 U	<0.205 U	<0.205 U	<0.203 U	<0.205 U	<0.202 U	<0.211 U	<0.228 U	<0.216 U	<0.231 U
2,4,6-Trichlorophenol	mg/kg	---		<0.0129 U	<0.0121 U	<0.0119 U	<0.0129 U	<0.0128 U	<0.015 U	<0.0126 U	<0.0138 U	<0.0147 U	<0.0144 U	<0.0131 U	<0.0131 U	<0.205 U	<0.201 U	<0.196 U	<0.208 U	<0.205 U	<0.205 U	<0.203 U	<0.205 U	<0.202 U	<0.211 U	<0.228 U	<0.216 U	<0.231 U
2,4-Dichlorophenol	mg/kg	---		<0.0086 U	<0.008 U	<0.0079 U	<0.0086 U	<0.0085 U	<0.010 U	<0.0084 U	<0.0092 U	<0.0098 U	<0.0096 U	<0.0088 U	<0.0087 U	<0.205 U	<0.201 U	<0.196 U	<0.208 U	<0.205 U	<0.205 U	<0.203 U	<0.205 U	<0.202 U	<0.211 U	<0.228 U	<0.216 U	<0.231 U
2,4-Dimethylphenol	mg/kg	---		<0.0161 U	<0.0151 U	<0.0149 U	<0.0161 U	<0.016 U	<0.0188 U	<0.0157 U	<0.0172 U	<0.0183 U	<0.018 U	<0.0164 U	<0.0164 U	<0.205 U	<0.201 U	<0.196 U	<0.208 U	<0.205 U	<0.205 U	<0.203 U	<0.205 U	<0.202 U	<0.211 U	<0.228 U	0.0613 J	<0.231 U
2,4-Dinitrophenol	mg/kg	---		<0.0429 U	<0.0402 U	<0.0397 U	<0.0431 U	<0.0426 U	<0.050 U	<0.042 U	<0.0459 U	<0.0488 U	<0.0481 U	<0.0438 U	<0.0437 U	<0.410 U	<0.401 U	<0.392 U	<0.415 U	<0.410 U	<0.411 U	<0.406 U	<0.410 U	<0.405 U	<0.422 U	<0.456 U	<0.433 U	<0.463 U
2,6-Dichlorophenol	mg/kg	---		<0.0118 U	<0.011 U	<0.0109 U	<0.0118 U	<0.0117 U	<0.0138 U	<0.0115 U	<0.0126 U	<0.0134 U	<0.0132 U	<0.012 U	<0.012 U	<0.205 U	<0.201 U	<0.196 U	<0.208 U	<0.205 U	<0.205 U	<0.203 U	<0.205 U	<0.202 U	<0.211 U	<0.228 U	<0.216 U	<0.231 U
2-Chlorophenol	mg/kg	---		<0.0086 U	<0.008 U	<0.0079 U	<0.0086 U	<0.0085 U	<0.010 U	<0.0084 U	<0.0092 U	<0.0098 U	<0.0096 U	<0.0088 U	<0.0087 U	<0.205 U	<0.201 U	<0.196 U	<0.208 U	<0.205 U	<0.205 U	<0.203 U	<0.205 U	<0.202 U	<0.211 U	<0.228 U	<0.216 U	<0.231 U
2-Methylphenol	mg/kg	100[a]		<0.0118 U	<0.011 U	<0.0109 U	<0.0118 U	<0.0117 U	<0.0138 U	<0.0115 U	<0.0126 U	<0.0134 U	<0.0132 U	<0.012 U	<0.012 U	<0.205 U	<0.201 U	<0.196 U	<0.208 U	<0.205 U	<0.205 U	<0.203 U	<0.205 U	<0.202 U	<0.211 U	<0.228 U	0.0554 J	<0.231 U
2-Nitrophenol	mg/kg	---		<0.0118 U	<0.011 U	<0.0109 U	<0.0118 U	<0.0117 U	<0.0138 U	<0.0115 U	<0.0126 U	<0.0134 U	<0.0132 U	<0.012 U	<0.012 U	<0.205 U	<0.201 U	<0.196 U	<0.208 U	<0.205 U	<0.205 U	<0.203 U	<0.205 U	<0.202 U	<0.211 U	<0.228 U	<0.216 U	<0.231 U
4,6-Dinitro-2-methylphenol	mg/kg	---		<0.0279 U	<0.0261 U	<0.0258 U	<0.028 U	<0.0277 U	<0.0325 U	<0.0273 U	<0.0298 U	<0.0318 U	<0.0313 U	<0.0285 U	<0.0284 U	<0.205 U	<0.201 U	<0.196 U	<0.208 U	<0.205 U	<0.205 U	<0.203 U	<0.205 U	<0.202 U	<0.211 U	<0.228 U	<0.216 U	<0.231 U
4-Chloro-3-methylphenol	mg/kg	---		<0.0107 U	<0.010 U	<0.0099 U	<0.0108 U	<0.0106 U	<0.0125 U	<0.0105 U	<0.0115 U	<0.0122 U	<0.012 U	<0.0109 U	<0.0109 U	<0.205 U	<0.201 U	<0.196 U	<0.208 U	<0.205 U	<0.205 U	<0.203 U	<0.205 U	<0.202 U	<0.211 U	<0.228 U	<0.216 U	<0.231 U
4-Nitrophenol	mg/kg	---		<0.015 U	<0.0141 U	<0.0139 U	<0.0151 U	<0.0149 U	<0.0175 U	<0.0147 U	<0.016 U	<0.0171 U	<0.0168 U	<0.0153 U	<0.0153 U	<0.205 U	<0.201 U	<0.196 U	<0.208 U	<0.205 U	<0.205 U	<0.203 U	<0.205 U	<0.202 U	<0.211 U	<0.228 U	<0.216 U	<0.231 U
Dimethoate	mg/kg	---		<0.0118 U	<0.011 U	<0.0109 U	<0.0118 U	<0.0117 U	<0.0138 U	<0.0115 U	<0.0126 U	<0.0134 U	<0.0132 U	<0.012 U	<0.012 U	<0.205 U	<0.201 U	<0.196 U	<0.208 U	<0.205 U	<0.205 U	<0.203 U	<0.205 U	<0.202 U	<0.211 U	<0.228 U	<0.216 U	<0.231 U
Diphenylamine	mg/kg	---		<0.0075 U	<0.007 U	<0.0069 U	<0.0075 U	<0.0074 U	<0.0088 U	<0.0073 U	<0.008 U	<0.0085 U	<0.0084 U	<0.0077 U	<0.0076 U	0.164	<0.100 U	<0.0980 U	<0.104 U	<0.102 U	<0.103 U	<0.101 U	<0.102 U	<0.101 U	<0.106 U	<0.114 U	<0.108 U	<0.116 U
mp-Cresol	mg/kg	---		<0.0086 U	<0.008 U	<0.0079 U	<0.0086 U	<0.0085 U	<0.010 U	<0.0084 U	<0.0092 U	<0.0098 U	<0.0096 U	<0.0088 U	<0.0087 U	<0.205 U	<0.201 U	<0.196 U	<0.208 U	<0.205 U	<0.205 U	<0.203 U	<0.205 U	<0.202 U	<0.211 U	<0.228 U	0.133 J	<0.231 U
Pentachlorophenol	mg/kg	6.7		<0.0279 U	<0.0261 U	<0.0258 U	<0.028 U	<0.0277 U	<0.0325 U	<0.0273 U	<0.0298 U	<0.0318 U	<0.0313 U	<0.0285 U	<0.0284 U	<0.205 U	<0.201 U	<0.196 U	<0.208 U	<0.205 U	<0.205 U	<0.203 U	<0.205 U	<0.202 U	<0.211 U	<0.228 U	<0.216 U	<0.231 U
Phenol	mg/kg	100[a]		<0.0107 U	<0.010 U	<0.0099 U	<0.0108 U	<0.0106 U	<0.0125 U	<0.0105 U	<0.0115 U	<0.0122 U	0.021 J	<0.0109 U	<0.0109 U	<0.205 U	<0.201 U	<0.196 U	<0.208 U	<0.205 U	<0.205 U	<0.203 U	<0.205 U	<0.202 U	<0.211 U	<0.228 U	<0.216 U	<0.231 U

Table B. Remedial Performance Documentation Sampling Results (by area)

Orange and Rockland Utilities, Inc. - Haverstraw Clove Ave. & Maple Ave. Former MGP Site
Haverstraw, Rockland County, New York
Operable Unit Number: 01 (OU-1)
Site No. 3-44-049

Parameter	Units	NY Soil RRSCO	Station Name:	DSF-01	DSF-02	DSF-02	DSF-03	DSF-04	DSF-05	DSF-06	DSF-07	DSF-08	DSF-09	DSF-10	DSF-11	DSF-12	DSF-13	DSF-14	DSF-15	DSF-16	DSF-17	DSF-18	DSF-19	DSF-20	DSF-21	DSF-22	DSF-23	DSF-24
			Field Sample ID[1]:	DSF-01.15.20190314	DSF-02.15.20190314	DSF-DUP-01.20190314	DSF-03.15.20190327	DSF-04.14.20190327	DSF-05.13.20190327	DSF-06.13.20190327	DSF-07.13.20190327	DSF-08.8.20190408	DSF-09.8.20190408	DSF-10.10.20190411	DSF-11.10.20190411	DSF-12-14.8'20190909	DSF-13-15.12'20190909	DSF-14-7.07'20190909	DSF-15-7.56'20190909	DSF-16-5.38'20190909	DSF-17-4.84'20190917	DSF-18-5.03'20190917	DSF-19-5.08'20190917	DSF-20-7.00'20190917	DSF-21-6.91'20190917	DSF-22-37.7'20191106	DSF-23-31'20191106	DSF-24-38'20191113
			Lab Report ID[1]:	DSF-01-15.20190314	DSF-02-15-20190314	DSF-DUP-01.20190314	DSF-03.15.20190327	DSF-04.14.20190327	DSF-05.13.20190327	DSF-06.13.20190327	DSF-07.13.20190327	DSF-08.8.20190408	DSF-09.8.20190408	DSF-10.20190411	DSF-11.20190411	DSF-12-14.8	DSF-13-15.12	DSF-14-7.07	DSF-15-7.56	DSF-16-5.38	DSF-17-4.84 20190917	DSF-17-5.03 20190917	DSF-17-5.08 20190917	DSF-17-7.00 20190917	DSF-17-6.91 20190917	DSF-2237.7 20191106	DSF-2331 20191106	DSF-2438 20191113
				03/14/2019	03/14/2019	03/14/2019	03/27/2019	03/27/2019	03/27/2019	03/27/2019	03/27/2019	04/08/2019	04/08/2019	04/11/2019	04/11/2019	09/09/2019	09/09/2019	09/09/2019	09/09/2019	09/09/2019	09/17/2019	09/17/2019	09/17/2019	09/17/2019	09/17/2019	11/06/2019	11/06/2019	11/13/2019
				15' above MSL	15' above MSL	15' above MSL	15' above MSL	14' above MSL	13' above MSL	13' above MSL	13' above MSL	8' above MSL	8' above MSL	10' above MSL	10' above MSL	14.8' above MSL	15.12' above MSL	7.07' above MSL	7.56' above MSL	5.38' above MSL	4.84' above MSL	5.03' above MSL	5.08' above MSL	7' above MSL	6.91' above MSL	37.7' above MSL	31' above MSL	38' above MSL
				Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag
Metal																												
Aluminum, Total	mg/kg	---		8,060	5,180	5,260	5,280	4,470	7,830	4,170	3,070	4,970	4,200	5,750	3,020	10,000	9,710	6,600	6,710	8,480	4,400	5,020	4,260	3,470	4,390	13,300	12,700	8,240
Antimony, Total	mg/kg	---		<0.67 U	<0.61 U	<0.58 U	<0.68 U	<0.62 U	<0.73 U	<0.64 U	<0.68 U	<0.75 U	<0.77 U	0.85 J	<0.63 U	<2.0 U	<1.8 U	<1.9 U	0.84 J	<1.9 U	<1.8 U	0.64 J	<1.9 U	<1.9 U	0.68 J	1.2 J	<2.2 U	1.3 J
Arsenic, Total	mg/kg	16[f]		3.6	2.2	2.4	1.8 J	2.4	2.9	1.5 J	1.3 J	2.2 J	3.9	3	1.4 J	4.6	4.1	2.4	2.9	3.9	2.3	10.2	2.1	1.9	1.7 J	13.7	11.8	10.1
Barium, Total	mg/kg	400		93.2	68.4	78.9	55.4	54.3	71.8	42.5	30.1	43.9	37.4	53.5	39.9	101	96.5	60.1	78.3	104	63.6	74.8	54.7	52.2	76.3	120	69.6	76.6
Beryllium, Total	mg/kg	72		0.48 J	0.4 J	0.39 J	<0.34 U	<0.31 U	0.41 J	<0.32 U	<0.34 U	<0.38 U	<0.38 U	<0.35 U	<0.32 U	0.73 J	0.70 J	0.41 J	0.39 J	0.54 J	<0.92 U	0.34 J	<0.96 U	<0.93 U	0.36 J	0.59 J	0.60 J	0.40 J
Cadmium, Total	mg/kg	4.3		<0.17 J+	<0.15 U	<0.15 U	<0.17 U	<0.15 U	<0.18 U	<0.16 U	<0.17 U	<0.19 U	<0.19 U	<0.17 U	<0.16 U	<0.51 U	<0.45 U	<0.48 U	<0.48 U	<0.48 U	<0.46 U	<0.47 U	<0.48 U	<0.46 U	<0.51 U	<0.56 U	<0.55 U	<0.55 U
Calcium, Total	mg/kg	---		1,260	1,200	1,050	2,680	3,280	8,730	6,920	1,170	11,900	10,300	10,100	9,120	3,010	2,890	1,790	1,530	1,880	1,490	3,380	1,140	2,710	1,360	4,720	2,710	3,410
Chromium, Total	mg/kg	---		10.8	8.6	8	8.2	6	11.6	6.3	5.1	7.8	6.7	10.1	4.4	12.5	11.9	10.9	8.9	12.7	6.0	7.2	6.2	5.5	6.7	14.4	14.8	11.9
Cobalt, Total	mg/kg	---		6.4	5.2	7.3	4.8	3.6	7.4	3.9	2.9	4.6	7	5.3	2.7	5.9	5.9	3.8	4.8	5.0	3.6	4.4	4.0	3.3	3.9	7.5	5.6	5.8
Copper, Total	mg/kg	270		19.4	13.1	14.3	10.2	7.8	14	7.1	5.6	8.2	6.2	10.7	5.4	17.0	17.8	7.2	8.5	12.2	8.6	10.8	8.2	7.1	6.7	34.8	11.7	35.9
Iron, Total	mg/kg	---		18,700	14,700	14,400	14,000	11,200	18,500	10,400	7,800	13,100	10,800	14,100	7,560	19,300	16,400	13,700	14,600	18,200	12,100	14,000	12,600	9,590	11,800	19,100	18,000	16,600
Lead, Total	mg/kg	400		6.1	4.4	5.4	5.6	4.9	8.1	4.3	3.6	3.9	4.6	5.8	3.1	3.6	3.1	2.2	2.5	2.9	2.9	4.2	6.4	9.1	2.4	77.8	32.6	171
Magnesium, Total	mg/kg	---		3,190	2,800	2,860	2,840	2,280	4,940	2,820	1,980	4,000	3,200	4,070	2,520	3,860	3,430	2,840	2,630	3,190	2,330	2,870	2,330	1,860	2,380	3,920	3,490	3,800
Manganese, Total	mg/kg	2,000[f]		405	285	353	254	217	380	272	148	191	176	290	153	326	271	244	241	339	198	229	162	200	252	309	271	548
Mercury, Total	mg/kg	0.81[j]		<0.017 U	<0.015 U	<0.016 U	<0.016 U	0.025 J	<0.018 U	<0.016 U	<0.018 U	<0.018 U	0.018 J	<0.017 U	<0.017 U	<0.051 U	<0.046 U	<0.047 U	<0.048 U	<0.045 U	<0.045 U	<0.050 U	<0.046 U	<0.044 U	<0.045 U	1.8	0.17	2.6
Nickel, Total	mg/kg	310		13.8	10.6	9.5	11.1	8.2	16.7	8.4	7.4	10.1	9.4	12.2	5.9	12.4	12.1	9.1	9.3	11.9	8.5	9.2	8.8	6.9	7.0	16.2	15.2	13.3
Potassium, Total	mg/kg	---		938 J+	900	842	865	815	1,420	922	563	815	709	876	680	1,870	1,920	1,190	1,080	1,480	605	846	583	587	1,070	963	1,420	583 J-
Selenium, Total	mg/kg	180		<1.7 U	<1.5 U	<1.5 U	<1.7 U	<1.5 U	<1.8 U	<1.6 U	<1.7 U	<1.9 U	<1.9 U	<1.7 U	<1.6 U	<5.1 U	<4.5 U	<4.8 U	<4.8 U	<4.8 U	<4.6 U	<4.7 U	<4.8 U	<4.6 U	<5.1 U	2.6 J	2.6 J	<5.5 U
Silver, Total	mg/kg	180		<0.17 U	<0.15 U	<0.15 U	<0.17 U	<0.15 U	<0.18 U	<0.16 U	<0.17 U	<0.19 U	<0.19 U	<0.17 U	<0.16 U	<0.51 U	<0.45 U	<0.48 U	<0.48 U	<0.48 U	<0.46 U	<0.47 U	<0.48 U	<0.46 U	<0.51 U	<0.56 U	<0.55 U	<0.55 U
Sodium, Total	mg/kg	---		47.1 J	73.7	63.2	42.1 J	34 J	23.7 J	28.4 J	<17.1 U	20.6 J	<19.3 U	<17.3 U	<15.9 U	153	160	113	102	100	64.6	88.2	45.0 J	67.6	62.1	251	105	236
Thallium, Total	mg/kg	---		<1 U	<0.92 U	<0.87 U	<1 U	<0.92 U	<1.1 U	<0.96 U	<1 U	<1.1 U	<1.2 U	<1 U	<0.95 U	1.4 J	1.5 J	<2.9 U	<2.9 U	1.0 J	<2.8 U	<2.8 U	<2.9 U	<2.8 U	<3.1 U	1.2 J	<3.3 U	<3.3 U
Vanadium, Total	mg/kg	---		2.1	2.6 J	0.7 J	11.1	8.4	14.3	8.6	6.2	12.1	10.1	12	7.4	21.2	19.0	13.9	16.3	22.3	10.3	11.4	8.5	8.3	11.5	30.8	19.7	21.6 J+
Zinc, Total	mg/kg	10,000[d]		42.7	31.8	30.6	32.3	35.8	41.4	22.8	16.3	24.6	20.9	29.8	16.1	41.8	38.1	24.0	25.6	31.7	23.3	26.2	24.1	23.5	23.0	181	73.4	198
PCB																												
PCB, Total	mg/kg	1		<0.061 U	<0.058 U	<0.15 U	<0.065 U	<0.061 U	<0.071 U	<0.06 U	<0.063 U	<0.071 U	<0.069 U	<0.063 U	<0.065 U	<0.32 U	<0.31 U	<0.30 U	<0.30 U	<0.31 U	<0.31 U	<0.32 U	<0.31 U	<0.31 U	<0.30 U	<0.36 U	<0.32 U	<0.35 U
PCB-1016	mg/kg	---		<0.0063 U	<0.006 U	<0.015 U	<0.0067 U	<0.0063 U	<0.0074 U	<0.0062 U	<0.0065 U	<0.0074 U	<0.0071 U	<0.0065 U	<0.0067 U	<0.035 U	<0.035 U	<0.033 U	<0.033 U	<0.034 U	<0.034 U	<0.035 U	<0.034 U	<0.034 U	<0.033 U	<0.039 U	<0.036 U	<0.038 U
PCB-1221	mg/kg	---		<0.0032 U	<0.003 U	<0.0077 U	<0.0033 U	<0.0032 U	<0.0037 U	<0.0031 U	<0.0032 U	<0.0037 U	<0.0036 U	<0.0032 U	<0.0034 U	<0.035 U	<0.035 U	<0.033 U	<0.033 U	<0.034 U	<0.034 U	<0.035 U	<0.034 U	<0.034 U	<0.033 U	<0.039 U	<0.036 U	<0.038 U
PCB-1232	mg/kg	---		<0.0063 U	<0.006 U	<0.015 U	<0.0067 U	<0.0063 U	<0.0074 U	<0.0062 U	<0.0065 U	<0.0074 U	<0.0071 U	<0.0065 U	<0.0067 U	<0.035 U	<0.035 U	<0.033 U	<0.033 U	<0.034 U	<0.034 U	<0.035 U	<0.034 U	<0.034 U	<0.033 U	<0.039 U	<0.036 U	<0.038 U
PCB-1242	mg/kg	---		<0.0095 U	<0.009 U	<0.023 U	<0.01 U	<0.0095 U	<0.011 U	<0.0093 U	<0.0097 U	<0.011 U	<0.011 U	<0.0097 U	<0.01 U	<0.035 U	<0.035 U	<0.033 U	<0.033 U	<0.034 U	<0.034 U	<0.035 U	<0.034 U	<0.034 U	<0.033 U	<0.039 U	<0.036 U	<0.038 U
PCB-1248	mg/kg	---		<0.0063 U	<0.006 U	<0.015 U	<0.0067 U	<0.0063 U	<0.0074 U	<0.0062 U	<0.0065 U	<0.0074 U	<0.0071 U	<0.0065 U	<0.0067 U	<0.035 U	<0.035 U	<0.033 U	<0.033 U	<0.034 U	<0.034 U	<0.035 U	<0.034 U	<0.034 U	<0.033 U	<0.039 U	<0.036 U	<0.038 U
PCB-1254	mg/kg	---		<0.0063 U	<0.006 U	<0.015 U	<0.0067 U	<0.0063 U	<0.0074 U	<0.0062 U	<0.0065 U	<0.0074 U	<0.0071 U	<0.0065 U	<0.0067 U	<0.035 U	<0.035 U	<0.033 U	<0.033 U	<0.034 U	<0.034 U	<0.035 U	<0.034 U	<0.034 U	<0.033 U	<0.039 U	<0.036 U	0.013 J
PCB-1260	mg/kg	---		<0.0063 U	<0.006 U	<0.015 U	<0.0067 U	<0.0063 U	<0.0074 U	<0.0062 U	<0.0065 U	<0.0074 U	<0.0071 U	<0.0065 U	<0.0067 U	<0.035 U	<0.035 U	<0.033 U	<0.033 U	<0.034 U	<0.034 U	<0.035 U	<0.034 U	<0.034 U	<0.033 U	<0.039 U	<0.036 U	<0.038 U
Pesticide																												
4,4-DDD	mg/kg	13		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.0196 UJ	<0.0180 UJ	<0.0193 UJ
4,4-DDE	mg/kg	8.9		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0046 J-	<0.0180 UJ	<0.0193 UJ
4,4-DDT	mg/kg	7.9		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0349 J-	<0.0180 UJ	0.0231 J-
Aldrin	mg/kg	0.097		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.0101 UJ	<0.0093 UJ	<0.010 UJ
alpha-BHC	mg/kg	0.48		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.0101 UJ	<0.0093 UJ	<0.010 UJ
alpha-Chlordane	mg/kg	4.2		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0056 J-	<0.0093 UJ	<0.010 UJ
beta-BHC	mg/kg	0.36		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.0101 UJ	<0.0093 UJ	<0.010 UJ
delta-BHC	mg/kg	100[a]		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.0101 UJ	<0.0093 UJ	<0.010 UJ
Dieldrin	mg/kg	0.2		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.0196 UJ	<0.0180 UJ	<0.0193 UJ
Endosulfan I	mg/kg	24[i]		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.0101 UJ	<0.0093 UJ	<0.010 UJ
Endosulfan II	mg/kg	24[i]		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.0196 UJ	<0.0180 UJ	<0.0193 UJ
Endosulfan sulfate	mg/kg	24[i]		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.0196 UJ	<0.0180 UJ	<0.0193 UJ
Endrin	mg/kg	11		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.0196 UJ	<0.0180 UJ	<0.0193 UJ
Endrin aldehyde	mg/kg	---		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.0196 UJ	<0.0180 UJ	<0.0193 UJ
Endrin ketone	mg/kg	---		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.0196 UJ	<0.0180 UJ	<0.0193 UJ
gamma-BHC	mg/kg	1.3		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.0101 UJ	<0.0093 UJ	<0.010 UJ
gamma-Chlordane	mg/kg	---		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0034 J-	0.0106 J-	<0.010 UJ
Heptachlor	mg/kg	2.1		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.0101 UJ	<0.0093 UJ	<0.010 UJ
Heptachlor epoxide	mg/kg	---		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0022 J-	<0.0093 UJ	<0.010 UJ
Methoxychlor	mg/kg	---		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.0196 UJ	<0.0180 UJ	<0.0193 UJ
Mirex	mg/kg	---		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.0196 UJ	<0.0180 UJ	<0.0193 UJ
Toxaphene	mg/kg	---		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.207 UJ	<0.191 UJ	<0.205 UJ

Table B. Remedial Performance Documentation Sampling Results (by area)

Orange and Rockland Utilities, Inc. - Haverstraw Clove Ave. & Maple Ave. Former MGP Site
Haverstraw, Rockland County, New York
Operable Unit Number: 01 (OU-1)
Site No. 3-44-049

Parameter	Units	NY Soil RRSCO	Station Name:	DSF-25	DSF-26	DSF-27	DSF-28	DSF-29	DSF-29	DSF-30	DSF-31	DSF-32	DSF-32	DSF-33	DSF-34	DSF-35	DSF-36	DSF-37	DSF-38	DSF-39	DSF-40	DSF-41	DSF-42	DSF-43	DSF-44	DSF-45
			Field Sample ID[1]:	DSF-25-35.3' 20191106	DSF-26-31' 20191106	DSF-27-38.28' 20191115	DSF-28-35.7' 20191115	DSF-29-32' 20191113	DSF-29-32' 20191113-Dup	DSF-30-36.9' 20191115	DSF-31-34.6' 20191115	DSF-32-31.8' 20191114	DSF-32-31.8' 20191114-Dup	DSF-33-36.4' 20191122	DSF-34-35.0' 20191126	DSF-35-32.2' 20191212	DSF-36-36.3' 20191122	DSF-37-34.5' 20191126	DSF-38-33.5' 20191212	DSF-39-36.0' 20191126	DSF-40-30.6' 20191212	DSF-41-25.7' 20191212	DSF-42-24.1' 191218	DSF-43-20.6' 191218	DSF-44-19.2' 191218	DSF-45-17.8' 191218
			Lab Report ID[1]:	DSF-2535.3 20191106	DSF-2031 20191106	DSF-27-38,28 20191115	DSF-28-33.7 20191115	DSF-2932 201911	DSF-DUP-02. 20191113	DSF-30-36.9 20191115	DSF-31-34.6 20191115	DSF-3231.8 20191114	DSF-DUP-03 20191114	DSF-3336.9 20191122	DSF-34-35.0' 20191126	DSF-35-32.2 20191212	DSF-3336.3 20191122	DSF-37-34.5' 20191126	DSF-38-33.5 20191212	DSF-39-36.0' 20191126	DSF-40-30.6 20191212	DSF-41-25.7 20191212	DSF-42-24.1 191218	DSF-43-20.6 191218	DSF-44-19.2 191218	DSF-45-17.8 191218
				11/06/2019	11/06/2019	11/15/2019	11/15/2019	11/13/2019	11/13/2019	11/15/2019	11/15/2019	11/14/2019	11/14/2019	11/22/2019	11/26/2019	12/12/2019	11/22/2019	11/26/2019	12/12/2019	11/26/2019	12/12/2019	12/12/2019	12/18/2019	12/18/2019	12/18/2019	12/18/2019
				35.3' above MSL	31' above MSL	38.28' above MSL	35.7' above MSL	32' above MSL	32' above MSL	36.9' above MSL	34.6' above MSL	31.8' above MSL	31.8' above MSL	36.4' above MSL	35' above MSL	32.2' above MSL	36.3' above MSL	34.5' above MSL	33.5' above MSL	36' above MSL	30.6' above MSL	25.7' above MSL	24.1' above MSL	20.6' above MSL	19.2' above MSL	17.8' above MSL
				Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag
Cyanide																										
Cyanide, Total	mg/kg	**27**		2.3 B	4.8 B	1.1	0.11 J	0.14 J	0.095 J	<0.25 U	0.10 J	0.33	0.72	2.4	0.35	0.34	2.2	0.54	0.16 J	<0.27 U	0.000090 J	<0.25 U	<0.30 U	<0.26 U	0.46	0.61
BTEX																										
Benzene	mg/kg	**4.8**		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	0.0025	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
Ethylbenzene	mg/kg	**41**		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	0.0017	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
Toluene	mg/kg	**100**[a]		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	0.00041 J	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	0.0011 J	0.0011 J	0.0014 J	<0.0013 U	<0.0011 U	<0.0023 U	0.00054 J	0.0086	<0.0012 U
Xylene, o	mg/kg	---		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	0.0012 J	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	0.00096 J	<0.0012 U
Xylenes, m + p	mg/kg	---		<0.0021 U	<0.0025 U	<0.0040 U	<0.0034 U	<0.0031 U	<0.0037 U	<0.0023 U	<0.0020 U	<0.0024 U	<0.0026 U	<0.0023 U	<0.0034 U	<0.0020 U	<0.0034 U	<0.0035 U	0.0016 J	<0.0035 U	<0.0026 U	<0.0022 U	<0.0045 U	<0.0031 U	0.0025 J	<0.0024 U
Xylenes, Total	mg/kg	**100**[a]		<0.0031 U	<0.0038 U	<0.0059 U	<0.0051 U	<0.0047 U	<0.0055 U	<0.0035 U	<0.0030 U	<0.0036 U	<0.0040 U	<0.0034 U	<0.0051 U	<0.0030 U	<0.0051 U	<0.0052 U	0.0028 J	<0.0052 U	<0.0039 U	<0.0033 U	<0.0068 U	<0.0047 U	0.0035 J	<0.0035 U
VOC																										
1,1,1,2-Tetrachloroethane	mg/kg	---		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
1,1,1-Trichloroethane	mg/kg	**100**[a]		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
1,1,2,2-Tetrachloroethane	mg/kg	---		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
1,1,2-Trichloroethane	mg/kg	---		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
1,1-Dichloroethane	mg/kg	**26**		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
1,1-Dichloroethene	mg/kg	**100**[a]		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
1,1-Dichloropropene	mg/kg	---		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
1,2,3-Trichlorobenzene	mg/kg	---		<0.0026 U	<0.0032 U	<0.0049 U	<0.0042 U	<0.0039 U	<0.0046 U	<0.0029 U	<0.0025 U	<0.0030 U	<0.0033 U	<0.0028 U	<0.0043 U	<0.0025 U	<0.0043 U	<0.0044 U	<0.0037 U	<0.0044 U	<0.0033 U	<0.0027 U	<0.0057 U	<0.0039 U	<0.0056 U	<0.0030 U
1,2,3-Trichloropropane	mg/kg	---		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
1,2,4-Trichlorobenzene	mg/kg	---		<0.0026 U	<0.0032 U	<0.0049 U	<0.0042 U	<0.0039 U	<0.0046 U	<0.0029 U	<0.0025 U	<0.0030 U	<0.0033 U	<0.0028 U	<0.0043 U	<0.0025 U	<0.0043 U	<0.0044 U	<0.0037 U	<0.0044 U	<0.0033 U	<0.0027 U	<0.0057 U	<0.0039 U	<0.0056 U	<0.0030 U
1,2,4-Trimethylbenzene	mg/kg	**52**		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	0.00034 J	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	0.00089 J	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
1,2-Dibromo-3-chloropropane	mg/kg	---		<0.0026 U	<0.0032 U	<0.0049 U	<0.0042 U	<0.0039 U	<0.0046 U	<0.0029 U	<0.0025 U	<0.0030 U	<0.0033 U	<0.0028 U	<0.0043 U	<0.0025 U	<0.0043 U	<0.0044 U	<0.0037 U	<0.0044 U	<0.0033 U	<0.0027 U	<0.0057 U	<0.0039 U	<0.0056 U	<0.0030 U
1,2-Dibromoethane	mg/kg	---		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
1,2-Dichlorobenzene	mg/kg	**100**[a]		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
1,2-Dichloroethane	mg/kg	**3.1**		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
1,2-Dichloropropane	mg/kg	---		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
1,3,5-Trimethylbenzene	mg/kg	**52**		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	0.00027 J	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	0.0015	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
1,3-Dichlorobenzene	mg/kg	**49**		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
1,3-Dichloropropane	mg/kg	---		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
1,4-Dichlorobenzene	mg/kg	**13**		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
1,4-Dioxane	mg/kg	**13**		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	mg/kg	---		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
2-Butanone (MEK)	mg/kg	**100**[a]		<0.0052 U	<0.0063 U	<0.0099 U	<0.0085 U	<0.0079 U	<0.0092 U	<0.0058 U	<0.0049 U	<0.0060 U	<0.0066 U	<0.0057 U	<0.0085 U	<0.0050 U	<0.0086 U	<0.0087 U	<0.0074 U	<0.0087 U	<0.0065 U	<0.0054 U	<0.0113 U	<0.0078 U	<0.0112 U	<0.0059 U
2-Chlorotoluene	mg/kg	---		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
2-Hexanone	mg/kg	---		<0.0052 U	<0.0063 U	<0.0099 U	<0.0085 U	<0.0079 U	<0.0092 U	<0.0058 U	<0.0049 U	<0.0060 U	<0.0066 U	<0.0057 U	<0.0085 U	<0.0050 U	<0.0086 U	<0.0087 U	<0.0074 U	<0.0087 U	<0.0065 U	<0.0054 U	<0.0113 U	<0.0078 U	<0.0112 U	<0.0059 U
4-Chlorotoluene	mg/kg	---		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
4-Isopropyltoluene	mg/kg	---		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
4-Methyl-2-Pentanone (MIBK)	mg/kg	---		<0.0052 U	<0.0063 U	<0.0099 U	<0.0085 U	<0.0079 U	<0.0092 U	<0.0058 U	<0.0049 U	<0.0060 U	<0.0066 U	<0.0057 U	<0.0085 U	<0.0050 U	<0.0086 U	<0.0087 U	<0.0074 U	<0.0087 U	<0.0065 U	<0.0054 U	<0.0113 U	<0.0078 U	<0.0112 U	<0.0059 U
Acetone	mg/kg	**100**[b]		0.0823	0.110	0.0060 J	<0.0085 U	0.0961 J-	<0.0092 U	<0.0058 U	<0.0049 U	<0.0060 U	<0.0066 U	<0.0057 U	0.0359	<0.0050 U	0.0043 J	0.0381	0.0112	0.0568	0.0039 J	0.0195	0.0334	0.0212	<0.0112 U	0.0336
Acetonitrile	mg/kg	---		<0.0052 U	<0.0063 U	<0.0099 U	<0.0085 U	<0.0079 U	<0.0092 U	<0.0058 U	<0.0049 U	<0.0060 U	<0.0066 U	<0.0057 U	<0.0085 U	<0.0050 U	<0.0086 U	<0.0087 U	<0.0074 U	<0.0087 U	<0.0065 U	<0.0054 U	<0.0113 U	<0.0078 U	<0.0112 U	<0.0059 U
Acrolein	mg/kg	---		<0.0262 U	<0.0317 U	<0.0494 U	<0.0423 U	<0.0393 U	<0.0462 U	<0.0290 U	<0.0247 U	<0.0302 U	<0.0330 U	<0.0283 U	<0.0427 U	<0.0252 U	<0.0428 U	<0.0437 U	<0.0368 U	<0.0436 U	<0.0326 U	<0.0272 U	<0.0565 U	<0.0389 U	<0.0562 U	<0.0295 U
Acrylonitrile	mg/kg	---		<0.0052 U	<0.0063 U	<0.0099 U	<0.0085 U	<0.0079 U	<0.0092 U	<0.0058 U	<0.0049 U	<0.0060 U	<0.0066 U	<0.0057 U	<0.0085 U	<0.0050 U	<0.0086 U	<0.0087 U	<0.0074 U	<0.0087 U	<0.0065 U	<0.0054 U	<0.0113 U	<0.0078 U	<0.0112 U	<0.0059 U
Allyl chloride	mg/kg	---		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
Benzyl Chloride	mg/kg	---		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
Bromobenzene	mg/kg	---		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
Bromochloromethane	mg/kg	---		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
Bromodichloromethane	mg/kg	---		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
Bromoform	mg/kg	---		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
Bromomethane	mg/kg	---		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	0.00063 J	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
Carbon Disulfide	mg/kg	---		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
Carbon Tetrachloride	mg/kg	**2.4**		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
Chlorobenzene	mg/kg	**100**[a]		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
Chloroethane	mg/kg	---		<0.0026 U	<0.0032 U	<0.0049 U	<0.0042 U	<0.0039 U	<0.0046 U	<0.0029 U	<0.0025 U	<0.0030 U	<0.0033 U	<0.0028 U	<0.0043 U	<0.0025 U	<0.0043 U	<0.0044 U	<0.0037 U	<0.0044 U	<0.0033 U	<0.0027 U	<0.0057 U	<0.0039 U	<0.0056 U	<0.0030 U
Chloroform	mg/kg	**49**		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U

Table B. Remedial Performance Documentation Sampling Results (by area)

Orange and Rockland Utilities, Inc. - Haverstraw Clove Ave. & Maple Ave. Former MGP Site
Haverstraw, Rockland County, New York
Operable Unit Number: 01 (OU-1)
Site No. 3-44-049

Parameter	Units	NY Soil RRSCO	Station Name:	DSF-25	DSF-26	DSF-27	DSF-28	DSF-29	DSF-29	DSF-30	DSF-31	DSF-32	DSF-32	DSF-33	DSF-34	DSF-35	DSF-36	DSF-37	DSF-38	DSF-39	DSF-40	DSF-41	DSF-42	DSF-43	DSF-44	DSF-45
			Field Sample ID[1]:	DSF-25-35.3' 20191106	DSF-26-31' 20191106	DSF-27-38.28' 20191115	DSF-28-35.7' 20191115	DSF-29-32' 20191113	DSF-29-32' 20191113-Dup	DSF-30-36.9' 20191115	DSF-31-34.6' 20191115	DSF-32-31.8' 20191114	DSF-32-31.8' 20191114-Dup	DSF-33-36.4' 20191122	DSF-34-35.0' 20191126	DSF-35-32.2' 20191212	DSF-36-36.3' 20191122	DSF-37-34.5' 20191126	DSF-38-33.5' 20191212	DSF-39-36.0' 20191126	DSF-40-30.6' 20191212	DSF-41-25.7' 20191212	DSF-42-24.1' 191218	DSF-43-20.6' 191218	DSF-44-19.2' 191218	DSF-45-17.8' 191218
			Lab Report ID[1]:	DSF-2535.3 20191106	DSF-2031 20191106	DSF-27-38,28 20191115	DSF-28-33.7 20191115	DSF-2932 201911	DSF-DUP-02. 20191113	DSF-30-36.9 20191115	DSF-31-34.6 20191115	DSF-3231.8 20191114	DSF-DUP-03 20191114	DSF-3336.9 20191122	DSF-34-35.0' 20191126	DSF-35-32.2 20191212	DSF-3336.3 20191122	DSF-37-34.5' 20191126	DSF-38-33.5 20191212	DSF-39-36.0' 20191126	DSF-40-30.6 20191212	DSF-41-25.7 20191212	DSF-42-24.1 191218	DSF-43-20.6 191218	DSF-44-19.2 191218	DSF-45-17.8 191218
				11/06/2019	11/06/2019	11/15/2019	11/15/2019	11/13/2019	11/13/2019	11/15/2019	11/15/2019	11/14/2019	11/14/2019	11/22/2019	11/26/2019	12/12/2019	11/22/2019	11/26/2019	12/12/2019	11/26/2019	12/12/2019	12/12/2019	12/18/2019	12/18/2019	12/18/2019	12/18/2019
				35.3' above MSL	31' above MSL	38.28' above MSL	35.7' above MSL	32' above MSL	32' above MSL	36.9' above MSL	34.6' above MSL	31.8' above MSL	31.8' above MSL	36.4' above MSL	35' above MSL	32.2' above MSL	36.3' above MSL	34.5' above MSL	33.5' above MSL	36' above MSL	30.6' above MSL	25.7' above MSL	24.1' above MSL	20.6' above MSL	19.2' above MSL	17.8' above MSL
				Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag
VOC continued																										
Chloromethane	mg/kg	---		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
Chloroprene	mg/kg	---		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
cis-1,2-Dichloroethene	mg/kg	**100**[a]		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
cis-1,3-Dichloropropene	mg/kg	---		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
Cyclohexane	mg/kg	---		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
Dibromochloromethane	mg/kg	---		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
Dibromomethane	mg/kg	---		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
Ethyl acetate	mg/kg	---		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
Ethyl methacrylate	mg/kg	---		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
Freon 113	mg/kg	---		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
Freon 12	mg/kg	---		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
Isobutanol	mg/kg	---		<0.0262 U	<0.0317 U	<0.0494 U	<0.0423 U	<0.0393 U	<0.0462 U	<0.0290 U	<0.0247 U	<0.0302 U	<0.0330 U	<0.0283 U	<0.0427 U	<0.0252 U	<0.0428 U	<0.0437 U	<0.0368 U	<0.0436 U	<0.0326 U	<0.0272 U	<0.0565 U	<0.0389 U	<0.0562 U	<0.0295 U
Isopropylbenzene	mg/kg	---		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
Methacrylonitrile	mg/kg	---		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
Methyl acetate	mg/kg	---		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	0.0019 J+	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	0.0018	<0.0022 U	<0.0012 U
Methyl methacrylate	mg/kg	---		<0.0026 U	<0.0032 U	<0.0049 U	<0.0042 U	<0.0039 U	<0.0046 U	<0.0029 U	<0.0025 U	<0.0030 U	<0.0033 U	<0.0028 U	<0.0043 U	<0.0025 U	<0.0043 U	<0.0044 U	<0.0037 U	<0.0044 U	<0.0033 U	<0.0027 U	<0.0057 U	<0.0039 U	<0.0056 U	<0.0030 U
Methylcyclohexane	mg/kg	---		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	0.0045	<0.0012 U
Methylene chloride (DCM)	mg/kg	**100**[a]		<0.0010 U	<0.0013 U	0.0024	0.0025	<0.0016 U	0.0040	0.0039	0.00089 J	0.0033	0.0024	0.0022	0.0058	0.0012 B	0.0066	<0.0017 U	0.0036 B	<0.0017 U	0.0027 B	0.0012 B	0.0047 J+,B	0.0010 J+	0.0040 J+,B	0.00073 J+,B
Methyl-tert-butyl-ether	mg/kg	**100**[a]		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
Naphthalene	mg/kg	**100**[a]		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	0.00033 J	0.0021	0.00049 J	<0.0013 U	<0.0011 U	0.0062	<0.0010 U	<0.0017 U	0.0027	0.0023	<0.0017 U	<0.0013 U	<0.0011 U	0.00080 J+	<0.0016 U	<0.0022 U	<0.0012 U
n-Butylbenzene	mg/kg	**100**[a]		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
n-Propylbenzene	mg/kg	**100**[a]		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	0.00064 J	<0.0016 U	<0.0022 U	<0.0012 U
Propionitrile	mg/kg	---		<0.0052 U	<0.0063 U	<0.0099 U	<0.0085 U	<0.0079 U	<0.0092 U	<0.0058 U	<0.0049 U	<0.0060 U	<0.0066 U	<0.0057 U	<0.0085 U	<0.0050 U	<0.0086 U	<0.0087 U	<0.0074 U	<0.0087 U	<0.0065 U	<0.0054 U	<0.0113 U	<0.0078 U	<0.0112 U	<0.0059 U
sec-Butylbenzene	mg/kg	**100**[a]		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
Styrene	mg/kg	---		<0.0010 U	0.00040 J	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
tert-Butyl Alcohol	mg/kg	---		0.0079	0.0127	<0.0099 U	<0.0085 U	0.0164	<0.0092 U	<0.0058 U	<0.0049 U	<0.0060 U	<0.0066 U	<0.0057 U	0.0248	<0.0050 U	<0.0086 U	0.0098	0.0052 J	0.0039 J	<0.0065 U	0.0027 J	<0.0113 U	0.0044 J	<0.0112 U	0.0028 J
tert-Butylbenzene	mg/kg	**100**[a]		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
Tetrachloroethene	mg/kg	**19**		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
trans-1,2-Dichloroethene	mg/kg	**100**[a]		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
trans-1,3-Dichloropropene	mg/kg	---		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
Trichloroethene	mg/kg	**21**		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
Trichlorofluoromethane	mg/kg	---		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
Vinyl acetate	mg/kg	---		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U
Vinyl Chloride	mg/kg	**0.9**		<0.0010 U	<0.0013 U	<0.0020 U	<0.0017 U	<0.0016 U	<0.0018 U	<0.0012 U	<0.00099 U	<0.0012 U	<0.0013 U	<0.0011 U	<0.0017 U	<0.0010 U	<0.0017 U	<0.0017 U	<0.0015 U	<0.0017 U	<0.0013 U	<0.0011 U	<0.0023 U	<0.0016 U	<0.0022 U	<0.0012 U

Table B. Remedial Performance Documentation Sampling Results (by area)

Orange and Rockland Utilities, Inc. - Haverstraw Clove Ave. & Maple Ave. Former MGP Site
Haverstraw, Rockland County, New York
Operable Unit Number: 01 (OU-1)
Site No. 3-44-049

Parameter	Units	NY Soil RRSCO	Station Name:	DSF-25	DSF-26	DSF-27	DSF-28	DSF-29	DSF-29	DSF-30	DSF-31	DSF-32	DSF-32	DSF-33	DSF-34	DSF-35	DSF-36	DSF-37	DSF-38	DSF-39	DSF-40	DSF-41	DSF-42	DSF-43	DSF-44	DSF-45
			Field Sample ID[1]:	DSF-25-35.3' 20191106	DSF-26-31' 20191106	DSF-27-38.28' 20191115	DSF-28-35.7' 20191115	DSF-29-32' 20191113	DSF-29-32' 20191113-Dup	DSF-30-36.9' 20191115	DSF-31-34.6' 20191115	DSF-32-31.8' 20191114	DSF-32-31.8' 20191114-Dup	DSF-33-36.4' 20191122	DSF-34-35.0' 20191126	DSF-35-32.2' 20191212	DSF-36-36.3' 20191122	DSF-37-34.5' 20191126	DSF-38-33.5' 20191212	DSF-39-36.0' 20191126	DSF-40-30.6' 20191212	DSF-41-25.7' 20191212	DSF-42-24.1' 191218	DSF-43-20.6' 191218	DSF-44-19.2' 191218	DSF-45-17.8' 191218
			Lab Report ID[1]:	DSF-2535.3 20191106	DSF-2031 20191106	DSF-27-38,28 20191115	DSF-28-33.7 20191115	DSF-2932 201911	DSF-DUP-02. 20191113	DSF-30-36.9 20191115	DSF-31-34.6 20191115	DSF-3231.8 20191114	DSF-DUP-03 20191114	DSF-3336.9 20191122	DSF-34-35.0' 20191126	DSF-35-32.2 20191212	DSF-3336.3 20191122	DSF-37-34.5' 20191126	DSF-38-33.5 20191212	DSF-39-36.0' 20191126	DSF-40-30.6 20191212	DSF-41-25.7 20191212	DSF-42-24.1 191218	DSF-43-20.6 191218	DSF-44-19.2 191218	DSF-45-17.8 191218
				11/06/2019	11/06/2019	11/15/2019	11/15/2019	11/13/2019	11/13/2019	11/15/2019	11/15/2019	11/14/2019	11/14/2019	11/22/2019	11/26/2019	12/12/2019	11/22/2019	11/26/2019	12/12/2019	11/26/2019	12/12/2019	12/12/2019	12/18/2019	12/18/2019	12/18/2019	12/18/2019
				35.3' above MSL	31' above MSL	38.28' above MSL	35.7' above MSL	32' above MSL	32' above MSL	36.9' above MSL	34.6' above MSL	31.8' above MSL	31.8' above MSL	36.4' above MSL	35' above MSL	32.2' above MSL	36.3' above MSL	34.5' above MSL	33.5' above MSL	36' above MSL	30.6' above MSL	25.7' above MSL	24.1' above MSL	20.6' above MSL	19.2' above MSL	17.8' above MSL
				Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag
SVOC																										
1,2,4,5-Tetrachlorobenzene	mg/kg	---		<0.106 U	<0.104 U	<0.110 U	<0.107 U	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	<0.106 U	<0.109 U	<0.115 U	<0.112 U	<0.119 U	<0.120 U	<0.141 U	<0.112 U
1,2,4-Trichlorobenzene	mg/kg	---		<0.106 U	<0.104 U	<0.110 U	<0.107 U	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	<0.106 U	<0.109 U	<0.115 U	<0.112 U	<0.119 U	<0.120 U	<0.141 U	<0.112 U
1,2-Dichlorobenzene	mg/kg	100[a]		<0.106 U	<0.104 U	<0.110 U	<0.107 U	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	<0.106 U	<0.109 U	<0.115 U	<0.112 U	<0.119 U	<0.120 U	<0.141 U	<0.112 U
1,2-Dinitrobenzene	mg/kg	---		<0.106 U	<0.104 U	<0.110 U	<0.107 U	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	<0.106 U	<0.109 U	<0.115 U	<0.112 U	<0.119 U	<0.120 U	<0.141 U	<0.112 U
1,2-Diphenylhydrazine	mg/kg	---		<0.106 U	<0.104 U	<0.110 U	<0.107 U	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	<0.106 U	<0.109 U	<0.115 U	<0.112 U	<0.119 U	<0.120 U	<0.141 U	<0.112 U
1,3-Dichlorobenzene	mg/kg	49		<0.106 U	<0.104 U	<0.110 U	<0.107 U	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	<0.106 U	<0.109 U	<0.115 U	<0.112 U	<0.119 U	<0.120 U	<0.141 U	<0.112 U
1,4-Dichlorobenzene	mg/kg	13		<0.106 U	<0.104 U	<0.110 U	<0.107 U	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	<0.106 U	<0.109 U	<0.115 U	<0.112 U	<0.119 U	<0.120 U	<0.141 U	<0.112 U
1,4-Dinitrobenzene	mg/kg	---		<0.106 U	<0.104 U	<0.110 U	<0.107 U	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	<0.106 U	<0.109 U	<0.115 U	<0.112 U	<0.119 U	<0.120 U	<0.141 U	<0.112 U
2,2-Oxybis(1-chloropropane)	mg/kg	---		<0.106 U	<0.104 U	<0.110 U	<0.107 U	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	<0.106 U	<0.109 U	<0.115 U	<0.112 U	<0.119 U	<0.120 U	<0.141 U	<0.112 U
2,4-Dinitrotoluene	mg/kg	---		<0.106 U	<0.104 U	<0.110 U	<0.107 U	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	<0.106 U	<0.109 U	<0.115 U	<0.112 U	<0.119 U	<0.120 U	<0.141 U	<0.112 U
2,6-Dinitrotoluene	mg/kg	---		<0.106 U	<0.104 U	<0.110 U	<0.107 U	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	<0.106 U	<0.109 U	<0.115 U	<0.112 U	<0.119 U	<0.120 U	<0.141 U	<0.112 U
2-Chloronaphthalene	mg/kg	---		<0.106 U	<0.104 U	<0.110 U	<0.107 U	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	<0.106 U	<0.109 U	<0.115 U	<0.112 U	<0.119 U	<0.120 U	<0.141 U	<0.112 U
2-Naphthalenamine	mg/kg	---		<0.211 U	<0.207 U	<0.220 U	<0.213 U	<0.211 U	<0.212 U	<0.205 U	<0.212 U	<0.220 U	<0.218 U	<0.214 U	<0.230 U	<0.219 U	<0.222 U	<0.236 U	<0.211 U	<0.217 U	<0.230 U	<0.223 U	<0.239 U	<0.240 U	<0.281 U	<0.224 U
2-Nitroaniline	mg/kg	---		<0.211 U	<0.207 U	<0.220 U	<0.213 U	<0.211 U	<0.212 U	<0.205 U	<0.212 U	<0.220 U	<0.218 U	<0.214 U	<0.230 U	<0.219 U	<0.222 U	<0.236 U	<0.211 U	<0.217 U	<0.230 U	<0.223 U	<0.239 U	<0.240 U	<0.281 U	<0.224 U
3,3-Dichlorobenzidine	mg/kg	---		<0.211 U	<0.207 U	<0.220 U	<0.213 U	<0.211 U	<0.212 U	<0.205 U	<0.212 U	<0.220 U	<0.218 U	<0.214 U	<0.230 U	<0.219 U	<0.222 U	<0.236 U	<0.211 U	<0.217 U	<0.230 U	<0.223 U	<0.239 U	<0.240 U	<0.281 U	<0.224 U
3-Nitroaniline	mg/kg	---		<0.211 U	<0.207 U	<0.220 U	<0.213 U	<0.211 U	<0.212 U	<0.205 U	<0.212 U	<0.220 U	<0.218 U	<0.214 U	<0.230 U	<0.219 U	<0.222 U	<0.236 U	<0.211 U	<0.217 U	<0.230 U	<0.223 U	<0.239 U	<0.240 U	<0.281 U	<0.224 U
4-Bromodiphenyl ether	mg/kg	---		<0.106 U	<0.104 U	<0.110 U	<0.107 U	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	<0.106 U	<0.109 U	<0.115 U	<0.112 U	<0.119 U	<0.120 U	<0.141 U	<0.112 U
4-Chloroaniline	mg/kg	---		<0.211 U	<0.207 U	<0.220 U	<0.213 U	<0.211 U	<0.212 U	<0.205 U	<0.212 U	<0.220 U	<0.218 U	<0.214 U	<0.230 U	<0.219 U	<0.222 U	<0.236 U	<0.211 U	<0.217 U	<0.230 U	<0.223 U	<0.239 U	<0.240 U	<0.281 U	<0.224 U
4-Chlorodiphenyl ether	mg/kg	---		<0.106 U	<0.104 U	<0.110 U	<0.107 U	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	<0.106 U	<0.109 U	<0.115 U	<0.112 U	<0.119 U	<0.120 U	<0.141 U	<0.112 U
4-Nitroaniline	mg/kg	---		<0.211 U	<0.207 U	0.123 J	<0.213 U	<0.211 U	<0.212 U	<0.205 U	<0.212 U	<0.220 U	<0.218 U	<0.214 U	<0.230 U	<0.219 U	<0.222 U	<0.236 U	<0.211 U	<0.217 U	<0.230 U	<0.223 U	<0.239 U	<0.240 U	<0.281 U	<0.224 U
Acetophenone	mg/kg	---		<0.106 U	0.0798 J	<0.110 U	<0.107 U	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	<0.106 U	<0.109 U	<0.115 U	<0.112 U	<0.119 U	0.0218 J+	<0.141 U	<0.112 U
Aniline	mg/kg	---		<0.211 U	<0.207 U	<0.220 U	<0.213 U	<0.211 U	<0.212 U	<0.205 U	<0.212 U	<0.220 U	<0.218 U	<0.214 U	<0.230 U	<0.219 U	<0.222 U	<0.236 U	<0.211 U	<0.217 U	<0.230 U	<0.223 U	<0.239 U	<0.240 U	<0.281 U	<0.224 U
Atrazine	mg/kg	---		<0.106 U	<0.104 U	<0.110 U	<0.107 U	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	<0.106 U	<0.109 U	<0.115 U	<0.112 U	<0.119 U	<0.120 U	<0.141 U	<0.112 U
Benzaldehyde	mg/kg	---		<0.211 U	0.0530 J	<0.220 U	<0.213 U	<0.211 U	<0.212 U	<0.205 U	0.0397 J	<0.220 U	<0.218 U	<0.214 U	<0.230 U	<0.219 U	<0.222 U	<0.236 U	<0.211 U	<0.217 U	<0.230 U	<0.223 U	<0.239 U	<0.240 U	<0.281 U	<0.224 U
Benzidine	mg/kg	---		<0.211 U	<0.207 U	<0.220 U	<0.213 U	<0.211 U	<0.212 U	<0.205 U	<0.212 U	<0.220 U	<0.218 U	<0.214 U	<0.230 U	<0.219 U	<0.222 U	<0.236 U	<0.211 U	<0.217 U	<0.230 U	<0.223 U	<0.239 U	<0.240 U	<0.281 U	<0.224 U
Benzoic Acid	mg/kg	---		<0.571 U	<0.560 U	<0.595 U	<0.576 U	<0.571 U	<0.574 U	<0.552 U	<0.572 U	<0.594 U	<0.588 U	<0.577 U	<0.622 U	<0.591 U	<0.599 U	<0.636 U	<0.570 U	<0.587 U	<0.621 U	<0.603 U	<0.645 U	<0.647 U	<0.759 U	<0.605 U
Benzyl alcohol	mg/kg	---		<0.106 U	<0.104 U	<0.110 U	<0.107 U	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	<0.106 U	<0.109 U	<0.115 U	<0.112 U	<0.119 U	<0.120 U	<0.141 U	<0.112 U
Biphenyl	mg/kg	---		<0.106 U	<0.104 U	<0.110 U	<0.107 U	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	0.0189 J	<0.109 U	<0.115 U	<0.112 U	<0.119 U	<0.120 U	<0.141 U	<0.112 U
Bis(2-Chloroethoxy)methane	mg/kg	---		<0.106 U	<0.104 U	<0.110 U	<0.107 U	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	<0.106 U	<0.109 U	<0.115 U	<0.112 U	<0.119 U	<0.120 U	<0.141 U	<0.112 U
Bis(2-Chloroethyl)ether	mg/kg	---		<0.106 U	<0.104 U	<0.110 U	<0.107 U	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	<0.106 U	<0.109 U	<0.115 U	<0.112 U	<0.119 U	<0.120 U	<0.141 U	<0.112 U
Bis(2-Ethylhexyl)phthalate	mg/kg	---		0.0221 J	0.108	0.0242 J	0.162	0.124	0.145	<0.102 U	0.0515 J	0.0188 J	<0.109 U	<0.107 U	0.0558 J	0.0218 J	0.0214 J	0.0352 J	0.0464 J	0.0283 J	0.0291 J	0.0399 J	<0.119 U	<0.120 U	0.0876 J	<0.112 U
Butyl benzyl phthalate	mg/kg	---		<0.106 U	<0.104 U	<0.110 U	<0.107 U	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	<0.106 U	<0.109 U	<0.115 U	<0.112 U	<0.119 U	<0.120 U	<0.141 U	<0.112 U
Caprolactam	mg/kg	---		<0.211 U	<0.207 U	<0.220 U	<0.213 U	<0.211 U	<0.212 U	<0.205 U	<0.212 U	<0.220 U	<0.218 U	<0.214 U	<0.230 U	<0.219 U	<0.222 U	<0.236 U	<0.211 U	<0.217 U	<0.230 U	<0.223 U	<0.239 U	<0.240 U	<0.281 U	<0.224 U
Carbazole	mg/kg	---		<0.106 U	0.0202 J	0.198	<0.107 U	<0.106 U	<0.106 U	0.0303 J	0.0207 J	<0.110 U	<0.109 U	<0.107 U	0.0723 J	<0.109 U	<0.111 U	0.0608 J	0.0218 J	0.0574 J	0.0256 J	0.0456 J	<0.119 U	<0.120 U	0.0538 J	<0.112 U
Dibenzofuran	mg/kg	59		<0.106 U	<0.104 U	0.0489 J	<0.107 U	<0.106 U	<0.106 U	<0.102 U	0.0210 J	<0.110 U	<0.109 U	<0.107 U	0.0250 J	<0.109 U	<0.111 U	<0.118 U	<0.106 U	0.0191 J	<0.115 U	<0.112 U	<0.119 U	<0.120 U	<0.141 U	<0.112 U
Diethyl phthalate	mg/kg	---		<0.106 U	<0.104 U	<0.110 U	<0.107 U	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	<0.106 U	<0.109 U	<0.115 U	<0.112 U	<0.119 U	<0.120 U	<0.141 U	<0.112 U
Dimethyl phthalate	mg/kg	---		<0.106 U	<0.104 U	<0.110 U	<0.107 U	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	<0.106 U	<0.109 U	<0.115 U	<0.112 U	<0.119 U	<0.120 U	<0.141 U	<0.112 U
Di-n-butyl phthalate	mg/kg	---		<0.106 U	<0.104 U	0.0719 J	<0.107 U	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	<0.106 U	<0.109 U	<0.115 U	0.0199 J	<0.119 U	<0.120 U	<0.141 U	<0.112 U
Di-n-octyl phthalate	mg/kg	---		<0.106 U	<0.104 U	<0.110 U	<0.107 U	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	<0.106 U	<0.109 U	<0.115 U	<0.112 U	<0.119 U	<0.120 U	<0.141 U	<0.112 U
Hexachlorobenzene	mg/kg	1.2		<0.106 U	<0.104 U	<0.110 U	<0.107 U	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	<0.106 U	<0.109 U	<0.115 U	<0.112 U	<0.119 U	<0.120 U	<0.141 U	<0.112 U
Hexachlorobutadiene	mg/kg	---		<0.106 U	<0.104 U	<0.110 U	<0.107 U	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	<0.106 U	<0.109 U	<0.115 U	<0.112 U	<0.119 U	<0.120 U	<0.141 U	<0.112 U
Hexachlorocyclopentadiene	mg/kg	---		<0.211 U	<0.207 U	<0.220 U	<0.213 U	<0.211 U	<0.212 U	<0.205 U	<0.212 U	<0.220 U	<0.218 U	<0.214 U	<0.230 U	<0.219 U	<0.222 U	<0.236 U	<0.211 U	<0.217 U	<0.230 U	<0.223 U	<0.239 U	<0.240 U	<0.281 U	<0.224 U
Hexachloroethane	mg/kg	---		<0.106 U	<0.104 U	<0.110 U	<0.107 U	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	<0.106 U	<0.109 U	<0.115 U	<0.112 U	<0.119 U	<0.120 U	<0.141 U	<0.112 U
Isophorone	mg/kg	---		<0.106 U	<0.104 U	<0.110 U	0.0217 J	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	<0.106 U	<0.109 U	<0.115 U	<0.112 U	<0.119 U	<0.120 U	<0.141 U	<0.112 U
Nitrobenzene	mg/kg	---		<0.106 U	<0.104 U	<0.110 U	<0.107 U	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	<0.106 U	<0.109 U	<0.115 U	<0.112 U	<0.119 U	<0.120 U	<0.141 U	<0.112 U
N-Nitrosodiethylamine	mg/kg	---		<0.106 U	<0.104 U	<0.110 U	<0.107 U	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	<0.106 U	<0.109 U	<0.115 U	<0.112 U	<0.119 U	<0.120 U	<0.141 U	<0.112 U
N-Nitrosodimethylamine	mg/kg	---		<0.106 U	<0.104 U	<0.110 U	<0.107 U	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	<0.106 U	<0.109 U	<0.115 U	<0.112 U	<0.119 U	<0.120 U	<0.141 U	<0.112 U
N-Nitroso-di-n-butylamine	mg/kg	---		<0.106 U	<0.104 U	<0.110 U	<0.107 U	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	<0.106 U	<0.109 U	<0.115 U	<0.112 U	<0.119 U	<0.120 U	<0.141 U	<0.112 U
N-nitrosodi-n-propylamine	mg/kg	---		<0.106 U	<0.104 U	<0.110 U	<0.107 U	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	<0.106 U	<0.109 U	<0.115 U	<0.112 U	<0.119 U	<0.120 U	<0.141 U	<0.112 U
N-Nitrosodiphenylamine	mg/kg	---		<0.106 U	<0.104 U	<0.110 U	<0.107 U	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	<0.106 U	<0.109 U	<0.115 U	<0.112 U	<0.119 U	<0.120 U	<0.141 U	<0.112 U
Pentachlorobenzene	mg/kg	---		<0.106 U	<0.104 U	<0.110 U	<0.107 U	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	<0.106 U	<0.109 U	<0.115 U	<0.112 U	<0.119 U	<0.120 U	<0.141 U	<0.112 U
Pyridine	mg/kg	---		<0.211 U	<0.207 U	<0.220 U	<0.213 U	<0.211 U	<0.212 U	<0.205 U	<0.212 U	<0.220 U	<0.218 U	<0.214 U	<0.230 U	<0.219 U	<0.222 U	<0.236 U	<0.211 U	<0.217 U	<0.230 U	<0.223 U	<0.239 U	<0.240 U	<0.281 U	<0.224 U
Resorcinol	mg/kg	---		<0.106 U	<0.104 U	<0.110 U	<0.107 U	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	<0.106 U	<0.109 U	<0.115 U	<0.112 U	<0.119 U	<0.120 U	<0.141 U	<0.112 U
N-Nitrosopyrrolidine	mg/kg	---		<0.106 U	<0.104 U	<0.110 U	<0.107 U	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	<0.106 U	<0.109 U	<0.115 U	<0.112 U	<0.119 U	<0.120 U	<0.141 U	<0.112 U

Table B. Remedial Performance Documentation Sampling Results (by area)

Orange and Rockland Utilities, Inc. - Haverstraw Clove Ave. & Maple Ave. Former MGP Site
Haverstraw, Rockland County, New York
Operable Unit Number: 01 (OU-1)
Site No. 3-44-049

	Station Name:		**DSF-25**	**DSF-26**	**DSF-27**	**DSF-28**	**DSF-29**	**DSF-29**	**DSF-30**	**DSF-31**	**DSF-32**	**DSF-32**	**DSF-33**	**DSF-34**	**DSF-35**	**DSF-36**	**DSF-37**	**DSF-38**	**DSF-39**	**DSF-40**	**DSF-41**	**DSF-42**	**DSF-43**	**DSF-44**	**DSF-45**
	Field Sample ID[1]:		DSF-25-35.3' 20191106	DSF-26-31' 20191106	DSF-27-38.28' 20191115	DSF-28-35.7' 20191115	DSF-29-32' 201911	DSF-29-32' 20191113-Dup	DSF-30-36.9' 20191115	DSF-31-34.6' 20191115	DSF-32-31.8' 20191114	DSF-32-31.8' 20191114-Dup	DSF-33-36.4' 20191122	DSF-34-35.0' 20191126	DSF-35-32.2' 20191212	DSF-36-36.3' 20191122	DSF-37-34.5' 20191126	DSF-38-33.5' 20191212	DSF-39-36.0' 20191126	DSF-40-30.6' 20191212	DSF-41-25.7' 20191212	DSF-42-24.1' 191218	DSF-43-20.6' 191218	DSF-44-19.2' 191218	DSF-45-17.8' 191218
	Lab Report ID[1]:		DSF-2535.3 20191106	DSF-2031 20191106	DSF-27-38,28 20191115	DSF-28-33.7 20191115	DSF-2932 201911	DSF-DUP-02. 20191113	DSF-30-36.9 20191115	DSF-31-34.6 20191115	DSF-3231.8 20191114	DSF-DUP-03 20191114	DSF-3336.9 20191122	DSF-34-35.0' 20191126	DSF-35-32.2 20191212	DSF-3336.3 20191122	DSF-37-34.5' 20191126	DSF-38-33.5 20191212	DSF-39-36.0' 20191126	DSF-40-30.6 20191212	DSF-41-25.7 20191212	DSF-42-24.1 191218	DSF-43-20.6 191218	DSF-44-19.2 191218	DSF-45-17.8 191218
Parameter	Units	NY Soil RRSCO	11/06/2019 35.3' above MSL	11/06/2019 31' above MSL	11/15/2019 38.28' above MSL	11/15/2019 35.7' above MSL	11/13/2019 32' above MSL	11/13/2019 32' above MSL	11/15/2019 36.9' above MSL	11/15/2019 34.6' above MSL	11/14/2019 31.8' above MSL	11/14/2019 31.8' above MSL	11/22/2019 36.4' above MSL	11/26/2019 35' above MSL	12/12/2019 32.2' above MSL	11/22/2019 36.3' above MSL	11/26/2019 34.5' above MSL	12/12/2019 33.5' above MSL	11/26/2019 36' above MSL	12/12/2019 30.6' above MSL	12/12/2019 25.7' above MSL	12/18/2019 24.1' above MSL	12/18/2019 20.6' above MSL	12/18/2019 19.2' above MSL	12/18/2019 17.8' above MSL
			Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag
PAH																									
2-Methylnaphthalene	mg/kg	---	0.0244 J	0.0353 J	0.0937 J	0.0337 J	0.0304 J	<0.106 U	<0.102 U	0.0798 J	<0.110 U	<0.109 U	<0.107 U	0.0514 J	0.0227 J	<0.111 U	0.0237 J	0.0685 J	<0.109 U	<0.115 U	0.0198 J	<0.119 U	0.0280 J+	0.0536 J+	<0.112 U
Acenaphthene	mg/kg	100[a]	<0.0529 U	<0.0518 U	0.0831	<0.0534 U	<0.0529 U	<0.0531 U	<0.0511 U	0.0541	<0.0550 U	<0.0545 U	<0.0534 U	0.0456 J	<0.0547 U	<0.0555 U	0.0440 J	0.0763	0.0318 J	<0.0575 U	0.0192 J	<0.0597 U	<0.0599 U	0.0372 J	<0.0561 U
Acenaphthylene	mg/kg	100[a]	0.126	0.194	1.550	0.142	0.0601	0.0431 J	0.151	0.491	0.0624	0.0991	0.0432 J	0.194	0.113	0.0369 J	0.0942	0.199	0.123	0.0223 J	0.0579	0.0370 J	0.506	0.206	0.0308 J
Anthracene	mg/kg	100[a]	0.0498 J	0.0716	0.908	0.0555	0.0311 J	0.0265 J	0.0788	0.255	0.0228 J	0.0390 J	0.0265 J	0.185	0.0479 J	0.0383 J	0.142	0.158	0.182	0.0413 J	0.0686	<0.0597 U	0.111	0.118	<0.0561 U
Benzo(a)anthracene	mg/kg	1[f]	0.175	0.241	**2.170**	0.168	0.110	0.0801	0.250	0.615	0.152	0.117	0.0880	0.601	0.217	0.141	0.541	0.413	0.605	0.194	0.339	<0.0597 U	0.430	0.475	0.0852
Benzo(a)pyrene	mg/kg	1[f]	0.246	0.246	**2.830**	0.220	0.149	0.117	0.344	0.703	0.187	0.168	0.126	0.750	0.283	0.162	0.597	0.510	0.646	0.199	0.372	<0.0597 U	**1.060**	0.726	0.0977
Benzo(b)fluoranthene	mg/kg	1[f]	0.213	0.374	**2.710**	0.186	0.139	0.118	0.331	0.463	0.148	0.147	0.116	0.667	0.244	0.166	0.578	0.415	0.615	0.208	0.370	<0.0597 U	0.613	0.587	0.0789
Benzo(g,h,i)perylene	mg/kg	100[a]	0.279	0.345	2.250	0.221	0.142	0.107	0.281	0.525	0.191	0.174	0.0791	0.576	0.239	0.107	0.432	0.372	0.449	0.131	0.236	<0.0597 U	0.952	0.519	0.0709
Benzo(k)fluoranthene	mg/kg	3.9	0.254	0.327	2.590	0.182	0.134	0.0928	0.330	0.589	0.183	0.151	0.119	0.700	0.255	0.142	0.528	<0.0528 U	0.574	0.196	0.333	<0.0597 U	0.688	0.572	0.0855
Chrysene	mg/kg	3.9	0.237	0.385	3.040	0.201	0.134	0.105	0.336	0.682	0.175	0.152	0.0987	0.713	0.278	0.159	0.606	0.458	0.642	0.223	0.404	<0.0597 U	0.523	0.586	0.0916
Dibenz(a,h)anthracene	mg/kg	0.33[e]	0.0526 J	0.0645	**0.484**	0.0439 J	0.0280 J	<0.0531 U	0.0574	0.0972	0.0317 J	0.0286 J	0.0190 J	0.116	0.0409 J	0.0224 J	0.0906	0.0734	0.0881	0.0306 J	0.0563	<0.0597 U	0.167	0.117	<0.0561 U
Fluoranthene	mg/kg	100[a]	0.285	0.362	4.450	0.249	0.213	0.174	0.574	1.170	0.201	0.198	0.183	1.590	0.388	0.356	1.460	0.788	1.700	0.419	0.771	<0.0597 U	0.329	1.050	0.160
Fluorene	mg/kg	100[a]	<0.0529 U	<0.0518 U	0.155	<0.0534 U	<0.0529 U	<0.0531 U	<0.0511 U	0.0924	<0.0550 U	<0.0545 U	<0.0534 U	0.0833	<0.0547 U	<0.0555 U	0.0509 J	0.0570	0.0663	<0.0575 U	0.0286 J	<0.0597 U	0.0335 J	0.0357 J	<0.0561 U
Indeno(1,2,3-cd)pyrene	mg/kg	0.5[f]	0.250	0.317	**2.160**	0.199	0.131	0.104	0.285	0.482	0.162	0.150	0.0891	**0.592**	0.222	0.116	0.440	0.349	0.468	0.149	0.250	<0.0597 U	**0.805**	0.493	0.0712
Naphthalene	mg/kg	100[a]	0.0640	0.0872	0.146	0.0325 J	0.181	0.0230 J	<0.0511 U	0.0980	<0.0550 U	0.0236 J	<0.0534 U	0.0837	0.0385 J	<0.0555 U	0.0396 J	0.154	0.0194 J	<0.0575 U	0.0199 J	0.0310 B	0.0543 J	0.114	<0.0561 U
Phenanthrene	mg/kg	100[a]	0.0987	0.169	2.210	0.126	0.0745	0.0736	0.173	0.619	0.0668	0.0793	0.0558	0.745	0.153	0.131	0.669	0.317	0.789	0.194	0.399	0.0388 J	0.145	0.496	0.0487 J
Pyrene	mg/kg	100[a]	0.395	0.425	5.330	0.272	0.220	0.170	0.543	1.690	0.292	0.256	0.158	1.360	0.487	0.274	1.230	1.030	1.340	0.367	0.727	0.0255 J	0.710	0.842	0.139
Phenol																									
2,3,4,6-Tetrachlorophenol	mg/kg	---	<0.211 U	<0.207 U	<0.220 U	<0.213 U	<0.211 U	<0.212 U	<0.205 U	<0.212 U	<0.220 U	<0.218 U	<0.214 U	<0.230 U	<0.219 U	<0.222 U	<0.236 U	<0.211 U	<0.217 U	<0.230 U	<0.223 U	<0.239 U	<0.240 U	<0.281 U	<0.224 U
2,4,5-Trichlorophenol	mg/kg	---	<0.211 U	<0.207 U	<0.220 U	<0.213 U	<0.211 U	<0.212 U	<0.205 U	<0.212 U	<0.220 U	<0.218 U	<0.214 U	<0.230 U	<0.219 U	<0.222 U	<0.236 U	<0.211 U	<0.217 U	<0.230 U	<0.223 U	<0.239 U	<0.240 U	<0.281 U	<0.224 U
2,4,6-Trichlorophenol	mg/kg	---	<0.211 U	<0.207 U	<0.220 U	<0.213 U	<0.211 U	<0.212 U	<0.205 U	<0.212 U	<0.220 U	<0.218 U	<0.214 U	<0.230 U	<0.219 U	<0.222 U	<0.236 U	<0.211 U	<0.217 U	<0.230 U	<0.223 U	<0.239 U	<0.240 U	<0.281 U	<0.224 U
2,4-Dichlorophenol	mg/kg	---	<0.211 U	<0.207 U	<0.220 U	<0.213 U	<0.211 U	<0.212 U	<0.205 U	<0.212 U	<0.220 U	<0.218 U	<0.214 U	<0.230 U	<0.219 U	<0.222 U	<0.236 U	<0.211 U	<0.217 U	<0.230 U	<0.223 U	<0.239 U	<0.240 U	<0.281 U	<0.224 U
2,4-Dimethylphenol	mg/kg	---	<0.211 U	<0.207 U	<0.220 U	<0.213 U	<0.211 U	<0.212 U	<0.205 U	<0.212 U	<0.220 U	<0.218 U	<0.214 U	<0.230 U	<0.219 U	<0.222 U	<0.236 U	<0.211 U	<0.217 U	<0.230 U	<0.223 U	<0.239 U	<0.240 U	<0.281 U	<0.224 U
2,4-Dinitrophenol	mg/kg	---	<0.423 U	<0.415 U	<0.441 U	<0.427 U	<0.423 U	<0.425 U	<0.409 U	<0.423 U	<0.440 U	<0.436 U	<0.427 U	<0.460 U	<0.438 U	<0.444 U	<0.471 U	<0.422 U	<0.435 U	<0.460 U	<0.446 U	<0.478 U	<0.479 U	<0.563 U	<0.448 U
2,6-Dichlorophenol	mg/kg	---	<0.211 U	<0.207 U	<0.220 U	<0.213 U	<0.211 U	<0.212 U	<0.205 U	<0.212 U	<0.220 U	<0.218 U	<0.214 U	<0.230 U	<0.219 U	<0.222 U	<0.236 U	<0.211 U	<0.217 U	<0.230 U	<0.223 U	<0.239 U	<0.240 U	<0.281 U	<0.224 U
2-Chlorophenol	mg/kg	---	<0.211 U	<0.207 U	<0.220 U	<0.213 U	<0.211 U	<0.212 U	<0.205 U	<0.212 U	<0.220 U	<0.218 U	<0.214 U	<0.230 U	<0.219 U	<0.222 U	<0.236 U	<0.211 U	<0.217 U	<0.230 U	<0.223 U	<0.239 U	<0.240 U	<0.281 U	<0.224 U
2-Methylphenol	mg/kg	100[a]	<0.211 U	<0.207 U	<0.220 U	<0.213 U	<0.211 U	<0.212 U	<0.205 U	<0.212 U	<0.220 U	<0.218 U	<0.214 U	<0.230 U	<0.219 U	<0.222 U	<0.236 U	<0.211 U	<0.217 U	<0.230 U	<0.223 U	<0.239 U	<0.240 U	<0.281 U	<0.224 U
2-Nitrophenol	mg/kg	---	<0.211 U	<0.207 U	<0.220 U	<0.213 U	<0.211 U	<0.212 U	<0.205 U	<0.212 U	<0.220 U	<0.218 U	<0.214 U	<0.230 U	<0.219 U	<0.222 U	<0.236 U	<0.211 U	<0.217 U	<0.230 U	<0.223 U	<0.239 U	<0.240 U	<0.281 U	<0.224 U
4,6-Dinitro-2-methylphenol	mg/kg	---	<0.211 U	<0.207 U	<0.220 U	<0.213 U	<0.211 U	<0.212 U	<0.205 U	<0.212 U	<0.220 U	<0.218 U	<0.214 U	<0.230 U	<0.219 U	<0.222 U	<0.236 U	<0.211 U	<0.217 U	<0.230 U	<0.223 U	<0.239 U	<0.240 U	<0.281 U	<0.224 U
4-Chloro-3-methylphenol	mg/kg	---	<0.211 U	<0.207 U	<0.220 U	<0.213 U	<0.211 U	<0.212 U	<0.205 U	<0.212 U	<0.220 U	<0.218 U	<0.214 U	<0.230 U	<0.219 U	<0.222 U	<0.236 U	<0.211 U	<0.217 U	<0.230 U	<0.223 U	<0.239 U	<0.240 U	<0.281 U	<0.224 U
4-Nitrophenol	mg/kg	---	<0.211 U	<0.207 U	<0.220 U	<0.213 U	<0.211 U	<0.212 U	<0.205 U	<0.212 U	<0.220 U	<0.218 U	<0.214 U	<0.230 U	<0.219 U	<0.222 U	<0.236 U	<0.211 U	<0.217 U	<0.230 U	<0.223 U	<0.239 U	<0.240 U	<0.281 U	<0.224 U
Dimethoate	mg/kg	---	<0.211 U	<0.207 U	<0.220 U	<0.213 U	<0.211 U	<0.212 U	<0.205 U	<0.212 U	<0.220 U	<0.218 U	<0.214 U	0.0326 J	<0.219 U	<0.222 U	<0.236 U	<0.211 U	<0.217 U	<0.230 U	<0.223 U	<0.239 U	<0.240 U	<0.281 U	<0.224 U
Diphenylamine	mg/kg	---	<0.106 U	<0.104 U	<0.110 U	<0.107 U	<0.106 U	<0.106 U	<0.102 U	<0.106 U	<0.110 U	<0.109 U	<0.107 U	<0.115 U	<0.109 U	<0.111 U	<0.118 U	<0.106 U	<0.109 U	<0.115 U	<0.112 U	<0.119 U	<0.120 U	<0.141 U	<0.112 U
mp-Cresol	mg/kg	---	<0.211 U	0.0379 J	<0.220 U	<0.213 U	<0.211 U	<0.212 U	<0.205 U	<0.212 U	<0.220 U	<0.218 U	<0.214 U	0.0415 J	<0.219 U	<0.222 U	<0.236 U	<0.211 U	<0.217 U	<0.230 U	<0.223 U	<0.239 U	<0.240 U	<0.281 U	<0.224 U
Pentachlorophenol	mg/kg	6.7	<0.211 U	<0.207 U	<0.220 U	<0.213 U	<0.211 U	<0.212 U	<0.205 U	<0.212 U	<0.220 U	<0.218 U	<0.214 U	<0.230 U	<0.219 U	<0.222 U	<0.236 U	<0.211 U	<0.217 U	<0.230 U	<0.223 U	<0.239 U	<0.240 U	<0.281 U	<0.224 U
Phenol	mg/kg	100[a]	<0.211 U	<0.207 U	<0.220 U	<0.213 U	<0.211 U	<0.212 U	<0.205 U	<0.212 U	<0.220 U	<0.218 U	<0.214 U	<0.230 U	<0.219 U	<0.222 U	<0.236 U	<0.211 U	<0.217 U	<0.230 U	<0.223 U	<0.239 U	<0.240 U	<0.281 U	<0.224 U

Table B. Remedial Performance Documentation Sampling Results (by area)

Orange and Rockland Utilities, Inc. - Haverstraw Clove Ave. & Maple Ave. Former MGP Site
Haverstraw, Rockland County, New York
Operable Unit Number: 01 (OU-1)
Site No. 3-44-049

Parameter	Units	NY Soil RRSCO	Station Name:	DSF-25	DSF-26	DSF-27	DSF-28	DSF-29	DSF-29	DSF-30	DSF-31	DSF-32	DSF-32	DSF-33	DSF-34	DSF-35	DSF-36	DSF-37	DSF-38	DSF-39	DSF-40	DSF-41	DSF-42	DSF-43	DSF-44	DSF-45
			Field Sample ID[1]:	DSF-25-35.3' 20191106	DSF-26-31' 20191106	DSF-27-38.28' 20191115	DSF-28-35.7' 20191115	DSF-29-32' 20191113	DSF-29-32' 20191113-Dup	DSF-30-36.9' 20191115	DSF-31-34.6' 20191115	DSF-32-31.8' 20191114	DSF-32-31.8' 20191114-Dup	DSF-33-36.4' 20191122	DSF-34-35.0' 20191126	DSF-35-32.2' 20191212	DSF-36-36.3' 20191122	DSF-37-34.5' 20191126	DSF-38-33.5' 20191212	DSF-39-36.0' 20191126	DSF-40-30.6' 20191212	DSF-41-25.7' 20191212	DSF-42-24.1' 191218	DSF-43-20.6' 191218	DSF-44-19.2' 191218	DSF-45-17.8' 191218
			Lab Report ID[1]:	DSF-2535.3 20191106	DSF-2031 20191106	DSF-27-38,28 20191115	DSF-28-33.7 20191115	DSF-2932 201911	DSF-DUP-02. 20191113	DSF-30-36.9 20191115	DSF-31-34.6 20191115	DSF-3231.8 20191114	DSF-DUP-03 20191114	DSF-3336.9 20191122	DSF-34-35.0' 20191126	DSF-35-32.2 20191212	DSF-3336.3 20191122	DSF-37-34.5' 20191126	DSF-38-33.5 20191212	DSF-39-36.0' 20191126	DSF-40-30.6 20191212	DSF-41-25.7 20191212	DSF-42-24.1 191218	DSF-43-20.6 191218	DSF-44-19.2 191218	DSF-45-17.8 191218
				11/06/2019	11/06/2019	11/15/2019	11/15/2019	11/13/2019	11/13/2019	11/15/2019	11/15/2019	11/14/2019	11/14/2019	11/22/2019	11/26/2019	12/12/2019	11/22/2019	11/26/2019	12/12/2019	11/26/2019	12/12/2019	12/12/2019	12/18/2019	12/18/2019	12/18/2019	12/18/2019
				35.3' above MSL	31' above MSL	38.28' above MSL	35.7' above MSL	32' above MSL	32' above MSL	36.9' above MSL	34.6' above MSL	31.8' above MSL	31.8' above MSL	36.4' above MSL	35' above MSL	32.2' above MSL	36.3' above MSL	34.5' above MSL	33.5' above MSL	36' above MSL	30.6' above MSL	25.7' above MSL	24.1' above MSL	20.6' above MSL	19.2' above MSL	17.8' above MSL
				Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag
Metal																										
Aluminum, Total	mg/kg	---		13,600	8,900	9,150	9,290	8,290	6,790	9,720	8,570	11,500	9,970	7,900	9,120	7,970	9,980	10,300	8,590	7,820	12,500	7,770	21,900	20,500	14,800	12,500
Antimony, Total	mg/kg	---		1.1 J	1.5 J	1.4 J	1.1 J	1.1 J	1.4 J	1.6 J	1.5 J	1.4 J	1.4 J	<1.8 U	1.2 J	<2.1 U	<2.0 U	0.95 J	1.2 J	<1.9 U	0.98 J	0.90 J	<2.3 U	<2.4 U	1.1 J	<2.2 U
Arsenic, Total	mg/kg	16[f]		10.6	8.8	6.4	7.7	6.1	6.1	5.6	6.9	9.6	10.3	5.7	8.8	5.0	8.4	10.7	4.0	7.5	8.7	5.2	6.8	6.6	9.2	5.9
Barium, Total	mg/kg	400		49.8	35.2	75.8	64.1	41.7	31.8	32.5	51.4	75.5	67.8	39.9	41.9	61.1	66.5	63.6	34.7	51.9	81.8	70.9	185	154	116	69.5
Beryllium, Total	mg/kg	72		0.50 J	0.41 J	0.46 J	0.47 J	0.36 J	0.33 J	0.39 J	0.38 J	0.68 J	0.62 J	0.39 J	0.40 J	0.44 J	0.53 J	0.54 J	0.32 J	0.33 J	0.66 J	0.38 J	0.92 J	0.87 J	1.1 J	0.59 J
Cadmium, Total	mg/kg	4.3		<0.48 U	<0.46 U	<0.49 U	<0.46 U	<0.52 U	<0.48 U	<0.52 U	<0.54 U	<0.55 U	<0.53 U	<0.46 U	<0.54 U	<0.53 U	<0.50 U	<0.58 U	<0.47 U	<0.46 U	<0.55 U	<0.51 U	<0.58 U	<0.60 U	<0.65 U	<0.54 U
Calcium, Total	mg/kg	---		5,090	3,800	2,250	1,120	8,710	2,280	4,830	3,040	4,610	2,570	1,440	3,490	861	987	1,400	3,630	1,120	1,010	1,800	3,720	3,990	3,910	2,250
Chromium, Total	mg/kg	---		14.2	11.2	10.3	10	10	7.1	7.2	9.4	10.2	9.0	9.0	8.1	7.7	10.1	10.4	9.8	9.8	17.1	11.5	26.9	26.7	24.3	14.3
Cobalt, Total	mg/kg	---		9.7	7.9	7.4	5.5	7.3	6.1	11.7	7.8	7.2	6.8	5.8	8.5	4.7	5.3	5.7	9.0	5.1	14.3	5.8	15.6	14.2	11.7	6.6
Copper, Total	mg/kg	270		58.3	49.0	47.5	19.4	48.3	38.9	77.0	40.4	58.8	43.4	28.6	43.8	11.5	7.7	10.1	57.3	7.0	40.8	22.4	54.8	43.2	51.8	39.8
Iron, Total	mg/kg	---		23,000	25,100	27,400	16,300	18,600	15,600	21,600	17,700	19,800	17,200	15,400	17,700	13,800	14,200	14,400	18,600	13,600	27,800	16,800	34,500	33,900	16,900	21,600
Lead, Total	mg/kg	400		9.1	113	117	37.9	5.0	4.6	13.6	29.7	100	50.7	23.1	35.8	16.5	64.7	43.3	16.6	11.5	19.7	55.9	36.3	15.7	146	73.0
Magnesium, Total	mg/kg	---		4,450	3,770	3,070	2,660	3,730	3,150	5,320	3,820	4,070	3,310	2,770	3,490	2,150	2,110	2,370	4,250	2,530	4,510	3,370	7,450	7,570	2,470	3,850
Manganese, Total	mg/kg	2,000[f]		279	207	431	322	190	169	209	340	568	518	328	331	555	647	547	255	395	623	260	684	592	427	304
Mercury, Total	mg/kg	0.81[j]		0.15	0.37	0.71	**4.0**	0.14 B	0.11 B	0.034 J	0.63	0.13	0.17	0.041 J	0.13	0.10	0.044 J	0.037 J	0.091	0.028 J	0.042 J	0.069	0.025 J	0.023 J	0.20	<0.048 U
Nickel, Total	mg/kg	310		16.6	15.0	19.3	11.1	11.6	9.2	14.3	13.2	18.8	15.4	10.8	11.9	9.3	10.7	11.9	13.9	13.3	23.9	13.8	32.3	32.2	25.7	16.9
Potassium, Total	mg/kg	---		878	856	462	553	930 J-	720 J-	593	532	1,350	1,330	637	678	415	406	486	457	630	935	551	3,060	3,130	1,180	1,460
Selenium, Total	mg/kg	180		3.0 J	2.8 J	4.2 J	2.7 J	<5.2 U	<4.8 U	3.6 J	2.7 J	<5.5 U	<5.3 U	2.7 J	3.3 J	<5.3 U	2.7 J	3.2 J	1.7 J	2.7 J	2.5 J	<5.1 U	<5.8 U	<6.0 U	<6.5 U	<5.4 U
Silver, Total	mg/kg	180		<0.48 U	<0.46 U	<0.49 U	<0.46 U	<0.52 U	<0.48 U	<0.52 U	<0.54 U	<0.55 U	0.23 J	<0.46 U	<0.54 U	<0.53 U	<0.50 U	<0.58 U	<0.47 U	<0.46 U	<0.55 U	<0.51 U	<0.58 U	<0.60 U	<0.65 U	<0.54 U
Sodium, Total	mg/kg	---		527	419	386	167	361	300	770	376	186	173	151	549	52.6 J	37.5 J	106	462	52.7	306	335	475	308	628	309
Thallium, Total	mg/kg	---		1.4 J	1.0 J	<3.0 U	<2.8 U	<3.1 U	1.4 J	1.5 J	<3.2 U	<3.3 U	<3.2 U	<2.7 U	1.6 J	<3.2 U	1.0 J	1.3 J	<2.8 U	1.1 J	<3.3 U	<3.1 U	<3.5 U	<3.6 U	<3.9 U	<3.2 U
Vanadium, Total	mg/kg	---		43.9	33.6	22.4	17.6	25.3 J+	24.8 J+	42.4	27.9	20.1	18.5	16.4	32.2	12.7	15.5	16.7	29.5	11.9	20.9	18.0	40.0	35.4	35.4	21.9
Zinc, Total	mg/kg	10,000[d]		53.5	83.0	134	64.4	40.9	31.8	50.8	54.0	392	274	39.5	50.9	46.6	43.3	53.2	43.4	45.3	61.4	82.6	120	82.2	166	145
PCB																										
PCB, Total	mg/kg	1		<0.31 U	<0.31 U	<0.33 U	<0.33 U	<0.32 U	<0.32 U	<0.32 U	<0.31 U	<0.33 U	<0.32 U	<0.32 U	<0.33 U	<0.33 U	<2.7 U	<0.35 U	<0.32 U	<0.32 U	<0.35 U	<0.33 U	<0.36 U	<0.37 U	<0.41 U	<0.33 U
PCB-1016	mg/kg	---		<0.034 U	<0.034 U	<0.036 U	<0.036 U	<0.035 U	<0.035 U	<0.035 U	<0.034 U	<0.037 U	<0.035 U	<0.036 U	<0.037 U	<0.037 U	<0.30 U	<0.038 U	<0.035 U	<0.036 U	<0.038 U	<0.037 U	<0.039 U	<0.040 U	<0.045 U	<0.037 U
PCB-1221	mg/kg	---		<0.034 U	<0.034 U	<0.036 U	<0.036 U	<0.035 U	<0.035 U	<0.035 U	<0.034 U	<0.037 U	<0.035 U	<0.036 U	<0.037 U	<0.037 U	<0.30 U	<0.038 U	<0.035 U	<0.036 U	<0.038 U	<0.037 U	<0.039 U	<0.040 U	<0.045 U	<0.037 U
PCB-1232	mg/kg	---		<0.034 U	<0.034 U	<0.036 U	<0.036 U	<0.035 U	<0.035 U	<0.035 U	<0.034 U	<0.037 U	<0.035 U	<0.036 U	<0.037 U	<0.037 U	<0.30 U	<0.038 U	<0.035 U	<0.036 U	<0.038 U	<0.037 U	<0.039 U	<0.040 U	<0.045 U	<0.037 U
PCB-1242	mg/kg	---		<0.034 U	<0.034 U	<0.036 U	<0.036 U	<0.035 U	<0.035 U	<0.035 U	<0.034 U	<0.037 U	<0.035 U	<0.036 U	<0.037 U	<0.037 U	<0.30 U	<0.038 U	<0.035 U	<0.036 U	<0.038 U	<0.037 U	<0.039 U	<0.040 U	<0.045 U	<0.037 U
PCB-1248	mg/kg	---		<0.034 U	<0.034 U	<0.036 U	<0.036 U	<0.035 U	<0.035 U	<0.035 U	<0.034 U	<0.037 U	<0.035 U	<0.036 U	<0.037 U	<0.037 U	<0.30 U	<0.038 U	<0.035 U	<0.036 U	<0.038 U	<0.037 U	<0.039 U	<0.040 U	<0.045 U	<0.037 U
PCB-1254	mg/kg	---		<0.034 U	<0.034 U	<0.036 U	<0.036 U	<0.035 U	<0.035 U	<0.035 U	<0.034 U	<0.037 U	<0.035 U	<0.036 U	<0.037 U	<0.037 U	<0.30 U	<0.038 U	<0.035 U	<0.036 U	<0.038 U	<0.037 U	<0.039 U	<0.040 U	<0.045 U	<0.037 U
PCB-1260	mg/kg	---		<0.034 U	<0.034 U	<0.036 U	<0.036 U	<0.035 U	<0.035 U	<0.035 U	<0.034 U	<0.037 U	<0.035 U	<0.036 U	<0.037 U	<0.037 U	<0.30 U	<0.038 U	<0.035 U	<0.036 U	<0.038 U	<0.037 U	<0.039 U	<0.040 U	<0.045 U	<0.037 U
Pesticide																										
4,4-DDD	mg/kg	13		<0.0174 UJ	<0.0174 UJ	<0.0176 U	<0.0182 U	<0.0170 UJ	<0.0175 UJ	<0.0169 U	<0.0176 U	<0.0184 U	<0.0182 U	<0.0176 U	<0.0191 U	<0.0183 U	<0.0176 U	<0.0194 U	<0.0177 U	<0.0174 U	<0.0192 U	<0.0183 U	<0.0197 U	<0.0202 U	<0.0223 U	<0.0184 U
4,4-DDE	mg/kg	8.9		<0.0174 UJ	<0.0174 UJ	0.0045 J	<0.0182 U	<0.0170 UJ	<0.0175 UJ	<0.0169 U	<0.0176 U	<0.0184 U	<0.0182 U	<0.0176 U	0.0030 J	<0.0183 U	0.0038 J	<0.0194 U	<0.0177 U	<0.0174 U	<0.0192 U	<0.0183 U	<0.0197 U	<0.0202 U	0.0528	<0.0184 U
4,4-DDT	mg/kg	7.9		<0.0174 UJ	<0.0174 UJ	0.0201	0.0049 J	<0.0170 UJ	<0.0175 UJ	<0.0169 U	<0.0176 U	<0.0184 U	<0.0182 U	<0.0176 U	0.0086 J	0.0023 J	0.0031 J	0.0051 J	<0.0177 U	<0.0174 U	0.0031 J	0.0097 J	<0.0197 U	<0.0202 U	0.0730	0.0112 J
Aldrin	mg/kg	0.097		<0.0090 UJ	<0.0090 UJ	<0.0091 U	<0.0094 U	<0.0088 UJ	<0.0090 UJ	<0.0087 U	<0.0091 U	<0.0095 U	<0.0094 U	<0.0091 U	<0.0099 U	<0.0094 U	<0.0091 U	<0.0100 U	<0.0091 U	<0.0089 U	<0.0099 U	<0.0094 U	<0.0102 U	<0.0104 U	<0.0115 U	<0.0095 U
alpha-BHC	mg/kg	0.48		<0.0090 UJ	<0.0090 UJ	<0.0091 U	<0.0094 U	<0.0088 UJ	<0.0090 UJ	<0.0087 U	<0.0091 U	<0.0095 U	<0.0094 U	<0.0091 U	<0.0099 U	<0.0094 U	<0.0091 U	<0.0100 U	<0.0091 U	<0.0089 U	<0.0099 U	<0.0094 U	<0.0102 U	<0.0104 U	<0.0115 U	<0.0095 U
alpha-Chlordane	mg/kg	4.2		<0.0090 UJ	<0.0090 UJ	<0.0091 U	<0.0094 U	<0.0088 UJ	<0.0090 UJ	<0.0087 U	<0.0091 U	<0.0095 U	<0.0094 U	<0.0091 U	0.0017 J	<0.0094 U	<0.0091 U	0.0037 J	<0.0091 U	0.0051 J	<0.0099 U	<0.0094 U	<0.0102 U	<0.0104 U	1.020	0.0168
beta-BHC	mg/kg	0.36		<0.0090 UJ	<0.0090 UJ	<0.0091 U	<0.0094 U	<0.0088 UJ	<0.0090 UJ	<0.0087 U	<0.0091 U	<0.0095 U	<0.0094 U	<0.0091 U	<0.0099 U	<0.0094 U	<0.0091 U	<0.0100 U	<0.0091 U	<0.0089 U	<0.0099 U	<0.0094 U	<0.0102 U	<0.0104 U	<0.0115 U	<0.0095 U
delta-BHC	mg/kg	100[a]		<0.0090 UJ	<0.0090 UJ	<0.0091 U	<0.0094 U	<0.0088 UJ	<0.0090 UJ	<0.0087 U	<0.0091 U	<0.0095 U	<0.0094 U	<0.0091 U	<0.0099 U	<0.0094 U	<0.0091 U	<0.0100 U	<0.0091 U	<0.0089 U	<0.0099 U	<0.0094 U	<0.0102 U	<0.0104 U	<0.0115 U	<0.0095 U
Dieldrin	mg/kg	0.2		<0.0174 UJ	<0.0174 UJ	<0.0176 U	<0.0182 U	<0.0170 UJ	<0.0175 UJ	<0.0169 U	<0.0176 U	<0.0184 U	<0.0182 U	<0.0176 U	<0.0191 U	<0.0183 U	<0.0176 U	<0.0194 U	<0.0177 U	<0.0174 U	<0.0192 U	<0.0183 U	<0.0197 U	<0.0202 U	<0.0223 U	<0.0184 U
Endosulfan I	mg/kg	24[i]		<0.0090 UJ	<0.0090 UJ	<0.0091 U	<0.0094 U	<0.0088 UJ	<0.0090 UJ	<0.0087 U	<0.0091 U	<0.0095 U	<0.0094 U	<0.0091 U	<0.0099 U	<0.0094 U	<0.0091 U	<0.0100 U	<0.0091 U	<0.0089 U	<0.0099 U	<0.0094 U	<0.0102 U	<0.0104 U	<0.0115 U	<0.0095 U
Endosulfan II	mg/kg	24[i]		<0.0174 UJ	<0.0174 UJ	<0.0176 U	<0.0182 U	<0.0170 UJ	<0.0175 UJ	<0.0169 U	<0.0176 U	<0.0184 U	<0.0182 U	<0.0176 U	<0.0191 U	<0.0183 U	<0.0176 U	<0.0194 U	<0.0177 U	<0.0174 U	<0.0192 U	<0.0183 U	<0.0197 U	<0.0202 U	<0.0223 U	<0.0184 U
Endosulfan sulfate	mg/kg	24[i]		<0.0174 UJ	<0.0174 UJ	<0.0176 U	<0.0182 U	<0.0170 UJ	<0.0175 UJ	<0.0169 U	<0.0176 U	<0.0184 U	<0.0182 U	<0.0176 U	<0.0191 U	<0.0183 U	<0.0176 U	<0.0194 U	<0.0177 U	<0.0174 U	<0.0192 U	<0.0183 U	<0.0197 U	<0.0202 U	<0.0223 U	<0.0184 U
Endrin	mg/kg	11		<0.0174 UJ	<0.0174 UJ	<0.0176 U	<0.0182 U	<0.0170 UJ	<0.0175 UJ	<0.0169 U	<0.0176 U	<0.0184 U	<0.0182 U	<0.0176 U	<0.0191 U	<0.0183 U	<0.0176 U	<0.0194 U	<0.0177 U	<0.0174 U	<0.0192 U	<0.0183 U	<0.0197 U	<0.0202 U	0.0229	<0.0184 U
Endrin aldehyde	mg/kg	---		<0.0174 UJ	<0.0174 UJ	<0.0176 U	<0.0182 U	<0.0170 UJ	<0.0175 UJ	<0.0169 U	<0.0176 U	<0.0184 U	<0.0182 U	<0.0176 U	<0.0191 U	<0.0183 U	<0.0176 U	<0.0194 U	<0.0177 U	<0.0174 U	<0.0192 U	<0.0183 U	<0.0197 U	<0.0202 U	<0.0223 U	<0.0184 U
Endrin ketone	mg/kg	---		<0.0174 UJ	<0.0174 UJ	<0.0176 U	<0.0182 U	<0.0170 UJ	<0.0175 UJ	<0.0169 U	<0.0176 U	<0.0184 U	<0.0182 U	<0.0176 U	<0.0191 U	<0.0183 U	<0.0176 U	<0.0194 U	<0.0177 U	<0.0174 U	<0.0192 U	<0.0183 U	<0.0197 U	<0.0202 U	<0.0223 U	<0.0184 U
gamma-BHC	mg/kg	1.3		<0.0090 UJ	<0.0090 UJ	<0.0091 U	<0.0094 U	<0.0088 UJ	<0.0090 UJ	<0.0087 U	<0.0091 U	<0.0095 U	<0.0094 U	<0.0091 U	<0.0099 U	<0.0094 U	<0.0091 U	<0.0100 U	<0.0091 U	<0.0089 U	<0.0099 U	<0.0094 U	<0.0102 U	<0.0104 U	<0.0115 U	<0.0095 U
gamma-Chlordane	mg/kg	---		0.0075 J-	0.0675 J-	<0.0091 U	<0.0094 U	<0.0088 UJ	<0.0090 UJ	<0.0087 U	<0.0091 U	<0.0095 U	<0.0094 U	<0.0091 U	0.0021 J	<0.0094 U	<0.0091 U	0.0043 J	<0.0091 U	0.0062 J	<0.0099 U	<0.0094 U	<0.0102 U	<0.0104 U	0.940	0.0106
Heptachlor	mg/kg	2.1		<0.0090 UJ	<0.0090 UJ	<0.0091 U	<0.0094 U	<0.0088 UJ	<0.0090 UJ	<0.0087 U	<0.0091 U	<0.0095 U	<0.0094 U	<0.0091 U	<0.0099 U	<0.0094 U	<0.0091 U	<0.0100 U	<0.0091 U	<0.0089 U	<0.0099 U	<0.0094 U	<0.0102 U	<0.0104 U	0.0168	<0.0095 U
Heptachlor epoxide	mg/kg	---		<0.0090 UJ	<0.0090 UJ	<0.0091 U	<0.0094 U	<0.0088 UJ	<0.0090 UJ	<0.0087 U	<0.0091 U	<0.0095 U	<0.0094 U	<0.0091 U	<0.0099 U	<0.0094 U	<0.0091 U	<0.0100 U	<0.0091 U	<0.0089 U	<0.0099 U	<0.0094 U	<0.0102 U	<0.0104 U	0.232	0.0036 J
Methoxychlor	mg/kg	---		<0.0174 UJ	<0.0174 UJ	<0.0176 U	<0.0182 U	<0.0170 UJ	<0.0175 UJ	<0.0169 U	<0.0176 U	<0.0184 U	<0.0182 U	<0.0176 U	<0.0191 U	<0.0183 U	<0.0176 U	<0.0194 U	<0.0177 U	<0.0174 U	<0.0192 U	<0.0183 U	<0.0197 U	<0.0202 U	<0.0223 U	<0.0184 U
Mirex	mg/kg	---		<0.0174 UJ	<0.0174 UJ	<0.0176 U	<0.0182 U	<0.0170 UJ	<0.0175 UJ	<0.0169 U	<0.0176 U	<0.0184 U	<0.0182 U	<0.0176 U	<0.0191 U	<0.0183 U	<0.0176 U	<0.0194 U	<0.0177 U	<0.0174 U	<0.0192 U	<0.0183 U	<0.0197 U	<0.0202 U	<0.0223 U	<0.0184 U
Toxaphene	mg/kg	---		<0.185 UJ	<0.185 UJ	<0.187 U	<0.193 U	<0.180 UJ	<0.186 UJ	<0.179 U	<0.186 U	<0.195 U	<0.193 U	<0.187 U	<0.203 U	<0.194 U	<0.187 U	<0.206 U	<0.188 U	<0.184 U	<0.204 U	<0.194 U	<0.209 U	<0.214 U	<0.237 U	<0.195 U

Table B. Remedial Performance Documentation Sampling Results (by area)

Orange and Rockland Utilities, Inc. - Haverstraw Clove Ave. & Maple Ave. Former MGP Site
Haverstraw, Rockland County, New York
Operable Unit Number: 01 (OU-1)
Site No. 3-44-049

Station Name:			DSS-01	DSS-02	DSS-03	DSS-04	DSS-05	DSS-05	DSS-06	DSS-07	DSS-08	DSS-09	DSS-10	DSS-11	DSS-12	DSS-13	DSS-14	DSS-15	DSS-16	DSS-17	DSS-18
Field Sample ID[1]:			DSS-01 (13.0-13.5') 2019-12-03	DSS-02 (11.0-11.5') 2019-12-03	DSS-03 (9.5-10.0') 2019-12-03	DSS-04 (9.5-10.0') 2019-12-03	DSS-05 (12.0-12.5') 2019-12-03	DSS-05 (12.0-12.5') 2019-12-03-Dup	DSS-06 (13.0-13.5') 2019-12-03	DSS-07 (13.0-13.5') 2019-12-03	DSS-08 (13.0-13.5') 2019-12-03	DSS-09-11.3/11.8-2018-03-20	DSS-10-9.5/10.0-2018-03-20	DSS-11-11.7/12.2-2018-03-20	DSS-12-13.0/13.5-2018-03-20	DSS-13-13.0/13.5-2018-03-20	DSS-14-14.5/15.0-2018-03-23	DSS-15-13.5/14.0-2018-03-23	DSS-16-14.5/15.0-2018-03-23	DSS-17-12.0/12.5-2018-03-23	DSS-18-12.0/12.5-2018-03-23
Lab Report ID[1]:			DSS-01-13.0-13.5. 2019-12-03	DSS-02-11.0-11.5. 2019-12-03	DSS-03-9.5-10.0. 2019-12-03	DSS-04-9.5-10.0. 2019-12-03	DSS-05-12.0-12.5. 2019-12-03	DUP-01. 2019-12-03	DSS-06-13.0-13.5. 2019-12-03	DSS-07-13.0-13.5. 2019-12-03	DSS-08-13.0-13.5. 2019-12-03	DSS-09-11.3/11.8-2018-03-20	DSS-10-9.5/10.0-2018-03-20	DSS-11-11.7/12.2-2018-03-20	DSS-12-13.0/13.5-2018-03-20	DSS-13-13.0/13.5-2018-03-20	DSS-14-14.5/15.0-2018-03-23	DSS-15-13.5/14.0-2018-03-23	DSS-16-14.5/15.0-2018-03-23	DSS-17-12.0/12.5-2018-03-23	DSS-18-12.0/12.5-2018-03-23
Parameter	Units	NY Soil RRSCO	12/03/2019 7.4' - 6.9' above MSL	12/03/2019 7.8' - 7.3' above MSL	12/03/2019 9' - 8.5' above MSL	12/03/2019 9.2' - 8.7' above MSL	12/03/2019 7.2' - 6.7' above MSL	12/03/2019 7.2' - 6.7' above MSL	12/03/2019 5.6' - 5.1' above MSL	12/03/2019 8.6' - 8.1' above MSL	12/03/2019 6.4' - 5.9' above MSL	03/20/2018 13.3' - 12.8' above MSL	03/20/2018 18.5' - 18' above MSL	03/20/2018 17.1' - 16.6' above MSL	03/20/2018 17.5' - 17' above MSL	03/20/2018 19.4' - 18.9' above MSL	03/23/2018 17.8' - 17.3' above MSL	03/23/2018 19.3' - 18.8' above MSL	03/23/2018 17.9' - 17.4' above MSL	03/23/2018 19.7' - 19.2' above MSL	03/23/2018 19.7' - 19.2' above MSL
			Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag
Cyanide																					
Cyanide, Total	mg/kg	**27**	0.68 J-	0.40 J-	<0.30 UJ	<0.30 UJ	<0.25 UJ	<0.28 UJ	<0.28 UJ	0.12 J-	<0.27 UJ	0.19 J-	0.19 J-	0.17 J-	0.21 J-	0.16 J-	0.22 J-,B	0.21 J-,B	4.5 J-	0.27 J-,B	0.16 J-,B
BTEX																					
Benzene	mg/kg	**4.8**	2.730	**13.900**	**45.200**	**6.500**	**14.400** J+	**13.500** J+	0.0024 J+	0.0502	<0.0021 U	**135.000**	0.0124	0.0222	0.0039 J	0.0091 J	<0.00044 UJ	<0.00048 UJ	<0.00044 UJ	<0.00041 UJ	<0.00050 UJ
Ethylbenzene	mg/kg	**41**	0.0277	0.0283	34.900	1.170	<0.0020 U	<0.0022 U	<0.0019 U	0.0394	<0.0021 U	25.800	0.0189	0.0763	<0.00086 UJ	<0.00077 UJ	<0.00060 UJ	<0.00065 UJ	<0.00059 UJ	<0.00056 UJ	<0.00068 UJ
Toluene	mg/kg	**100**[a]	0.0199	0.0748	39.000	0.0474	0.0156 J+	0.0285 J+	<0.0019 U	0.0051	<0.0021 U	**201.000** J+	0.0119	0.0126	0.0017 J	0.0021 J	<0.00059 UJ	<0.00064 UJ	<0.00058 UJ	<0.00056 UJ	0.0008 J-
Xylene, o	mg/kg	---	0.0362	0.0804	28.500	0.195	<0.0020 U	<0.0022 U	0.00057 J+	0.0363	<0.0021 U	65.900	0.0372	0.0484	<0.00073 UJ	<0.00066 UJ	<0.00051 UJ	<0.00056 UJ	<0.00050 UJ	<0.00048 UJ	<0.00058 UJ
Xylenes, m + p	mg/kg	---	0.0302	0.115	56.400	0.463	<0.0040 U	<0.0045 U	<0.0037 U	0.0453	<0.0043 U	149.000	0.0614	0.251	<0.0010 UJ	<0.00094 UJ	<0.00074 UJ	<0.00080 UJ	<0.00072 UJ	<0.00069 UJ	<0.00084 UJ
Xylenes, Total	mg/kg	**100**[a]	0.0664	0.195	84.800	0.658	<0.0059 U	<0.0067 U	<0.0056 U	0.0816	<0.0064 U	**215.000**	0.0986	0.299	<0.0018 UJ	<0.0016 UJ	<0.0012 UJ	<0.0013 UJ	<0.0012 UJ	<0.0012 UJ	<0.0014 UJ
VOC																					
1,1,1,2-Tetrachloroethane	mg/kg	---	<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.359 U	<0.00068 U	<0.00054 U	<0.00081 UJ	<0.00073 UJ	<0.00057 UJ	<0.00062 UJ	<0.00056 UJ	<0.00053 UJ	<0.00064 UJ
1,1,1-Trichloroethane	mg/kg	**100**[a]	<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.226 U	<0.00066 U	<0.00053 U	<0.00078 UJ	<0.00070 UJ	<0.00055 UJ	<0.00060 UJ	<0.00054 UJ	<0.00051 UJ	<0.00062 UJ
1,1,2,2-Tetrachloroethane	mg/kg	---	<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.349 U	<0.00059 U	<0.00048 U	<0.00071 UJ	<0.00064 UJ	<0.00050 UJ	<0.00054 UJ	<0.00049 UJ	<0.00046 UJ	<0.00056 UJ
1,1,2-Trichloroethane	mg/kg	---	<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.338 U	<0.00059 U	<0.00048 U	<0.00071 UJ	<0.00064 UJ	<0.00050 UJ	<0.00054 UJ	<0.00049 UJ	<0.00046 UJ	<0.00056 UJ
1,1-Dichloroethane	mg/kg	**26**	<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.287 U	<0.00053 U	<0.00043 U	<0.00063 UJ	<0.00057 UJ	<0.00044 UJ	<0.00048 UJ	<0.00044 UJ	<0.00041 UJ	<0.00050 UJ
1,1-Dichloroethene	mg/kg	**100**[a]	<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.297 U	<0.00055 U	<0.00044 U	<0.00065 UJ	<0.00059 UJ	<0.00046 UJ	<0.00050 UJ	<0.00045 UJ	<0.00043 UJ	<0.00052 UJ
1,1-Dichloropropene	mg/kg	---	<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.277 U	<0.00053 U	<0.00043 U	<0.00063 UJ	<0.00057 UJ	<0.00044 UJ	<0.00048 UJ	<0.00044 UJ	<0.00041 UJ	<0.00050 UJ
1,2,3-Trichlorobenzene	mg/kg	---	<0.0045 U	<0.0046 U	<0.614 U	<0.0063 U	<0.0050 U	<0.0056 U	<0.0047 U	<0.0031 U	<0.0054 U	<0.954 U	<0.00053 U	<0.00043 U	<0.00063 UJ	<0.00057 UJ	<0.00044 UJ	<0.00048 UJ	<0.00044 UJ	<0.00041 UJ	<0.00050 UJ
1,2,3-Trichloropropane	mg/kg	---	<0.0018 U	<0.0019 U	<0.614 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.615 U	<0.00053 U	<0.00043 U	<0.00063 UJ	<0.00057 UJ	<0.00044 UJ	<0.00048 UJ	<0.00044 UJ	<0.00041 UJ	<0.00050 UJ
1,2,4-Trichlorobenzene	mg/kg	---	<0.0045 U	<0.0046 U	<0.614 U	<0.0063 U	<0.0050 U	<0.0056 U	<0.0047 U	<0.0031 U	<0.0054 U	<0.841 U	<0.00053 U	<0.00043 U	<0.00063 UJ	<0.00057 UJ	<0.00044 UJ	<0.00048 UJ	<0.00044 UJ	<0.00041 UJ	<0.00050 UJ
1,2,4-Trimethylbenzene	mg/kg	**52**	0.0157	0.0147	16.000	1.760	<0.0020 U	<0.0022 U	<0.0019 U	0.0721	<0.0021 U	**71.300**	0.145	0.142	<0.00063 UJ	<0.00057 UJ	<0.00044 UJ	<0.00048 UJ	<0.00044 UJ	<0.00041 UJ	<0.00050 UJ
1,2-Dibromo-3-chloropropane	mg/kg	---	<0.0045 U	<0.0046 U	<2.150 U	<0.0063 U	<0.0050 U	<0.0056 U	<0.0047 U	<0.0031 U	<0.0054 U	<1.540 U	<0.0031 U	<0.0025 U	<0.0037 UJ	<0.0033 UJ	<0.0026 UJ	<0.0028 UJ	<0.0025 UJ	<0.0024 UJ	<0.0029 UJ
1,2-Dibromoethane	mg/kg	---	<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.287 U	<0.00057 U	<0.00046 U	<0.00068 UJ	<0.00061 UJ	<0.00048 UJ	<0.00052 UJ	<0.00047 UJ	<0.00045 UJ	<0.00054 UJ
1,2-Dichlorobenzene	mg/kg	**100**[a]	<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.390 U	<0.00053 U	<0.00043 U	<0.00063 UJ	<0.00057 UJ	<0.00044 UJ	<0.00048 UJ	<0.00044 UJ	<0.00041 UJ	<0.00050 UJ
1,2-Dichloroethane	mg/kg	**3.1**	<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.328 U	<0.00053 U	<0.00043 U	<0.00063 UJ	<0.00057 UJ	<0.00044 UJ	<0.00048 UJ	<0.00044 UJ	<0.00041 UJ	<0.00050 UJ
1,2-Dichloropropane	mg/kg	---	<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.246 U	<0.00063 U	<0.00051 U	<0.00076 UJ	<0.00068 UJ	<0.00053 UJ	<0.00058 UJ	<0.00052 UJ	<0.00050 UJ	<0.00060 UJ
1,3,5-Trimethylbenzene	mg/kg	**52**	0.0018 J	0.0032	5.120	0.179	<0.0020 U	<0.0022 U	<0.0019 U	0.0209	<0.0021 U	21.900	0.0484	0.0539	<0.00063 UJ	<0.00057 UJ	<0.00044 UJ	<0.00048 UJ	<0.00044 UJ	<0.00041 UJ	<0.00050 UJ
1,3-Dichlorobenzene	mg/kg	**49**	<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.256 U	<0.00053 U	<0.00043 U	<0.00063 UJ	<0.00057 UJ	<0.00044 UJ	<0.00048 UJ	<0.00044 UJ	<0.00041 UJ	<0.00050 UJ
1,3-Dichloropropane	mg/kg	---	<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.277 U	<0.00088 U	<0.00071 U	<0.0010 UJ	<0.00094 UJ	<0.00074 UJ	<0.00080 UJ	<0.00072 UJ	<0.00069 UJ	<0.00084 UJ
1,4-Dichlorobenzene	mg/kg	**13**	<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.277 U	<0.00053 U	<0.00043 U	<0.00063 UJ	<0.00057 UJ	<0.00044 UJ	<0.00048 UJ	<0.00044 UJ	<0.00041 UJ	<0.00050 UJ
1,4-Dioxane	mg/kg	**13**	--	--	--	--	--	--	--	--	--	<60.400* U	<0.0188 U	<0.0151 U	<0.0224 UJ	<0.0202 UJ	<0.0158 UJ	<0.0171 UJ	<0.0155 UJ	<0.0147 UJ	<0.0179 UJ
2,2-Dichloropropane	mg/kg	---	<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.328 U	<0.00053 U	<0.00043 U	<0.00063 UJ	<0.00057 UJ	<0.00044 UJ	<0.00048 UJ	<0.00044 UJ	<0.00041 UJ	<0.00050 UJ
2-Butanone (MEK)	mg/kg	**100**[a]	0.0208	<0.0093 U	<3.070 U	<0.0126 U	<0.0099 U	<0.0112 U	<0.0093 U	<0.0062 U	<0.0107 U	<1.850 U	<0.0034 U	<0.0027 U	<0.0040 UJ	<0.0036 UJ	<0.0028 UJ	<0.0031 UJ	<0.0028 UJ	<0.0027 UJ	<0.0032 UJ
2-Chlorotoluene	mg/kg	---	<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.267 U	<0.00053 U	<0.00043 U	<0.00063 UJ	<0.00057 UJ	<0.00044 UJ	<0.00048 UJ	<0.00044 UJ	<0.00041 UJ	<0.00050 UJ
2-Hexanone	mg/kg	---	<0.0090 U	<0.0093 U	<1.540 U	<0.0126 U	<0.0099 U	<0.0112 U	<0.0093 U	<0.0062 U	<0.0107 U	<1.330 U	<0.0030 U	<0.0024 U	<0.0035 UJ	<0.0032 UJ	<0.0025 UJ	<0.0027 UJ	<0.0024 UJ	<0.0023 UJ	<0.0028 UJ
4-Chlorotoluene	mg/kg	---	<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.338 U	<0.00053 U	<0.00043 U	<0.00063 UJ	<0.00057 UJ	<0.00044 UJ	<0.00048 UJ	<0.00044 UJ	<0.00041 UJ	<0.00050 UJ
4-Isopropyltoluene	mg/kg	---	<0.0018 U	<0.0019 U	0.479	0.0489	<0.0020 U	<0.0022 U	<0.0019 U	0.0046	<0.0021 U	0.849 J	0.0035	0.0021	<0.00063 UJ	<0.00057 UJ	<0.00044 UJ	<0.00048 UJ	<0.00044 UJ	<0.00041 UJ	<0.00050 UJ
4-Methyl-2-Pentanone (MIBK)	mg/kg	---	<0.0090 U	<0.0093 U	<1.540 U	<0.0126 U	<0.0099 U	<0.0112 U	<0.0093 U	<0.0062 U	<0.0107 U	<1.540 U	<0.0040 U	<0.0032 U	<0.0048 UJ	<0.0043 UJ	<0.0034 UJ	<0.0037 UJ	<0.0033 UJ	<0.0031 UJ	<0.0038 UJ
Acetone	mg/kg	**100**[b]	0.672	0.0230	<3.070 U	0.0146	0.0104 J+	0.0131 J+	0.0179 J	0.0090	<0.0107 U	<3.180 U	0.0096 J	0.0082 J	0.0072 J	0.0072 J	<0.0041 UJ	0.0052 J-	0.0065 J-	<0.0038 UJ	0.0077 J-
Acetonitrile	mg/kg	---	<0.0090 U	<0.0093 U	<6.140 U	<0.0126 U	<0.0099 U	<0.0112 U	<0.0093 U	<0.0062 U	<0.0107 U	<2.460 U	<0.0036 U	<0.0029 U	<0.0043 UJ	<0.0039 UJ	<0.0030 UJ	<0.0033 UJ	<0.0030 UJ	<0.0028 UJ	<0.0034 UJ
Acrolein	mg/kg	---	<0.0452 U	<0.0464 U	<7.680 U	<0.0629 U	<0.0496 U	<0.0558 U	<0.0465 U	<0.0312 U	<0.0536 U	<3.080 U	<0.0070 U	<0.0056 U	<0.0083 UJ	<0.0075 UJ	<0.0058 UJ	<0.0063 UJ	<0.0057 UJ	<0.0055 UJ	<0.0066 UJ
Acrylonitrile	mg/kg	---	<0.0090 U	<0.0093 U	<1.540 U	<0.0126 U	<0.0099 U	<0.0112 U	<0.0093 U	<0.0062 U	<0.0107 U	<1.230 U	<0.0029 U	<0.0023 U	<0.0034 UJ	<0.0031 UJ	<0.0024 UJ	<0.0026 UJ	<0.0023 UJ	<0.0022 UJ	<0.0027 UJ
Allyl chloride	mg/kg	---	<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.267 U	<0.00053 U	<0.00043 U	<0.00063 UJ	<0.00057 UJ	<0.00044 UJ	<0.00048 UJ	<0.00044 UJ	<0.00041 UJ	<0.00050 UJ
Benzyl Chloride	mg/kg	---	<0.0018 U	<0.0019 UJ	<1.540 UJ	<0.0025 UJ	<0.0020 UJ	<0.0022 UJ	<0.0019 U	<0.0012 UJ	<0.0021 U	<0.472 UJ	<0.00053 UJ	<0.00043 UJ	<0.00063 UJ	<0.00057 UJ	<0.00044 UJ	<0.00048 UJ	<0.00044 UJ	<0.00041 UJ	<0.00050 UJ
Bromobenzene	mg/kg	---	<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.328 U	<0.00053 U	<0.00043 U	<0.00063 UJ	<0.00057 UJ	<0.00044 UJ	<0.00048 UJ	<0.00044 UJ	<0.00041 UJ	<0.00050 UJ
Bromochloromethane	mg/kg	---	<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.328 U	<0.00053 U	<0.00043 U	<0.00063 UJ	<0.00057 UJ	<0.00044 UJ	<0.00048 UJ	<0.00044 UJ	<0.00041 UJ	<0.00050 UJ
Bromodichloromethane	mg/kg	---	<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.277 U	<0.00075 U	<0.00060 U	<0.00089 UJ	<0.00081 UJ	<0.00063 UJ	<0.00068 UJ	<0.00062 UJ	<0.00059 UJ	<0.00072 UJ
Bromoform	mg/kg	---	<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.410 U	<0.00055 U	<0.00044 U	<0.00065 UJ	<0.00059 UJ	<0.00046 UJ	<0.00050 UJ	<0.00045 UJ	<0.00043 UJ	<0.00052 UJ
Bromomethane	mg/kg	---	<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.400 U	<0.00055 U	<0.00044 U	<0.00065 UJ	<0.00059 UJ	<0.00046 UJ	<0.00050 UJ	<0.00045 UJ	<0.00043 UJ	<0.00052 UJ
Carbon Disulfide	mg/kg	---	<0.0018 U	<0.0019 U	<0.307 U	0.0024 J	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.236 U	<0.00067 U	<0.00054 U	<0.00079 UJ	<0.00071 UJ	<0.00056 UJ	<0.00061 UJ	<0.00055 UJ	<0.00052 UJ	<0.00063 UJ
Carbon Tetrachloride	mg/kg	**2.4**	<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.318 U	<0.00054 U	<0.00043 U	<0.00064 UJ	<0.00058 UJ	<0.00045 UJ	<0.00049 UJ	<0.00044 UJ	<0.00042 UJ	<0.00051 UJ
Chlorobenzene	mg/kg	**100**[a]	<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.195 U	<0.00054 U	<0.00043 U	<0.00064 UJ	<0.00058 UJ	<0.00045 UJ	<0.00049 UJ	<0.00044 UJ	<0.00042 UJ	<0.00051 UJ
Chloroethane	mg/kg	---	<0.0045 U	<0.0046 U	<0.307 U	<0.0063 U	<0.0050 U	<0.0056 U	<0.0047 U	<0.0031 U	<0.0054 U	<0.338 U	<0.00090 U	<0.00072 U	<0.0011 UJ	<0.00096 UJ	<0.00075 UJ	<0.00082 UJ	<0.00074 UJ	<0.00070 UJ	<0.00086 UJ
Chloroform	mg/kg	**49**	<0.0018 U	<0.0019 U	0.0660 J	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	0.549 J	<0.00056 U	<0.00045 U	<0.00067 UJ	<0.00060 UJ	0.00048 J-,B	<0.00051 UJ	<0.00046 UJ	<0.00044 UJ	0.00054 J-,B

Table B. Remedial Performance Documentation Sampling Results (by area)

Orange and Rockland Utilities, Inc. - Haverstraw Clove Ave. & Maple Ave. Former MGP Site
Haverstraw, Rockland County, New York
Operable Unit Number: 01 (OU-1)
Site No. 3-44-049

Parameter	Units	NY Soil RRSCO	Station Name:	DSS-01	DSS-02	DSS-03	DSS-04	DSS-05	DSS-05	DSS-06	DSS-07	DSS-08	DSS-09	DSS-10	DSS-11	DSS-12	DSS-13	DSS-14	DSS-15	DSS-16	DSS-17	DSS-18
			Field Sample ID[1]:	DSS-01 (13.0-13.5') 2019-12-03	DSS-02 (11.0-11.5') 2019-12-03	DSS-03 (9.5-10.0') 2019-12-03	DSS-04 (9.5-10.0') 2019-12-03	DSS-05 (12.0-12.5') 2019-12-03	DSS-05 (12.0-12.5') 2019-12-03-Dup	DSS-06 (13.0-13.5') 2019-12-03	DSS-07 (13.0-13.5') 2019-12-03	DSS-08 (13.0-13.5') 2019-12-03	DSS-09-11.3/11.8-2018-03-20	DSS-10-9.5/10.0-2018-03-20	DSS-11-11.7/12.2-2018-03-20	DSS-12-13.0/13.5-2018-03-20	DSS-13-13.0/13.5-2018-03-20	DSS-14-14.5/15.0-2018-03-23	DSS-15-13.5/14.0-2018-03-23	DSS-16-14.5/15.0-2018-03-23	DSS-17-12.0/12.5-2018-03-23	DSS-18-12.0/12.5-2018-03-23
			Lab Report ID[1]:	DSS-01-13.0-13.5. 2019-12-03	DSS-02-11.0-11.5. 2019-12-03	DSS-03-9.5-10.0. 2019-12-03	DSS-04-9.5-10.0. 2019-12-03	DSS-05-12.0-12.5. 2019-12-03	DUP-01. 2019-12-03	DSS-06-13.0-13.5. 2019-12-03	DSS-07-13.0-13.5. 2019-12-03	DSS-08-13.0-13.5. 2019-12-03	DSS-09-11.3/11.8-2018-03-20	DSS-10-9.5/10.0-2018-03-20	DSS-11-11.7/12.2-2018-03-20	DSS-12-13.0/13.5-2018-03-20	DSS-13-13.0/13.5-2018-03-20	DSS-14-14.5/15.0-2018-03-23	DSS-15-13.5/14.0-2018-03-23	DSS-16-14.5/15.0-2018-03-23	DSS-17-12.0/12.5-2018-03-23	DSS-18-12.0/12.5-2018-03-23
				12/03/2019	12/03/2019	12/03/2019	12/03/2019	12/03/2019	12/03/2019	12/03/2019	12/03/2019	12/03/2019	03/20/2018	03/20/2018	03/20/2018	03/20/2018	03/20/2018	03/23/2018	03/23/2018	03/23/2018	03/23/2018	03/23/2018
				7.4' - 6.9' above MSL	7.8' - 7.3' above MSL	9' - 8.5' above MSL	9.2' - 8.7' above MSL	7.2' - 6.7' above MSL	7.2' - 6.7' above MSL	5.6' - 5.1' above MSL	8.6' - 8.1' above MSL	6.4' - 5.9' above MSL	13.3' - 12.8' above MSL	18.5' - 18' above MSL	17.1' - 16.6' above MSL	17.5' - 17' above MSL	19.4' - 18.9' above MSL	17.8' - 17.3' above MSL	19.3' - 18.8' above MSL	17.9' - 17.4' above MSL	19.7' - 19.2' above MSL	19.7' - 19.2' above MSL
				Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag
VOC *continued*																						
Chloromethane	mg/kg	---		<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.318 U	<0.00058 U	<0.00047 U	<0.00069 UJ	<0.00062 UJ	<0.00049 UJ	<0.00053 UJ	<0.00048 UJ	<0.00046 UJ	<0.00055 UJ
Chloroprene	mg/kg	---		<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.502 U	<0.00053 U	<0.00043 U	<0.00063 UJ	<0.00057 UJ	<0.00044 UJ	<0.00048 UJ	<0.00044 UJ	<0.00041 UJ	<0.00050 UJ
cis-1,2-Dichloroethene	mg/kg	**100**[a]		<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.328 U	<0.00053 U	<0.00043 U	<0.00063 UJ	<0.00057 UJ	<0.00044 UJ	<0.00048 UJ	<0.00044 UJ	<0.00041 UJ	<0.00050 UJ
cis-1,3-Dichloropropene	mg/kg	---		<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.318 U	<0.00058 U	<0.00047 U	<0.00069 UJ	<0.00062 UJ	<0.00049 UJ	<0.00053 UJ	<0.00048 UJ	<0.00046 UJ	<0.00055 UJ
Cyclohexane	mg/kg	---		<0.0018 U	<0.0019 U	<0.307 U	0.0051	<0.0020 U	<0.0022 U	<0.0019 U	0.0021	<0.0021 U	<0.297 U	<0.00054 U	<0.00043 U	<0.00064 UJ	<0.00058 UJ	<0.00045 UJ	<0.00049 UJ	<0.00044 UJ	<0.00042 UJ	<0.00051 UJ
Dibromochloromethane	mg/kg	---		<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.461 U	<0.00072 U	<0.00058 U	<0.00086 UJ	<0.00077 UJ	<0.00060 UJ	<0.00065 UJ	<0.00059 UJ	<0.00056 UJ	<0.00068 UJ
Dibromomethane	mg/kg	---		<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.318 U	<0.00076 U	<0.00061 U	<0.00091 UJ	<0.00082 UJ	<0.00064 UJ	<0.00069 UJ	<0.00063 UJ	<0.00060 UJ	<0.00073 UJ
Ethyl acetate	mg/kg	---		<0.0018 U	<0.0019 U	<0.614 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.328 U	0.0091 J	<0.00043 U	0.0105 J	0.0163 J	<0.00044 UJ	0.0026 UJ	<0.00044 UJ	0.00098 J-	0.0012 J-
Ethyl methacrylate	mg/kg	---		<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.328 U	<0.00054 U	<0.00043 U	<0.00064 UJ	<0.00058 UJ	<0.00045 UJ	<0.00049 UJ	<0.00044 UJ	<0.00042 UJ	<0.00051 UJ
Freon 113	mg/kg	---		<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.267 UJ	<0.00053 UJ	<0.00043 UJ	<0.00063 UJ	<0.00057 UJ	<0.00044 UJ	<0.00048 UJ	<0.00044 UJ	<0.00041 UJ	<0.00050 UJ
Freon 12	mg/kg	---		<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.338 U	<0.00071 U	<0.00057 U	<0.00084 UJ	<0.00076 UJ	<0.00059 UJ	<0.00064 UJ	<0.00058 UJ	<0.00056 UJ	<0.00067 UJ
Isobutanol	mg/kg	---		<0.0452 U	<0.0464 U	<23.000 U	<0.0629 U	<0.0496 U	<0.0558 U	<0.0465 U	<0.0312 U	<0.0536 U	<12.800 U	<0.0083 U	<0.0066 U	<0.0098 UJ	<0.0088 UJ	<0.0069 UJ	<0.0075 UJ	<0.0068 UJ	<0.0065 UJ	<0.0079 UJ
Isopropylbenzene	mg/kg	---		0.00073 J	<0.0019 U	0.578	0.0809	<0.0020 U	<0.0022 U	<0.0019 U	0.0082	<0.0021 U	<0.226 U	0.0017 J	0.0028	<0.00077 UJ	<0.00069 UJ	<0.00054 UJ	<0.00059 UJ	<0.00053 UJ	<0.00051 UJ	<0.00061 UJ
Methacrylonitrile	mg/kg	---		<0.0018 U	<0.0019 U	<0.614 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.564 U	<0.00057 U	<0.00046 U	<0.00068 UJ	<0.00061 UJ	<0.00048 UJ	<0.00052 UJ	<0.00047 UJ	<0.00045 UJ	<0.00054 UJ
Methyl acetate	mg/kg	---		<0.0018 U	<0.0019 U	<0.614 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.328 U	<0.00062 U	<0.00050 U	<0.00074 UJ	<0.00067 UJ	<0.00052 UJ	<0.00057 UJ	<0.00051 UJ	<0.00049 UJ	<0.00059 UJ
Methyl methacrylate	mg/kg	---		<0.0045 U	<0.0046 U	<0.921 U	<0.0063 U	<0.0050 U	<0.0056 U	<0.0047 U	<0.0031 U	<0.0054 U	<0.513 U	<0.0024 U	<0.0020 U	<0.0029 UJ	<0.0026 UJ	<0.0020 UJ	<0.0022 UJ	<0.0020 UJ	<0.0019 UJ	<0.0023 UJ
Methylcyclohexane	mg/kg	---		<0.0018 U	<0.0019 U	0.344	0.0278 J+	<0.0020 U	<0.0022 U	<0.0019 U	0.0088 J+	<0.0021 U	1.010 J	<0.00059 U	0.00049 J+	<0.00071 UJ	<0.00064 UJ	<0.00050 UJ	<0.00054 UJ	<0.00049 UJ	<0.00046 UJ	<0.00056 UJ
Methylene chloride (DCM)	mg/kg	**100**[a]		<0.0018 U	<0.0019 U	<0.307 U	0.0121	0.0041 B	0.0072 B	0.0064 B	0.0028 B	0.0068 B	<0.461 U	0.0096	0.0056	0.0253 J	0.0222 J	0.0024 J-	0.004 J-	0.0033 J-	0.0027 J-	0.0056 J-
Methyl-tert-butyl-ether	mg/kg	**100**[a]		<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.338 U	<0.00053 U	<0.00043 U	0.00087 J	0.00075 J	<0.00044 UJ	<0.00048 UJ	<0.00044 UJ	<0.00041 UJ	<0.00050 UJ
Naphthalene	mg/kg	**100**[a]		8.400	13.100	**495.000**	61.400	<0.0020 U	<0.0022 U	0.0177	8.570	<0.0021 U	**1,930**	30.400	19.100	0.0063 J	0.003 J	0.0012 J-,B	0.0012 J-,B	0.001 J-,B	0.0009 J-,B	0.001 J-,B
n-Butylbenzene	mg/kg	**100**[a]		<0.0018 U	<0.0019 U	0.627	0.0132	<0.0020 U	<0.0022 U	<0.0019 U	0.00073 J	<0.0021 U	<0.615 U	0.0024	0.0023	<0.00063 UJ	<0.00057 UJ	<0.00044 UJ	<0.00048 UJ	<0.00044 UJ	<0.00041 UJ	<0.00050 UJ
n-Propylbenzene	mg/kg	**100**[a]		0.00059 J	<0.0019 U	<0.307 U	0.0475	<0.0020 U	<0.0022 U	<0.0019 U	0.0042	<0.0021 U	5.890	0.0077	0.0126	<0.00063 UJ	<0.00057 UJ	<0.00044 UJ	<0.00048 UJ	<0.00044 UJ	<0.00041 UJ	<0.00050 UJ
Propionitrile	mg/kg	---		<0.0090 U	<0.0093 U	<3.070 U	<0.0126 U	<0.0099 U	<0.0112 U	<0.0093 U	<0.0062 U	<0.0107 U	<2.670 U	<0.0044 U	<0.0036 U	<0.0053 UJ	<0.0048 UJ	<0.0037 UJ	<0.0040 UJ	<0.0037 UJ	<0.0035 UJ	<0.0042 UJ
sec-Butylbenzene	mg/kg	**100**[a]		<0.0018 U	<0.0019 U	<0.307 U	0.0054	<0.0020 U	<0.0022 U	<0.0019 U	0.00053 J	<0.0021 U	<0.318 U	<0.00053 U	<0.00043 U	<0.00063 UJ	<0.00057 UJ	<0.00044 UJ	<0.00048 UJ	<0.00044 UJ	<0.00041 UJ	<0.00050 UJ
Styrene	mg/kg	---		<0.0018 U	0.0724	7.260	0.0043	<0.0020 U	<0.0022 U	<0.0019 U	0.00046 J	<0.0021 U	123.000	0.0025	0.0019	<0.00063 UJ	<0.00057 UJ	<0.00044 UJ	<0.00048 UJ	<0.00044 UJ	<0.00041 UJ	<0.00050 UJ
tert-Butyl Alcohol	mg/kg	---		0.0668	<0.0093 U	<3.070 U	<0.0126 U	<0.0099 U	<0.0112 U	<0.0093 U	<0.0062 U	<0.0107 U	<2.260 U	<0.0037 U	<0.0030 U	<0.0044 UJ	<0.0040 UJ	<0.0031 UJ	<0.0034 UJ	<0.0030 UJ	<0.0029 UJ	<0.0035 UJ
tert-Butylbenzene	mg/kg	**100**[a]		<0.0018 U	<0.0019 U	<0.614 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.451 U	<0.00058 U	<0.00047 U	<0.00069 UJ	<0.00062 UJ	<0.00049 UJ	<0.00053 UJ	<0.00048 UJ	<0.00046 UJ	<0.00055 UJ
Tetrachloroethene	mg/kg	**19**		<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.359 U	<0.00063 U	<0.00051 U	<0.00076 UJ	<0.00068 UJ	<0.00053 UJ	<0.00058 UJ	<0.00052 UJ	<0.00050 UJ	<0.00060 UJ
trans-1,2-Dichloroethene	mg/kg	**100**[a]		<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.267 U	<0.00055 U	<0.00044 U	<0.00065 UJ	<0.00059 UJ	<0.00046 UJ	<0.00050 UJ	<0.00045 UJ	<0.00043 UJ	<0.00052 UJ
trans-1,3-Dichloropropene	mg/kg	---		<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.297 U	<0.00061 U	<0.00049 U	<0.00073 UJ	<0.00066 UJ	<0.00051 UJ	<0.00056 UJ	<0.00050 UJ	<0.00048 UJ	<0.00058 UJ
Trichloroethene	mg/kg	**21**		<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.338 U	<0.00053 U	<0.00043 U	<0.00063 UJ	<0.00057 UJ	<0.00044 UJ	<0.00048 UJ	<0.00044 UJ	<0.00041 UJ	<0.00050 UJ
Trichlorofluoromethane	mg/kg	---		<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.246 U	<0.00053 U	<0.00043 U	<0.00063 UJ	<0.00057 UJ	<0.00044 UJ	<0.00048 UJ	<0.00044 UJ	<0.00041 UJ	<0.00050 UJ
Vinyl acetate	mg/kg	---		<0.0018 U	<0.0019 U	<1.540 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<1.640 U	<0.00055 UJ	<0.00044 UJ	<0.00065 UJ	<0.00059 UJ	<0.00046 UJ	<0.00050 UJ	<0.00045 UJ	<0.00043 UJ	<0.00052 UJ
Vinyl Chloride	mg/kg	**0.9**		<0.0018 U	<0.0019 U	<0.307 U	<0.0025 U	<0.0020 U	<0.0022 U	<0.0019 U	<0.0012 U	<0.0021 U	<0.308 U	<0.00053 U	<0.00043 U	<0.00063 UJ	<0.00057 UJ	<0.00044 UJ	<0.00048 UJ	<0.00044 UJ	<0.00041 UJ	<0.00050 UJ

Table B. Remedial Performance Documentation Sampling Results (by area)

Orange and Rockland Utilities, Inc. - Haverstraw Clove Ave. & Maple Ave. Former MGP Site
Haverstraw, Rockland County, New York
Operable Unit Number: 01 (OU-1)
Site No. 3-44-049

Parameter	Units	NY Soil RRSCO	Station Name:	DSS-01	DSS-02	DSS-03	DSS-04	DSS-05	DSS-05	DSS-06	DSS-07	DSS-08	DSS-09	DSS-10	DSS-11	DSS-12	DSS-13	DSS-14	DSS-15	DSS-16	DSS-17	DSS-18
			Field Sample ID[1]:	DSS-01 (13.0-13.5') 2019-12-03	DSS-02 (11.0-11.5') 2019-12-03	DSS-03 (9.5-10.0') 2019-12-03	DSS-04 (9.5-10.0') 2019-12-03	DSS-05 (12.0-12.5') 2019-12-03	DSS-05 (12.0-12.5') 2019-12-03-Dup	DSS-06 (13.0-13.5') 2019-12-03	DSS-07 (13.0-13.5') 2019-12-03	DSS-08 (13.0-13.5') 2019-12-03	DSS-09-11.3/11.8-2018-03-20	DSS-10-9.5/10.0-2018-03-20	DSS-11-11.7/12.2-2018-03-20	DSS-12-13.0/13.5-2018-03-20	DSS-13-13.0/13.5-2018-03-20	DSS-14-14.5/15.0-2018-03-23	DSS-15-13.5/14.0-2018-03-23	DSS-16-14.5/15.0-2018-03-23	DSS-17-12.0/12.5-2018-03-23	DSS-18-12.0/12.5-2018-03-23
			Lab Report ID[1]:	DSS-01-13.0-13.5. 2019-12-03	DSS-02-11.0-11.5. 2019-12-03	DSS-03-9.5-10.0. 2019-12-03	DSS-04-9.5-10.0. 2019-12-03	DSS-05-12.0-12.5. 2019-12-03	DUP-01. 2019-12-03	DSS-06-13.0-13.5. 2019-12-03	DSS-07-13.0-13.5. 2019-12-03	DSS-08-13.0-13.5. 2019-12-03	DSS-09-11.3/11.8-2018-03-20	DSS-10-9.5/10.0-2018-03-20	DSS-11-11.7/12.2-2018-03-20	DSS-12-13.0/13.5-2018-03-20	DSS-13-13.0/13.5-2018-03-20	DSS-14-14.5/15.0-2018-03-23	DSS-15-13.5/14.0-2018-03-23	DSS-16-14.5/15.0-2018-03-23	DSS-17-12.0/12.5-2018-03-23	DSS-18-12.0/12.5-2018-03-23
				12/03/2019	12/03/2019	12/03/2019	12/03/2019	12/03/2019	12/03/2019	12/03/2019	12/03/2019	12/03/2019	03/20/2018	03/20/2018	03/20/2018	03/20/2018	03/20/2018	03/23/2018	03/23/2018	03/23/2018	03/23/2018	03/23/2018
				7.4' - 6.9' above MSL	7.8' - 7.3' above MSL	9' - 8.5' above MSL	9.2' - 8.7' above MSL	7.2' - 6.7' above MSL	7.2' - 6.7' above MSL	5.6' - 5.1' above MSL	8.6' - 8.1' above MSL	6.4' - 5.9' above MSL	13.3' - 12.8' above MSL	18.5' - 18' above MSL	17.1' - 16.6' above MSL	17.5' - 17' above MSL	19.4' - 18.9' above MSL	17.8' - 17.3' above MSL	19.3' - 18.8' above MSL	17.9' - 17.4' above MSL	19.7' - 19.2' above MSL	19.7' - 19.2' above MSL
				Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag
SVOC																						
1,2,4,5-Tetrachlorobenzene	mg/kg	---		<0.115 U	<0.120 U	<0.139 U	<0.135 U	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	<0.0088 U	<0.0088 U	<0.0080 U	<0.0078 U	<0.0076 U	<0.0076 U	<0.0076 U	<0.0073 U	<0.0074 U	<0.0073 U
1,2,4-Trichlorobenzene	mg/kg	---		<0.115 U	<0.120 U	<0.139 U	<0.135 U	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	<0.0075 U	<0.0076 U	<0.0069 U	<0.0067 U	<0.0065 U	<0.0065 U	<0.0065 U	<0.0063 U	<0.0063 U	<0.0062 U
1,2-Dichlorobenzene	mg/kg	**100**[a]		<0.115 U	<0.120 U	<0.139 U	<0.135 U	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	<0.0113 U	<0.0114 U	<0.0103 U	<0.0100 U	<0.0098 U	<0.0098 U	<0.0098 U	<0.0094 U	<0.0095 U	<0.0093 U
1,2-Dinitrobenzene	mg/kg	---		<0.115 U	<0.120 U	<0.139 U	<0.135 U	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	<0.0238 U	<0.0240 U	<0.0218 U	<0.0212 U	<0.0207 U	<0.0207 U	<0.0207 U	<0.0198 U	<0.0201 U	<0.0197 U
1,2-Diphenylhydrazine	mg/kg	---		<0.115 U	<0.120 U	<0.139 U	<0.135 U	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	<0.0113 U	<0.0114 U	<0.0103 U	<0.0100 U	<0.0098 U	<0.0098 U	<0.0098 U	<0.0094 U	<0.0095 U	<0.0093 U
1,3-Dichlorobenzene	mg/kg	**49**		<0.115 U	<0.120 U	<0.139 U	<0.135 U	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	<0.0088 U	<0.0088 U	<0.0080 U	<0.0078 U	<0.0076 U	<0.0076 U	<0.0076 U	<0.0073 U	<0.0074 U	<0.0073 U
1,4-Dichlorobenzene	mg/kg	**13**		<0.115 U	<0.120 U	<0.139 U	<0.135 U	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	<0.0088 U	<0.0088 U	<0.0080 U	<0.0078 U	<0.0076 U	<0.0076 U	<0.0076 U	<0.0073 U	<0.0074 U	<0.0073 U
1,4-Dinitrobenzene	mg/kg	---		<0.115 U	<0.120 U	<0.139 U	<0.135 U	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	<0.0176 U	<0.0177 U	<0.0160 U	<0.0156 U	<0.0153 U	<0.0153 U	<0.0152 U	<0.0146 U	<0.0148 U	<0.0145 U
2,2-Oxybis(1-chloropropane)	mg/kg	---		<0.115 U	<0.120 U	<0.139 U	<0.135 U	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	<0.0188 U	<0.0190 U	<0.0172 U	<0.0167 U	<0.0164 U	<0.0164 U	<0.0163 U	<0.0157 U	<0.0158 U	<0.0156 U
2,4-Dinitrotoluene	mg/kg	---		<0.115 U	<0.120 U	<0.139 U	<0.135 U	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	<0.0113 U	<0.0114 U	<0.0103 U	<0.0100 U	<0.0098 U	<0.0098 U	<0.0098 U	<0.0094 U	<0.0095 U	<0.0093 U
2,6-Dinitrotoluene	mg/kg	---		<0.115 U	<0.120 U	<0.139 U	<0.135 U	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	<0.0151 U	<0.0152 U	<0.0138 U	<0.0134 U	<0.0131 U	<0.0131 U	<0.0131 U	<0.0125 U	<0.0127 U	<0.0125 U
2-Chloronaphthalene	mg/kg	---		<0.115 U	<0.120 U	<0.139 U	<0.135 U	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	<0.0075 U	<0.0076 U	<0.0069 U	<0.0067 U	<0.0065 U	<0.0065 U	<0.0065 U	<0.0063 U	<0.0063 U	<0.0062 U
2-Naphthalenamine	mg/kg	---		<0.230 U	<0.240 U	<0.278 U	<0.271 U	<0.235 U	<0.252 U	<0.236 U	<0.264 U	<0.251 U	<0.0201 U	<0.0202 U	<0.0183 U	<0.0178 U	<0.0175 U	<0.0175 U	<0.0174 U	<0.0167 U	<0.0169 U	<0.0166 U
2-Nitroaniline	mg/kg	---		<0.230 U	<0.240 U	<0.278 U	<0.271 U	<0.235 U	<0.252 U	<0.236 U	<0.264 U	<0.251 U	<0.0151 U	<0.0152 U	<0.0138 U	<0.0134 U	<0.0131 U	<0.0131 U	<0.0131 U	<0.0125 U	<0.0127 U	<0.0125 U
3,3-Dichlorobenzidine	mg/kg	---		<0.230 U	0.189 J	0.135 J	0.0968 J	0.0708 J	<0.252 U	<0.236 U	<0.264 U	0.0507 J	<0.0477 U	<0.0480 U	<0.0436 U	<0.0423 U	<0.0415 U	<0.0414 U	<0.0414 U	<0.0397 U	<0.0401 U	<0.0395 U
3-Nitroaniline	mg/kg	---		<0.230 U	<0.240 U	<0.278 U	<0.271 U	<0.235 U	<0.252 U	<0.236 U	<0.264 U	<0.251 U	<0.0251 U	<0.0253 U	<0.0229 U	<0.0223 U	<0.0218 U	<0.0218 U	<0.0218 U	<0.0209 U	<0.0211 U	<0.0208 U
4-Bromodiphenyl ether	mg/kg	---		<0.115 U	<0.120 U	<0.139 U	<0.135 U	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	<0.0113 U	<0.0114 U	<0.0103 U	<0.0100 U	<0.0098 U	<0.0098 U	<0.0098 U	<0.0094 U	<0.0095 U	<0.0093 U
4-Chloroaniline	mg/kg	---		<0.230 U	<0.240 U	<0.278 U	<0.271 U	<0.235 U	<0.252 U	<0.236 U	<0.264 U	<0.251 U	<0.0151 U	<0.0152 U	<0.0138 U	<0.0134 U	<0.0131 U	<0.0131 U	<0.0131 U	<0.0125 U	<0.0127 U	<0.0125 U
4-Chlorodiphenyl ether	mg/kg	---		<0.115 U	<0.120 U	<0.139 U	<0.135 U	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	<0.0100 U	<0.0101 U	<0.0092 U	<0.0089 U	<0.0087 U	<0.0087 U	<0.0087 U	<0.0084 U	<0.0085 U	<0.0083 U
4-Nitroaniline	mg/kg	---		<0.230 U	<0.240 U	<0.278 U	<0.271 U	<0.235 U	<0.252 U	<0.236 U	<0.264 U	<0.251 U	<0.0100 U	<0.0101 U	<0.0092 U	<0.0089 U	<0.0087 U	<0.0087 U	<0.0087 U	<0.0084 U	<0.0085 U	<0.0083 U
Acetophenone	mg/kg	---		<0.115 U	0.0249 J	<0.139 U	<0.135 U	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	<0.0100 UJ	<0.0101 UJ	<0.0092 UJ	<0.0089 UJ	<0.0087 UJ	<0.0087 UJ	<0.0087 UJ	<0.0084 UJ	<0.0085 UJ	<0.0083 UJ
Aniline	mg/kg	---		<0.230 U	<0.240 U	<0.278 U	<0.271 U	<0.235 U	<0.252 U	<0.236 U	<0.264 U	<0.251 U	<0.0188 U	<0.0190 U	<0.0172 U	<0.0167 U	<0.0164 U	<0.0164 U	<0.0163 U	<0.0157 U	<0.0158 U	<0.0156 U
Atrazine	mg/kg	---		<0.115 U	<0.120 U	<0.139 U	<0.135 U	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	<0.0138 U	<0.0139 U	<0.0126 U	<0.0122 U	<0.0120 U	<0.0120 U	<0.0120 U	<0.0115 U	<0.0116 U	<0.0114 U
Benzaldehyde	mg/kg	---		<0.230 U	<0.240 U	<0.278 U	<0.271 U	<0.235 U	<0.252 U	<0.236 U	<0.264 U	<0.251 U	<0.0213 U	<0.0215 U	<0.0195 U	<0.0189 U	<0.0185 U	<0.0185 U	<0.0185 U	<0.0178 U	<0.0180 U	<0.0177 U
Benzidine	mg/kg	---		<0.230 U	<0.240 U	<0.278 U	<0.271 U	<0.235 U	<0.252 U	<0.236 U	<0.264 U	<0.251 U	<0.0401 U	<0.0404 U	<0.0367 U	<0.0356 U	<0.0349 U	<0.0349 U	<0.0348 U	<0.0334 U	<0.0338 U	<0.0332 U
Benzoic Acid	mg/kg	---		<0.622 U	<0.649 U	<0.750 U	<0.731 U	<0.634 U	<0.679 U	<0.638 U	<0.712 U	<0.677 U	<0.0088 U	<0.0088 U	<0.0080 U	<0.0078 U	<0.0076 U	<0.0076 U	<0.0076 U	<0.0073 U	<0.0074 U	<0.0073 U
Benzyl alcohol	mg/kg	---		<0.115 U	0.0258 J	<0.139 U	0.0443 J	0.0550 J	0.0596 J	<0.118 U	0.0452 J	0.0281 J	<0.0226 U	<0.0227 U	<0.0206 U	<0.0200 U	<0.0196 U	<0.0196 U	<0.0196 U	<0.0188 U	<0.0190 U	<0.0187 U
Biphenyl	mg/kg	---		0.244	<0.120 U	0.0924 J	0.454	<0.117 U	<0.126 U	0.0261 J	0.0479 J	<0.125 U	21.800 J-	0.819 J-	0.220 J-	<0.0078 U	<0.0076 U	<0.0076 U	<0.0076 U	<0.0073 U	<0.0074 U	<0.0073 U
Bis(2-Chloroethoxy)methane	mg/kg	---		<0.115 U	<0.120 U	<0.139 U	<0.135 U	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	<0.0113 U	<0.0114 U	<0.0103 U	<0.0100 U	<0.0098 U	<0.0098 U	<0.0098 U	<0.0094 U	<0.0095 U	<0.0093 U
Bis(2-Chloroethyl)ether	mg/kg	---		<0.115 U	<0.120 U	<0.139 U	<0.135 U	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	<0.0163 U	<0.0164 U	<0.0149 U	<0.0145 U	<0.0142 U	<0.0142 U	<0.0141 U	<0.0136 U	<0.0137 U	<0.0135 U
Bis(2-Ethylhexyl)phthalate	mg/kg	---		0.0935 J	<0.120 U	<0.139 U	<0.135 U	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	<0.0088 U	<0.0088 U	<0.0080 U	<0.0078 U	<0.0076 U	<0.0076 U	<0.0076 U	<0.0073 U	<0.0074 U	<0.0073 U
Butyl benzyl phthalate	mg/kg	---		<0.115 U	<0.120 U	<0.139 U	<0.135 U	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	<0.0088 U	<0.0088 U	<0.0080 U	<0.0078 U	<0.0076 U	<0.0076 U	<0.0076 U	<0.0073 U	<0.0074 U	<0.0073 U
Caprolactam	mg/kg	---		<0.230 U	<0.240 U	<0.278 U	<0.271 U	<0.235 U	<0.252 U	<0.236 U	<0.264 U	<0.251 U	<0.0226 U	<0.0227 U	<0.0206 U	<0.0200 U	<0.0196 U	<0.0196 U	<0.0196 U	<0.0188 U	<0.0190 U	<0.0187 U
Carbazole	mg/kg	---		0.0994 J	<0.120 U	<0.139 U	0.0506 J	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	1.330	<0.0088 U	<0.0080 U	<0.0078 U	<0.0076 U	<0.0076 U	<0.0076 U	<0.0073 U	<0.0074 U	<0.0073 U
Dibenzofuran	mg/kg	**59**		0.0916 J	<0.120 U	<0.139 U	0.123 J	<0.117 U	<0.126 U	<0.118 U	0.0436 J	<0.125 U	4.760 J-	0.204 J-	0.0619 J-	<0.0089 U	<0.0087 U	<0.0087 U	<0.0087 U	<0.0084 U	<0.0085 U	<0.0083 U
Diethyl phthalate	mg/kg	---		<0.115 U	<0.120 U	<0.139 U	<0.135 U	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	<0.0100 U	<0.0101 U	<0.0092 U	<0.0089 U	<0.0087 U	<0.0087 U	<0.0087 U	<0.0084 U	<0.0085 U	<0.0083 U
Dimethyl phthalate	mg/kg	---		<0.115 U	<0.120 U	<0.139 U	<0.135 U	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	<0.0088 U	<0.0088 U	<0.0080 U	<0.0078 U	<0.0076 U	<0.0076 U	<0.0076 U	<0.0073 U	<0.0074 U	<0.0073 U
Di-n-butyl phthalate	mg/kg	---		<0.115 U	<0.120 U	<0.139 U	<0.135 U	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	<0.0100 U	<0.0101 U	<0.0092 U	<0.0089 U	<0.0087 U	<0.0087 U	<0.0087 U	<0.0084 U	<0.0085 U	<0.0083 U
Di-n-octyl phthalate	mg/kg	---		<0.115 U	<0.120 U	<0.139 U	<0.135 U	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	<0.0088 U	<0.0088 U	<0.0080 U	<0.0078 U	<0.0076 U	<0.0076 U	<0.0076 U	<0.0073 U	<0.0074 U	<0.0073 U
Hexachlorobenzene	mg/kg	**1.2**		<0.115 U	<0.120 U	<0.139 U	<0.135 U	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	<0.0138 U	<0.0139 U	<0.0126 U	<0.0122 U	<0.0120 U	<0.0120 U	<0.0120 U	<0.0115 U	<0.0116 U	<0.0114 U
Hexachlorobutadiene	mg/kg	---		<0.115 U	<0.120 U	<0.139 U	<0.135 U	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	<0.0125 U	<0.0126 U	<0.0115 U	<0.0111 U	<0.0109 U	<0.0109 U	<0.0109 U	<0.0104 U	<0.0106 U	<0.0104 U
Hexachlorocyclopentadiene	mg/kg	---		<0.230 U	<0.240 U	<0.278 U	<0.271 U	<0.235 U	<0.252 U	<0.236 U	<0.264 U	<0.251 U	<0.0138 U	<0.0139 U	<0.0126 U	<0.0122 U	<0.0120 U	<0.0120 U	<0.0120 U	<0.0115 U	<0.0116 U	<0.0114 U
Hexachloroethane	mg/kg	---		<0.115 U	<0.120 U	<0.139 U	<0.135 U	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	<0.0113 U	<0.0114 U	<0.0103 U	<0.0100 U	<0.0098 U	<0.0098 U	<0.0098 U	<0.0094 U	<0.0095 U	<0.0093 U
Isophorone	mg/kg	---		<0.115 U	<0.120 U	<0.139 U	<0.135 U	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	<0.0075 U	<0.0076 U	<0.0069 U	<0.0067 U	<0.0065 U	<0.0065 U	<0.0065 U	<0.0063 U	<0.0063 U	<0.0062 U
Nitrobenzene	mg/kg	---		<0.115 U	<0.120 U	<0.139 U	<0.135 U	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	<0.0151 U	<0.0152 U	<0.0138 U	<0.0134 U	<0.0131 U	<0.0131 U	<0.0131 U	<0.0125 U	<0.0127 U	<0.0125 U
N-Nitrosodiethylamine	mg/kg	---		<0.115 U	<0.120 U	<0.139 U	<0.135 U	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	<0.0163 U	<0.0164 U	<0.0149 U	<0.0145 U	<0.0142 U	<0.0142 U	<0.0141 U	<0.0136 U	<0.0137 U	<0.0135 U
N-Nitrosodimethylamine	mg/kg	---		<0.115 U	<0.120 U	<0.139 U	<0.135 U	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	<0.0188 U	<0.0190 U	<0.0172 U	<0.0167 U	<0.0164 U	<0.0164 U	<0.0163 U	<0.0157 U	<0.0158 U	<0.0156 U
N-Nitroso-di-n-butylamine	mg/kg	---		<0.115 U	<0.120 U	<0.139 U	<0.135 U	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	<0.0138 U	<0.0139 U	<0.0126 U	<0.0122 U	<0.0120 U	<0.0120 U	<0.0120 U	<0.0115 U	<0.0116 U	<0.0114 U
N-nitrosodi-n-propylamine	mg/kg	---		<0.115 U	<0.120 U	<0.139 U	<0.135 U	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	<0.0100 U	<0.0101 U	<0.0092 U	<0.0089 U	<0.0087 U	<0.0087 U	<0.0087 U	<0.0084 U	<0.0085 U	<0.0083 U
N-Nitrosodiphenylamine	mg/kg	---		<0.115 U	<0.120 U	<0.139 U	<0.135 U	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	<0.0100 U	<0.0101 U	<0.0092 U	<0.0089 U	<0.0087 U	<0.0087 U	<0.0087 U	<0.0084 U	<0.0085 U	<0.0083 U
Pentachlorobenzene	mg/kg	---		<0.115 U	<0.120 U	<0.139 U	<0.135 U	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	<0.0138 U	<0.0139 U	<0.0126 U	<0.0122 U	<0.0120 U	<0.0120 U	<0.0120 U	<0.0115 U	<0.0116 U	<0.0114 U
Pyridine	mg/kg	---		<0.230 U	<0.240 U	<0.278 U	<0.271 U	<0.235 U	<0.252 U	<0.236 U	<0.264 U	<0.251 U	<0.0226 U	<0.0227 U	<0.0206 U	<0.0200 U	<0.0196 U	<0.0196 U	<0.0196 U	<0.0188 U	<0.0190 U	<0.0187 U
Resorcinol	mg/kg	---		<0.115 U	<0.120 U	<0.139 U	<0.135 U	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	<0.0176 U	<0.0177 U	<0.0160 U	<0.0156 U	<0.0153 U	<0.0153 U	<0.0152 U	<0.0146 U	<0.0148 U	<0.0145 U
N-Nitrosopyrrolidine	mg/kg	---		<0.115 U	<0.120 U	<0.139 U	<0.135 U	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	<0.0151 U	<0.0152 U	<0.0138 U	<0.0134 U	<0.0131 U	<0.0131 U	<0.0131 U	<0.0125 U	<0.0127 U	<0.0125 U

Table B. Remedial Performance Documentation Sampling Results (by area)

Orange and Rockland Utilities, Inc. - Haverstraw Clove Ave. & Maple Ave. Former MGP Site
Haverstraw, Rockland County, New York
Operable Unit Number: 01 (OU-1)
Site No. 3-44-049

Station Name:			DSS-01	DSS-02	DSS-03	DSS-04	DSS-05	DSS-05	DSS-06	DSS-07	DSS-08	DSS-09	DSS-10	DSS-11	DSS-12	DSS-13	DSS-14	DSS-15	DSS-16	DSS-17	DSS-18
Field Sample ID[1]:			DSS-01 (13.0-13.5') 2019-12-03	DSS-02 (11.0-11.5') 2019-12-03	DSS-03 (9.5-10.0') 2019-12-03	DSS-04 (9.5-10.0') 2019-12-03	DSS-05 (12.0-12.5') 2019-12-03	DSS-05 (12.0-12.5') 2019-12-03-Dup	DSS-06 (13.0-13.5') 2019-12-03	DSS-07 (13.0-13.5') 2019-12-03	DSS-08 (13.0-13.5') 2019-12-03	DSS-09-11.3/11.8-2018-03-20	DSS-10-9.5/10.0-2018-03-20	DSS-11-11.7/12.2-2018-03-20	DSS-12-13.0/13.5-2018-03-20	DSS-13-13.0/13.5-2018-03-20	DSS-14-14.5/15.0-2018-03-23	DSS-15-13.5/14.0-2018-03-23	DSS-16-14.5/15.0-2018-03-23	DSS-17-12.0/12.5-2018-03-23	DSS-18-12.0/12.5-2018-03-23
Lab Report ID[1]:			DSS-01-13.0-13.5. 2019-12-03	DSS-02-11.0-11.5. 2019-12-03	DSS-03-9.5-10.0. 2019-12-03	DSS-04-9.5-10.0. 2019-12-03	DSS-05-12.0-12.5. 2019-12-03	DUP-01. 2019-12-03	DSS-06-13.0-13.5. 2019-12-03	DSS-07-13.0-13.5. 2019-12-03	DSS-08-13.0-13.5. 2019-12-03	DSS-09-11.3/11.8-2018-03-20	DSS-10-9.5/10.0-2018-03-20	DSS-11-11.7/12.2-2018-03-20	DSS-12-13.0/13.5-2018-03-20	DSS-13-13.0/13.5-2018-03-20	DSS-14-14.5/15.0-2018-03-23	DSS-15-13.5/14.0-2018-03-23	DSS-16-14.5/15.0-2018-03-23	DSS-17-12.0/12.5-2018-03-23	DSS-18-12.0/12.5-2018-03-23
Parameter	Units	NY Soil RRSCO	12/03/2019 7.4' - 6.9' above MSL	12/03/2019 7.8' - 7.3' above MSL	12/03/2019 9' - 8.5' above MSL	12/03/2019 9.2' - 8.7' above MSL	12/03/2019 7.2' - 6.7' above MSL	12/03/2019 7.2' - 6.7' above MSL	12/03/2019 5.6' - 5.1' above MSL	12/03/2019 8.6' - 8.1' above MSL	12/03/2019 6.4' - 5.9' above MSL	03/20/2018 13.3' - 12.8' above MSL	03/20/2018 18.5' - 18' above MSL	03/20/2018 17.1' - 16.6' above MSL	03/20/2018 17.5' - 17' above MSL	03/20/2018 19.4' - 18.9' above MSL	03/23/2018 17.8' - 17.3' above MSL	03/23/2018 19.3' - 18.8' above MSL	03/23/2018 17.9' - 17.4' above MSL	03/23/2018 19.7' - 19.2' above MSL	03/23/2018 19.7' - 19.2' above MSL
			Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag
PAH																					
2-Methylnaphthalene	mg/kg	---	1.600	0.102 J	1.480	0.846	0.0375 J	0.0357 J	0.116 J	0.210	<0.125 U	160.000	7.470	1.270	<0.0056 U	<0.0055 U	<0.0055 U	<0.0054 U	<0.0052 U	<0.0053 U	<0.0052 U
Acenaphthene	mg/kg	**100**[a]	0.239	0.0218 J	0.0525 J	0.739	<0.0587 U	<0.0629 U	0.0614	0.222	<0.0627 U	7.470 J-	0.299 J-	0.0842	<0.0067 U	<0.0065 U	<0.0065 U	<0.0065 U	<0.0063 U	<0.0063 U	<0.0062 U
Acenaphthylene	mg/kg	**100**[a]	2.030	0.241	0.760	1.310	<0.0587 U	<0.0629 U	1.180	0.931	<0.0627 U	**109.000** J-	0.872 J-	0.158 J-	<0.0078 U	0.017 J-	<0.0076 U	<0.0076 U	<0.0073 U	<0.0074 U	<0.0073 U
Anthracene	mg/kg	**100**[a]	0.841	0.0290 J	0.127	1.790	<0.0587 U	<0.0629 U	0.180	0.346	<0.0627 U	37.900 J-	0.703 J-	0.308 J-	<0.0089 U	<0.0087 U	<0.0087 U	<0.0087 U	<0.0084 U	<0.0085 U	<0.0083 U
Benzo(a)anthracene	mg/kg	**1**[f]	**2.050**	0.172	0.110	**3.030**	<0.0587 U	<0.0629 U	0.241	0.300	<0.0627 U	**23.500**	**2.360**	0.350	<0.0056 U	<0.0055 U	<0.0055 U	<0.0054 U	<0.0052 U	<0.0053 U	<0.0052 U
Benzo(a)pyrene	mg/kg	**1**[f]	**4.580**	0.417	0.0938	**2.720**	<0.0587 U	<0.0629 U	**1.190**	**1.140**	<0.0627 U	**22.800** J-	**2.990** J-	0.328 J-	<0.0045 U	<0.0044 U	<0.0044 U	<0.0044 U	<0.0042 U	<0.0042 U	<0.0042 U
Benzo(b)fluoranthene	mg/kg	**1**[f]	**2.900**	0.213	0.0466 J	**1.260**	<0.0587 U	<0.0629 U	0.574	0.574	<0.0627 U	**16.800** J-	**2.420** J-	0.272 J-	<0.0056 U	<0.0055 U	<0.0055 U	<0.0054 U	<0.0052 U	<0.0053 U	<0.0052 U
Benzo(g,h,i)perylene	mg/kg	**100**[a]	3.890	0.298	0.0421 J	1.200	<0.0587 U	<0.0629 U	1.560	0.867	<0.0627 U	11.700 J-	1.730 J-	0.180 J-	<0.0056 U	<0.0055 U	<0.0055 U	<0.0054 U	<0.0052 U	<0.0053 U	<0.0052 U
Benzo(k)fluoranthene	mg/kg	**3.9**	3.120	0.265	0.0600 J	1.570	<0.0587 U	<0.0629 U	0.472	0.449	<0.0627 U	**6.250** J-	0.877 J-	0.107 J-	<0.0056 U	<0.0055 U	<0.0055 U	<0.0054 U	<0.0052 U	<0.0053 U	<0.0052 U
Chrysene	mg/kg	**3.9**	2.760	0.192	0.0981	2.790	<0.0587 U	<0.0629 U	0.344	0.383	<0.0627 U	**20.500** J-	2.710 J-	0.351 J-	<0.0056 U	<0.0055 U	<0.0055 U	<0.0054 U	<0.0052 U	<0.0053 U	<0.0052 U
Dibenz(a,h)anthracene	mg/kg	**0.33**[e]	**0.707**	0.0471 J	<0.0695 U	0.229	<0.0587 U	<0.0629 U	0.175	0.155	<0.0627 U	**1.760** J-	0.322 J-	0.0344 J-	<0.0067 U	<0.0065 U	<0.0065 U	<0.0065 U	<0.0063 U	<0.0063 U	<0.0062 U
Fluoranthene	mg/kg	**100**[a]	2.950	0.226	0.219	3.860	<0.0587 U	0.0300 J	0.252	0.366	<0.0627 U	53.400	3.650	0.713	<0.0056 U	<0.0055 U	<0.0055 U	<0.0054 U	0.0096 J	<0.0053 U	<0.0052 U
Fluorene	mg/kg	**100**[a]	0.623	<0.0601 U	0.171	1.030	<0.0587 U	<0.0629 U	<0.0591 U	0.219	<0.0627 U	46.600	1.140	0.450	<0.0067 U	<0.0065 U	<0.0065 U	<0.0065 U	<0.0063 U	<0.0063 U	<0.0062 U
Indeno(1,2,3-cd)pyrene	mg/kg	**0.5**[f]	**3.580**	0.275	0.0342 J	**1.020**	<0.0587 U	<0.0629 U	**1.250**	**0.733**	<0.0627 U	**9.040** J-	**1.480** J-	0.152 J-	<0.0078 U	<0.0076 U	<0.0076 U	<0.0076 U	<0.0073 U	<0.0074 U	<0.0073 U
Naphthalene	mg/kg	**100**[a]	3.350	2.430	13.600	2.850	0.157	0.179	0.276	0.465	0.0245 J	**461.000** J+	18.600	3.610	<0.0067 U	<0.0065 U	<0.0065 U	<0.0065 U	<0.0063 U	<0.0063 U	<0.0062 U
Phenanthrene	mg/kg	**100**[a]	2.930	<0.0601 U	0.505	5.160	0.0269 J	0.0280 J	0.177	0.753	<0.0627 U	**141.000**	5.800	1.750	0.0134 J	0.0164 J	<0.0055 U	<0.0054 U	<0.0052 U	<0.0053 U	<0.0052 U
Pyrene	mg/kg	**100**[a]	4.370	0.391	0.314	5.830	<0.0587 U	0.0479 J	0.524	0.736	<0.0627 U	70.100	6.030	0.942	<0.0056 U	0.0124 J	<0.0055 U	<0.0054 U	<0.0052 U	<0.0053 U	<0.0052 U
Phenol																					
2,3,4,6-Tetrachlorophenol	mg/kg	---	<0.230 U	<0.240 U	<0.278 U	<0.271 U	<0.235 U	<0.252 U	<0.236 U	<0.264 U	<0.251 U	<0.0151 U	<0.0152 U	<0.0138 U	<0.0134 U	<0.0131 U	<0.0131 U	<0.0131 U	<0.0125 U	<0.0127 U	<0.0125 U
2,4,5-Trichlorophenol	mg/kg	---	<0.230 U	<0.240 U	<0.278 U	<0.271 U	<0.235 U	<0.252 U	<0.236 U	<0.264 U	<0.251 U	<0.0151 U	<0.0152 U	<0.0138 U	<0.0134 U	<0.0131 U	<0.0131 U	<0.0131 U	<0.0125 U	<0.0127 U	<0.0125 U
2,4,6-Trichlorophenol	mg/kg	---	<0.230 U	<0.240 U	<0.278 U	<0.271 U	<0.235 U	<0.252 U	<0.236 U	<0.264 U	<0.251 U	<0.0151 U	<0.0152 U	<0.0138 U	<0.0134 U	<0.0131 U	<0.0131 U	<0.0131 U	<0.0125 U	<0.0127 U	<0.0125 U
2,4-Dichlorophenol	mg/kg	---	<0.230 U	<0.240 U	<0.278 U	<0.271 U	<0.235 U	<0.252 U	<0.236 U	<0.264 U	<0.251 U	<0.0100 U	<0.0101 U	<0.0092 U	<0.0089 U	<0.0087 U	<0.0087 U	<0.0087 U	<0.0084 U	<0.0085 U	<0.0083 U
2,4-Dimethylphenol	mg/kg	---	<0.230 U	<0.240 U	<0.278 U	<0.271 U	<0.235 U	<0.252 U	<0.236 U	<0.264 U	<0.251 U	<0.0188 U	<0.0190 U	<0.0172 U	<0.0167 U	<0.0164 U	<0.0164 U	<0.0163 U	<0.0157 U	<0.0158 U	<0.0156 U
2,4-Dinitrophenol	mg/kg	---	<0.461 U	<0.481 U	<0.556 U	<0.542 U	<0.470 U	<0.503 U	<0.472 U	<0.528 U	<0.501 U	<0.0502 U	<0.0505 U	<0.0458 U	<0.0445 U	<0.0436 U	<0.0436 U	<0.0435 U	<0.0418 U	<0.0423 U	<0.0415 U
2,6-Dichlorophenol	mg/kg	---	<0.230 U	<0.240 U	<0.278 U	<0.271 U	<0.235 U	<0.252 U	<0.236 U	<0.264 U	<0.251 U	<0.0138 U	<0.0139 U	<0.0126 U	<0.0122 U	<0.0120 U	<0.0120 U	<0.0120 U	<0.0115 U	<0.0116 U	<0.0114 U
2-Chlorophenol	mg/kg	---	<0.230 U	<0.240 U	<0.278 U	<0.271 U	<0.235 U	<0.252 U	<0.236 U	<0.264 U	<0.251 U	<0.0100 U	<0.0101 U	<0.0092 U	<0.0089 U	<0.0087 U	<0.0087 U	<0.0087 U	<0.0084 U	<0.0085 U	<0.0083 U
2-Methylphenol	mg/kg	**100**[a]	<0.230 U	<0.240 U	<0.278 U	<0.271 U	<0.235 U	<0.252 U	<0.236 U	<0.264 U	<0.251 U	<0.0138 U	<0.0139 U	<0.0126 U	<0.0122 U	<0.0120 U	<0.0120 U	<0.0120 U	<0.0115 U	<0.0116 U	<0.0114 U
2-Nitrophenol	mg/kg	---	<0.230 U	<0.240 U	<0.278 U	<0.271 U	<0.235 U	<0.252 U	<0.236 U	<0.264 U	<0.251 U	<0.0138 U	<0.0139 U	<0.0126 U	<0.0122 U	<0.0120 U	<0.0120 U	<0.0120 U	<0.0115 U	<0.0116 U	<0.0114 U
4,6-Dinitro-2-methylphenol	mg/kg	---	<0.230 U	<0.240 U	<0.278 U	<0.271 U	<0.235 U	<0.252 U	<0.236 U	<0.264 U	<0.251 U	<0.0326 U	<0.0328 U	<0.0298 U	<0.0289 U	<0.0284 U	<0.0284 U	<0.0283 U	<0.0271 U	<0.0275 U	<0.0270 U
4-Chloro-3-methylphenol	mg/kg	---	<0.230 U	<0.240 U	<0.278 U	<0.271 U	<0.235 U	<0.252 U	<0.236 U	<0.264 U	<0.251 U	<0.0125 U	<0.0126 U	<0.0115 U	<0.0111 U	<0.0109 U	<0.0109 U	<0.0109 U	<0.0104 U	<0.0106 U	<0.0104 U
4-Nitrophenol	mg/kg	---	<0.230 U	<0.240 U	<0.278 U	<0.271 U	<0.235 U	<0.252 U	<0.236 U	<0.264 U	<0.251 U	<0.0176 U	<0.0177 U	<0.0160 U	<0.0156 U	<0.0153 U	<0.0153 U	<0.0152 U	<0.0146 U	<0.0148 U	<0.0145 U
Dimethoate	mg/kg	---	<0.230 U	<0.240 U	<0.278 U	<0.271 U	<0.235 U	<0.252 U	<0.236 U	<0.264 U	<0.251 U	<0.0138 U	<0.0139 U	<0.0126 U	<0.0122 U	<0.0120 U	<0.0120 U	<0.0120 U	<0.0115 U	<0.0116 U	<0.0114 U
Diphenylamine	mg/kg	---	<0.115 U	<0.120 U	<0.139 U	<0.135 U	<0.117 U	<0.126 U	<0.118 U	<0.132 U	<0.125 U	<0.0088 U	<0.0088 U	<0.0080 U	<0.0078 U	<0.0076 U	<0.0076 U	<0.0076 U	<0.0073 U	<0.0074 U	<0.0073 U
mp-Cresol	mg/kg	---	0.424	<0.240 U	<0.278 U	<0.271 U	<0.235 U	<0.252 U	<0.236 U	<0.264 U	<0.251 U	<0.0100 U	<0.0101 U	<0.0092 U	<0.0089 U	<0.0087 U	<0.0087 U	<0.0087 U	<0.0084 U	<0.0085 U	<0.0083 U
Pentachlorophenol	mg/kg	**6.7**	<0.230 U	<0.240 U	<0.278 U	<0.271 U	<0.235 U	<0.252 U	<0.236 U	<0.264 U	<0.251 U	<0.0326 U	<0.0328 U	<0.0298 U	<0.0289 U	<0.0284 U	<0.0284 U	<0.0283 U	<0.0271 U	<0.0275 U	<0.0270 U
Phenol	mg/kg	**100**[a]	<0.230 U	0.252	0.197 J	0.0911 J	0.118 J	0.0927 J	<0.236 U	<0.264 U	<0.251 U	0.347	<0.0126 U	<0.0115 U	<0.0111 U	<0.0109 U	<0.0109 U	<0.0109 U	<0.0104 U	<0.0106 U	<0.0104 U

Table B. Remedial Performance Documentation Sampling Results (by area)

Orange and Rockland Utilities, Inc. - Haverstraw Clove Ave. & Maple Ave. Former MGP Site
Haverstraw, Rockland County, New York
Operable Unit Number: 01 (OU-1)
Site No. 3-44-049

Parameter	Units	NY Soil RRSCO	Station Name:	DSS-01	DSS-02	DSS-03	DSS-04	DSS-05	DSS-05	DSS-06	DSS-07	DSS-08	DSS-09	DSS-10	DSS-11	DSS-12	DSS-13	DSS-14	DSS-15	DSS-16	DSS-17	DSS-18
			Field Sample ID[1]:	DSS-01 (13.0-13.5') 2019-12-03	DSS-02 (11.0-11.5') 2019-12-03	DSS-03 (9.5-10.0') 2019-12-03	DSS-04 (9.5-10.0') 2019-12-03	DSS-05 (12.0-12.5') 2019-12-03	DSS-05 (12.0-12.5') 2019-12-03-Dup	DSS-06 (13.0-13.5') 2019-12-03	DSS-07 (13.0-13.5') 2019-12-03	DSS-08 (13.0-13.5') 2019-12-03	DSS-09-11.3/11.8-2018-03-20	DSS-10-9.5/10.0-2018-03-20	DSS-11-11.7/12.2-2018-03-20	DSS-12-13.0/13.5-2018-03-20	DSS-13-13.0/13.5-2018-03-20	DSS-14-14.5/15.0-2018-03-23	DSS-15-13.5/14.0-2018-03-23	DSS-16-14.5/15.0-2018-03-23	DSS-17-12.0/12.5-2018-03-23	DSS-18-12.0/12.5-2018-03-23
			Lab Report ID[1]:	DSS-01-13.0-13.5. 2019-12-03	DSS-02-11.0-11.5. 2019-12-03	DSS-03-9.5-10.0. 2019-12-03	DSS-04-9.5-10.0. 2019-12-03	DSS-05-12.0-12.5. 2019-12-03	DUP-01. 2019-12-03	DSS-06-13.0-13.5. 2019-12-03	DSS-07-13.0-13.5. 2019-12-03	DSS-08-13.0-13.5. 2019-12-03	DSS-09-11.3/11.8-2018-03-20	DSS-10-9.5/10.0-2018-03-20	DSS-11-11.7/12.2-2018-03-20	DSS-12-13.0/13.5-2018-03-20	DSS-13-13.0/13.5-2018-03-20	DSS-14-14.5/15.0-2018-03-23	DSS-15-13.5/14.0-2018-03-23	DSS-16-14.5/15.0-2018-03-23	DSS-17-12.0/12.5-2018-03-23	DSS-18-12.0/12.5-2018-03-23
				12/03/2019	12/03/2019	12/03/2019	12/03/2019	12/03/2019	12/03/2019	12/03/2019	12/03/2019	12/03/2019	03/20/2018	03/20/2018	03/20/2018	03/20/2018	03/20/2018	03/23/2018	03/23/2018	03/23/2018	03/23/2018	03/23/2018
				7.4' - 6.9' above MSL	7.8' - 7.3' above MSL	9' - 8.5' above MSL	9.2' - 8.7' above MSL	7.2' - 6.7' above MSL	7.2' - 6.7' above MSL	5.6' - 5.1' above MSL	8.6' - 8.1' above MSL	6.4' - 5.9' above MSL	13.3' - 12.8' above MSL	18.5' - 18' above MSL	17.1' - 16.6' above MSL	17.5' - 17' above MSL	19.4' - 18.9' above MSL	17.8' - 17.3' above MSL	19.3' - 18.8' above MSL	17.9' - 17.4' above MSL	19.7' - 19.2' above MSL	19.7' - 19.2' above MSL
				Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag
Metal																						
Aluminum, Total	mg/kg	---		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony, Total	mg/kg	---		1.0 J	0.90 J	1.3 J	1.3 J	<2.2 U	1.2 J	1.3 J	1.7 J	1.1 J	<0.73 U	<0.74 U	<0.74 U	<0.72 U	<0.73 U	<0.65 U	<0.71 U	<0.67 U	<0.61 U	<0.62 U
Arsenic, Total	mg/kg	16[f]		7.5	8.7	7.4	9.8	9.7	10.6	2.1 J	5.0	13.3	1.7 J	1.7 J	1.7 J	2.7	3.4	1.1 J	1.7 J	<0.67 U	<0.61 U	<0.62 U
Barium, Total	mg/kg	400		80.4	103	128	147	113	147	20.8	69.4	105	50	70.5	91	66.4	78.2	60.9	57.7	46.7	40	52.4
Beryllium, Total	mg/kg	72		0.59 J	0.70 J	0.95 J	0.90 J	0.70 J	0.94 J	<1.2 U	0.54 J	0.75 J	<0.36 U	0.4 J	0.52 J	<0.36 U	<0.36 U	<0.32 U	<0.35 U	<0.34 U	<0.30 U	<0.31 U
Cadmium, Total	mg/kg	4.3		<0.52 U	<0.55 U	<0.70 U	<0.59 U	<0.56 U	<0.54 U	<0.58 U	<0.59 U	<0.61 U	<0.18 U	<0.19 U	0.22 J	<0.18 U	<0.18 U	<0.16 U	<0.18 U	<0.17 U	<0.15 U	0.19 J
Calcium, Total	mg/kg	---		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, Total	mg/kg	---		23.3	19.9	25.3	22.2	19.7	25.3	12.4	17.2	21.8	9.2	14	15.9	6.7	6.7	8.8	7.3	7.8	21.4	9.1
Cobalt, Total	mg/kg	---		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper, Total	mg/kg	270		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron, Total	mg/kg	---		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead, Total	mg/kg	400		113	9.4	10.1	13.9	9.1	11.5	3.1	7.5	11.0	6.3	9.4	12.2	3.8	4.4	3.1	2.7	6.5	2.5	5.5
Magnesium, Total	mg/kg	---		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese, Total	mg/kg	2,000[f]		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury, Total	mg/kg	0.81[j]		0.043 J	<0.060 U	0.026 J	0.032 J	0.019 J	0.021 J	0.022 J	0.022 J	0.019 J	<0.021 U	0.022 J	<0.018 U	<0.018 U	<0.017 U	<0.016 U	<0.016 U	<0.015 U	<0.015 U	<0.016 U
Nickel, Total	mg/kg	310		18.4	26.5	31.4	31.7	25.8	33.3	16.5	22.8	29.2	12.5	19.1	22.4	7.9	9.1	10.1	8.4	9.7	9.5	12.2
Potassium, Total	mg/kg	---		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Selenium, Total	mg/kg	180		<5.2 U	<5.5 U	<7.0 U	<5.9 U	<5.6 U	<5.4 U	<5.8 U	<5.9 U	<6.1 U	<1.8 U	<1.9 U	<1.8 U	<1.8 U	<1.8 U	<1.6 U	<1.8 U	<1.7 U	<1.5 U	<1.5 U
Silver, Total	mg/kg	180		0.22 J	0.19 J	0.28 J	0.31 J	0.20 J	0.22 J	<0.58 U	0.27 J	0.23 J	<0.18 U	<0.19 U	<0.18 U	<0.18 U	<0.18 U	<0.16 U	<0.18 U	<0.17 U	<0.15 U	<0.15 U
Sodium, Total	mg/kg	---		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Thallium, Total	mg/kg	---		<3.1 U	<3.3 U	3.5 J	2.6 J	1.8 J	1.9 J	2.0 J	2.0 J	2.2 J	<1.1 U	<1.1 U	<1.1 U	<1.1 U	<1.1 U	<0.97 U	<1.1 U	<1.0 U	<0.92 U	<0.93 U
Vanadium, Total	mg/kg	---		30.5	21.1	28.3	22.2	21.2	27.0	52.3 J+	47.1	23.7	13.1	17.8	19.7	14.9	15.6	16.2	16.3	12.9	19.5	17.2
Zinc, Total	mg/kg	10,000[d]		89.4	63.1	82.2	78.0	62.5	75.9	31.0	54.3	70.7	30.3	44	56	21.8	24.6	23.7	21.9	24.2	27.6	50.3
PCB																						
PCB, Total	mg/kg	1		<0.34 U	<0.35 U	<0.41 UJ	<0.42 U	<0.36 U	<0.38 U	<0.34 U	<0.38 U	<0.37 U	<0.0036 U	<0.0038 U	<0.0035 U	<0.0032 U	<0.0032 U	<0.0034 U	<0.0033 U	<0.0032 U	<0.0032 U	<0.0032 U
PCB-1016	mg/kg	---		<0.038 U	<0.039 U	<0.045 UJ	<0.046 U	<0.040 U	<0.042 U	<0.037 U	<0.042 U	<0.040 U	<0.0072 U	<0.0076 U	<0.0070 U	<0.0065 U	<0.0065 U	<0.0067 U	<0.0065 U	<0.0063 U	<0.0064 U	<0.0064 U
PCB-1221	mg/kg	---		<0.038 U	<0.039 U	<0.045 UJ	<0.046 U	<0.040 U	<0.042 U	<0.037 U	<0.042 U	<0.040 U	<0.0036 U	<0.0038 U	<0.0035 U	<0.0032 U	<0.0032 U	<0.0034 U	<0.0033 U	<0.0032 U	<0.0032 U	<0.0032 U
PCB-1232	mg/kg	---		<0.038 U	<0.039 U	<0.045 UJ	<0.046 U	<0.040 U	<0.042 U	<0.037 U	<0.042 U	<0.040 U	<0.0072 U	<0.0076 U	<0.0070 U	<0.0065 U	<0.0065 U	<0.0067 U	<0.0065 U	<0.0063 U	<0.0064 U	<0.0064 U
PCB-1242	mg/kg	---		<0.038 U	<0.039 U	<0.045 UJ	<0.046 U	<0.040 U	<0.042 U	<0.037 U	<0.042 U	<0.040 U	<0.011 U	<0.011 U	<0.011 U	<0.0097 U	<0.0097 U	<0.010 U	<0.0098 U	<0.0095 U	<0.0096 U	<0.0096 U
PCB-1248	mg/kg	---		<0.038 U	<0.039 U	<0.045 UJ	<0.046 U	<0.040 U	<0.042 U	<0.037 U	<0.042 U	<0.040 U	<0.0072 U	<0.0076 U	<0.0070 U	<0.0065 U	<0.0065 U	<0.0067 U	<0.0065 U	<0.0063 U	<0.0064 U	<0.0064 U
PCB-1254	mg/kg	---		<0.038 U	<0.039 U	<0.045 UJ	<0.046 U	<0.040 U	<0.042 U	<0.037 U	<0.042 U	<0.040 U	<0.0072 U	<0.0076 U	<0.0070 U	<0.0065 U	<0.0065 U	<0.0067 U	<0.0065 U	<0.0063 U	<0.0064 U	<0.0064 U
PCB-1260	mg/kg	---		<0.038 U	<0.039 U	<0.045 UJ	<0.046 U	<0.040 U	<0.042 U	<0.037 U	<0.042 U	<0.040 U	<0.0072 U	<0.0076 U	<0.0070 U	<0.0065 U	<0.0065 U	<0.0067 U	<0.0065 U	<0.0063 U	<0.0064 U	<0.0064 U
Pesticide																						
4,4-DDD	mg/kg	13		<0.0188 U	<0.0194 U	<0.0223 U	<0.0231 U	<0.0199 U	<0.0212 U	<0.0186 U	<0.0211 U	<0.0202 U	<0.0016 U	<0.0017 U	<0.0016 U	<0.0015 U	<0.0015 U	<0.0015 U	<0.0015 U	<0.0014 U	<0.0014 U	<0.0014 U
4,4-DDE	mg/kg	8.9		<0.0188 U	<0.0194 U	<0.0223 U	<0.0231 U	<0.0199 U	<0.0212 U	<0.0186 U	<0.0211 U	<0.0202 U	<0.0027 U	<0.0028 U	<0.0026 U	<0.0024 U	<0.0024 U	<0.0025 U	<0.0024 U	<0.0024 U	<0.0024 U	<0.0024 U
4,4-DDT	mg/kg	7.9		0.0190	<0.0194 U	<0.0223 U	<0.0231 U	<0.0199 U	<0.0212 U	<0.0186 U	<0.0211 U	<0.0202 U	0.0323	<0.0024 U	<0.0022 U	<0.0020 U	<0.0020 U	<0.0021 U	<0.0021 U	<0.0020 U	<0.0020 U	<0.0020 U
Aldrin	mg/kg	0.097		<0.0097 U	<0.0100 U	<0.0115 U	<0.0119 U	<0.0102 U	<0.0109 U	<0.0096 U	<0.0109 U	<0.0104 U	<0.0033 U	<0.0035 U	<0.0032 U	<0.0030 U	<0.0030 U	<0.0031 U	<0.0030 U	<0.0029 U	<0.0029 U	<0.0029 U
alpha-BHC	mg/kg	0.48		<0.0097 U	<0.0100 U	<0.0115 U	<0.0119 U	<0.0102 U	<0.0109 U	<0.0096 U	<0.0109 U	<0.0104 U	<0.00091 U	<0.00095 U	<0.00088 U	<0.00081 U	<0.00081 U	<0.00084 U	<0.00082 U	<0.00079 U	<0.00080 U	<0.00080 U
alpha-Chlordane	mg/kg	4.2		<0.0097 U	<0.0100 U	<0.0115 U	<0.0119 U	<0.0102 U	<0.0109 U	<0.0096 U	<0.0109 U	<0.0104 U	<0.0011 U	<0.0011 U	<0.0011 U	<0.00097 U	<0.00097 U	<0.0010 U	<0.00098 U	<0.00095 U	<0.00096 U	<0.00096 U
beta-BHC	mg/kg	0.36		<0.0097 U	<0.0100 U	<0.0115 U	<0.0119 U	<0.0102 U	<0.0109 U	<0.0096 U	<0.0109 U	<0.0104 U	<0.0011 U	<0.0011 U	<0.0011 U	<0.00097 U	<0.00097 U	<0.0010 U	<0.00098 U	<0.00095 U	<0.00096 U	<0.00096 U
delta-BHC	mg/kg	100[a]		<0.0097 U	<0.0100 U	<0.0115 U	<0.0119 U	<0.0102 U	<0.0109 U	<0.0096 U	<0.0109 U	<0.0104 U	<0.00078 U	<0.00082 U	<0.00076 U	<0.00070 U	<0.00070 U	<0.00073 U	<0.00071 U	<0.00069 U	<0.00069 U	<0.00069 U
Dieldrin	mg/kg	0.2		<0.0188 U	<0.0194 U	<0.0223 U	<0.0231 U	<0.0199 U	<0.0212 U	<0.0186 U	<0.0211 U	<0.0202 U	<0.0023 U	<0.0024 U	<0.0022 U	<0.0020 U	<0.0020 U	<0.0021 U	<0.0021 U	<0.0020 U	<0.0020 U	<0.0020 U
Endosulfan I	mg/kg	24[i]		<0.0097 U	<0.0100 U	<0.0115 U	<0.0119 U	<0.0102 U	<0.0109 U	<0.0096 U	<0.0109 U	<0.0104 U	<0.0013 U	<0.0013 U	<0.0012 U	<0.0011 U	<0.0011 U	<0.0012 U	<0.0011 U	<0.0011 U	<0.0011 U	<0.0011 U
Endosulfan II	mg/kg	24[i]		<0.0188 U	<0.0194 U	<0.0223 U	<0.0231 U	<0.0199 U	<0.0212 U	<0.0186 U	<0.0211 U	<0.0202 U	0.0077 J	<0.0044 U	<0.0040 U	<0.0037 U	<0.0037 U	<0.0039 U	<0.0038 U	<0.0036 U	<0.0037 U	<0.0037 U
Endosulfan sulfate	mg/kg	24[i]		0.0083 J	<0.0194 U	<0.0223 U	<0.0231 U	<0.0199 U	<0.0212 U	<0.0186 U	<0.0211 U	<0.0202 U	<0.0013 U	<0.0014 U	<0.0013 U	<0.0012 U	<0.0012 U	<0.0012 U	<0.0012 U	<0.0012 U	<0.0012 U	<0.0012 U
Endrin	mg/kg	11		<0.0188 U	<0.0194 U	<0.0223 U	<0.0231 U	<0.0199 U	<0.0212 U	<0.0186 U	<0.0211 U	<0.0202 U	<0.0014 U	<0.0015 U	<0.0014 U	<0.0013 U	<0.0013 U	<0.0013 U	<0.0013 U	<0.0013 U	<0.0013 U	<0.0013 U
Endrin aldehyde	mg/kg	---		<0.0188 U	<0.0194 U	<0.0223 U	<0.0231 U	<0.0199 U	<0.0212 U	<0.0186 U	<0.0211 U	<0.0202 U	<0.0022 U	<0.0023 U	<0.0021 U	<0.0019 U	<0.0019 U	<0.0020 U	<0.0020 U	<0.0019 U	<0.0019 U	<0.0019 U
Endrin ketone	mg/kg	---		<0.0188 U	<0.0194 U	<0.0223 U	<0.0231 U	<0.0199 U	<0.0212 U	<0.0186 U	<0.0211 U	<0.0202 U	<0.0028 U	<0.0029 U	<0.0027 U	<0.0025 U	<0.0025 U	<0.0026 U	<0.0025 U	<0.0024 U	<0.0024 U	<0.0025 U
gamma-BHC	mg/kg	1.3		<0.0097 U	<0.0100 U	<0.0115 U	<0.0119 U	<0.0102 U	<0.0109 U	<0.0096 U	<0.0109 U	<0.0104 U	<0.00085 U	<0.00088 U	<0.00082 U	<0.00075 U	<0.00075 U	<0.00078 U	<0.00076 U	<0.00074 U	<0.00074 U	<0.00075 U
gamma-Chlordane	mg/kg	---		<0.0097 U	<0.0100 U	<0.0115 U	<0.0119 U	<0.0102 U	<0.0109 U	<0.0096 U	<0.0109 U	<0.0104 U	<0.0018 U	<0.0018 U	<0.0017 U	<0.0016 U	<0.0016 U	<0.0016 U	<0.0016 U	<0.0015 U	<0.0015 U	<0.0015 U
Heptachlor	mg/kg	2.1		<0.0097 U	<0.0100 U	<0.0115 U	<0.0119 U	<0.0102 U	<0.0109 U	<0.0096 U	<0.0109 U	<0.0104 U	<0.0010 U	<0.0011 U	<0.00099 U	<0.00092 U	<0.00092 U	<0.00095 U	<0.00093 U	<0.00090 U	<0.00090 U	<0.00091 U
Heptachlor epoxide	mg/kg	---		<0.0097 U	<0.0100 U	<0.0115 U	<0.0119 U	<0.0102 U	<0.0109 U	<0.0096 U	<0.0109 U	<0.0104 U	<0.0010 U	<0.0011 U	<0.00099 U	<0.00092 U	<0.00092 U	<0.00095 U	<0.00093 U	<0.00090 U	<0.00090 U	<0.00091 U
Methoxychlor	mg/kg	---		<0.0188 U	<0.0194 U	<0.0223 U	<0.0231 U	<0.0199 U	<0.0212 U	<0.0186 U	<0.0211 U	<0.0202 U	<0.0027 U	<0.0028 U	<0.0026 U	<0.0024 U	<0.0024 U	<0.0025 U	<0.0024 U	<0.0023 U	<0.0023 U	<0.0023 U
Mirex	mg/kg	---		0.0082 J	<0.0194 U	<0.0223 U	0.0032 J	<0.0199 U	<0.0212 U	<0.0186 U	<0.0211 U	<0.0202 U	<0.0011 U	<0.0011 U	<0.0011 U	<0.00097 U	<0.00097 U	<0.0010 U	<0.00098 U	<0.00095 U	<0.00096 U	<0.00096 U
Toxaphene	mg/kg	---		<0.199 U	<0.206 U	<0.237 U	<0.245 U	<0.211 U	<0.224 U	<0.198 U	<0.223 U	<0.214 U	<0.0350 U	<0.0366 U	<0.0339 U	<0.0313 U	<0.0312 U	<0.0325 U	<0.0316 U	<0.0307 U	<0.0308 U	<0.0309 U

Table B. Remedial Performance Documentation Sampling Results (by area)

Orange and Rockland Utilities, Inc. - Haverstraw Clove Ave. & Maple Ave. Former MGP Site
Haverstraw, Rockland County, New York
Operable Unit Number: 01 (OU-1)
Site No. 3-44-049

Station Name:			DSS-19	DSS-20	DSS-21	DSS-22	DSS-22	DSS-23	DSS-24
Field Sample ID[1]:			DSS-19-12.0/12.5-2018-03-23	DSS-20-9.0/9.5-2018-03-23	DSS-21-9.0/9.5-2018-03-26	DSS-22-13.5/14.0-2018-03-26	DUP-01-2018-03-26	DSS-23-13.0/13.5-2018-03-26	DSS-24-11.5/12.0-2018-03-26
Lab Report ID[1]:			DSS-19-12.0/12.5-2018-03-23	DSS-20-9.0/9.5-2018-03-23	DSS-21-9.0/9.5-2018-03-26	DSS-22-13.5/14.0-2018-03-26	DUP-01-2018-03-26	DSS-23-13.0/13.5-2018-03-26	DSS-24-11.5/12.0-2018-03-26
			03/23/2018	03/23/2018	03/26/2018	03/26/2018	03/26/2018	03/26/2018	03/26/2018
Parameter	Units	NY Soil RRSCO	20' - 19.5' above MSL	20.3' - 19.8' above MSL	19.8' - 19.3' above MSL	14.4' - 13.9' above MSL	14.4' - 13.9' above MSL	13.9' - 13.4' above MSL	11' - 10.5' above MSL
			Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag
Cyanide									
Cyanide, Total	mg/kg	**27**	0.22 J-,B	2.6 J-	0.47 B	0.35 B	0.29 B	0.36 B	0.36 B
BTEX									
Benzene	mg/kg	**4.8**	<0.00046 UJ	<0.00050 UJ	<0.00050 U	0.0719	0.0867	<0.00047 U	<0.00046 U
Ethylbenzene	mg/kg	**41**	<0.00062 UJ	<0.00068 UJ	<0.00068 U	0.0089 J	0.005 J	<0.00064 U	<0.00063 U
Toluene	mg/kg	**100**[a]	0.0027 J-	0.0012 J-	<0.00067 U	0.0075 J	0.0058 J	<0.00063 U	0.00067 J
Xylene, o	mg/kg	**---**	<0.00053 UJ	<0.00058 UJ	<0.00058 U	0.0192 J	0.010 J	<0.00055 U	<0.00054 U
Xylenes, m + p	mg/kg	**---**	<0.00076 UJ	<0.00082 UJ	<0.00083 U	0.0316 J	0.0164 J	<0.00078 U	<0.00077 U
Xylenes, Total	mg/kg	**100**[a]	<0.0013 UJ	<0.0014 UJ	<0.0014 U	0.0508 J	0.0263 J	<0.0013 U	<0.0013 U
VOC									
1,1,1,2-Tetrachloroethane	mg/kg	**---**	<0.00059 UJ	<0.00064 UJ	<0.00064 U	<0.00054 U	<0.00052 U	<0.00060 U	<0.00059 U
1,1,1-Trichloroethane	mg/kg	**100**[a]	<0.00057 UJ	<0.00062 UJ	<0.00062 U	<0.00052 U	<0.00050 U	<0.00058 U	<0.00057 U
1,1,2,2-Tetrachloroethane	mg/kg	**---**	<0.00051 UJ	<0.00056 UJ	<0.00056 U	<0.00047 U	<0.00046 U	<0.00053 U	<0.00052 U
1,1,2-Trichloroethane	mg/kg	**---**	<0.00051 UJ	<0.00056 UJ	<0.00056 U	<0.00047 U	<0.00046 U	<0.00053 U	<0.00052 U
1,1-Dichloroethane	mg/kg	**26**	<0.00046 UJ	<0.00050 UJ	<0.00050 U	<0.00042 U	<0.00041 U	<0.00047 U	<0.00046 U
1,1-Dichloroethene	mg/kg	**100**[a]	<0.00048 UJ	<0.00052 UJ	<0.00052 U	<0.00043 U	<0.00042 U	<0.00049 U	<0.00048 U
1,1-Dichloropropene	mg/kg	**---**	<0.00046 UJ	<0.00050 UJ	<0.00050 U	<0.00042 U	<0.00041 U	<0.00047 U	<0.00046 U
1,2,3-Trichlorobenzene	mg/kg	**---**	<0.00046 UJ	<0.00050 UJ	<0.00050 U	<0.00042 U	<0.00041 U	<0.00047 U	<0.00046 U
1,2,3-Trichloropropane	mg/kg	**---**	<0.00046 UJ	<0.00050 UJ	<0.00050 U	<0.00042 U	<0.00041 U	<0.00047 U	<0.00046 U
1,2,4-Trichlorobenzene	mg/kg	**---**	<0.00046 UJ	<0.00050 UJ	<0.00050 U	<0.00042 U	<0.00041 U	<0.00047 U	<0.00046 U
1,2,4-Trimethylbenzene	mg/kg	**52**	<0.00046 UJ	<0.00050 UJ	<0.00050 U	0.0333 J	0.0155 J	0.0024	<0.00046 U
1,2-Dibromo-3-chloropropane	mg/kg	**---**	<0.0027 UJ	<0.0029 UJ	<0.0029 U	<0.0024 U	<0.0024 U	<0.0027 U	<0.0027 U
1,2-Dibromoethane	mg/kg	**---**	<0.00050 UJ	<0.00054 UJ	<0.00054 U	<0.00045 U	<0.00044 U	<0.00051 U	<0.00050 U
1,2-Dichlorobenzene	mg/kg	**100**[a]	<0.00046 UJ	<0.00050 UJ	<0.00050 U	<0.00042 U	<0.00041 U	<0.00047 U	<0.00046 U
1,2-Dichloroethane	mg/kg	**3.1**	<0.00046 UJ	<0.00050 UJ	<0.00050 U	<0.00042 U	<0.00041 U	<0.00047 U	<0.00046 U
1,2-Dichloropropane	mg/kg	**---**	<0.00055 UJ	<0.00060 UJ	<0.00060 U	<0.00050 U	<0.00049 U	<0.00056 U	<0.00055 U
1,3,5-Trimethylbenzene	mg/kg	**52**	<0.00046 UJ	<0.00050 UJ	<0.00050 U	0.0128 J	0.0058 J	<0.00047 U	<0.00046 U
1,3-Dichlorobenzene	mg/kg	**49**	<0.00046 UJ	<0.00050 UJ	<0.00050 U	<0.00042 U	<0.00041 U	<0.00047 U	<0.00046 U
1,3-Dichloropropane	mg/kg	**---**	<0.00076 UJ	<0.00082 UJ	<0.00083 U	<0.00069 U	<0.00068 U	<0.00078 U	<0.00077 U
1,4-Dichlorobenzene	mg/kg	**13**	<0.00046 UJ	<0.00050 UJ	<0.00050 U	<0.00042 U	<0.00041 U	<0.00047 U	<0.00046 U
1,4-Dioxane	mg/kg	**13**	<0.0163 UJ	<0.0177 UJ	<0.0178 U	<0.0149 U	<0.0145 U	<0.0167 U	<0.0164 U
2,2-Dichloropropane	mg/kg	**---**	<0.00046 UJ	<0.00050 UJ	<0.00050 U	<0.00042 U	<0.00041 U	<0.00047 U	<0.00046 U
2-Butanone (MEK)	mg/kg	**100**[a]	<0.0029 UJ	<0.0032 UJ	<0.0032 U	<0.0027 U	<0.0026 U	0.0031 J	<0.0030 U
2-Chlorotoluene	mg/kg	**---**	<0.00046 UJ	<0.00050 UJ	<0.00050 U	<0.00042 U	<0.00041 U	<0.00047 U	<0.00046 U
2-Hexanone	mg/kg	**---**	<0.0026 UJ	<0.0028 UJ	<0.0028 U	<0.0023 U	<0.0023 U	<0.0026 U	<0.0026 U
4-Chlorotoluene	mg/kg	**---**	<0.00046 UJ	<0.00050 UJ	<0.00050 U	<0.00042 U	<0.00041 U	<0.00047 U	<0.00046 U
4-Isopropyltoluene	mg/kg	**---**	<0.00046 UJ	<0.00050 UJ	<0.00050 U	0.0016 J	0.00074 J	0.0014 J	<0.00046 U
4-Methyl-2-Pentanone (MIBK)	mg/kg	**---**	<0.0035 UJ	<0.0038 UJ	<0.0038 U	<0.0032 U	<0.0031 U	<0.0036 U	<0.0035 U
Acetone	mg/kg	**100**[b]	0.0091 J-	0.0068 J-	0.0155	0.0238 J	0.0128 J	0.038	0.0174
Acetonitrile	mg/kg	**---**	<0.0031 UJ	<0.0034 UJ	<0.0034 U	<0.0028 U	<0.0028 U	<0.0032 U	<0.0031 U
Acrolein	mg/kg	**---**	<0.0061 UJ	<0.0066 UJ	<0.0066 U	<0.0055 U	<0.0054 U	<0.0062 U	<0.0061 U
Acrylonitrile	mg/kg	**---**	<0.0025 UJ	<0.0027 UJ	<0.0027 U	<0.0023 U	<0.0022 U	<0.0025 U	<0.0025 U
Allyl chloride	mg/kg	**---**	<0.00046 UJ	<0.00050 UJ	<0.00050 U	<0.00042 U	<0.00041 U	<0.00047 U	<0.00046 U
Benzyl Chloride	mg/kg	**---**	<0.00046 UJ	<0.00050 UJ	<0.00050 U	<0.00042 U	<0.00041 U	<0.00047 U	<0.00046 U
Bromobenzene	mg/kg	**---**	<0.00046 UJ	<0.00050 UJ	<0.00050 U	<0.00042 U	<0.00041 U	<0.00047 U	<0.00046 U
Bromochloromethane	mg/kg	**---**	<0.00046 UJ	<0.00050 UJ	<0.00050 U	<0.00042 U	<0.00041 U	<0.00047 U	<0.00046 U
Bromodichloromethane	mg/kg	**---**	<0.00065 UJ	<0.00071 UJ	<0.00071 U	<0.00059 U	<0.00058 U	<0.00067 U	<0.00066 U
Bromoform	mg/kg	**---**	<0.00048 UJ	<0.00052 UJ	<0.00052 U	<0.00043 U	<0.00042 U	<0.00049 U	<0.00048 U
Bromomethane	mg/kg	**---**	<0.00048 UJ	<0.00052 UJ	<0.00052 U	<0.00043 U	<0.00042 U	<0.00049 U	<0.00048 U
Carbon Disulfide	mg/kg	**---**	<0.00058 UJ	<0.00063 UJ	<0.00063 U	<0.00053 U	<0.00051 U	<0.00059 U	<0.00058 U
Carbon Tetrachloride	mg/kg	**2.4**	<0.00047 UJ	<0.00051 UJ	<0.00051 U	<0.00043 U	<0.00042 U	<0.00048 U	<0.00047 U
Chlorobenzene	mg/kg	**100**[a]	<0.00047 UJ	<0.00051 UJ	<0.00051 U	<0.00043 U	<0.00042 U	<0.00048 U	<0.00047 U
Chloroethane	mg/kg	**---**	<0.00078 UJ	<0.00084 UJ	<0.00085 U	<0.00071 U	<0.00069 U	<0.00080 U	<0.00078 U
Chloroform	mg/kg	**49**	0.00052 J-,B	<0.00053 UJ	<0.00053 U	<0.00044 U	<0.00043 U	<0.00050 U	<0.00049 U

Parameter	NY Soil RRSCO	Statistics: Total Number of Samples Analyzed	Number of Detections	Min:	Max:	Number of Samples that Exceed RRSCO
Cyanide						
Cyanide, Total	**27**	74	56	0.00009	4.8	0
BTEX						
Benzene	**4.8**	74	31	0.00055	135	6
Ethylbenzene	**41**	73	28	0.00065	34.9	0
Toluene	**100**[a]	74	40	0.00041	201	1
Xylene, o	**---**	74	30	0.00054	65.9	0
Xylenes, m + p	**---**	74	30	0.0008	149	0
Xylenes, Total	**100**[a]	74	29	0.0014	215	1
VOC						
1,1,1,2-Tetrachloroethane	**---**	74	0	0	0	0
1,1,1-Trichloroethane	**100**[a]	74	0	0	0	0
1,1,2,2-Tetrachloroethane	**---**	74	0	0	0	0
1,1,2-Trichloroethane	**---**	74	0	0	0	0
1,1-Dichloroethane	**26**	74	0	0	0	0
1,1-Dichloroethene	**100**[a]	74	0	0	0	0
1,1-Dichloropropene	**---**	74	0	0	0	0
1,2,3-Trichlorobenzene	**---**	74	0	0	0	0
1,2,3-Trichloropropane	**---**	74	0	0	0	0
1,2,4-Trichlorobenzene	**---**	74	0	0	0	0
1,2,4-Trimethylbenzene	**52**	74	30	0.00034	71.3	1
1,2-Dibromo-3-chloropropane	**---**	74	0	0	0	0
1,2-Dibromoethane	**---**	74	0	0	0	0
1,2-Dichlorobenzene	**100**[a]	74	0	0	0	0
1,2-Dichloroethane	**3.1**	74	0	0	0	0
1,2-Dichloropropane	**---**	74	0	0	0	0
1,3,5-Trimethylbenzene	**52**	74	30	0.00027	21.9	0
1,3-Dichlorobenzene	**49**	74	0	0	0	0
1,3-Dichloropropane	**---**	74	0	0	0	0
1,4-Dichlorobenzene	**13**	74	0	0	0	0
1,4-Dioxane	**13**	29	0	0	0	0
2,2-Dichloropropane	**---**	74	0	0	0	0
2-Butanone (MEK)	**100**[a]	74	3	0.0031	0.0208	0
2-Chlorotoluene	**---**	74	0	0	0	0
2-Hexanone	**---**	74	0	0	0	0
4-Chlorotoluene	**---**	74	0	0	0	0
4-Isopropyltoluene	**---**	74	21	0.00067	1.25	0
4-Methyl-2-Pentanone (MIBK)	**---**	74	0	0	0	0
Acetone	**100**[b]	74	53	0.0039	0.672	0
Acetonitrile	**---**	74	0	0	0	0
Acrolein	**---**	74	0	0	0	0
Acrylonitrile	**---**	74	0	0	0	0
Allyl chloride	**---**	74	0	0	0	0
Benzyl Chloride	**---**	74	0	0	0	0
Bromobenzene	**---**	74	0	0	0	0
Bromochloromethane	**---**	74	0	0	0	0
Bromodichloromethane	**---**	74	0	0	0	0
Bromoform	**---**	74	0	0	0	0
Bromomethane	**---**	74	3	0.00063	0.062	0
Carbon Disulfide	**---**	74	4	0.0005	0.0024	0
Carbon Tetrachloride	**2.4**	74	0	0	0	0
Chlorobenzene	**100**[a]	74	0	0	0	0
Chloroethane	**---**	74	0	0	0	0
Chloroform	**49**	74	5	0.00048	0.549	0

Table B. Remedial Performance Documentation Sampling Results (by area)

Orange and Rockland Utilities, Inc. - Haverstraw Clove Ave. & Maple Ave. Former MGP Site
Haverstraw, Rockland County, New York
Operable Unit Number: 01 (OU-1)
Site No. 3-44-049

Station Name:			DSS-19	DSS-20	DSS-21	DSS-22	DSS-22	DSS-23	DSS-24
Field Sample ID[1]:			DSS-19-12.0/12.5-2018-03-23	DSS-20-9.0/9.5-2018-03-23	DSS-21-9.0/9.5-2018-03-26	DSS-22-13.5/14.0-2018-03-26	DUP-01-2018-03-26	DSS-23-13.0/13.5-2018-03-26	DSS-24-11.5/12.0-2018-03-26
Lab Report ID[1]:			DSS-19-12.0/12.5-2018-03-23	DSS-20-9.0/9.5-2018-03-23	DSS-21-9.0/9.5-2018-03-26	DSS-22-13.5/14.0-2018-03-26	DUP-01-2018-03-26	DSS-23-13.0/13.5-2018-03-26	DSS-24-11.5/12.0-2018-03-26
			03/23/2018	03/23/2018	03/26/2018	03/26/2018	03/26/2018	03/26/2018	03/26/2018
Parameter	Units	NY Soil RRSCO	20' - 19.5' above MSL	20.3' - 19.8' above MSL	19.8' - 19.3' above MSL	14.4' - 13.9' above MSL	14.4' - 13.9' above MSL	13.9' - 13.4' above MSL	11' - 10.5' above MSL
			Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag
VOC continued									
Chloromethane	mg/kg	---	<0.00050 UJ	<0.00055 UJ	<0.00055 U	<0.00046 U	<0.00045 U	<0.00052 U	<0.00051 U
Chloroprene	mg/kg	---	<0.00046 UJ	<0.00050 UJ	<0.00050 U	<0.00042 U	<0.00041 U	<0.00047 U	<0.00046 U
cis-1,2-Dichloroethene	mg/kg	**100**[a]	<0.00046 UJ	<0.00050 UJ	<0.00050 U	<0.00042 U	<0.00041 U	<0.00047 U	<0.00046 U
cis-1,3-Dichloropropene	mg/kg	---	<0.00050 UJ	<0.00055 UJ	<0.00055 U	<0.00046 U	<0.00045 U	<0.00052 U	<0.00051 U
Cyclohexane	mg/kg	---	<0.00047 UJ	<0.00051 UJ	<0.00051 U	<0.00043 U	<0.00042 U	0.00063 J	<0.00047 U
Dibromochloromethane	mg/kg	---	<0.00062 UJ	<0.00068 UJ	<0.00068 U	<0.00057 U	<0.00055 U	<0.00064 U	<0.00063 U
Dibromomethane	mg/kg	---	<0.00066 UJ	<0.00072 UJ	<0.00072 U	<0.00060 U	<0.00059 U	<0.00068 U	<0.00066 U
Ethyl acetate	mg/kg	---	<0.00046 UJ	0.00073 J-	<0.00050 U	<0.00042 U	<0.00041 U	<0.00047 U	<0.00046 U
Ethyl methacrylate	mg/kg	---	<0.00047 UJ	<0.00051 UJ	<0.00051 U	<0.00043 U	<0.00042 U	<0.00048 U	<0.00047 U
Freon 113	mg/kg	---	<0.00046 UJ	<0.00050 UJ	<0.00050 U	<0.00042 U	<0.00041 U	<0.00047 U	<0.00046 U
Freon 12	mg/kg	---	<0.00061 UJ	<0.00067 UJ	<0.00067 U	<0.00056 U	<0.00055 U	<0.00063 U	<0.00062 U
Isobutanol	mg/kg	---	<0.0072 UJ	<0.0077 UJ	<0.0078 U	<0.0065 U	<0.0063 U	<0.0073 U	<0.0072 U
Isopropylbenzene	mg/kg	---	<0.00056 UJ	<0.00061 UJ	<0.00061 U	0.0018	0.00087 J	0.0045	<0.00056 U
Methacrylonitrile	mg/kg	---	<0.00050 UJ	<0.00054 UJ	<0.00054 U	<0.00045 U	<0.00044 U	<0.00051 U	<0.00050 U
Methyl acetate	mg/kg	---	<0.00054 UJ	<0.00059 UJ	<0.00059 U	<0.00049 U	<0.00048 U	<0.00055 U	<0.00054 U
Methyl methacrylate	mg/kg	---	<0.0021 UJ	<0.0023 UJ	<0.0023 U	<0.0019 U	0.0059	<0.0022 U	<0.0021 U
Methylcyclohexane	mg/kg	---	<0.00051 UJ	<0.00056 UJ	<0.00056 U	0.0057 J-	0.0028 J-	0.0028 J+	<0.00052 U
Methylene chloride (DCM)	mg/kg	**100**[a]	0.0105 J-	0.0041 J-	0.001 J+	0.0056 J+	<0.00063 U	<0.00073 U	<0.00072 U
Methyl-tert-butyl-ether	mg/kg	**100**[a]	<0.00046 UJ	<0.00050 UJ	<0.00050 U	<0.00042 U	<0.00041 U	<0.00047 U	<0.00046 U
Naphthalene	mg/kg	**100**[a]	0.00063 J-,B	0.001 J-,B	0.00052 B	0.310 J	0.836 J	0.0055 B	0.00068 J
n-Butylbenzene	mg/kg	**100**[a]	<0.00046 UJ	<0.00050 UJ	<0.00050 U	0.0019	0.00084 J	0.0045	<0.00046 U
n-Propylbenzene	mg/kg	**100**[a]	<0.00046 UJ	<0.00050 UJ	<0.00050 U	0.0024	0.00099 J	0.0011 J	<0.00046 U
Propionitrile	mg/kg	---	<0.0039 UJ	<0.0042 UJ	<0.0042 U	<0.0035 U	<0.0034 U	<0.0039 U	<0.0039 U
sec-Butylbenzene	mg/kg	**100**[a]	<0.00046 UJ	<0.00050 UJ	<0.00050 U	0.0014 J	0.0005 J	0.0036	<0.00046 U
Styrene	mg/kg	---	0.0012 J-	<0.00050 UJ	<0.00050 U	0.00075 J	0.00051 J	<0.00047 U	<0.00046 U
tert-Butyl Alcohol	mg/kg	---	<0.0032 UJ	<0.0035 UJ	<0.0035 U	<0.0029 U	<0.0028 U	<0.0033 U	<0.0032 U
tert-Butylbenzene	mg/kg	**100**[a]	<0.00050 UJ	<0.00055 UJ	<0.00055 U	<0.00046 U	<0.00045 U	<0.00052 U	<0.00051 U
Tetrachloroethene	mg/kg	**19**	<0.00055 UJ	<0.00060 UJ	<0.00060 U	<0.00050 U	<0.00049 U	<0.00056 U	<0.00055 U
trans-1,2-Dichloroethene	mg/kg	**100**[a]	<0.00048 UJ	<0.00052 UJ	<0.00052 U	<0.00043 U	<0.00042 U	<0.00049 U	<0.00048 U
trans-1,3-Dichloropropene	mg/kg	---	<0.00053 UJ	<0.00058 UJ	<0.00058 U	<0.00049 U	<0.00047 U	<0.00055 U	<0.00054 U
Trichloroethene	mg/kg	**21**	<0.00046 UJ	<0.00050 UJ	<0.00050 U	<0.00042 U	<0.00041 U	<0.00047 U	<0.00046 U
Trichlorofluoromethane	mg/kg	---	<0.00046 UJ	<0.00050 UJ	<0.00050 U	<0.00042 U	<0.00041 U	<0.00047 U	<0.00046 U
Vinyl acetate	mg/kg	---	<0.00048 UJ	<0.00052 UJ	<0.00052 U	<0.00043 U	<0.00042 U	<0.00049 U	<0.00048 U
Vinyl Chloride	mg/kg	**0.9**	<0.00046 UJ	<0.00050 UJ	<0.00050 U	<0.00042 U	<0.00041 U	<0.00047 U	<0.00046 U

Parameter	NY Soil RRSCO	Statistics				
		Total Number of Samples Analyzed	Number of Detections	Min:	Max:	Number of Samples that Exceed RRSCO
VOC						
Chloromethane	---	74	0	0	0	0
Chloroprene	---	74	0	0	0	0
cis-1,2-Dichloroethene	**100**[a]	74	0	0	0	0
cis-1,3-Dichloropropene	---	74	0	0	0	0
Cyclohexane	---	74	5	0.00037	0.0123	0
Dibromochloromethane	---	74	0	0	0	0
Dibromomethane	---	74	0	0	0	0
Ethyl acetate	---	74	7	0.00073	0.0163	0
Ethyl methacrylate	---	74	0	0	0	0
Freon 113	---	74	0	0	0	0
Freon 12	---	74	0	0	0	0
Isobutanol	---	74	0	0	0	0
Isopropylbenzene	---	74	21	0.00048	1.87	0
Methacrylonitrile	---	74	0	0	0	0
Methyl acetate	---	74	12	0.00057	0.424	0
Methyl methacrylate	---	74	1	0.0059	0.0059	0
Methylcyclohexane	---	74	16	0.00049	1.01	0
Methylene chloride (DCM)	**100**[a]	74	38	0.0005	0.0253	0
Methyl-tert-butyl-ether	**100**[a]	74	2	0.00075	0.00087	0
Naphthalene	**100**[a]	74	50	0.00033	1930	5
n-Butylbenzene	**100**[a]	74	12	0.00073	0.627	0
n-Propylbenzene	**100**[a]	74	17	0.00046	5.89	0
Propionitrile	---	74	0	0	0	0
sec-Butylbenzene	**100**[a]	74	10	0.0005	0.082	0
Styrene	---	74	22	0.00033	123	0
tert-Butyl Alcohol	---	74	30	0.0027	0.0668	0
tert-Butylbenzene	**100**[a]	74	0	0	0	0
Tetrachloroethene	**19**	74	0	0	0	0
trans-1,2-Dichloroethene	**100**[a]	74	0	0	0	0
trans-1,3-Dichloropropene	---	74	0	0	0	0
Trichloroethene	**21**	74	0	0	0	0
Trichlorofluoromethane	---	74	0	0	0	0
Vinyl acetate	---	74	0	0	0	0
Vinyl Chloride	**0.9**	74	0	0	0	0

Table B. Remedial Performance Documentation Sampling Results (by area)

Orange and Rockland Utilities, Inc. - Haverstraw Clove Ave. & Maple Ave. Former MGP Site
Haverstraw, Rockland County, New York
Operable Unit Number: 01 (OU-1)
Site No. 3-44-049

Station Name:			DSS-19	DSS-20	DSS-21	DSS-22	DSS-22	DSS-23	DSS-24
Field Sample ID[1]:			DSS-19-12.0/12.5-2018-03-23	DSS-20-9.0/9.5-2018-03-23	DSS-21-9.0/9.5-2018-03-26	DSS-22-13.5/14.0-2018-03-26	DUP-01-2018-03-26	DSS-23-13.0/13.5-2018-03-26	DSS-24-11.5/12.0-2018-03-26
Lab Report ID[1]:			DSS-19-12.0/12.5-2018-03-23	DSS-20-9.0/9.5-2018-03-23	DSS-21-9.0/9.5-2018-03-26	DSS-22-13.5/14.0-2018-03-26	DUP-01-2018-03-26	DSS-23-13.0/13.5-2018-03-26	DSS-24-11.5/12.0-2018-03-26
			03/23/2018	03/23/2018	03/26/2018	03/26/2018	03/26/2018	03/26/2018	03/26/2018
Parameter	Units	NY Soil RRSCO	20' - 19.5' above MSL	20.3' - 19.8' above MSL	19.8' - 19.3' above MSL	14.4' - 13.9' above MSL	14.4' - 13.9' above MSL	13.9' - 13.4' above MSL	11' - 10.5' above MSL
			Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag
SVOC									
1,2,4,5-Tetrachlorobenzene	mg/kg	---	<0.0078 U	<0.0071 U	<0.0082 U	<0.0078 U	<0.0080 U	<0.0085 U	<0.0088 U
1,2,4-Trichlorobenzene	mg/kg	---	<0.0066 U	<0.0060 U	<0.0070 U	<0.0067 U	<0.0069 U	<0.0073 U	<0.0075 U
1,2-Dichlorobenzene	mg/kg	**100**[a]	<0.010 U	<0.0091 U	<0.0105 U	<0.0100 U	<0.0103 U	<0.0109 U	<0.0113 U
1,2-Dinitrobenzene	mg/kg	---	<0.0210 U	<0.0191 U	<0.0222 U	<0.0212 U	<0.0218 U	<0.0230 U	<0.0238 U
1,2-Diphenylhydrazine	mg/kg	---	<0.010 U	<0.0091 U	<0.0105 U	<0.0100 U	<0.0103 U	<0.0109 U	<0.0113 U
1,3-Dichlorobenzene	mg/kg	**49**	<0.0078 U	<0.0071 U	<0.0082 U	<0.0078 U	<0.0080 U	<0.0085 U	<0.0088 U
1,4-Dichlorobenzene	mg/kg	**13**	<0.0078 U	<0.0071 U	<0.0082 U	<0.0078 U	<0.0080 U	<0.0085 U	<0.0088 U
1,4-Dinitrobenzene	mg/kg	---	<0.0155 U	<0.0141 U	<0.0164 U	<0.0156 U	<0.0161 U	<0.0170 U	<0.0175 U
2,2-Oxybis(1-chloropropane)	mg/kg	---	<0.0166 U	<0.0151 U	<0.0175 U	<0.0167 U	<0.0172 U	<0.0182 U	<0.0188 U
2,4-Dinitrotoluene	mg/kg	---	<0.010 U	<0.0091 U	<0.0105 U	<0.0100 U	<0.0103 U	<0.0109 U	<0.0113 U
2,6-Dinitrotoluene	mg/kg	---	<0.0133 U	<0.0121 U	<0.0140 U	<0.0134 U	<0.0138 U	<0.0145 U	<0.0150 U
2-Chloronaphthalene	mg/kg	---	<0.0066 U	<0.0060 U	<0.0070 U	<0.0067 U	<0.0069 U	<0.0073 U	<0.0075 U
2-Naphthalenamine	mg/kg	---	<0.0177 U	<0.0161 U	<0.0187 U	<0.0179 U	<0.0184 U	<0.0194 U	<0.0200 U
2-Nitroaniline	mg/kg	---	<0.0133 U	<0.0121 U	<0.0140 U	<0.0134 U	<0.0138 U	<0.0145 U	<0.0150 U
3,3-Dichlorobenzidine	mg/kg	---	<0.0421 U	<0.0383 U	<0.0444 U	<0.0424 U	<0.0437 U	<0.0460 U	<0.0475 U
3-Nitroaniline	mg/kg	---	<0.0221 U	<0.0201 U	<0.0234 U	<0.0223 U	<0.0230 U	<0.0242 U	<0.0250 U
4-Bromodiphenyl ether	mg/kg	---	<0.010 U	<0.0091 U	<0.0105 U	<0.0100 U	<0.0103 U	<0.0109 U	<0.0113 U
4-Chloroaniline	mg/kg	---	<0.0133 U	<0.0121 U	<0.0140 U	<0.0134 U	<0.0138 U	<0.0145 U	<0.0150 U
4-Chlorodiphenyl ether	mg/kg	---	<0.0089 U	<0.0081 U	<0.0094 U	<0.0089 U	<0.0092 U	<0.0097 U	<0.0100 U
4-Nitroaniline	mg/kg	---	<0.0089 U	<0.0081 U	<0.0094 U	<0.0089 U	<0.0092 U	<0.0097 U	<0.0100 U
Acetophenone	mg/kg	---	<0.0089 UJ	<0.0081 UJ	<0.0094 UJ	<0.0089 UJ	<0.0092 UJ	<0.0097 UJ	<0.0100 UJ
Aniline	mg/kg	---	<0.0166 U	<0.0151 U	<0.0175 U	<0.0167 U	<0.0172 U	<0.0182 U	<0.0188 U
Atrazine	mg/kg	---	<0.0122 U	<0.0111 U	<0.0129 U	<0.0123 U	<0.0126 U	<0.0133 U	<0.0138 U
Benzaldehyde	mg/kg	---	<0.0188 U	<0.0171 U	<0.0199 U	<0.0190 U	<0.0195 U	<0.0206 U	<0.0213 U
Benzidine	mg/kg	---	<0.0354 U	<0.0322 U	<0.0374 U	<0.0357 U	<0.0368 U	<0.0387 U	<0.0400 U
Benzoic Acid	mg/kg	---	<0.0078 U	<0.0071 U	<0.0082 U	<0.0078 U	<0.0080 U	<0.0085 U	<0.0088 U
Benzyl alcohol	mg/kg	---	<0.0199 U	<0.0181 U	<0.0210 U	<0.0201 U	<0.0207 U	<0.0218 U	<0.0225 U
Biphenyl	mg/kg	---	<0.0078 U	<0.0071 U	<0.0082 U	<0.0078 U	<0.0080 U	1.080	<0.0088 U
Bis(2-Chloroethoxy)methane	mg/kg	---	<0.010 U	<0.0091 U	<0.0105 U	<0.0100 U	<0.0103 U	<0.0109 U	<0.0113 U
Bis(2-Chloroethyl)ether	mg/kg	---	<0.0144 U	<0.0131 U	<0.0152 U	<0.0145 U	<0.0149 U	<0.0157 U	<0.0163 U
Bis(2-Ethylhexyl)phthalate	mg/kg	---	<0.0078 U	<0.0071 U	<0.0082 U	<0.0078 U	0.0568 J	<0.0085 U	<0.0088 U
Butyl benzyl phthalate	mg/kg	---	<0.0078 U	<0.0071 U	<0.0082 U	<0.0078 U	0.0175 J	<0.0085 U	<0.0088 U
Caprolactam	mg/kg	---	<0.0199 U	<0.0181 U	<0.0210 U	<0.0201 U	<0.0207 U	<0.0218 U	<0.0225 U
Carbazole	mg/kg	---	<0.0078 U	<0.0071 U	<0.0082 U	<0.0078 U	<0.0080 U	<0.0085 U	<0.0088 U
Dibenzofuran	mg/kg	**59**	<0.0089 U	<0.0081 U	<0.0094 U	<0.0089 U	<0.0092 U	0.651	<0.0100 U
Diethyl phthalate	mg/kg	---	<0.0089 U	<0.0081 U	<0.0094 U	<0.0089 U	<0.0092 U	<0.0097 U	<0.0100 U
Dimethyl phthalate	mg/kg	---	<0.0078 U	<0.0071 U	<0.0082 U	<0.0078 U	<0.0080 U	<0.0085 U	<0.0088 U
Di-n-butyl phthalate	mg/kg	---	<0.0089 U	<0.0081 U	<0.0094 U	<0.0089 U	<0.0092 U	<0.0097 U	<0.0100 U
Di-n-octyl phthalate	mg/kg	---	<0.0078 U	<0.0071 U	<0.0082 U	<0.0078 U	<0.0080 U	<0.0085 U	<0.0088 U
Hexachlorobenzene	mg/kg	**1.2**	<0.0122 U	<0.0111 U	<0.0129 U	<0.0123 U	<0.0126 U	<0.0133 U	<0.0138 U
Hexachlorobutadiene	mg/kg	---	<0.0111 U	<0.0101 U	<0.0117 U	<0.0112 U	<0.0115 U	<0.0121 U	<0.0125 U
Hexachlorocyclopentadiene	mg/kg	---	<0.0122 U	<0.0111 U	<0.0129 U	<0.0123 U	<0.0126 U	<0.0133 U	<0.0138 U
Hexachloroethane	mg/kg	---	<0.010 U	<0.0091 U	<0.0105 U	<0.0100 U	<0.0103 U	<0.0109 U	<0.0113 U
Isophorone	mg/kg	---	<0.0066 U	<0.0060 U	<0.0070 U	<0.0067 U	<0.0069 U	<0.0073 U	<0.0075 U
Nitrobenzene	mg/kg	---	<0.0133 U	<0.0121 U	<0.0140 U	<0.0134 U	<0.0138 U	<0.0145 U	<0.0150 U
N-Nitrosodiethylamine	mg/kg	---	<0.0144 U	<0.0131 U	<0.0152 U	<0.0145 U	<0.0149 U	<0.0157 U	<0.0163 U
N-Nitrosodimethylamine	mg/kg	---	<0.0166 U	<0.0151 U	<0.0175 U	<0.0167 U	<0.0172 U	<0.0182 U	<0.0188 U
N-Nitroso-di-n-butylamine	mg/kg	---	<0.0122 U	<0.0111 U	<0.0129 U	<0.0123 U	<0.0126 U	<0.0133 U	<0.0138 U
N-nitrosodi-n-propylamine	mg/kg	---	<0.0089 U	<0.0081 U	<0.0094 U	<0.0089 U	<0.0092 U	<0.0097 U	<0.0100 U
N-Nitrosodiphenylamine	mg/kg	---	<0.0089 U	<0.0081 U	<0.0094 U	<0.0089 U	<0.0092 U	<0.0097 U	<0.0100 U
Pentachlorobenzene	mg/kg	---	<0.0122 U	<0.0111 U	<0.0129 U	<0.0123 U	<0.0126 U	<0.0133 U	<0.0138 U
Pyridine	mg/kg	---	<0.0199 U	<0.0181 U	<0.0210 U	<0.0201 U	<0.0207 U	<0.0218 U	<0.0225 U
Resorcinol	mg/kg	---	<0.0155 U	<0.0141 U	<0.0164 U	<0.0156 U	<0.0161 U	<0.0170 U	<0.0175 U
N-Nitrosopyrrolidine	mg/kg	---	<0.0133 U	<0.0121 U	<0.0140 U	<0.0134 U	<0.0138 U	<0.0145 U	<0.0150 U

Parameter	NY Soil RRSCO	Statistics				
		Total Number of Samples Analyzed	Number of Detections	Min:	Max:	Number of Samples that Exceed RRSCO
SVOC						
1,2,4,5-Tetrachlorobenzene	---	74	0	0	0	0
1,2,4-Trichlorobenzene	---	74	0	0	0	0
1,2-Dichlorobenzene	**100**[a]	74	0	0	0	0
1,2-Dinitrobenzene	---	74	0	0	0	0
1,2-Diphenylhydrazine	---	74	0	0	0	0
1,3-Dichlorobenzene	**49**	74	0	0	0	0
1,4-Dichlorobenzene	**13**	74	0	0	0	0
1,4-Dinitrobenzene	---	74	0	0	0	0
2,2-Oxybis(1-chloropropane)	---	74	0	0	0	0
2,4-Dinitrotoluene	---	74	0	0	0	0
2,6-Dinitrotoluene	---	74	0	0	0	0
2-Chloronaphthalene	---	74	0	0	0	0
2-Naphthalenamine	---	74	0	0	0	0
2-Nitroaniline	---	74	0	0	0	0
3,3-Dichlorobenzidine	---	74	5	0.0507	0.189	0
3-Nitroaniline	---	74	0	0	0	0
4-Bromodiphenyl ether	---	74	0	0	0	0
4-Chloroaniline	---	74	0	0	0	0
4-Chlorodiphenyl ether	---	74	0	0	0	0
4-Nitroaniline	---	74	1	0.123	0.123	0
Acetophenone	---	74	4	0.0218	0.0798	0
Aniline	---	74	0	0	0	0
Atrazine	---	74	0	0	0	0
Benzaldehyde	---	74	5	0.032	0.164	0
Benzidine	---	74	0	0	0	0
Benzoic Acid	---	74	0	0	0	0
Benzyl alcohol	---	74	8	0.0197	0.0596	0
Biphenyl	---	74	21	0.0189	40.5	0
Bis(2-Chloroethoxy)methane	---	74	0	0	0	0
Bis(2-Chloroethyl)ether	---	74	0	0	0	0
Bis(2-Ethylhexyl)phthalate	---	74	32	0.0188	0.76	0
Butyl benzyl phthalate	---	74	1	0.0175	0.0175	0
Caprolactam	---	74	0	0	0	0
Carbazole	---	74	18	0.0202	1.33	0
Dibenzofuran	**59**	74	27	0.0191	6.53	0
Diethyl phthalate	---	74	0	0	0	0
Dimethyl phthalate	---	74	2	0.0153	0.122	0
Di-n-butyl phthalate	---	74	4	0.0199	0.0719	0
Di-n-octyl phthalate	---	74	0	0	0	0
Hexachlorobenzene	**1.2**	74	0	0	0	0
Hexachlorobutadiene	---	74	0	0	0	0
Hexachlorocyclopentadiene	---	74	0	0	0	0
Hexachloroethane	---	74	0	0	0	0
Isophorone	---	74	1	0.0217	0.0217	0
Nitrobenzene	---	74	0	0	0	0
N-Nitrosodiethylamine	---	74	1	0.0177	0.0177	0
N-Nitrosodimethylamine	---	74	0	0	0	0
N-Nitroso-di-n-butylamine	---	74	0	0	0	0
N-nitrosodi-n-propylamine	---	74	0	0	0	0
N-Nitrosodiphenylamine	---	74	1	0.192	0.192	0
Pentachlorobenzene	---	74	0	0	0	0
Pyridine	---	74	1	0.347	0.347	0
Resorcinol	---	74	0	0	0	0
N-Nitrosopyrrolidine	---	74	0	0	0	0

Table B. Remedial Performance Documentation Sampling Results (by area)

Orange and Rockland Utilities, Inc. - Haverstraw Clove Ave. & Maple Ave. Former MGP Site
Haverstraw, Rockland County, New York
Operable Unit Number: 01 (OU-1)
Site No. 3-44-049

Station Name:			DSS-19	DSS-20	DSS-21	DSS-22	DSS-22	DSS-23	DSS-24
Field Sample ID[1]:			DSS-19-12.0/12.5-2018-03-23	DSS-20-9.0/9.5-2018-03-23	DSS-21-9.0/9.5-2018-03-26	DSS-22-13.5/14.0-2018-03-26	DUP-01-2018-03-26	DSS-23-13.0/13.5-2018-03-26	DSS-24-11.5/12.0-2018-03-26
Lab Report ID[1]:			DSS-19-12.0/12.5-2018-03-23	DSS-20-9.0/9.5-2018-03-23	DSS-21-9.0/9.5-2018-03-26	DSS-22-13.5/14.0-2018-03-26	DUP-01-2018-03-26	DSS-23-13.0/13.5-2018-03-26	DSS-24-11.5/12.0-2018-03-26
			03/23/2018	03/23/2018	03/26/2018	03/26/2018	03/26/2018	03/26/2018	03/26/2018
Parameter	Units	NY Soil RRSCO	20' - 19.5' above MSL	20.3' - 19.8' above MSL	19.8' - 19.3' above MSL	14.4' - 13.9' above MSL	14.4' - 13.9' above MSL	13.9' - 13.4' above MSL	11' - 10.5' above MSL
			Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag
PAH									
2-Methylnaphthalene	mg/kg	---	<0.0055 U	<0.0050 U	<0.0058 U	<0.0056 U	<0.0057 U	<0.0061 U	<0.0063 U
Acenaphthene	mg/kg	**100**[a]	<0.0066 U	<0.0060 U	<0.0070 U	<0.0067 U	<0.0069 U	1.070	<0.0075 U
Acenaphthylene	mg/kg	**100**[a]	0.0358 J	<0.0071 U	<0.0082 U	<0.0078 U	<0.0080 U	1.860	<0.0088 U
Anthracene	mg/kg	**100**[a]	<0.0089 U	<0.0081 U	<0.0094 U	<0.0089 U	<0.0092 U	3.960	<0.0100 U
Benzo(a)anthracene	mg/kg	**1**[f]	<0.0055 U	<0.0050 U	<0.0058 U	<0.0056 U	0.0122 J	**2.510**	<0.0063 U
Benzo(a)pyrene	mg/kg	**1**[f]	<0.0044 U	<0.0040 U	<0.0047 U	<0.0045 U	<0.0046 U	**2.230**	<0.0050 U
Benzo(b)fluoranthene	mg/kg	**1**[f]	<0.0055 U	<0.0050 U	<0.0058 U	<0.0056 U	<0.0057 U	**1.610**	<0.0063 U
Benzo(g,h,i)perylene	mg/kg	**100**[a]	0.0758	<0.0050 U	<0.0058 U	<0.0056 U	<0.0057 U	0.921	<0.0063 U
Benzo(k)fluoranthene	mg/kg	**3.9**	<0.0055 U	<0.0050 U	<0.0058 U	<0.0056 U	<0.0057 U	0.685	<0.0063 U
Chrysene	mg/kg	**3.9**	<0.0055 U	<0.0050 U	<0.0058 U	<0.0056 U	<0.0057 U	2.370	<0.0063 U
Dibenz(a,h)anthracene	mg/kg	**0.33**[e]	<0.0066 U	<0.0060 U	<0.0070 U	<0.0067 U	<0.0069 U	0.202	<0.0075 U
Fluoranthene	mg/kg	**100**[a]	<0.0055 U	<0.0050 U	<0.0058 U	0.0141 J	0.0186 J	5.880	0.0127 J
Fluorene	mg/kg	**100**[a]	<0.0066 U	<0.0060 U	<0.0070 U	0.0155 J	0.0199 J	1.870	<0.0075 U
Indeno(1,2,3-cd)pyrene	mg/kg	**0.5**[f]	0.0385 J	<0.0071 U	<0.0082 U	<0.0078 U	<0.0080 U	**0.889**	<0.0088 U
Naphthalene	mg/kg	**100**[a]	<0.0066 U	0.0159 J	<0.0070 U	0.0509 J	0.0496 J	<0.0073 U	<0.0075 U
Phenanthrene	mg/kg	**100**[a]	<0.0055 U	<0.0050 U	<0.0058 U	0.0814	0.0988	13.500	<0.0063 U
Pyrene	mg/kg	**100**[a]	<0.0055 U	<0.0050 U	<0.0058 U	0.0125 J	0.0174 J	7.570	<0.0063 U
Phenol									
2,3,4,6-Tetrachlorophenol	mg/kg	---	<0.0133 U	<0.0121 U	<0.0140 U	<0.0134 U	<0.0138 U	<0.0145 U	<0.0150 U
2,4,5-Trichlorophenol	mg/kg	---	<0.0133 U	<0.0121 U	<0.0140 U	<0.0134 U	<0.0138 U	<0.0145 U	<0.0150 U
2,4,6-Trichlorophenol	mg/kg	---	<0.0133 U	<0.0121 U	<0.0140 U	<0.0134 U	<0.0138 U	<0.0145 U	<0.0150 U
2,4-Dichlorophenol	mg/kg	---	<0.0089 U	<0.0081 U	<0.0094 U	<0.0089 U	<0.0092 U	<0.0097 U	<0.0100 U
2,4-Dimethylphenol	mg/kg	---	<0.0166 U	<0.0151 U	<0.0175 U	<0.0167 U	<0.0172 U	<0.0182 U	<0.0188 U
2,4-Dinitrophenol	mg/kg	---	<0.0443 U	<0.0403 U	<0.0468 U	<0.0447 U	<0.0460 U	<0.0484 U	<0.0500 U
2,6-Dichlorophenol	mg/kg	---	<0.0122 U	<0.0111 U	<0.0129 U	<0.0123 U	<0.0126 U	<0.0133 U	<0.0138 U
2-Chlorophenol	mg/kg	---	<0.0089 U	<0.0081 U	<0.0094 U	<0.0089 U	<0.0092 U	<0.0097 U	<0.0100 U
2-Methylphenol	mg/kg	**100**[a]	<0.0122 U	<0.0111 U	<0.0129 U	<0.0123 U	<0.0126 U	<0.0133 U	<0.0138 U
2-Nitrophenol	mg/kg	---	<0.0122 U	<0.0111 U	<0.0129 U	<0.0123 U	<0.0126 U	<0.0133 U	<0.0138 U
4,6-Dinitro-2-methylphenol	mg/kg	---	<0.0288 U	<0.0262 U	<0.0304 U	<0.0290 U	<0.0299 U	<0.0315 U	<0.0325 U
4-Chloro-3-methylphenol	mg/kg	---	<0.0111 U	<0.0101 U	<0.0117 U	<0.0112 U	<0.0115 U	<0.0121 U	<0.0125 U
4-Nitrophenol	mg/kg	---	<0.0155 U	<0.0141 U	<0.0164 U	<0.0156 U	<0.0161 U	<0.0170 U	<0.0175 U
Dimethoate	mg/kg	---	<0.0122 U	<0.0111 U	<0.0129 U	<0.0123 U	<0.0126 U	<0.0133 U	<0.0138 U
Diphenylamine	mg/kg	---	<0.0078 U	<0.0071 U	<0.0082 U	<0.0078 U	<0.0080 U	<0.0085 U	<0.0088 U
mp-Cresol	mg/kg	---	0.0159 J	<0.0081 U	<0.0094 U	<0.0089 U	<0.0092 U	<0.0097 U	<0.0100 U
Pentachlorophenol	mg/kg	**6.7**	<0.0288 U	<0.0262 U	<0.0304 U	<0.0290 U	<0.0299 U	<0.0315 U	<0.0325 U
Phenol	mg/kg	**100**[a]	<0.0111 U	<0.0101 U	<0.0117 U	<0.0112 U	<0.0115 U	<0.0121 U	<0.0125 U

Parameter	NY Soil RRSCO	Statistics: Total Number of Samples Analyzed	Number of Detections	Min:	Max:	Number of Samples that Exceed RRSCO
PAH						
2-Methylnaphthalene	---	74	40	0.0198	506	0
Acenaphthene	**100**[a]	74	36	0.0192	133	1
Acenaphthylene	**100**[a]	74	55	0.017	109	1
Anthracene	**100**[a]	74	50	0.0228	48.6	0
Benzo(a)anthracene	**1**[f]	74	55	0.0104	29.4	21
Benzo(a)pyrene	**1**[f]	74	53	0.0128	28	24
Benzo(b)fluoranthene	**1**[f]	74	51	0.0407	20.7	18
Benzo(g,h,i)perylene	**100**[a]	74	52	0.021	12.7	0
Benzo(k)fluoranthene	**3.9**	74	49	0.0162	7.44	3
Chrysene	**3.9**	74	52	0.0228	27.6	6
Dibenz(a,h)anthracene	**0.33**[e]	74	45	0.019	2.76	11
Fluoranthene	**100**[a]	74	59	0.0096	65.3	0
Fluorene	**100**[a]	74	37	0.0155	66.3	0
Indeno(1,2,3-cd)pyrene	**0.5**[f]	74	52	0.022	11.7	22
Naphthalene	**100**[a]	74	49	0.0159	1250	2
Phenanthrene	**100**[a]	74	61	0.013	182	2
Pyrene	**100**[a]	74	61	0.0124	82.7	0
Phenol						
2,3,4,6-Tetrachlorophenol	---	74	0	0	0	0
2,4,5-Trichlorophenol	---	74	0	0	0	0
2,4,6-Trichlorophenol	---	74	0	0	0	0
2,4-Dichlorophenol	---	74	0	0	0	0
2,4-Dimethylphenol	---	74	1	0.0613	0.0613	0
2,4-Dinitrophenol	---	74	0	0	0	0
2,6-Dichlorophenol	---	74	0	0	0	0
2-Chlorophenol	---	74	0	0	0	0
2-Methylphenol	**100**[a]	74	1	0.0554	0.0554	0
2-Nitrophenol	---	74	0	0	0	0
4,6-Dinitro-2-methylphenol	---	74	0	0	0	0
4-Chloro-3-methylphenol	---	74	0	0	0	0
4-Nitrophenol	---	74	0	0	0	0
Dimethoate	---	74	1	0.0326	0.0326	0
Diphenylamine	---	74	1	0.164	0.164	0
mp-Cresol	---	74	5	0.0159	0.424	0
Pentachlorophenol	**6.7**	74	0	0	0	0
Phenol	**100**[a]	74	7	0.021	0.347	0

Table B. Remedial Performance Documentation Sampling Results (by area)

Orange and Rockland Utilities, Inc. - Haverstraw Clove Ave. & Maple Ave. Former MGP Site
Haverstraw, Rockland County, New York
Operable Unit Number: 01 (OU-1)
Site No. 3-44-049

Station Name:			DSS-19	DSS-20	DSS-21	DSS-22	DSS-22	DSS-23	DSS-24
	Field Sample ID[1]:		DSS-19-12.0/12.5-2018-03-23	DSS-20-9.0/9.5-2018-03-23	DSS-21-9.0/9.5-2018-03-26	DSS-22-13.5/14.0-2018-03-26	DUP-01-2018-03-26	DSS-23-13.0/13.5-2018-03-26	DSS-24-11.5/12.0-2018-03-26
	Lab Report ID[1]:		DSS-19-12.0/12.5-2018-03-23	DSS-20-9.0/9.5-2018-03-23	DSS-21-9.0/9.5-2018-03-26	DSS-22-13.5/14.0-2018-03-26	DUP-01-2018-03-26	DSS-23-13.0/13.5-2018-03-26	DSS-24-11.5/12.0-2018-03-26
			03/23/2018	03/23/2018	03/26/2018	03/26/2018	03/26/2018	03/26/2018	03/26/2018
Parameter	Units	NY Soil RRSCO	20' - 19.5' above MSL	20.3' - 19.8' above MSL	19.8' - 19.3' above MSL	14.4' - 13.9' above MSL	14.4' - 13.9' above MSL	13.9' - 13.4' above MSL	11' - 10.5' above MSL
			Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag	Value | Flag
Metal									
Aluminum, Total	mg/kg	---	--	--	--	--	--	--	--
Antimony, Total	mg/kg	---	<0.69 U	<0.65 U	<0.78 U	0.75 J	<0.68 U	<0.84 U	<0.74 U
Arsenic, Total	mg/kg	**16**[f]	0.73 J	<0.65 U	2.3 J	2.4	2.7	<0.84 U	1.3 J
Barium, Total	mg/kg	**400**	62.6	40.6	119	76.3	77.8	136	89.7
Beryllium, Total	mg/kg	**72**	<0.35 U	<0.33 U	0.69 J	0.4 J	0.43 J	0.65 J	0.55 J
Cadmium, Total	mg/kg	**4.3**	<0.17 U	<0.16 U	0.28 J	0.25 J	0.28 J	0.25 J	0.28 J
Calcium, Total	mg/kg	---	--	--	--	--	--	--	--
Chromium, Total	mg/kg	---	9.8	11.4	18.7	14.7	20.1	26.8	18.6
Cobalt, Total	mg/kg	---	--	--	--	--	--	--	--
Copper, Total	mg/kg	**270**	--	--	--	--	--	--	--
Iron, Total	mg/kg	---	--	--	--	--	--	--	--
Lead, Total	mg/kg	**400**	2.8	3.3	11.2	8.2	9.4	7.8	11.3
Magnesium, Total	mg/kg	---	--	--	--	--	--	--	--
Manganese, Total	mg/kg	**2,000**[f]	--	--	--	--	--	--	--
Mercury, Total	mg/kg	**0.81**[j]	<0.017 U	<0.016 U	<0.019 U	<0.018 U	<0.017 U	<0.020 U	0.023 J
Nickel, Total	mg/kg	**310**	10.6	10.3	25.6	21.7	24.3	31.3	28.7
Potassium, Total	mg/kg	---	--	--	--	--	--	--	--
Selenium, Total	mg/kg	**180**	<1.7 U	<1.6 U	<2.0 U	<1.7 U	<1.7 U	<2.1 U	<1.8 U
Silver, Total	mg/kg	**180**	<0.17 U	<0.16 U	<0.20 U	<0.17 U	<0.17 U	<0.21 U	<0.18 U
Sodium, Total	mg/kg	---	--	--	--	--	--	--	--
Thallium, Total	mg/kg	---	<1.0 U	<0.98 U	<1.2 U	<1.0 U	<1.0 U	<1.3 U	<1.1 U
Vanadium, Total	mg/kg	---	16.7	14.5	24.6	20.5	23.2	22.6	24.3
Zinc, Total	mg/kg	**10,000**[d]	27.7	27.2	114	45.7 J	68 J	79.4	73.4
PCB									
PCB, Total	mg/kg	**1**	<0.0033 U	<0.0031 U	<0.0037 UJ	<0.0034 UJ	<0.0033 U	<0.0037 U	<0.0038 UJ
PCB-1016	mg/kg	---	<0.0067 U	<0.0062 U	<0.0073 UJ	<0.0068 UJ	<0.0066 U	<0.0074 U	<0.0075 UJ
PCB-1221	mg/kg	---	<0.0033 U	<0.0031 U	<0.0037 UJ	<0.0034 UJ	<0.0033 U	<0.0037 U	<0.0038 UJ
PCB-1232	mg/kg	---	<0.0067 U	<0.0062 U	<0.0073 UJ	<0.0068 UJ	<0.0066 U	<0.0074 U	<0.0075 UJ
PCB-1242	mg/kg	---	<0.010 U	<0.0094 U	<0.011 UJ	<0.010 UJ	<0.0099 U	<0.011 U	<0.011 UJ
PCB-1248	mg/kg	---	<0.0067 U	<0.0062 U	<0.0073 UJ	<0.0068 UJ	<0.0066 U	<0.0074 U	<0.0075 UJ
PCB-1254	mg/kg	---	<0.0067 U	<0.0062 U	<0.0073 UJ	<0.0068 UJ	<0.0066 U	<0.0074 U	<0.0075 UJ
PCB-1260	mg/kg	---	<0.0067 U	<0.0062 U	<0.0073 UJ	<0.0068 UJ	<0.0066 U	<0.0074 U	<0.0075 UJ
Pesticide									
4,4-DDD	mg/kg	**13**	<0.0015 U	<0.0014 U	<0.0017 UJ	<0.0015 U	<0.0015 U	<0.0017 U	<0.0017 U
4,4-DDE	mg/kg	**8.9**	<0.0025 U	<0.0023 U	<0.0028 UJ	<0.0026 U	<0.0025 U	<0.0028 U	<0.0028 U
4,4-DDT	mg/kg	**7.9**	<0.0021 U	<0.0020 U	<0.0023 UJ	<0.0022 U	<0.0021 U	<0.0023 U	<0.0024 U
Aldrin	mg/kg	**0.097**	<0.0031 U	<0.0029 U	<0.0034 UJ	<0.0031 U	<0.0030 U	<0.0034 U	<0.0034 U
alpha-BHC	mg/kg	**0.48**	<0.00084 U	<0.00078 U	<0.00092 UJ	<0.00085 U	<0.00082 U	<0.00092 U	<0.00094 U
alpha-Chlordane	mg/kg	**4.2**	<0.0010 U	<0.00094 U	<0.0011 UJ	<0.0010 U	<0.00099 U	<0.0011 U	<0.0011 U
beta-BHC	mg/kg	**0.36**	<0.0010 U	<0.00094 U	<0.0011 UJ	<0.0010 U	<0.00099 U	<0.0011 U	<0.0011 U
delta-BHC	mg/kg	**100**[a]	<0.00072 U	<0.00068 U	<0.00079 UJ	<0.00074 U	<0.00071 U	<0.00080 U	<0.00081 U
Dieldrin	mg/kg	**0.2**	<0.0021 U	<0.0020 U	<0.0023 UJ	<0.0022 U	<0.0021 U	<0.0023 U	<0.0024 U
Endosulfan I	mg/kg	**24**[i]	<0.0012 U	<0.0011 U	<0.0013 UJ	<0.0012 U	<0.0012 U	<0.0013 U	<0.0013 U
Endosulfan II	mg/kg	**24**[i]	<0.0038 U	<0.0036 U	<0.0042 UJ	<0.0039 U	<0.0038 U	<0.0042 U	<0.0043 U
Endosulfan sulfate	mg/kg	**24**[i]	<0.0012 U	<0.0011 U	<0.0013 UJ	<0.0013 U	<0.0012 U	<0.0013 U	<0.0014 U
Endrin	mg/kg	**11**	<0.0013 U	<0.0012 U	<0.0015 UJ	<0.0014 U	<0.0013 U	<0.0015 U	<0.0015 U
Endrin aldehyde	mg/kg	---	<0.0020 U	<0.0019 U	<0.0022 UJ	<0.0020 U	<0.0020 U	<0.0022 U	<0.0023 U
Endrin ketone	mg/kg	---	<0.0026 U	<0.0024 U	<0.0028 UJ	<0.0026 U	<0.0025 U	<0.0028 U	<0.0029 U
gamma-BHC	mg/kg	**1.3**	<0.00078 U	<0.00073 U	<0.00086 UJ	<0.00080 U	<0.00077 U	<0.00086 U	<0.00088 U
gamma-Chlordane	mg/kg	---	<0.0016 U	<0.0015 U	<0.0018 UJ	<0.0016 U	<0.0016 U	<0.0018 U	<0.0018 U
Heptachlor	mg/kg	**2.1**	<0.00095 U	<0.00088 U	<0.0010 UJ	<0.00097 U	<0.00093 U	<0.0010 U	<0.0011 U
Heptachlor epoxide	mg/kg	---	<0.00095 U	<0.00088 U	<0.0010 UJ	<0.00097 U	<0.00093 U	<0.0010 U	<0.0011 U
Methoxychlor	mg/kg	---	<0.0025 U	<0.0023 U	<0.0027 UJ	<0.0025 U	<0.0024 U	<0.0027 U	<0.0028 U
Mirex	mg/kg	---	<0.0010 U	<0.00094 U	<0.0011 UJ	<0.0010 U	<0.00099 U	<0.0011 U	<0.0011 U
Toxaphene	mg/kg	---	<0.0323 U	<0.0302 U	<0.0355 UJ	<0.0330 U	<0.0319 U	<0.0356 U	<0.0363 U

[O:CMD 3/5/20, C:CMD 3/9/20, C:YMD 3/25/20, U:CMD 4/24/20]

Parameter	NY Soil RRSCO	Statistics: Total Number of Samples Analyzed	Number of Detections	Min:	Max:	Number of Samples that Exceed RRSCO
Metal						
Aluminum, Total	---	48	48	3020	21900	0
Antimony, Total	---	74	31	0.64	1.7	0
Arsenic, Total	**16**[f]	74	69	0.73	13.7	0
Barium, Total	**400**	74	74	20.8	185	0
Beryllium, Total	**72**	74	52	0.32	1.1	0
Cadmium, Total	**4.3**	74	7	0.19	0.28	0
Calcium, Total	---	48	48	861	11900	0
Chromium, Total	---	74	74	4.4	26.9	0
Cobalt, Total	---	48	48	2.7	15.6	0
Copper, Total	**270**	48	48	5.4	77	0
Iron, Total	---	48	48	7560	34500	0
Lead, Total	**400**	74	74	2.2	171	0
Magnesium, Total	---	48	48	1860	7570	0
Manganese, Total	**2,000**[f]	48	48	148	684	0
Mercury, Total	**0.81**[j]	74	37	0.018	4	3
Nickel, Total	**310**	74	74	5.9	33.3	0
Potassium, Total	---	48	48	406	3130	0
Selenium, Total	**180**	74	15	1.7	4.2	0
Silver, Total	**180**	74	9	0.19	0.31	0
Sodium, Total	---	48	44	20.6	770	0
Thallium, Total	---	74	19	1	3.5	0
Vanadium, Total	---	74	74	0.7	52.3	0
Zinc, Total	**10,000**[d]	74	74	16.1	392	0
PCB						
PCB, Total	**1**	74	0	0	0	0
PCB-1016	---	74	0	0	0	0
PCB-1221	---	74	0	0	0	0
PCB-1232	---	74	0	0	0	0
PCB-1242	---	74	0	0	0	0
PCB-1248	---	74	0	0	0	0
PCB-1254	---	74	1	0.013	0.013	0
PCB-1260	---	74	0	0	0	0
Pesticide						
4,4-DDD	**13**	52	0	0	0	0
4,4-DDE	**8.9**	52	5	0.003	0.0528	0
4,4-DDT	**7.9**	52	14	0.0023	0.073	0
Aldrin	**0.097**	52	0	0	0	0
alpha-BHC	**0.48**	52	0	0	0	0
alpha-Chlordane	**4.2**	52	6	0.0017	1.02	0
beta-BHC	**0.36**	52	0	0	0	0
delta-BHC	**100**[a]	52	0	0	0	0
Dieldrin	**0.2**	52	0	0	0	0
Endosulfan I	**24**[i]	52	0	0	0	0
Endosulfan II	**24**[i]	52	1	0.0077	0.0077	0
Endosulfan sulfate	**24**[i]	52	1	0.0083	0.0083	0
Endrin	**11**	52	1	0.0229	0.0229	0
Endrin aldehyde	---	52	0	0	0	0
Endrin ketone	---	52	0	0	0	0
gamma-BHC	**1.3**	52	0	0	0	0
gamma-Chlordane	---	52	9	0.0021	0.94	0
Heptachlor	**2.1**	52	1	0.0168	0.0168	0
Heptachlor epoxide	---	52	3	0.0022	0.232	0
Methoxychlor	---	52	0	0	0	0
Mirex	---	52	2	0.0032	0.0082	0
Toxaphene	---	52	0	0	0	0

Bold & Pink Highlighting Analyte concentration exceeds the RRSCO
Yellow Highlighting Analyte exceedance in statistics for one or more samples

Screening Levels used on this table were presented in the NYSDEC Part 375 Remediation Program Soil Cleanup Objectives (SCO) Table 375-6.8(b) (November 30, 2019)

All soil cleanup objectives (SCOs) are in parts per million (ppm).

[1] Field Sample ID and Lab Report ID may differ. Note that the Lab Report ID is the name given to the sample during lab analysis and is the name presented in the associated lab reports. Samples were later given a Field Sample ID to correct mislabeling of samples.

[a] The SCOs for residential, restricted-residential and ecological resources use were capped at a maximum value of 100 ppm. See TSD section 9.3.

[d] The SCOs for metals were capped at a maximum value of 10,000 ppm. See TSD section 9.3.

[e] For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the SCO value.

[f] For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the department and Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site.

[h] The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.

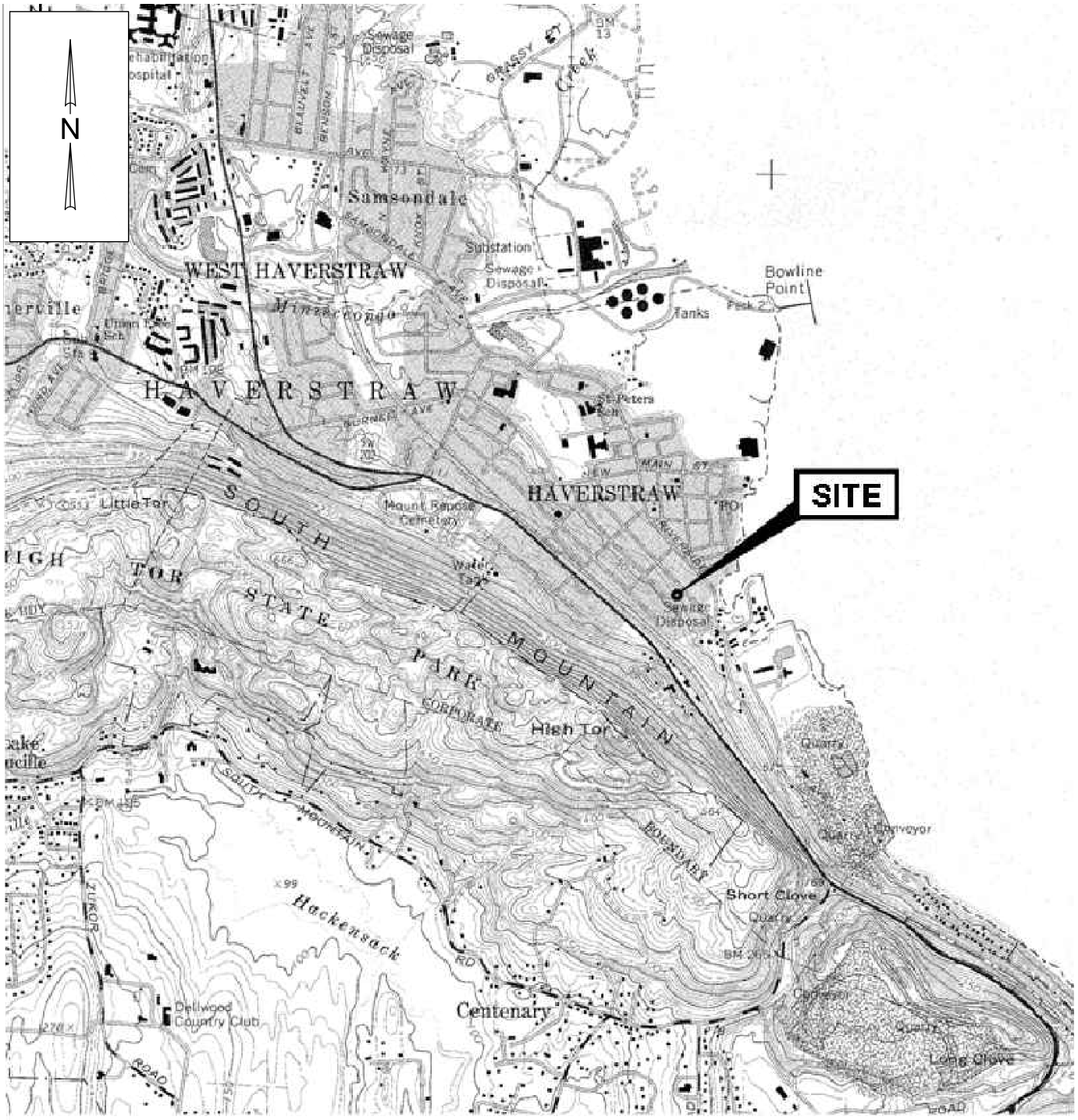
[i] This SCO is for the sum of endosulfan I, endosulfan II, and endosulfan sulfate.

[j] This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts). See TSD Table 5.6-1.

-- = Analysis not performed
--- = No cleanup objective for this compound
* = Laboratory reporting limit does not meet the applicable soil standard.
< = Concentration is less than the Limit of Detection (LOD)
B = analyte was detected in the associated method blank.
BTEX = Benzene, Toluene, Ethylbenzene and Xylene
DCM = Dichloromethane
DSF = floor sample
DSS = side sample
GEO = Geotechnical Property
J = Estimated concentration
J- = Indicates a concentration estimated with low bias
J+ = Indicates a concentration estimated with high bias
mg/kg = milligram-contaminant per kilogram-soil
MSL = mean sea level
NYSDEC = New York State Department of Environmental Conservation
PAH = Polycyclic Aromatic Hydrocarbon
PCB = Polychlorinated Biphenyl
ppm = part per million (= mg/kg)
RRSCO = Protection of Public Health Residential Restricted Use - Restricted-Residential SCO (6 CRR-NY 375-6.8(b))
SCO = Soil Cleanup Objective
SVOC = Semi-Volatile Organic Compound
U = Parameter was not detected at or above the laboratory method reporting limit.
VOC = Volatile Organic Compound

Result values/flags may differ from lab report values/flags due to changes applied during interal validation.
Lab comments and definitions can be found in associated laboratory report(s).

FIGURES



SOURCE: USGS TOPOGRAPHIC MAP, HAVERSTRAW, N.Y. 1979

Project Site Map

NATURAL RESOURCE TECHNOLOGY

□□AN□E AN□ □□C□LAN□ □TILITIES, INC.
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Mar 09, 2015 9:48am PLOTTED BY: dduda SAVED BY: dduda
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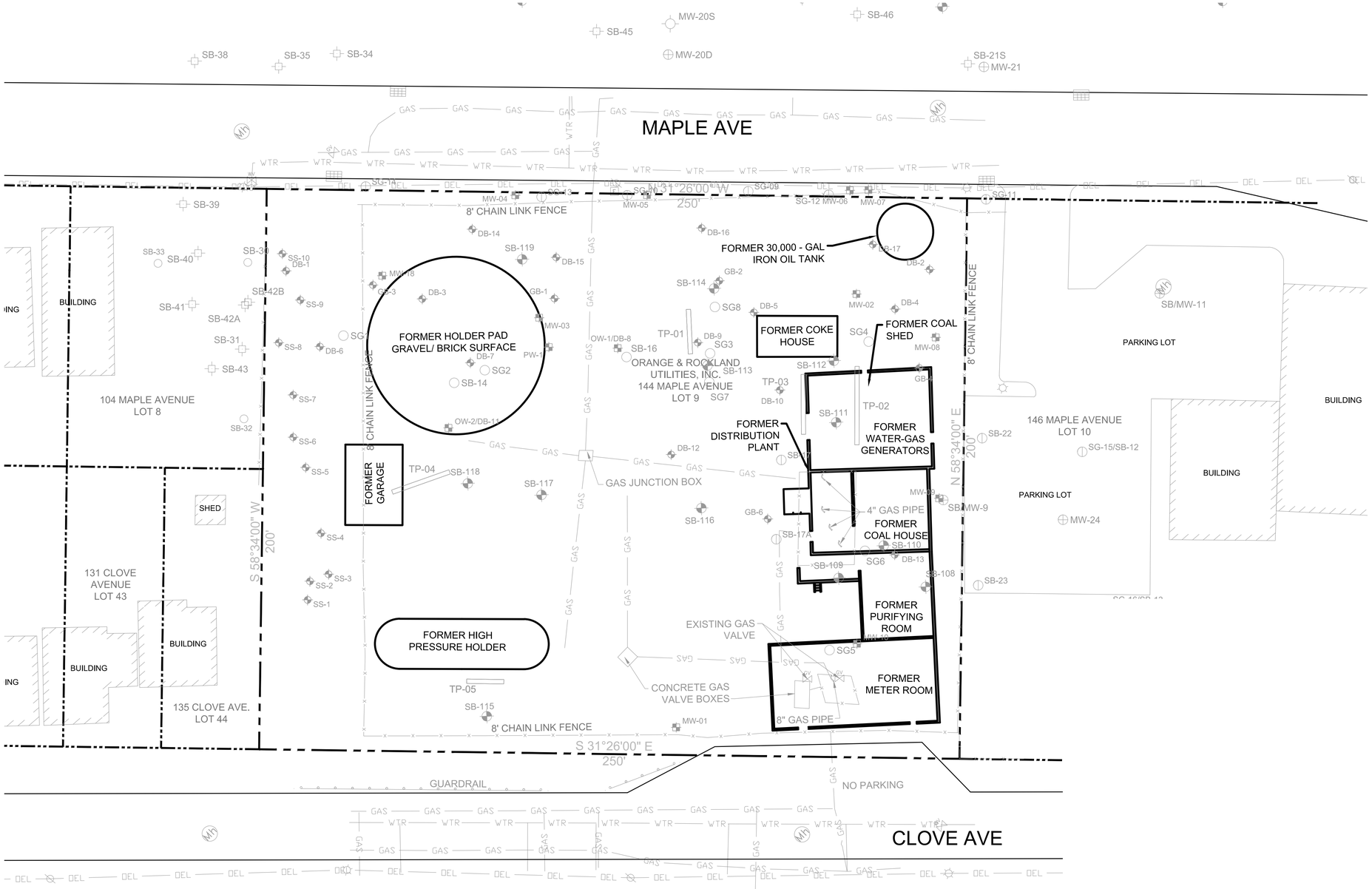

SS-3 SURFACE SOIL SAMPLE
DB-5 DELINEATION BORING
GB-2 GEOTECHNICAL AND DELINEATION BORING
PW-1 4" PUMPING WELL AND DELINEATION BORING
MW-03 2" MONITORING WELL
OW-1 1-1/4" OBSERVATION PIEZOMETER
SB-93 HISTORIC SOIL BORING LOCATION
TP-05 1998 TEST PIT LOCATION
SB/MW-29S 2004 MONITORING WELL LOCATION
SB/MW-29D 1997-2001 SOIL BORING/ MONITORING WELL LOCATION
SB-33 2001 SOIL BORING LOCATION
SG-09 1997-1998 GEOPROBE BORING LOCATION
SB-40 HISTORIC SOIL BORING LOCATION
PROPERTY LINE (SURVEY)
PROPERTY LINE (2015 TAX MAP)
EXISTING FENCE
EXISTING GUARDRAIL
OVERHEAD ELECTRIC
UNDERGROUND ELECTRIC
GAS
STORM SEWER
WATER
MANHOLE
CATCH BASIN
GAS UTILITY PIPE
GAS VALV E
HYDRANT
WATER VALVE
ELECTRICAL BOX
UTILITY POLE
LIGHT POLE

CONTRACTOR NOTES:
1. GAS LINES LOCATED ON 144 MAPLE AVENUE ARE INACTIVE AND HAVE BEEN ABANDONED BY OTHERS. ASSUME ALL OTHER UTILITIES ARE ACTIVE.

0 20 40
SCALE IN FEET

IMAGES: ..\Reference\Conta Logo_B&W.jpg; ..\Reference\Esri Aerial 150724.jpg; ..\Reference\Conta Logo_B&W.jpg; ..\Reference\Esri Aerial 150724.jpg; ..\Reference\Conta Logo_B&W.jpg; ..\Reference\Esri Aerial 150724.jpg
XREFS: \Ref\Ref - Backround 2254-3.dwg

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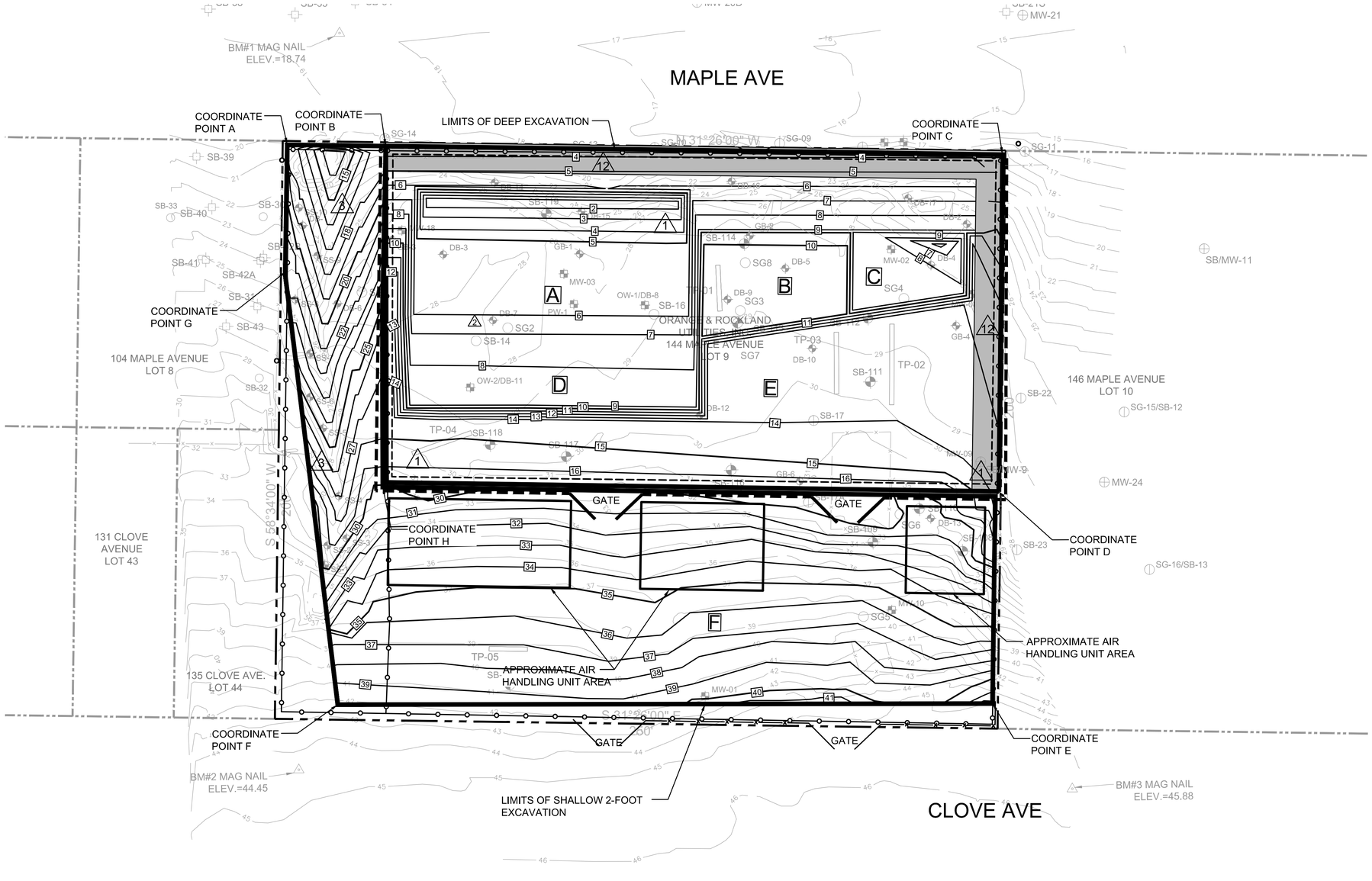
2.	ISSUED FOR CONSTRUCTION	03/30/18	.
1.	ISSUED FOR BID	.	.
0.	ISSUED FOR 65% DESIGN SUBMITTAL	JRR	.
REVISION:		DATE:	APP'D BY:

SSi Solar Services Inc. | Natural Resource Technology | STERLING Sterling Environmental Engineering, P.C.

PROJECT NO. 2254	HISTORICAL SITE PLAN
DRAWN BY: DMD 07/22/2015	REMEDIAL CONSTRUCTION CLOVE AND MAPLE AVENUES FORMER MGP SITE, OPERABLE UNIT 1 HAVERSTRAW, NEW YORK
CHECKED BY: RCW 07/25/2017	
APPROVED BY: .	DRAWING NO: D2254-3-C020-00
	REFERENCE: .

Figure B



- SS-3 SURFACE SOIL SAMPLE
- DB-5 DELINEATION BORING
- GB-2 GEOTECHNICAL AND DELINEATION BORING
- PW-1 4" PUMPING WELL AND DELINEATION BORING
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- TP-05 1998 TEST PIT LOCATION
- SB/MW-29S 2004 MONITORING WELL LOCATION
- SB/MW-29D 1997-2001 SOIL BORING/ MONITORING WELL LOCATION
- SB-33 2001 SOIL BORING LOCATION
- SG-09 1997-1998 GEOPROBE BORING LOCATION
- SB-40 HISTORIC SOIL BORING LOCATION
- APPROXIMATE LOCATION OF EARTH RETENTION SYSTEM
- PROPERTY LINE (SURVEY)
- PROPERTY LINE (2015 TAX MAP)
- EXISTING FENCE
- TEMPORARY CONSTRUCTION FENCE
- SILT FENCE
- DEL OVERHEAD ELECTRIC
- ELC UNDERGROUND ELECTRIC
- GAS GAS
- STM STORM SEWER
- WTR WATER
- MH MANHOLE
- CATCH BASIN
- GAS UTILITY PIPE
- GV GAS VALV E
- HYDRANT
- WV WATER VALVE
- E ELECTRICAL BOX
- UTILITY POLE
- EXCAVATION LIMITS
- APPROXIMATE LOCATION OF TEMPORARY FABRIC STRUCTURE
- 6 ELEVATION OF BOTTOM OF EXCAVATION

CONTRACTOR NOTES:

1. DESIGN AND INSTALL EARTH RETENTION SYSTEM TO FACILITATE DEEP EXCAVATION.
2. REMOVE ALL STRUCTURES AND FORMER MGP STRUCTURES LOCATED WITHIN EXCAVATION AREAS.
3. PERFORM EXCAVATION IN DRAINAGE SWALE AREA UNDER DRY CONDITIONS, OR DESIGN AND PROVIDE A TEMPORARY STORMWATER BYPASS, AS APPROVED BY ENGINEER AND NYSDEC.
4. TEMPORARY FABRIC STRUCTURE LOCATION IS APPROXIMATE. TEMPORARY FABRIC STRUCTURE MUST ENCOMPASS ALL EXCAVATION AREAS GREATER THAN 2 FEET BELOW GROUND SURFACE. EXCAVATION MAY TAKE PLACE OUTSIDE TEMPORARY FABRIC STRUCTURE, IF REQUESTED BY CONTRACTOR AND APPROVED BY CONSTRUCTION MANAGER. EXCAVATION WORK OUTSIDE OF THE TFS SHALL BE MINIMIZED.
5. MATERIAL UP TO TWO FEET BELOW GROUND SURFACE MAY BE EXCAVATED WITHOUT A TEMPORARY FABRIC STRUCTURE.
6. AIR HANDLING UNIT LOCATIONS ARE APPROXIMATE.
7. GAS LINES LOCATED ON 144 MAPLE AVENUE ARE INACTIVE AND HAVE BEEN ABANDONED BY OTHERS. ASSUME ALL OTHER UTILITIES ARE ACTIVE.
8. AS NECESSARY, TO FACILITATE REMEDIAL CONSTRUCTION ACTIVITIES, MGP CONTACT WATER AND SURFACE RUN-ON AND RUN-OFF SHALL BE COLLECTED, PUMPED, CONVEYED TO A FRAC TANK,TREATED BY A TREATMENT SYSTEM, AND DISCHARGED TO A PERMITTED VILLAGEOF HAVERSTRAW SANITARY SEWER.
9. PROVIDE MOBILE WATER TREATMENT SYSTEM, FRAC TANKS, AND DEWATERING SYSTEM COMPONENTS.
10. CONTROL ALL FUGITIVE EMISSIONS (I.E. DUST AND ODOR) IN ACCORDANCE WITH THE COMMUNITY AIR MONITORING PLAN AND THE APPROVED CONTRACTORS AIR MONITORING PLAN AND AS APPROVED BY ENGINEER.
11. SEGREGATE CONTAMINATED MATERIALS FROM NON-CONTAMINATED MATERIALS, AS NECESSARY, AND IDENTIFIED IN THE TECHNICAL EXECUTION PLAN.
12. EXCAVATION LIMITS ALONG PROPERTY BOUNDARIES WILL BE MODIFIED BASED ON SELECTION OF TEMPORARY EARTH RETENTION SYSTEM. IF PRESS-IN SHEETING SELECTED, THE OUTSIDE LIMIT OF THE SHEETS SHALL BE NO FURTHER THAN 3 FEET FROM THE NORTHEASTERN PROPERTY LINE ALONG MAPLE AVENUE AND THE SOUTHEASTERN PROPERTY LINE ADJACENT TO 146 MAPLE AVENUE. IF GROUND FREEZE WALL IS SELECTED, DISTANCE FROM THE INNER WALL OF THE SUPPORT STRUCTURE TO THE SITE PROPERTY LINE SHALL BE MINIMIZED, BUT SHALL NOT BE GREATER THAN 5 FEET.
13. CONTRACTOR WILL PROVIDE EARTH RETENTION OPTIONS BASE ON INSTRUCTIONS TO BIDDERS AND SPECIFICATION SECTIONS 02250A, 02250B, AND 02250C.
14. PLACE DEMARCATION FABRIC PER SPECIFICATIONS AT LIMITS OF 2' SHALLOW EXCAVATION AND ON EXCAVATION WALLS TO 15' BELOW FINAL GRADE ELEVATION.

APPROXIMATE EXCAVATION AREA DEPTHS	
AREA	DESCRIPTION
A	DEEP 22' EXCAVATION
B	DEEP 18' EXCAVATION
C	DEEP 20' EXCAVATION
D	DEEP 20' EXCAVATION
E	DEEP 15' EXCAVATION
F	SHALLOW 2' EXCAVATION

EXCAVATION AREA COORDINATES		
POINT	NORTHING	EASTING
A	860039.306	640005.987
B	860014.470	640029.358
C	859858.852	640175.465
D	859778.952	640090.676
E	859729.515	640036.386
F	859892.187	639878.757
G	860008.727	639973.283
H	859933.105	639943.644

HORIZONTAL DATUM: N.Y.S.P.C.S. NAD 1983 NY EAST 3101
VERTICAL DATUM: N.A.V.D. 88

NOTE:

1. EXCAVATION LIMITS WILL BE TO THE ELEVATION GRADES SHOWN ON THE DRAWING.

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SCALE IN FEET

REVISION:		DATE:	APP'D BY:
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1.	ISSUED FOR CONSTRUCTION	03/30/18	.
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SSi Silar Services Inc. | Natural Resource Technology | Sterling Environmental Engineering, P.C.

PROJECT NO. 2254/3.0	EXCAVATION AND TEMPORARY SHORING PLAN
DRAWN BY: DMD 07/27/2015	REMEDIAL CONSTRUCTION CLOVE AND MAPLE AVENUES FORMER MGP SITE, OPERABLE UNIT 1 HAVERSTRAW, NEW YORK
CHECKED BY: RCW 07/25/2017	
APPROVED BY: .	DRAWING NO: D2254-3-C050-00
	REFERENCE: .
	Figure C

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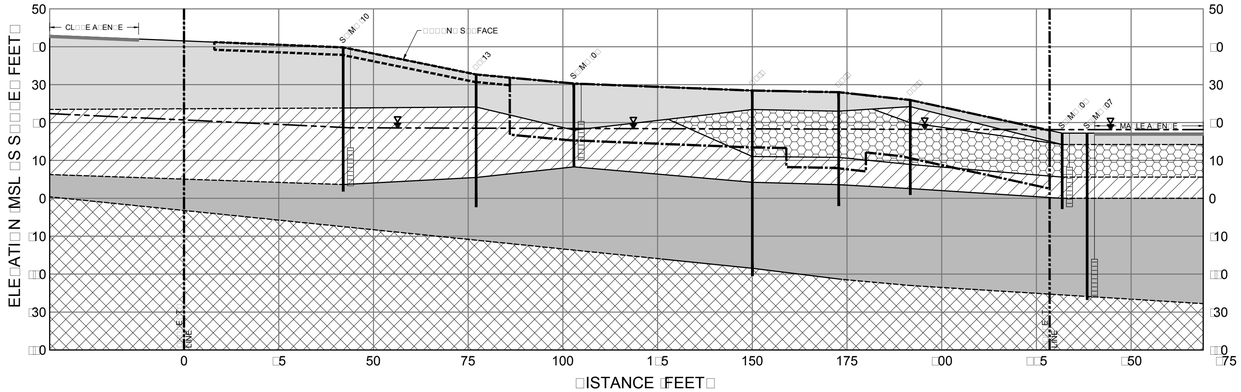

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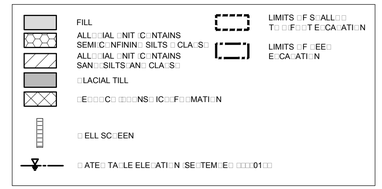

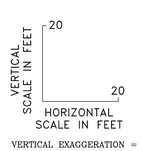

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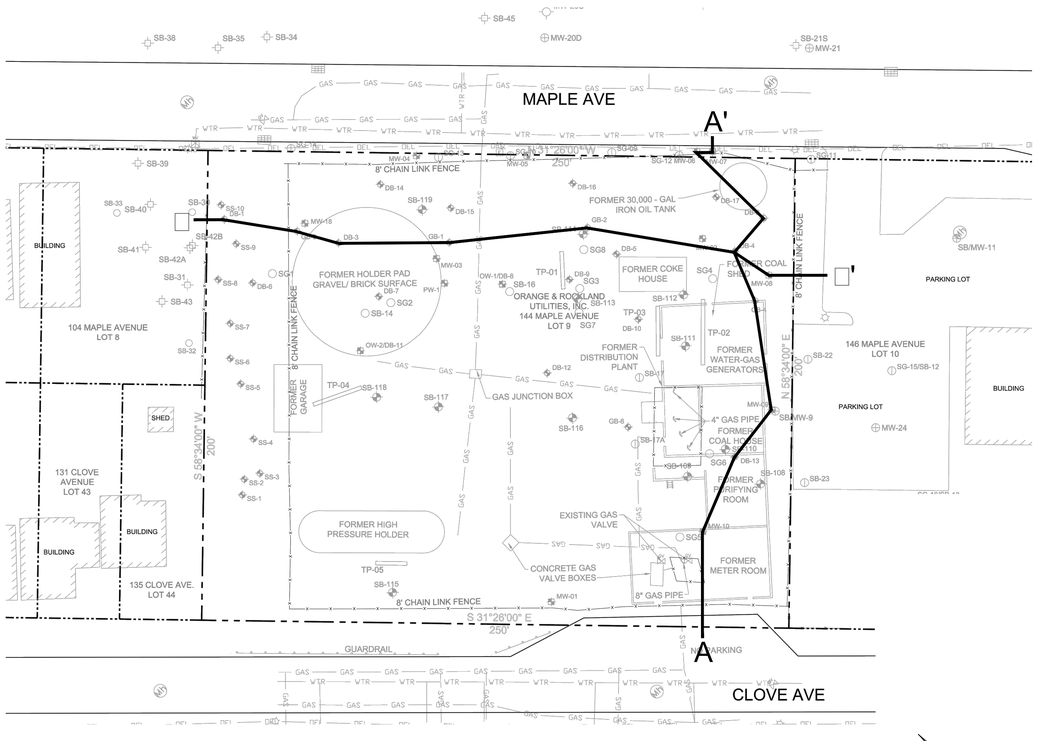

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SSi Silar Services Inc.

NATURAL RESOURCE TECHNOLOGY

STERLING Sterling Environmental Engineering, P.C.

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REMEDIAL CONSTRUCTION
CLOVE AND MAPLE AVENUES FORMER
MGP SITE, OPERABLE UNIT 1
HAVERSTRAW, NEW YORK

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Figure D

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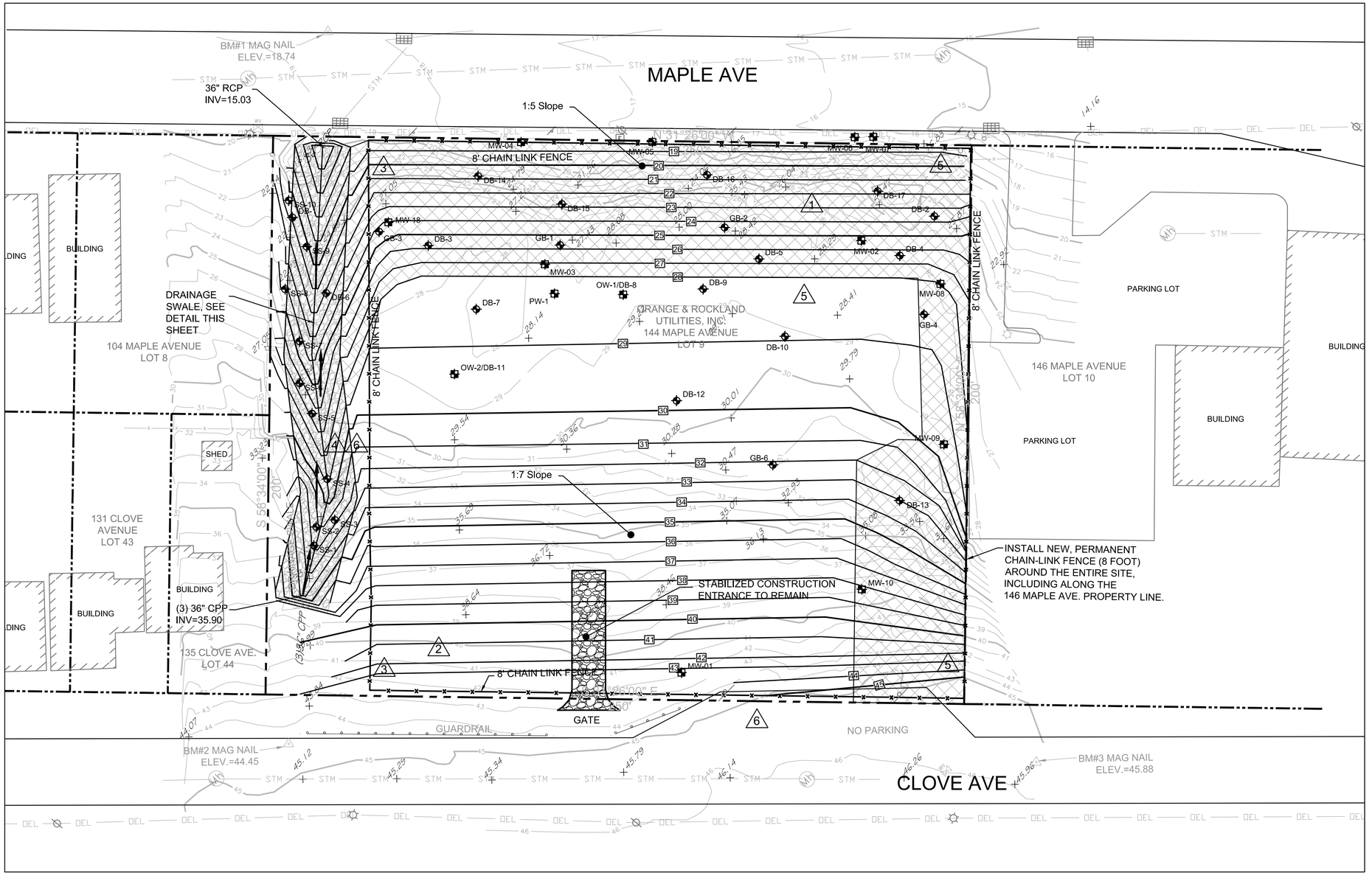

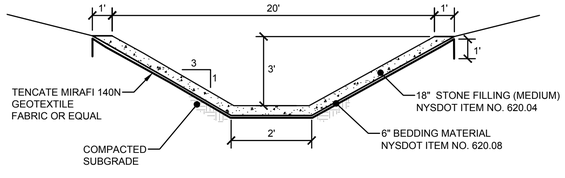

A DRAINAGE SWALE
NOT TO SCALE

PRE-CONSTRUCTION SITE ELEVATION
INTERMITTENT STORMWATER FLOW DIRECTION
PROPERTY LINE (SURVEY)
PROPERTY LINE (2015 TAX MAP)
EXISTING FENCE
RESTORED SITE FENCING
OVERHEAD ELECTRIC
UNDERGROUND ELECTRIC
GAS
STORM SEWER
WATER
MANHOLE
CATCH BASIN
GAS UTILITY PIPE
GAS VALV E
HYDRANT
WATER VALVE
ELECTRICAL BOX
UTILITY POLE
LIMITS OF STONE FILLING
LIMITS OF EROSION CONTROL BLANKET

CONTRACTOR NOTES:

1. REMOVE TEMPORARY FABRIC STRUCTURE AND AIR HANDLING SYSTEM ONCE BACKFILL OF DEEP EXCAVATION IS COMPLETE.
2. REMOVE FRAC TANKS AND WASTEWATER TREATMENT SYSTEM ONCE BACKFILLING IS COMPLETED.
3. REMOVE POWER DROPS ONCE EXCAVATIONS ARE BACKFILLED.
4. REMOVE SILT FENCE ONCE EXCAVATIONS ARE BACKFILLED.
5. REMOVE TEMPORARY FENCE, VISUAL BARRIERS, AND SECURITY GATES ONCE SITE IS RESTORED.
6. INSTALL FENCING AND TIE-IN WITH EXISTING FENCE.
7. PERFORM SEEDING IN ACCORDANCE WITH TECHNICAL SPECIFICATION SECTION 02900
8. EROSION CONTROL BLANKET SHALL BE NORTH AMERICAN GREEN S75 OR EQUAL. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

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SCALE IN FEET

REVISION:	DATE:	APP'D BY:
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1. ISSUED FOR CONSTRUCTION	03/30/18	.
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SSi Silar Services Inc. | Natural Resource Technology | Sterling Environmental Engineering, P.C.

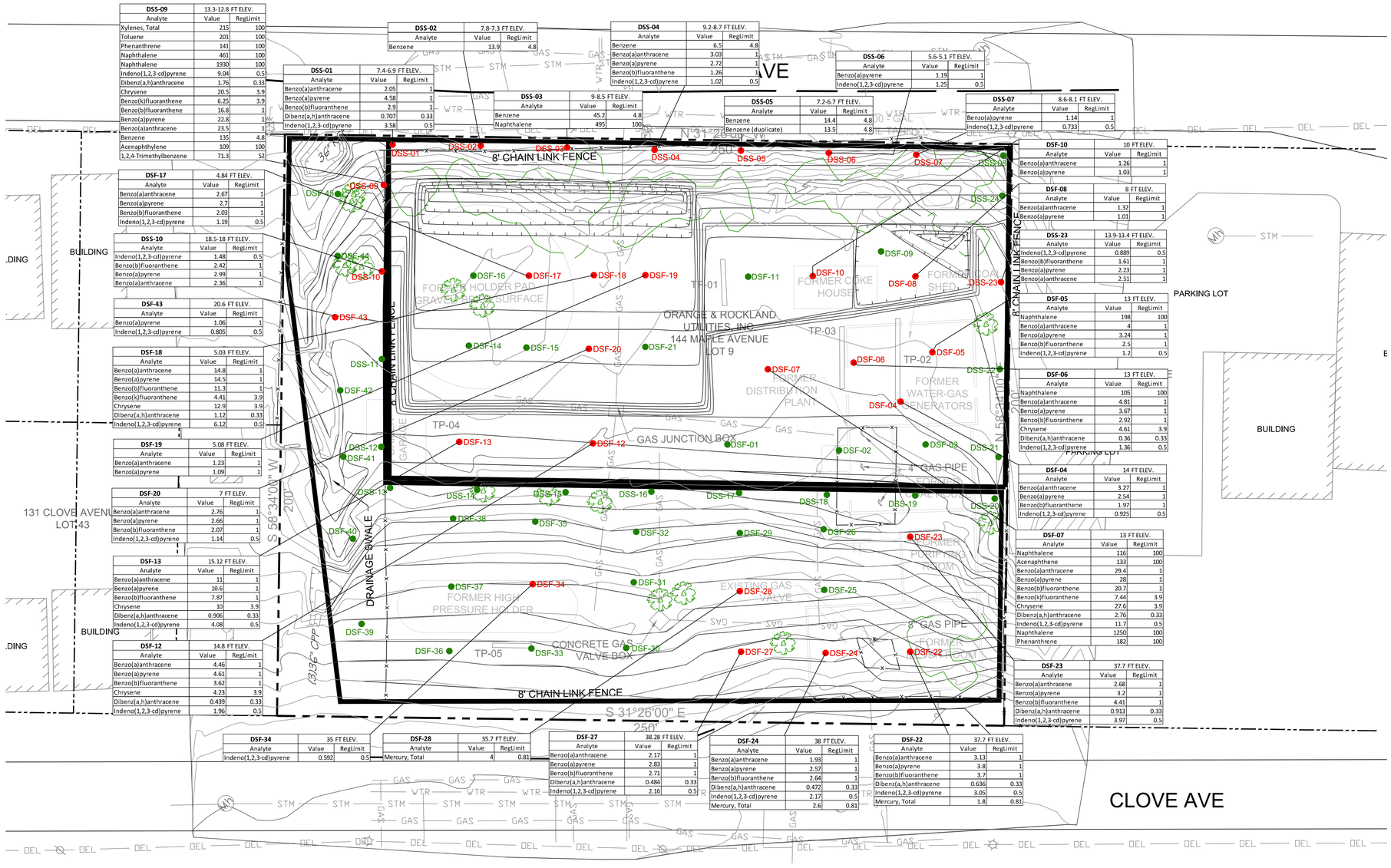
PROJECT NO. 2254
DRAWN BY: CIE 05/08/2017
CHECKED BY: RCW 07/25/2017
APPROVED BY: .

SITE RESTORATION PLAN

REMEDIAL CONSTRUCTION
CLOVE AND MAPLE AVENUES FORMER MGP SITE, OPERABLE UNIT 1
HAVERSTRAW, NEW YORK

DRAWING NO: D2254-3-C060-00
REFERENCE: .

Figure E



DSS-09	13.3-12.8 FT ELEV.	
Analyte	Value	RegLimit
Xylenes, Total	215	100
Toluene	201	100
Phenanthrene	141	100
Naphthalene	461	100
Naphthalene	1930	100
Indeno(1,2,3-cd)pyrene	9.04	0.5
Dibenz(a,h)anthracene	1.76	0.33
Chrysene	20.5	3.9
Benzo(k)fluoranthene	6.25	3.9
Benzo(b)fluoranthene	16.8	1
Benzo(a)pyrene	22.8	1
Benzo(a)anthracene	23.5	1
Benzene	135	4.8
Acenaphthylene	109	100
1,2,4-Trimethylbenzene	71.3	52

DSS-02	7.8-7.3 FT ELEV.	
Analyte	Value	RegLimit
Benzene	13.9	4.8

DSS-04	9.2-8.7 FT ELEV.	
Analyte	Value	RegLimit
Benzene	6.5	4.8
Benzo(a)anthracene	3.03	1
Benzo(a)pyrene	2.72	1
Benzo(b)fluoranthene	1.26	1
Indeno(1,2,3-cd)pyrene	1.02	0.5

DSS-06	5.6-5.1 FT ELEV.	
Analyte	Value	RegLimit
Benzo(a)pyrene	1.19	1
Indeno(1,2,3-cd)pyrene	1.25	0.5

DSS-01	7.4-6.9 FT ELEV.	
Analyte	Value	RegLimit
Benzo(a)anthracene	2.05	1
Benzo(a)pyrene	4.58	1
Benzo(b)fluoranthene	2.9	1
Dibenz(a,h)anthracene	0.707	0.33
Indeno(1,2,3-cd)pyrene	3.58	0.5

DSS-03	9-8.5 FT ELEV.	
Analyte	Value	RegLimit
Benzene	45.2	4.8
Naphthalene	495	100

DSS-05	7.2-6.7 FT ELEV.	
Analyte	Value	RegLimit
Benzene	14.4	4.8
Benzene (duplicate)	13.5	4.8

DSS-07	8.6-8.1 FT ELEV.	
Analyte	Value	RegLimit
Benzo(a)pyrene	1.14	1
Indeno(1,2,3-cd)pyrene	0.733	0.5

DSF-17	4.84 FT ELEV.	
Analyte	Value	RegLimit
Benzo(a)anthracene	2.67	1
Benzo(a)pyrene	2.7	1
Benzo(b)fluoranthene	2.03	1
Indeno(1,2,3-cd)pyrene	1.19	0.5

DSS-10	18.5-18 FT ELEV.	
Analyte	Value	RegLimit
Indeno(1,2,3-cd)pyrene	1.48	0.5
Benzo(b)fluoranthene	2.42	1
Benzo(a)pyrene	2.99	1
Benzo(a)anthracene	2.36	1

DSF-43	20.6 FT ELEV.	
Analyte	Value	RegLimit
Benzo(a)pyrene	1.06	1
Indeno(1,2,3-cd)pyrene	0.805	0.5

DSF-18	5.03 FT ELEV.	
Analyte	Value	RegLimit
Benzo(a)anthracene	14.8	1
Benzo(a)pyrene	14.5	1
Benzo(b)fluoranthene	11.3	1
Benzo(k)fluoranthene	4.41	3.9
Chrysene	12.9	3.9
Dibenz(a,h)anthracene	1.12	0.33
Indeno(1,2,3-cd)pyrene	6.12	0.5

DSF-19	5.08 FT ELEV.	
Analyte	Value	RegLimit
Benzo(a)anthracene	1.23	1
Benzo(a)pyrene	1.09	1

DSF-20	7 FT ELEV.	
Analyte	Value	RegLimit
Benzo(a)anthracene	2.76	1
Benzo(a)pyrene	2.66	1
Benzo(b)fluoranthene	2.07	1
Indeno(1,2,3-cd)pyrene	1.14	0.5

DSF-13	15.12 FT ELEV.	
Analyte	Value	RegLimit
Benzo(a)anthracene	11	1
Benzo(a)pyrene	10.6	1
Benzo(b)fluoranthene	7.87	1
Chrysene	10	3.9
Dibenz(a,h)anthracene	0.906	0.33
Indeno(1,2,3-cd)pyrene	4.08	0.5

DSF-12	14.8 FT ELEV.	
Analyte	Value	RegLimit
Benzo(a)anthracene	4.46	1
Benzo(a)pyrene	4.61	1
Benzo(b)fluoranthene	3.62	1
Chrysene	4.23	3.9
Dibenz(a,h)anthracene	0.439	0.33
Indeno(1,2,3-cd)pyrene	1.96	0.5

DSF-10	10 FT ELEV.	
Analyte	Value	RegLimit
Benzo(a)anthracene	1.26	1
Benzo(a)pyrene	1.03	1

DSF-08	8 FT ELEV.	
Analyte	Value	RegLimit
Benzo(a)anthracene	1.32	1
Benzo(a)pyrene	1.01	1

DSS-23	13.9-13.4 FT ELEV.	
Analyte	Value	RegLimit
Indeno(1,2,3-cd)pyrene	0.889	0.5
Benzo(b)fluoranthene	1.61	1
Benzo(a)pyrene	2.23	1
Benzo(a)anthracene	2.51	1

DSF-05	13 FT ELEV.	
Analyte	Value	RegLimit
Naphthalene	198	100
Benzo(a)anthracene	4	1
Benzo(a)pyrene	3.24	1
Benzo(b)fluoranthene	2.5	1
Indeno(1,2,3-cd)pyrene	1.2	0.5

DSF-06	13 FT ELEV.	
Analyte	Value	RegLimit
Naphthalene	105	100
Benzo(a)anthracene	4.81	1
Benzo(a)pyrene	3.67	1
Benzo(b)fluoranthene	2.92	1
Chrysene	4.61	3.9
Dibenz(a,h)anthracene	0.36	0.33
Indeno(1,2,3-cd)pyrene	1.36	0.5

DSF-04	14 FT ELEV.	
Analyte	Value	RegLimit
Benzo(a)anthracene	3.27	1
Benzo(a)pyrene	2.54	1
Benzo(b)fluoranthene	1.97	1
Indeno(1,2,3-cd)pyrene	0.925	0.5

DSF-07	13 FT ELEV.	
Analyte	Value	RegLimit
Naphthalene	116	100
Acenaphthene	133	100
Benzo(a)anthracene	29.4	1
Benzo(a)pyrene	28	1
Benzo(b)fluoranthene	20.7	1
Benzo(k)fluoranthene	7.44	3.9
Chrysene	27.6	3.9
Dibenz(a,h)anthracene	2.76	0.33
Indeno(1,2,3-cd)pyrene	11.7	0.5
Naphthalene	1250	100
Phenanthrene	182	100

DSF-23	37.7 FT ELEV.	
Analyte	Value	RegLimit
Benzo(a)anthracene	2.68	1
Benzo(a)pyrene	3.2	1
Benzo(b)fluoranthene	4.41	1
Dibenz(a,h)anthracene	0.913	0.33
Indeno(1,2,3-cd)pyrene	3.97	0.5

DSF-34	35 FT ELEV.	
Analyte	Value	RegLimit
Indeno(1,2,3-cd)pyrene	0.592	0.5

DSF-28	35.7 FT ELEV.	
Analyte	Value	RegLimit
Mercury, Total	4	0.81

DSF-27	38.28 FT ELEV.	
Analyte	Value	RegLimit
Benzo(a)anthracene	2.17	1
Benzo(a)pyrene	2.83	1
Benzo(b)fluoranthene	2.71	1
Dibenz(a,h)anthracene	0.484	0.33
Indeno(1,2,3-cd)pyrene	2.16	0.5

DSF-24	38 FT ELEV.	
Analyte	Value	RegLimit
Benzo(a)anthracene	1.93	1
Benzo(a)pyrene	2.57	1
Benzo(b)fluoranthene	2.64	1
Dibenz(a,h)anthracene	0.472	0.33
Indeno(1,2,3-cd)pyrene	2.17	0.5
Mercury, Total	2.6	0.81

DSF-22	37.7 FT ELEV.	
Analyte	Value	RegLimit
Benzo(a)anthracene	3.13	1
Benzo(a)pyrene	3.8	1
Benzo(b)fluoranthene	3.7	1
Dibenz(a,h)anthracene	0.636	0.33
Indeno(1,2,3-cd)pyrene	3.05	0.5
Mercury, Total	1.8	0.81

REVISION:		DATE:	APP'D BY:
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2.	ANALYTICAL BOXES	03/05/2020	.
1.	ISSUED FOR CONSTRUCTION	03/30/18	.
0.	ISSUED FOR BID	.	.

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PROJECT NO. 2254/3.0

DRAWN BY: .

CHECKED BY: .

APPROVED BY: .

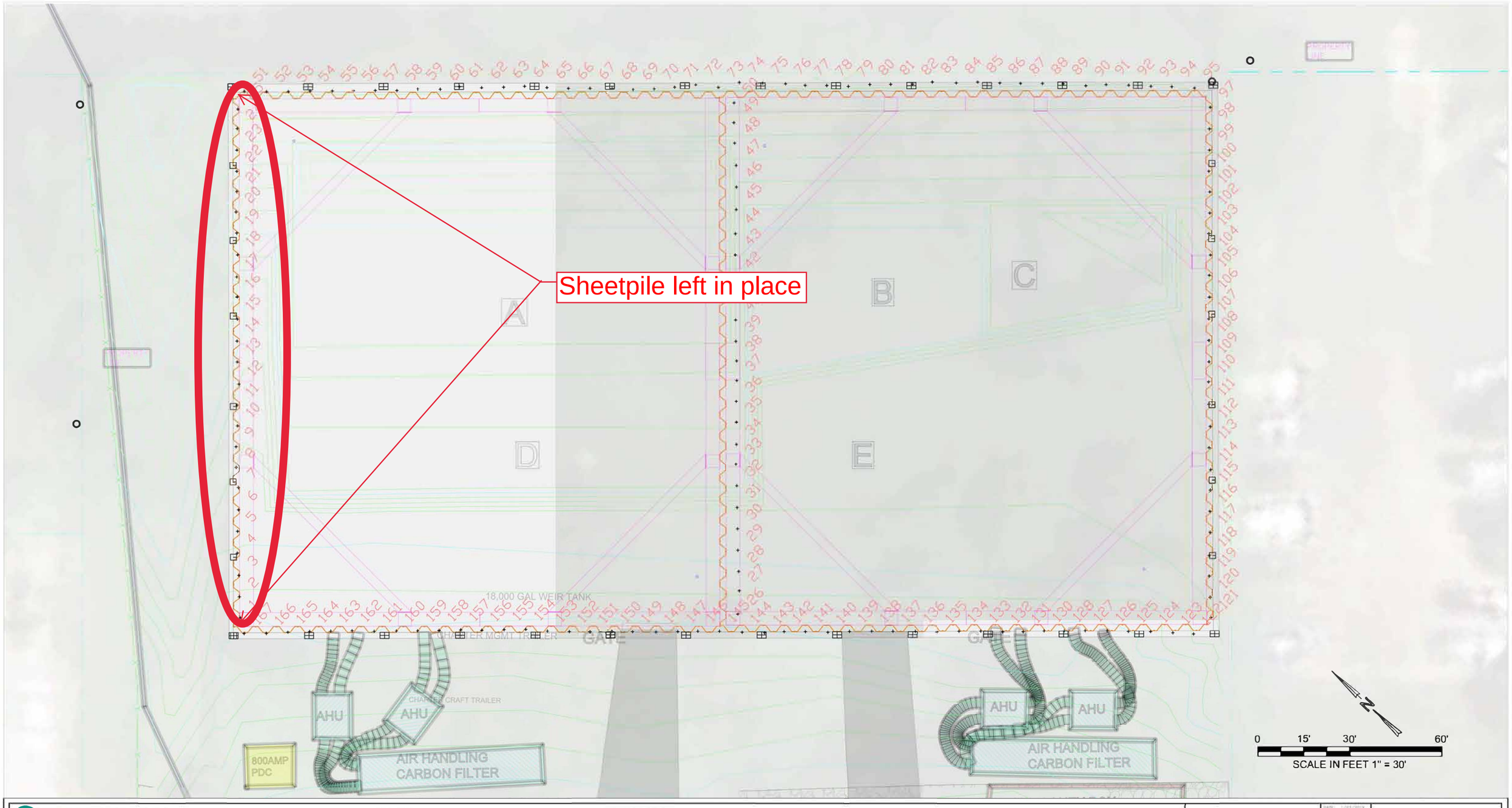
DOCUMENTATION SAMPLING RESULTS

CLOVE AND MAPLE AVENUES FORMER MGP SITE, OPERABLE UNIT 1
HAVERSTRAW, NEW YORK

DRAWING NO: ----

REFERENCE: .

Figure F



Charter
500 HARRISON AVE.
BOSTON, MA 02118
857.246.6800

PROJECT:
HAVERSTRAW MGP – CON ED

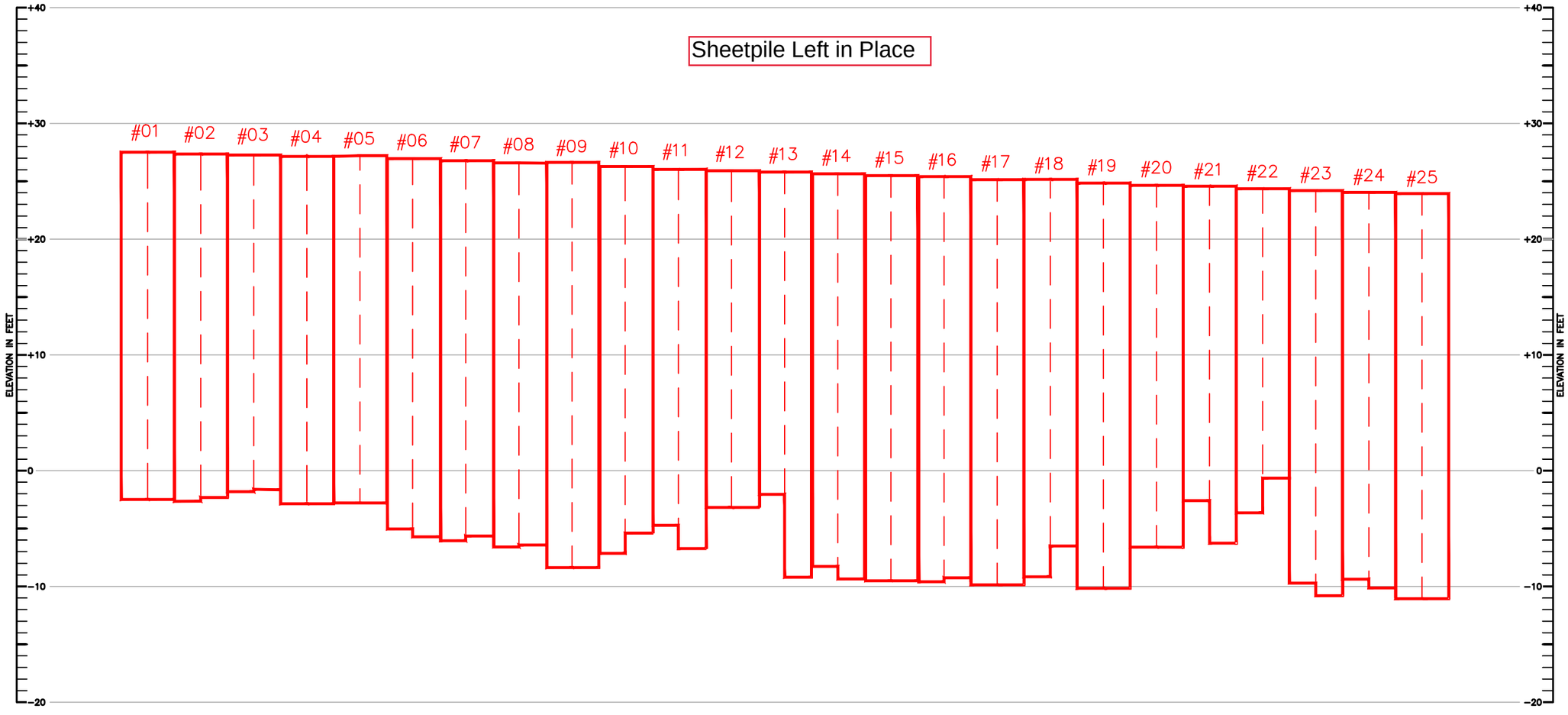
LOCATION:
HAVERSTAW MGP
120 MAPLE AVE
HAVERSTRAW, NY 10927

GENERAL NOTES:

1. Survey points were taken on the SE Sheet Belly Interlock on the Swale, Center and Head Start Walls
2. Survey points were taken on the NE Sheet Belly Interlock on the Maple Avenue Wall
3. Survey points were taken on the SW Sheet Belly Interlock on the Clove Avenue Wall

DATE: 1/21/2019
SCALE: 1" = 30'
DRAWN BY: MF
REVISION NO:

FIGURE G-1



0 7.5' 15' 30'

SCALE IN FEET 1" = 15'

Charter
500 HARRISON AVE.
BOSTON, MA 02118
857.246.6800

PROJECT:
HAVERSTRAW MGP – CON ED

LOCATION:
HAVERSTAW MGP
120 MAPLE AVE
HAVERSTRAW, NY 10927

GENERAL NOTES:

1. REFER TO TABLE FOR AS–BUILT DIMENSIONS OF SHEET PILES
2. DIMENSIONS ADJUSTED BASED ON GPS ROVER AND TOTAL STATION SURVEY OF SHEET PAIR INTERLOCKS

Legend:

DATE: 1/23/2019
SCALE: 1" = 15'
DRAWN BY: RPF
REVISION: 00

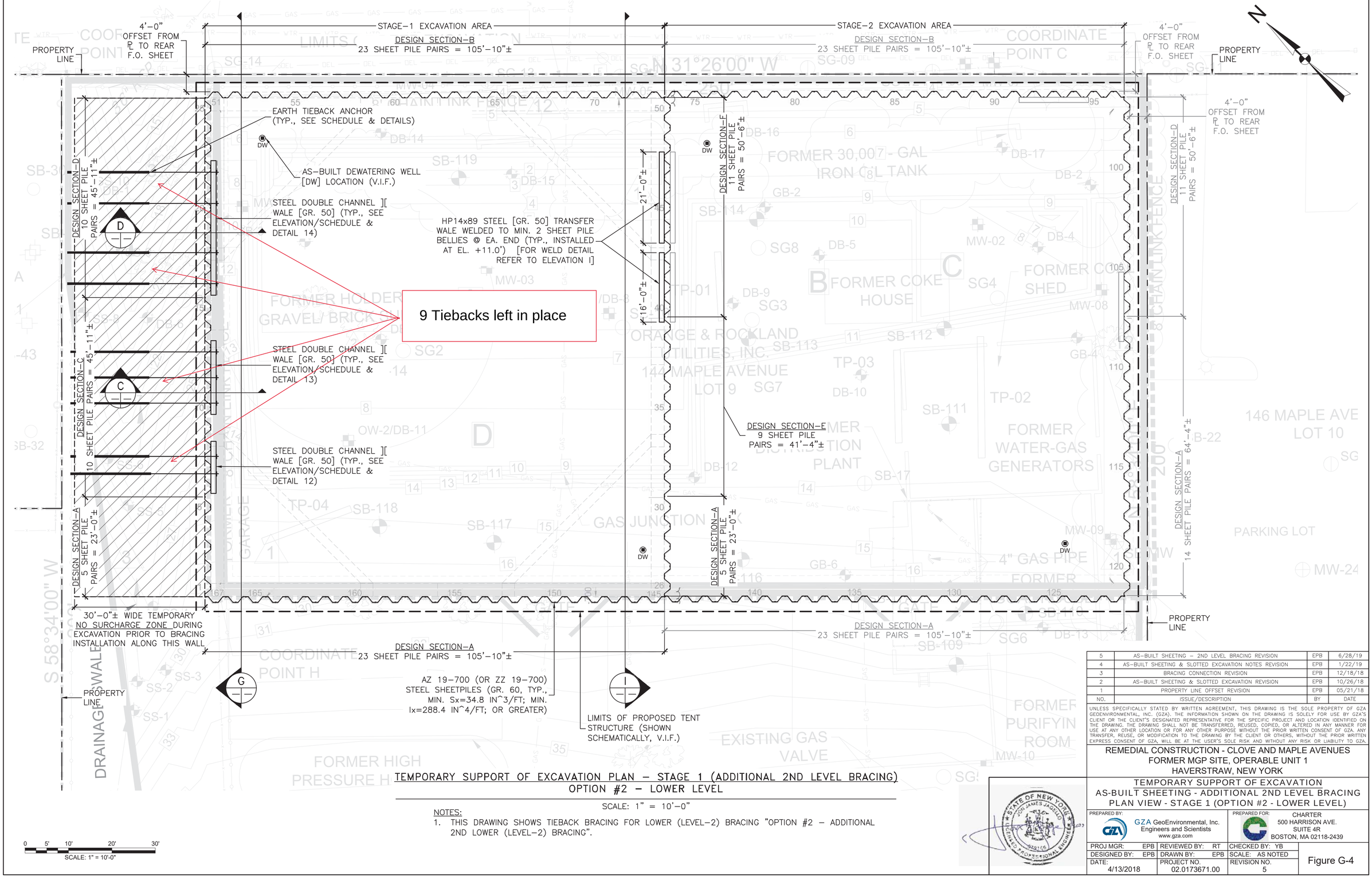
FIGURE G-2

Charter

Haverstraw MGP Sheet Pile As-Built

Sheetpile Left In Place

Sheet Number	Top of Sheet Elevation (As-Built) (FT)	Length of Sheet (FT)	Sheet Hit Refusal? (Y/N)	Sheet A Cut Length (FT)	Sheet B Cut Length (FT)	As-Built Length of Sheet A (FT)	As-Built Length of Sheet B (FT)	Bottom of Sheet A Elevation (FT)	Bottom of Sheet B Elevation (FT)	Date Installed
1	27.508	30.00	N	0.00	0.00	30.00	30.00	-2.49	-2.49	7/30/2018
2	27.357	30.00	Y	0.00	0.33	30.00	29.67	-2.64	-2.31	7/30/2018
3	27.269	30.00	Y	0.92	1.08	29.08	28.92	-1.81	-1.65	7/27/2018
4	27.323	30.00	N	0.00	0.00	30.00	30.00	-2.68	-2.68	7/27/2018
5	27.209	30.00	N	0.00	0.00	30.00	30.00	-2.79	-2.79	7/26/2018
6	26.957	35.00	Y	3.00	2.33	32.00	32.67	-5.04	-5.71	7/26/2018
7	26.783	35.00	Y	2.17	2.58	32.83	32.42	-6.05	-5.63	7/26/2018
8	26.587	35.00	Y	1.83	2.00	33.17	33.00	-6.58	-6.41	7/26/2018
9	26.626	35.00	N	0.00	0.00	35.00	35.00	-8.37	-8.37	7/26/2018
10	26.275	35.00	Y	1.58	3.33	33.42	31.67	-7.14	-5.39	7/24/2018
11	26.023	35.00	Y	4.25	2.25	30.75	32.75	-4.73	-6.73	7/24/2018
12	25.906	35.00	Y	5.92	5.92	29.08	29.08	-3.18	-3.18	7/23/2018
13	25.785	35.00	Y	7.17	0.00	27.83	35.00	-2.05	-9.22	7/12/2018
14	25.640	35.00	Y	1.08	0.00	33.92	35.00	-8.28	-9.36	7/13/2018
15	25.487	35.00	N	0.00	0.00	35.00	35.00	-9.51	-9.51	7/13/2018
16	25.414	35.00	Y	0.00	3.33	35.00	31.67	-9.59	-6.25	7/13/2018
17	25.139	35.00	N	0.00	0.00	35.00	35.00	-9.86	-9.86	7/16/2018
18	24.996	35.00	Y	0.67	3.33	34.33	31.67	-9.34	-6.67	7/16/2018
19	24.843	35.00	N	0.00	0.00	35.00	35.00	-10.16	-10.16	7/16/2018
20	24.640	35.00	Y	3.75	3.75	31.25	31.25	-6.61	-6.61	7/17/2018
21	24.575	35.00	Y	7.83	4.17	27.17	30.83	-2.59	-6.26	7/17/2018
22	24.358	35.00	Y	7.00	10.00	28.00	25.00	-3.64	-0.64	7/18/2018
23	24.207	35.00	Y	1.08	0.00	33.92	35.00	-9.71	-10.79	7/18/2018
24	24.051	35.00	Y	1.58	0.83	33.42	34.17	-9.37	-10.12	7/18/2018
25	23.941	35.00	N	0.00	0.00	35.00	35.00	-11.06	-11.06	9/12/2018



TEMPORARY SUPPORT OF EXCAVATION PLAN – STAGE 1 (ADDITIONAL 2ND LEVEL BRACING) OPTION #2 – LOWER LEVEL

SCALE: 1" = 10'–0"

NOTES:

1. THIS DRAWING SHOWS TIEBACK BRACING FOR LOWER (LEVEL–2) BRACING "OPTION #2 – ADDITIONAL 2ND LOWER (LEVEL–2) BRACING".

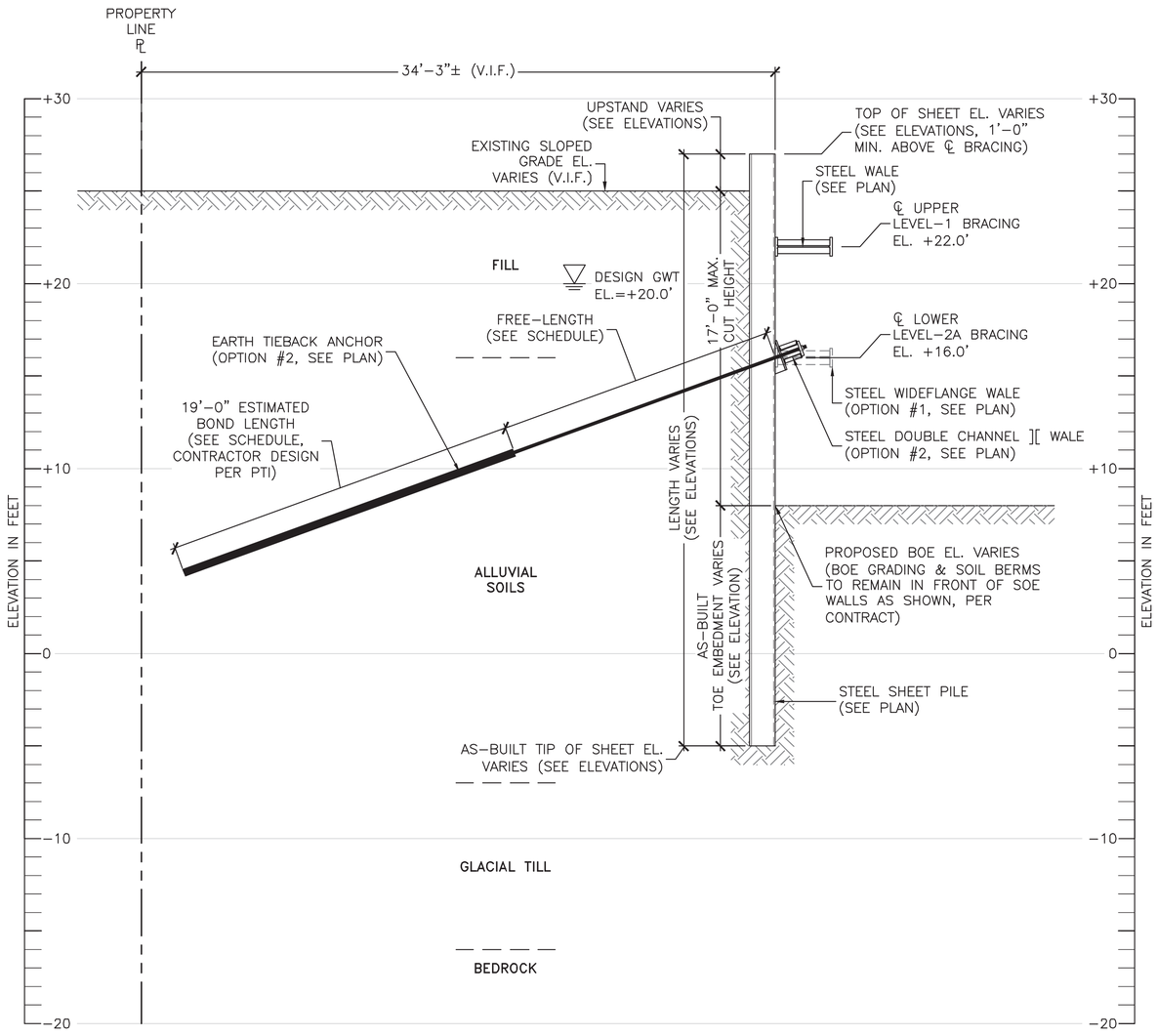
NO.	ISSUE/DESCRIPTION	BY	DATE
5	AS–BUILT SHEETING – 2ND LEVEL BRACING REVISION	EPB	6/28/19
4	AS–BUILT SHEETING & SLOTTED EXCAVATION NOTES REVISION	EPB	1/22/19
3	BRACING CONNECTION REVISION	EPB	12/18/18
2	AS–BUILT SHEETING & SLOTTED EXCAVATION REVISION	EPB	10/26/18
1	PROPERTY LINE OFFSET REVISION	EPB	05/21/18

REMEDIAL CONSTRUCTION - CLOVE AND MAPLE AVENUES
FORMER MGP SITE, OPERABLE UNIT 1
HAVERSTRAW, NEW YORK

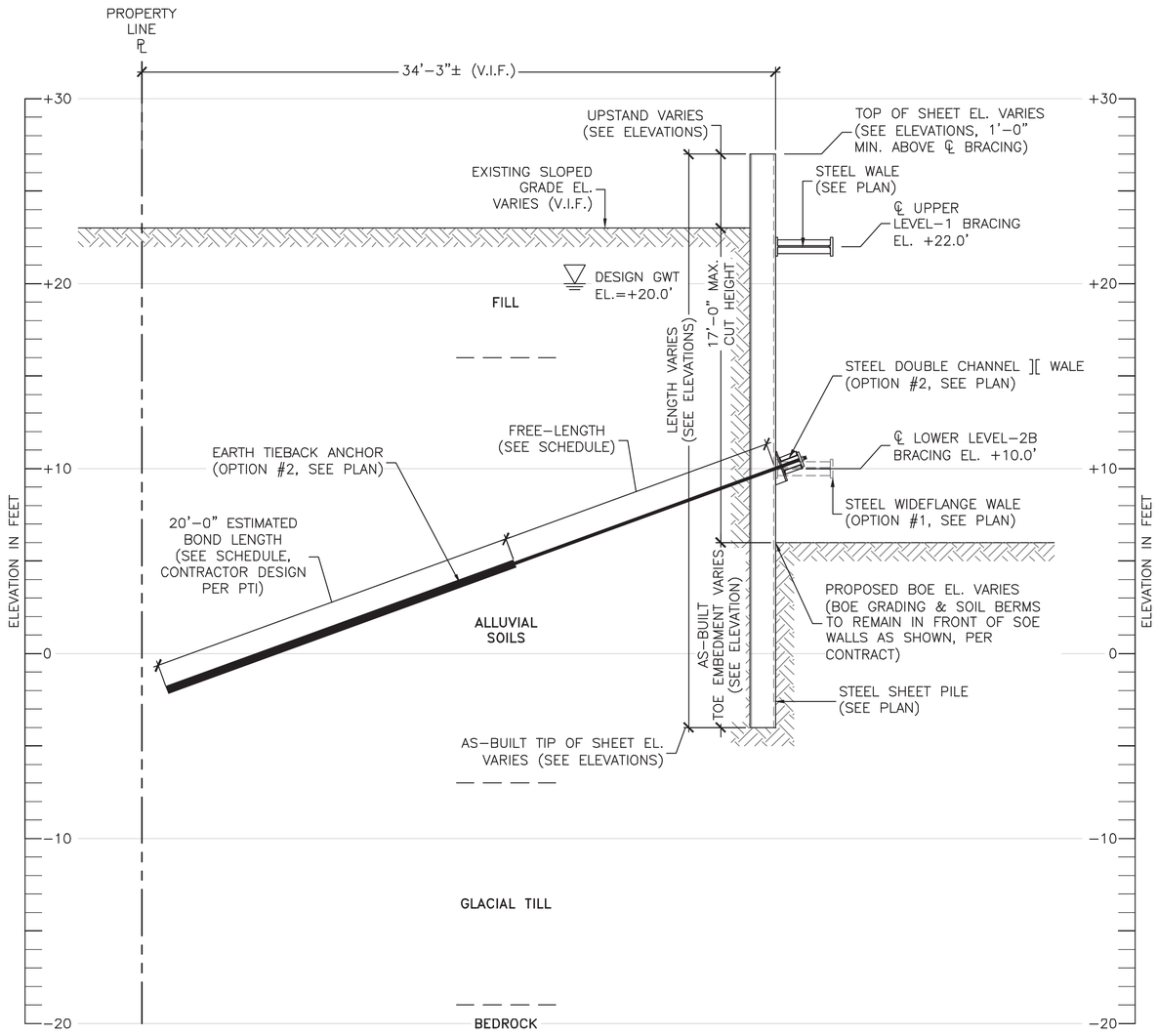
TEMPORARY SUPPORT OF EXCAVATION
AS-BUILT SHEETING - ADDITIONAL 2ND LEVEL BRACING
PLAN VIEW - STAGE 1 (OPTION #2 - LOWER LEVEL)

PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com
PREPARED FOR: CHARTER 500 HARRISON AVE. SUITE 4R BOSTON, MA 02118-2439

PROJ MGR: EPB	REVIEWED BY: RT	CHECKED BY: YB	
DESIGNED BY: EPB	DRAWN BY: EPB	SCALE: AS NOTED	
DATE: 4/13/2018	PROJECT NO. 02.0173671.00	REVISION NO. 5	Figure G-4



C TYPICAL SECTION
SCALE: 1/4" = 1'–0"



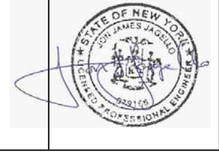
D TYPICAL SECTION
SCALE: 1/4" = 1'–0"

0 2' 4' 8' 12'
SCALE: 1/4" = 1'-0"

NO.	ISSUE/DESCRIPTION	BY	DATE
5	AS–BUILT SHEETING – 2ND LEVEL BRACING REVISION	EPB	6/28/19
4	AS–BUILT SHEETING & SLOTTED EXCAVATION NOTES REVISION	EPB	1/22/19
3	BRACING CONNECTION REVISION	EPB	12/18/18
2	AS–BUILT SHEETING & SLOTTED EXCAVATION REVISION	EPB	10/26/18
1	PROPERTY LINE OFFSET REVISION	EPB	05/21/18

REMEDIAL CONSTRUCTION - CLOVE AND MAPLE AVENUES
FORMER MGP SITE, OPERABLE UNIT 1
HAVERSTRAW, NEW YORK

TEMPORARY SUPPORT OF EXCAVATION
AS-BUILT SHEETING - ADDITIONAL 2ND LEVEL BRACING
OPTIONS #1/#2 - SECTION VIEWS



PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com
PREPARED FOR: CHARTER 500 HARRISON AVE. SUITE 4R BOSTON, MA 02118-2439

PROJ MGR: EPB	REVIEWED BY: RT	CHECKED BY: YB	
DESIGNED BY: EPB	DRAWN BY: EPB	SCALE: AS NOTED	Figure G-5
DATE: 4/13/2018	PROJECT NO. 02.0173671.00	REVISION NO. 5	

APPENDICES (PROVIDED SEPARATELY)

APPENDIX A	SURVEY MAP, METES AND BOUNDS
APPENDIX B	ENVIRONMENTAL EASEMENT NYSDEC APPROVALS OF SUBSTANTIVE TECHNICAL REQUIREMENTS
APPENDIX C	REMEDIATION- RELATED PERMITS
APPENDIX D	DAILY AND WEEKLY REPORTS
APPENDIX E	PROJECT PHOTO LOG
APPENDIX F	SOIL/WASTE CHARACTERIZATION DOCUMENTATION
APPENDIX G	CAMP FIELD DATA SHEETS AND AIR MONITORING DATA
APPENDIX H	RAW ANALYTICAL LABORATORY DATA
APPENDIX I	DUSRS FOR ALL ENDPOINT SAMPLES
APPENDIX J	EC AS-BUILT DRAWINGS, DOCUMENTATION AND DRAWINGS
APPENDIX K	IMPORTED MATERIALS DOCUMENTATION

EXHIBIT A
TECHNICAL EXECUTION PLAN

Plan Title: Technical Execution Plan

Project Title: Remedial Construction
Clove and Maple Avenues Former Manufactured Gas Plant Site OU1
Haverstraw, New York

Prepared For: Consolidated Edison – Orange & Rockland Utilities, Inc.
Thomas H. Frisbie, P. E.
1 Blue Hill Plaza
Pearl River, New York 10965

Prepared By: Charter Contracting Company, LLC
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Boston, MA 02118-2439
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Contract No.: 2089136

Charter No.: 2-1671

Date: 6/5/2018

Revision No.: 03

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Appendix B – Project Schedule

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Appendix F – Horizontal Bulk Storage Silo

Appendix G – Giken Silent Piler

Appendix H – Water Control Plan – PE Stamped

Appendix I – Quality Control Program

Appendix J – Office Trailer Cut Sheets

FIGURES

Figure 1 – Site Electrical Layout

Figure 2 – Traffic Control Plan

1. INTRODUCTION AND SUMMARY OF EXISTING CONDITIONS

1.1. INTRODUCTION

The TEP has been developed to provide a safe, realistic approach that is to be executed based on a well-thought-out construction sequence and a Proposed Project Schedule that considers the project specific considerations and requirements. The TEP is organized to include a Table of Contents, Sections and Subsections, Appendices, including drawings and schematics that describes Charter's approach and construction sequencing in conducting the soil removal action at the Site.

1.2. SUMMARY OF EXISTING CONDITIONS

The Site is located at 120 Maple Avenue in a residential and commercial portion of Haverstraw, Rockland County, New York. The Site is approximately 1 acre in size and is bounded by two residential properties to the northwest, Clove Avenue to the southwest, a Head Start facility to the southeast, Maple Avenue to the northeast, and a residential apartment complex and a former pond area to the northeast. Clove Avenue borders the Site to the southwest beyond which are residential properties (Block 1, Lots 27 to 32). These residential properties are at a topographically higher elevation than the Site. The Site is currently zoned for light industrial uses while most of the surrounding area is zoned as single-family residential or multiple-family residential.

The Site is owned by Orange and Rockland Utilities, Inc. (O&R) and currently has components of a retired natural gas regulator station on the property. The gas regulator station is decommissioned, and the piping remains onsite in a small fenced enclosure. There are also retired gas valve boxes and abandoned gas pipelines located below grade on the Site. Additionally, the concrete and brick pad for the former gas holder is present in the northwest quadrant of the Site. The Site is fenced with two locked gates located along Clove Avenue.

The property is currently unoccupied and consists mostly of a mowed grassy area, large deciduous trees, and a hedgerow of smaller trees along Maple Avenue. A landscape contractor maintains the grassed areas. The topography slopes down from Clove Avenue to the midpoint of the property, with a 75-foot wide, flat terrace over the central portion of the Site. The hedgerow of trees is on a sloped bank down to Maple Avenue. A drainage swale is present along the northwestern property boundary and intermittently directs storm water runoff to a storm culvert beneath Maple Avenue.

2. PROJECT ORGANIZATION, MANAGEMENT AND COORDINATION

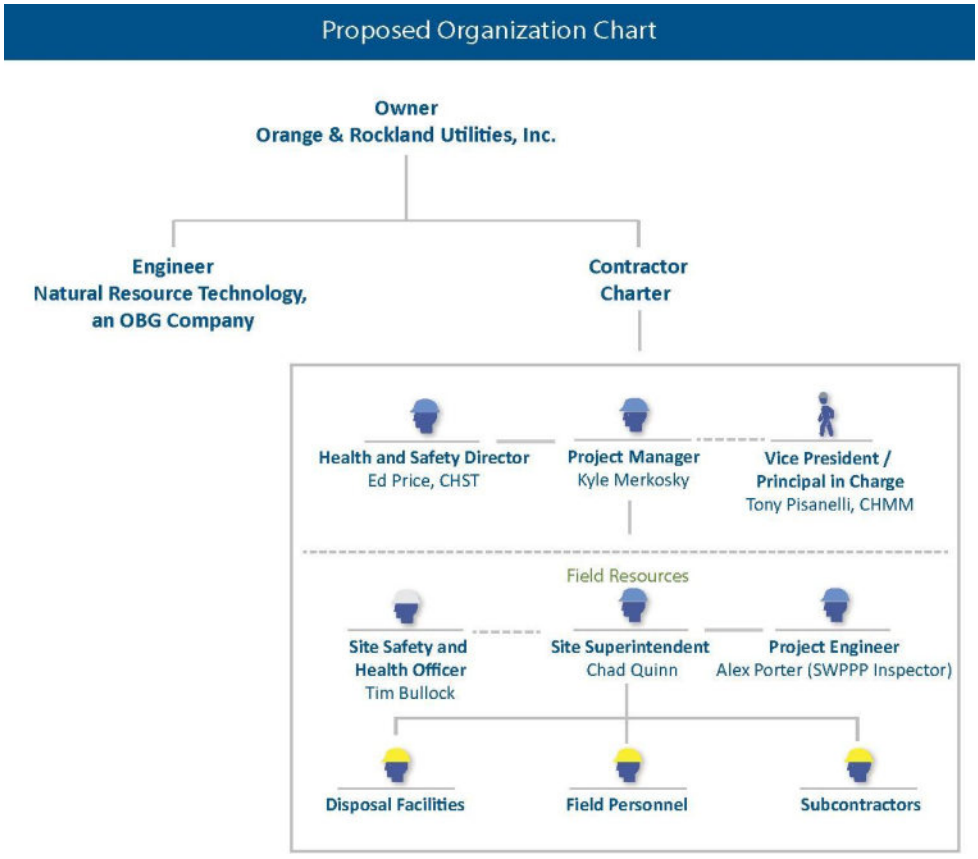
In response to the requirements in Specification Section 013300 1.4, part F1a, Project Coordination for the TEP, this section of the TEP includes the following:

- Organization Chart that identifies the structure and composition of proposed Charter team and identification of categories of work that will be subcontracted.
- Summary of key personnel and a staffing plan;
- Summary of proposed subcontractors;

- Summary of major equipment, systems, and materials; and
- Summary of permits and approvals to be obtained by Charter.

2.1. PROJECT ORGANIZATION

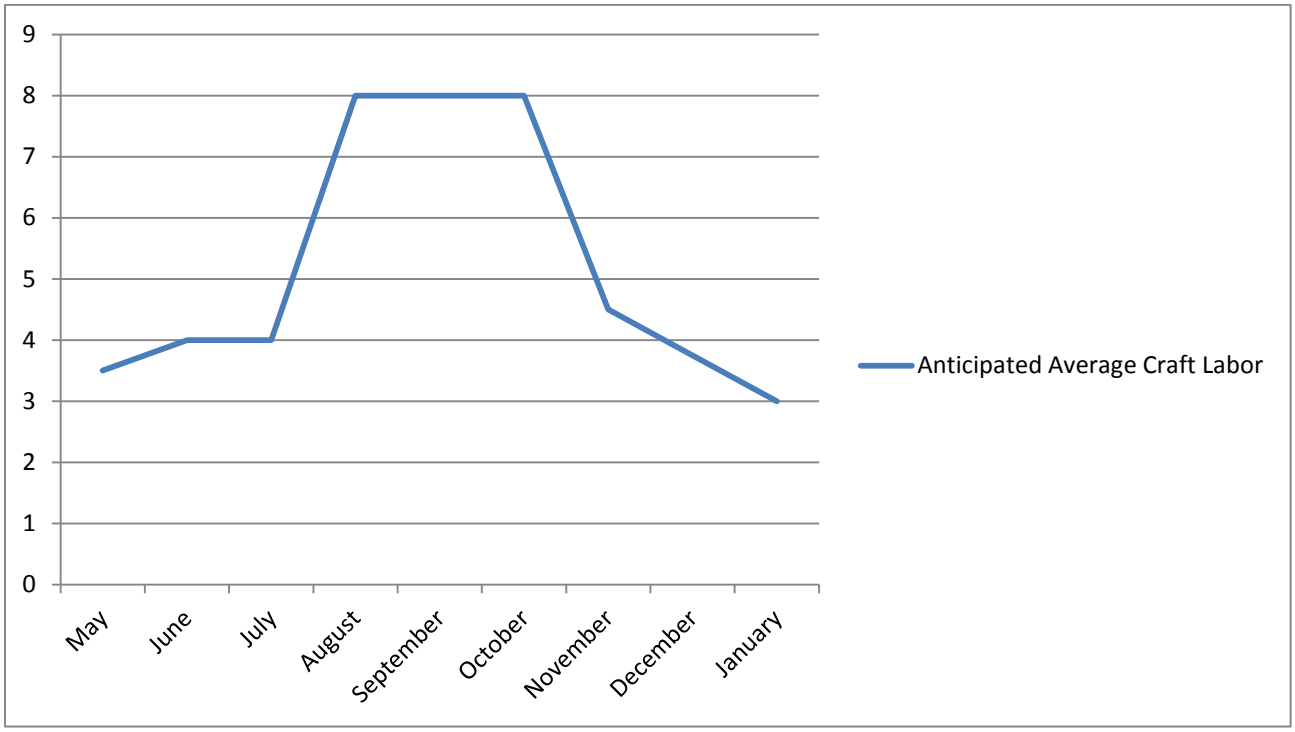
The Proposed Organization Chart is provided below:



2.2. KEY PERSONNEL AND STAFFING PLAN

Resumes of key personnel for the project are presented in **Appendix A** of this Plan**,** including the Project Manager, Site Superintendent, Project Engineer, Site Safety and Health Officer. In addition, Charter's staff (excluding subcontractors) includes the following:

- Full-time Labor Foreman
- 2-3 Laborers, task-dependent
- 2-3 Operators, task-dependent
- 2 Flagmen, during soil load-out operations


9
8
7
6
5
4
3
2
1
0
May
June
July
August
September
October
November
December
January
Anticipated Average Craft Labor

2.3. PROPOSED SUBCONTRACTORS

Work Category	Subcontractor
Support of Excavation Engineering & Design	GZA GeoEnvironmental, Inc. 249 Vanderbilt Avenue Norwood, MA 02062
Site Survey	Borbas Surveying & Mapping, LLC 402 Main Street Boonton, NJ 07005
Sheet Pile Installation	Blue Iron Foundations & Shoring, LLC 467 Lak Howell Drive, Suite #104 Maitland, FL 32751
Temporary Fabric Structure	Mahaffey Fabric Structures 4161 Delp Street Memphis, TN 38118
Construction Material Testing	Advance Testing 3348 Route 208 Campbell Hall, NY 10916
Air Handling System	TetraSOLV Filtration 1424 Abraham Drive Anderson, IN 46016
Water Treatment System	Lockwood Remediation Technologies, LLC 89 Crawford Street Leominster, MA 01453
Asbestos Abatement Contractor	Neuber Environmental, Inc. P.O. Box 541 42 Ridge Road Phoenixville, PA 19460
Crane Services	Olori Crane Services, Inc. 11 Seeger Drive Nanuet, NY 10954
Disposal Facilities/Trucking	-Clean Earth of Pennsylvania (CESP) – Morrisville, PA; Shirley Express and JC Transport -Environmental Soil Management, Incorporated (ESMI) – Fort Edward, NY; Cedar Hill Trucking -Bayshore Soil Management (BSM) – Keasby, NJ; Rebco
Project Laboratory	Advance Testing 3348 Route 208 Campbell Hall, NY 10916

Subcontractors subject to change

2.4. MAJOR EQUIPMENT, SYSTEMS, AND MATERIALS

Major equipment, systems and materials are identified in Bid Form Schedule E and described below.

2.4.1. Heavy Equipment (As Needed)

- Bulldozer – Caterpillar D5 or equivalent
- Crane – 50-70 Mtons All-Terrain crane
- Crane – 100-120 Mtons All-Terrain crane
- Excavator - Komatsu PC300 33-40 Mtons or equivalent
- Excavator – Komatsu PC 490 40-50 Mtons or equivalent
- Excavator – Caterpillar 304C CR 4-5 Mtons or equivalent
- Vibratory Compactor – Caterpillar CS-563E or equivalent
- Wheeled Loader – Komatsu WA320 or equivalent

2.4.2. Support of Excavation

- AZ19/ZZ19-700 or equivalent steel sheet piles – 30 to 40-FT
- ECO1400S or SCZ675WMG Giken Silent Piler and Power Pack
- CRUSH Augering System attachment for Giken Silent Piler

2.4.3. Temporary Fabric Structure

- 120-FT wide x 230-Ft long x 45-feet high frame and fabric structure

2.4.4. Temporary Water Treatment System – 150GPM

- 18,000-gallon influent weir tank
- 3- bag type sediment filters
- 3,000 pound reactivated liquid phase carbon (2)
- 20,000-gallon effluent storage tank

2.4.5. Air Handling System

- 20,000 CFM Air Purification Systems (4); 80,000 CFM Total
- Carbon Vessels (2)

2.5. PERMITS AND APPROVALS

Permits and approvals to be obtained by Charter include the following:

- Municipal permits for office trailers, temporary electric power supply to service site trailers and equipment, street opening or closing, as needed.
- Municipal permit for Clearing, Filling and Grading Permit from the Village of Haverstraw Planning Board.
- Municipal Industrial Discharge Permit from the Haverstraw Joint Regional Sewerage Board.

3. PROJECT PROGRESS AND SCHEDULE

The Project Schedule has been prepared using Microsoft® Project software with a work breakdown structure developed to perform the Scope of Work tasks. The Project Schedule outlines durations for pre-construction activities, mobilization, site preparation, field work, site restoration and demobilization.

The schedule is used to drive decisions in work sequencing and labor resourcing. Our Project personnel closely monitor and update the schedule periodically for the duration of the Project. We recognize the importance of effective communication between stakeholders involved with the Project.

Weekly Site meetings are coordinated between the Construction Manager and Charter during the work to ensure that Site operations are carried out smoothly and efficiently and that required submittals have been reviewed and approved and necessary personnel, supplies, material and equipment resources are available for upcoming work.

The Project Schedule is provided in **Appendix B**. It provides a Work Breakdown Structure with expected durations along with estimated start and completion dates for each activity. The Critical Path for the major work tasks is shown including: pre-mobilization; mobilization; Site preparation; excavation of material; Site restoration; and demobilization. Project Schedule updates (including a 2 week look ahead) will be done weekly as required by the specifications.

The Project Schedule incorporates the following working/non-working periods:

- Work is to begin upon receipt of Notice to Proceed from the Construction Manager.
- Work Days – Monday through Friday. 8am – 5pm - Charter will seek written approval for any deviations from these days and hours.
- Working Hours – Working hours will be coordinated to comply with municipal and contract requirements, to maximize available daylight and maintain excavation production.
- Federal Holidays are non-work days

4. CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

A summary of construction facilities and temporary controls is provided below.

4.1. LOCATIONS, SIZES, AND REQUIREMENTS FOR UTILITY SERVICES

The following utilities are present at or near the site (the utility locations will be verified prior to utility construction):

- Electric – Orange and Rockland Utilities Inc., pole-mounted electric located along Clove Avenue. 1200AMP Service required, transformer placed 10' off Clove – O&R to de-energize OHW along Maple Ave. In the event of a power outage backup generators and light plants can be provided at an additional cost.
- Water – United Water of New York, water connection available on Clove Avenue.
- Sanitary Sewer for water discharge on Maple Avenue – treated water is to be discharged into a permitted sewer manhole connection in accordance with Industrial Discharge Permit from the Haverstraw Joint Regional Sewerage Board, if required.
- Cable/Internet/Phone – Broadband internet service and analog telephone service are available along Clove Avenue.

Figure 1 – Site Electrical Layout shows the proposed location of Charter's temporary electric supply and lines.

4.2. BACKGROUND AND PERIODIC NOISE MEASUREMENTS

Background noise levels will be obtained daily during operations of concern or as requested by the CM and carried out in accordance with the following guidelines:

- American National Standard Institute (ANSI) 1994: Procedures for Outdoor Measurement of Sound Pressure Level (ANSI 1994); and
- International Organization for Standardization (ISO) 2005: Acoustics - Description, Assessment and Measurement of Environmental Noise. Part 2: Determination of Environmental Noise Levels (ISO 2005).
- Village of Haverstraw Noise Ordinance Chapter 157-8

4.3. SITE LAYOUT

The sections that follow document Charter's proposed site layout to maintain operational efficiency – A visual of the site layout is provided in **Appendix E Site Layout** and **Appendix J** contains Office Trailer Cut Sheets.

4 Trailers will be provided, 3 of the 4 trailers will be 35'-40' trailers for O&R, NYSDEC and Charter as shown on the site layout plan in Appendix E; O&R trailer will contain in-trailer sanitary facilities. The 4th trailer will be a smaller 24' trailer for Charter's craft labor. The layout is visual clarified in **Appendix E.**

4.3.1. Support Zone Layout

The Support Zone will be established and maintained in the southern portion of the Site along Clove Avenue as approximately shown as Area F – Contract Drawing Sheet C050. Re-grading of existing surfaces will be performed to accommodate the required

grades for the TFS and site access. However the site will be stabilized with fabric and crushed stone to create a barrier between contamination.

Excavation of impacted soils within the Area F including the Support Zone and Drainage Swale area will be performed after excavation and backfill of Areas A-E has been completed and prior to final site restoration and demobilization.

The crushed stone placed over the geotextile fabric provides a stable surface for construction of the Support Zone (office trailers, clean access to Areas A-E, temporary water treatment system, air handling units, etc.). The crushed stone is excavated and shipped off-site with other underlying impacted soil during excavation of Area F. If directed by the owner, the stone will be left onsite for re-use as backfill.

4.3.2. Exclusion Zone and Contamination Reduction Zone

Exclusion Zone - Excavation Areas A – E will be located within the Exclusion Zone and will be coincident with the Support of Excavation sheet piling. Two entrances/exits will be provided as shown in **Appendix E - Site Layout** and include decontamination pads with 6-mil liner sloped to a collection sump with crushed stone travel surface.

Initially, the Exclusion Zone will occupy much of the site, and will be demarcated with orange construction fencing to separate the Exclusion Zone from the Support Zone. Until the sheet piling and Temporary Fabric Structure (TFS) is installed. Access to the TFS Exclusion Zone will be limited to only those personnel necessary to perform or monitor the work. Additionally, only qualified and adequately trained personnel will be allowed to access the Exclusion Zone. Access to the Exclusion Zone by visitors to the Site will be made on a case-by-case basis.

The Contamination Reduction Zone will be established at the entrance/exit from the Exclusion Zone. The Contamination Reduction Zone will provide personnel decontamination facilities, a boot wash, a hand wash station and an eyewash.The Contamination Reduction Zone will be adjusted as necessary as excavation activities progress.

Heavy equipment and vehicle decontamination is performed on the decontamination pad prior to leaving the TFS. The decontamination pad includes a contained wastewater collection sump and water supply. The contents of the collection sump are pumped to temporary storage tanks for treatment prior to discharge. Dry decontamination using brooms and brushes, or pressure washing is used where applicable.

As work in the Exclusion Zone for Phase 1 and Phase 2 (Areas A-E) is completed, the decontamination pad liner, stone and impacted materials are removed and disposed of off-site with the impacted soil. An additional decontamination pad will then be constructed at the site entrance for the remainder of the shallow excavation work outside of the TFS. At the completion of the swale and shallow excavation work, the 3rd decontamination pad will then be removed similar to the two previous pads and loaded out for disposal.

4.3.3. Site Access and Haul Roads

Site access will be controlled from Clove Avenue via two separate gates as shown in **Appendix E - Site Layout**. Trucks will back directly into the site through the gates on Clove Avenue and through the gates located along the edge of the excavation area into the TFS.

4.3.4. Decontamination Methods and Equipment

Trucks will be loaded in the TFS excavation area then travel over the decontamination pad back. The decontamination pad will allow for the capture of solid residuals and evaporation/infiltration of liquid residuals generated during decontamination of construction vehicles and trucks bound for off-site disposal facilities. Heavy soil will be removed from the trucks with brooms/brushes on the decontamination pad. A pressure washer will be utilized to remove remaining soil/contamination form trucks within the decontamination pad footprint if needed. Laborers will conduct an inspection of each truck to ensure soil/contamination has been removed prior to trucks exiting the Decontamination Zone.

Excess soils removed from trucks is collected and loaded into subsequent trucks with excavated materials. Decontamination wastewater is collected and pumped to the Water Treatment System for treatment and discharge.

Once decontamination is completed, the trucks will exit the Site onto Clove Avenue and travel to the designated disposal facility via the route shown on **Figure 2 - Traffic Control Plan**. A flagger will be provided for traffic at the site entrance, and off site at the trucking staging area (location TBD), both flaggers will be in direct contact to avoid truck staging on Clove. Street sweeping will be performed daily or as requested by the CM per specifications. Methods will be power broom and/or manual sweeping as required to clean Clove Ave unless it is not necessary due to actual conditions.

5. TEMPORARY FABRIC STRUCTURE AND SUPPORT EQUIPMENT DETAILS

A summary of details associated with the proposed TFS and associated support equipment is provided in the sections that follow. The TFS is installed after Support of Excavation sheet piles are installed and securely fastened to the ground surface with soil anchors. Sheet pile installation is discussed in Section 6 of this Plan.

5.1. TFS CONSTRUCTION DETAILS

The proposed TFS is constructed using an aluminum frame covered in a polyvinyl chloride (PVC) coated, flame retardant fabric. The proposed TFS is 120 feet wide by 214 feet long. Additional TFS details, including plans certified by a New York Registered Professional Engineer, are provided in **Appendix C.**

The temporary structure will be installed and anchored to the ground surface with soil anchors. The Maple Avenue side of the structure has extended legs to accommodate the change in grade from Clove Avenue across the site. The supports and fabric of the sides of the structure also vary in length to accommodate the grade change. The side closest to Clove Ave will rest at

el.28 and the site will be graded to accommodate and provide a level surface to the greatest extent possible.

The TFS will be equipped with an air handling system that will control odors, vapors, and equipment exhaust inside the TFS while work activities are occurring.

5.2. AIR HANDLING SYSTEM DETAILS

The air handling system components will be installed by Charter personnel. A crane will be used to pick and set the equipment. A Lift Plan will be prepared and submitted for approval prior to the work.

The air handling system that connects to the TFS will be constructed using various duct work, blowers, motor starters, electrical power and controls, particulate filters and activated carbon filters. The air handing system will have a capacity of at least 1.5 cfm/sf as specified. The air handling system will be sized to maintain negative pressure within the TFS 24 hours per day, 7 days per week, and that maintain safe atmospheric conditions inside the TFS for work to be performed with Level D personal protective equipment (PPE). The AHS will flow 80,000CFM which will provide 6 air changes per hour maximum and 4.8 air changes per hour at the deepest excavation. During off work hours the number of AHUs running may be reduced to minimize noise impacts on the abutting neighbors within the neighborhood. Due to the AHU enclosures, each AHU functions at 65 Decibels at 5' which is equivalent to a conventional residential A/C condenser unit.

Should conditions inside the TFS require upgrading to Level C PPE (air purifying respirators), personnel not approved for Level C PPE will be required to exit the TFS until conditions for Level D PPE are achieved. Specific conditions and criteria for upgrading and downgrading levels of PPE will be specified in the Health and Safety Plan.

Based on a structure size 214' x 120' x 45', our supplier estimates a total volume of +/-800,000 cubic feet (cf) prior to excavation. The specified excavation volume of +/-200,000 cf brings the total volume to +/-1,000,000 cf. This volume will require use of up to four carbon adsorption system air handling units to accommodate the excavation depth and TFS size proposed. The Air Purification System is engineered to operate with one carbon unit to maintain negative pressure in the TFS.

Each AHU is currently configured with two inlet and two outlet ports. Air is pumped through the carbon adsorption chambers using a blower capable of operating at up to 20,000 cubic feet per minute (CFM).

To evaluate for possible breakthrough, there are five air sample ports on the side of the unit – one in the plenum chamber for influent air, one above the carbon for effluent air, and three located in the carbon bed at approximately 25%, 50%, and 75% of the carbon bed depth – providing the opportunity to follow the mass transfer zone and anticipate potential breakthrough.

Air monitoring equipment is to be provided at the work site for monitoring the interior and exterior of the TFS. Equipment is to be calibrated in accordance with manufacturer's requirements and will include:

- Photo-ionization detector (PID)
- Real-time particulate air monitor
- Carbon monoxide detectors
- Oxygen, benzene and nitrogen dioxide monitors

Sampling will be performed by the Site Safety and Health Officer hourly during work hours. Results of AHU and work zone air monitoring will be included in daily report forms. If the interior of the entire structure reaches Level C proper PPE shall be worn by all employees including truck drivers. If truck driver do not have the appropriate training then the cabs of the trucks will be left outside of the TFS while the bed of the truck is located under the TFS getting loaded, a temporary poly or fabric door will be utilized in conjunction with odor suppressant foam to ensure odors to not escape the TFS. There is a chance that Level C conditions will exist within the deep excavation however Level D will exist within the loading area, this will be determined by the SSHO and instrumentation readings.

Additional AHU shop drawings are provided in **Appendix D**.

5.3. AIR HANDLING SYSTEM NOISE ABATEMENT

All 4 air handling blowers will come in an enclosure to minimize noise on site – See AHU Shop drawings in **Appendix D.** Due to the steel enclosure which the blowers come in the AHU units function at 65 Decibels each at 5' which is the equivalent to a residential A/C condenser unit.

6. EXCAVATION AND BACKFILLING PLAN

This section provides descriptions for the various excavation, soil loading, and backfilling activities anticipated as part of this project. Specific means and methods are described in more detail in subsequent sections of this Plan. Major soil excavation, loading, and backfilling activities occur in three phases. The excavation areas associated with each Phase are shown in **Appendix E**. As part of mobilization activities, a limited amount of contaminated soil from Area F (as shown on Excavation and Temporary Shoring Plan included in the contract documents) will be regraded to establish level areas for construction of the TFS at el.28– All spoils will be shipped off site. It is possible that a small portion of this regrading in preparation for the TFS could be deeper than 2', this is near the truck entrances of the TFS to provide an acceptable gradient for vehicles entering and leaving the structure; estimated volume for this operation is 30CY. Soils from over excavations will be evaluated for re-use on site.

Once excavation and grading of the Support Zone is complete, a geotextile separation material will be placed over the impacted soil. Clean crushed stone is imported and placed on top of the geotextile liner to serve as a base for construction of support zone facilities (office trailers, groundwater treatment system, air handling units etc.). Each excavation phase includes the following.

- Phase 1 includes excavation, transportation, disposal, and backfilling of the western portion of the proposed excavation area.

- Phase 2 includes the excavation, transportation, disposal, and backfilling of the eastern portion of the proposed excavation area.

- Phase 3 includes the excavation, transportation and disposal of contaminated soils from the shallow 2-foot excavation of Area F soils including the drainage swale on the western portion of the site. Excavation of these soils will be performed once demobilization of Support Zone equipment is completed.

6.1. EXCAVATION EQUIPMENT, PROCEDURES, AND UTILITY PROTECTION

A list of Charter's proposed excavation equipment is included in section 2.4.1 of this Plan. Prior to the commencement of excavation activities, Charter conducts a Utility Survey to identify the presence of existing utilities within the excavation area. This survey consists of the following:

- Contacting Dig Safely New York to perform a utility markout

- Employing a third-party subcontractor to conduct a utility investigation within the excavation area utilizing a ground-penetrating radar (GPR) device. The subcontractor will markout subsurface utilities located during the investigation.

- The results of this investigation are compared to those of the Predesign Investigation (as provided in the Contract Drawings), and the Dig Safely New York utility markout. Suspected locations of utility lines are confirmed with utility providers prior to the commencement of excavation activities.

The results of this Utility Survey are provided under a separate submittal. Charter takes care while excavating in the vicinity of suspected utilities. Former utilities associated with MGP operations located within the proposed excavation area are to be removed and disposed to the bottom of anticipated excavation limits as shown on the plans. Removal/disposal procedures are conducted on a case-by-case basis, depending on the type and owner of the line.

Excavations and embankments are inspected by Charter's competent person to document excavation safety conditions daily and prior to any personnel entering an excavation. Engineering controls such as sloping, benching, shoring, drainage systems, or other controls to ensure stability of excavation and embankments are to be utilized as needed. The bottom of the excavation shall be surveyed to confirm design depths have been reached and engineer will visually identify and document visible contamination (if present) prior to backfill placement,

6.2. EXCAVATION AND BACKFILL SEQUENCE

Excavation activities in Phase 1 and Phase 2 are shown in **Appendix E** and will commence after the following activities have been completed:

- Site Setup and Re-grading.

- Pre-trench for installation of the excavation support system

- Installation of the excavation support system (Press-In Sheeting)

- Construction of the TFS and installation of air handling systems

- Installation of the AHUs and construction of the noise abatement walls and verification that air handling systems and AHUs are functioning as required by the contract documents

- Construction of the groundwater treatment system

- Receipt of disposal facility approvals

Installation of the excavation support system begins with a pre-trench along the alignment of the sheet piling estimated 6-feet wide and 2-feet deep. Excavated soil is cast into the excavation area or direct-loaded and disposed of off-site.

Phase 1 - Stage 1 - Soil excavation will be initiated in the northwestern portion of Phase 1. Soil excavation in Phase 1 will proceed to the northeast and southwest. The excavated soils will be placed directly into trucks staged on the Phase 2 portion of the excavation. Excavation in Phase 1 will continue to the first level of excavation bracing supports will be installed.

Phase 1 – Stage 2 - As bracing is installed, Stage 2 excavation proceeds from northeast to southwest. The second level of excavation bracing support will be installed in the northern half of Phase 1. As bracing is installed, excavation continues in Stage 2 to desired depth.

Phase 1 – Stage 3 – Post bracing installation excavation will continue to the specified depth. Once the target depth is achieved Charter's survey will verify and get visually documented by the Engineer. Once the engineer visual documentation is complete, documentation samples will get collected, a layer of geotextile demarcation material is placed, then backfilled and compacted in lifts until subgrade is achieved. Bracing is removed as backfill progresses back to required subgrade.

Required documentation sampling is as follows:

Area	Floor Sampling	Sidewall Sampling
A (deep 22' excavation)	Contractor to sample – Documentation Only	Contractor to collect documentation samples from excavation boundaries bordering excavation areas B and E. Engineer to collect samples where earth retention system is present along Maple Avenue using direct push drill. Contactor to coordinate access for drill rig and timing of sampling along Maple Avenue. Samples along swale boundary will be collected prior to remediation activities by Engineer.
B (deep 18' excavation)	Contractor to sample – Documentation Only	No wall samples will be collected from Area B
C (deep 20' excavation)	Contractor to sample – Documentation Only	Contractor to collect documentation samples from excavation boundaries bordering excavation area E. Engineer to collect samples where earth retention system is present along Maple Avenue boundary using a direct push drill rig. Contactor to coordinate access for drill rig and timing of sampling along Maple Avenue. Samples along 146 Maple Avenue boundary will be collected prior to remediation activities by Engineer.
D (deep 20' excavation)	Contractor to sample – Documentation Only	Contractor to collect documentation samples from excavation boundaries bordering excavation area E. Samples along swale boundary will be collected prior to remediation activities by the Engineer
E (deep 15' excavation)	Contractor to sample – Documentation Only	Samples along Area F, swale area and 146 Maple Avenue boundary will be collected prior to remediation activities by Engineer.
F (shallow 2' excavation)	To be sampled– Documentation Only	Shallow excavation - no wall sampling

Once Phase 1 backfill is completed, Phase 2 begins using the same general sequence described above; Stage 1 through Stage 3.

The excavation earth support system design, coupled with this phased approach, allows Charter to significantly reduce the open excavation area. The sheeting installed through the center of the deep excavation area provides the following benefits:

- Hydraulic barrier between the two phases – Limits the open excavation area subject to groundwater flows, thus minimizing dewatering/water treatment efforts.
- Physical barrier between two phases – prevents contaminated soils in adjacent areas from impacting clean excavated areas during backfill placement.

This approach also allows Charter to begin backfill placement immediately following acceptance of the excavation subgrade for each phase. This significantly decreases the dewatering

effort and quantity of water requiring treatment, when compared to opening the entire excavation area at one time.

After Phase 2 backfill is completed, the TFS is removed, dewatering, air handling and water treatment equipment is demobilized, excavation support sheeting that impacts groundwater flow is removed.

Phase 3 work is performed in the drainage swale as demobilization of Phase 1 and 2 areas are completed. Excavation of impacted soil is preformed to the required depth in the remaining Phase 3 area and is direct loaded into trucks for offsite disposal.

Phase 3 excavation areas receive a layer of geotextile demarcation material and then are backfilled with clean fill and restored to grade. **Appendix E - Site Layout** shows the locations of temporary on-site haul roads to support the progress of the excavation work.

As part of the dewatering system, two groundwater monitoring wells are installed near the sheeting outside of the deep excavation limits. Groundwater levels are measured throughout excavation activities, and the results are provided to the Construction Manager for review.

6.3. EXCAVATION PRODUCTION RATES

On a daily basis approximately 196CY/308TON (7 Trucks, 2 Rounds – 14 Total Loads; Triaxle) will be shipped off site to Clean Earth (CESP) and 180cy/288TON to ESMI Fort Edward (9 Loads; Trailer Dump) for a total of 376CY/596TON Daily split between the primary and secondary facilities.

6.4. EXCAVATION EARTH SUPPORT SYSTEM

Charter will install press-in sheeting around the limits of the excavation as shown in **Appendix E** to provide earth support during excavation of Areas A-E. To facilitate excavation of contaminated soils in two phases, Charter will also install a line of press-in sheeting down the approximate center line (southwest to northeast).

The excavation support wall is constructed of press-in steel sheets, whalers and internal corner bracing. A final pre-installation design including sheeting section, connection details, installation equipment, and shop drawings stamped by a NY licensed Professional Engineer are provided under a separate submittal. The excavation support wall is designed and constructed in accordance with Specification 02250A – Excavation Support and Protection – Press-In Sheeting.

Sheet piles will be driven using a Giken Silent Piler with an integral CRUSH auger drill attachment to advance the sheet. Each sheet is marked with an identification number and accurate records of each sheet are maintained including length, driving record, final tip elevation, cut-offs, deviations from design location, and alignment. Sheet driving records will be submitted with daily report. Manufacturer's information is provided in **Appendix G**.

For the first pair of sheets to be installed the Giken Piler mount to a counterweight, from there the Piler will transfer to the sheeting and continue the installation.

Vibration monitoring will be performed at the Site perimeter during installation and removal of the excavation support wall in accordance with Specification 02290 – Site Monitoring.

An all-terrain crane or excavator with the appropriate attachment is used to support the sheet pile installation along with a loader to handle sheets. A Lift Plan will be prepared and submitted for approval prior to the work, if a crane is utilized.

After the perimeter and interior excavation support walls have been installed, Settlement Monitoring Points (SMPs) will be established at fixed points along the excavation support wall. The SMPs will be selected to monitor both vertical and horizontal movement of the sheet piles. The SMPs will be monitored daily when installation of sheeting is complete and from the time excavation begins until backfill is complete. Results of settlement monitoring will be included in daily reports.

All excavation bracing will be removed as backfill progresses and removed in its entirety at the completion of excavation backfilling operations.

6.5. SHEETING REMOVAL

Charter will remove press-in sheeting unless otherwise directed from the client.

Sheet piles will be removed using a Giken Silent Piler to hydraulically pull out the sheets without vibration. Vibration monitoring will be performed at the Site perimeter during the removal in accordance with Specification 02290 – Site Monitoring.

An all-terrain crane or excavator with the appropriate attachment is used to support the sheet pile installation along with a loader to handle sheets. A Lift Plan will be prepared and submitted for approval prior to the work, if a crane is utilized.

6.6. COAL TAR / ASBESTOS WRAPPED PIPING

Abandoned gas lines are reportedly present at the Site. Abandoned coal tar wrapped (CTW) insulation may be encountered during work activities. CTW may be an asbestos containing material (ACM). If abandoned coal tar wrapped piping is encountered during removal of debris, piles, and contaminated soil, the CM shall be notified, and Asbestos testing will be performed. Once the contaminants(if any) are identified, the piping material will be cut into manageable lengths, double wrapped with polyethylene and placed into a lined disposal container by a New York-licensed asbestos abatement contractor (if asbestos). Removal of all structures will occur to the bottom of proposed excavation limits only.

6.7. ODOR CONTROL

During contaminated soil excavation activities, it may be necessary to utilize foam suppressants on the excavation or stockpiled soils to control odors within the TFS. Odor-suppressing foam will be applied to excavated materials when stockpiled or at any other time as directed by the Construction Manager. Odor control foam will be maintained on the site and dispersed as directed by the Construction Manager or as needed by Charter.

7. STOCKPILE MANAGEMENT AND LOADING

Due to space limitations, impacted soils are excavated and loaded directly into lined trucks for transportation to the approved disposal facilities. Any stockpiling or staging of soils for dewatering or soil amending will be performed underneath the TFS.

Empty trucks back into the appropriate stabilized construction entrance and hold next to the truck lining staging area. Laborers then install poly liner into the truck bed, and the excavator begins direct-loading soil into the truck. Once a full truck-load is achieved, Laborers close and seal the poly liners, and the truck undergoes required decontamination procedures prior to exiting the TFS. Lining will take place from staging located within the TFS in accordance with the procedures outlined in the approved eHASP and JSA for this task.

If excavated soils exhibit moisture content that is too high for direct loading and transportation Charter will use a drying agent to amend soils for transportation. Any stabilization of soil required to reduce moisture content will be performed prior to loading and shipping. In an effort to minimize the amount of soil amendment needed and reduce soil moisture Charter's deep well dewatering system is designed to keep the existing water level below BOE. If wet soils are encountered they will be stockpiled within the TFS in order to allow soils to drain, the stockpile will then get aerated and mixed with Calciment amendment to reduce moisture. To prevent delays very saturated soils will be placed in a separate smaller stockpile to drain and dry out overnight, this saturated stock pile would get placed within the excavation and amended throughout the day while drier soils are loaded. There will be another machine on site to aid in this amendment process if this situation arises. The saturated stock pile would get loadout the following day. Dry Calciment will be stored in a bulk pneumatic silo and dispensed as needed and mixed into the soil with the bucket until homogeneous. A manufacturers' cut sheet for the silo is provided in **Appendix F.**

8. OFF-SITE TRANSPORTATION

Prior to entering the Site initially, all truck drivers will be given a Driver Orientation Plan. The Driver Orientation Plan will meet the requirements of Specification 02120.

Trucks will initially be staged off site to prevent crowding on Clove Ave. A flagman will be located at the site entrance as well as at the off-site staging area, these two flagmen will be in direct contact. Relocating the second flagman from the Tor/Maple intersection to the off-site staging area will allow the flagman to monitor/meter the trucks into the project site.

Truck loading will be performed within the TFS under Level D conditions, with a contingency plan to allow soil load out under Level C conditions.

Prior to loading excavated soil into trucks, each truck will be lined with a 6 -mil poly. Once the truck has been loaded the poly liner will be sealed shut and covered in accordance with project requirements.

Charter will prepare necessary shipping documents for the transportation and disposal of waste materials. Copies of shipping documentation will be provided to the CM for signature. Charter will maintain a Daily Trucking Log to track off-Site shipments &soil weights which will be provided on a daily basis.

Once exiting the Site, trucks will transport excavated soil to a pre-approved disposal facility via the truck routes identified on Contract Drawing C040. All material is anticipated to be Non-Hazardous, all trucking as referenced in Section 2.3 “Proposed Subcontractors”.

9. DISPOSAL FACILITIES

As indicated in the Contract Documents, impacted soil will be pre-characterized by the Engineer for disposal at one or more of the following owner-approved facilities:

- Clean Earth of Pennsylvania (CESP) – Morrisville, PA
- Environmental Soil Management, Incorporated (ESMI) – Fort Edward, NY
- Bayshore Soil Management (BSM) – Keasby, NJ

Due to transport times to the identified disposal facilities, and loadout at the site beginning at 8:00 AM and completing by 3:30 PM based on facility closing time, our schedule includes up to 14 triaxle loads to Clean Earth “Primary Facility” and up to 9 trailer dump loads to ESMI “Secondary Facility” per day. Disposal rates for Clean Earth are based on 7 triaxles making two turns, and disposal rates for ESMI are based on 9 trailer dumps making one turn. This transport rate yields a production rate of approximately 596 ton per day. During initial site grading, Charter will utilize ESMI’s 9 trailer dumps making one turn.

10. DEWATERING

Excavation dewatering will occur as needed throughout contaminated soil excavation and backfill operations to ensure work is conducted in the dry and to prevent a surface release of groundwater or overtopping of the excavation walls during backfill operations.

Drilled extraction sumps will be installed at two locations within the each excavation phase area (4 Total). Each well is to consist of a PVC well screen and riser installed at or above the toe of steel sheeting. An electric submersible pump with liquid level controls is provided in each well to maintain water levels below the bottom of subgrade during excavation and as backfill is placed. Deep wells are supplemented with localized sumping. Dewatering is expected to take place 24/7.

Excavation dewatering fluids will be pumped to the Temporary Water Treatment System and treated prior to discharge to the permitted municipal sewer manhole. After excavation and backfill is completed, the well is decommissioned by grouting the well in place.

Charter’s Water Control Plan is included as **Appendix H** to this Plan.

10.1. TEMPORARY WATER TREATMENT SYSTEM

The temporary water treatment system will treat contact water from the work area, treat extracted contaminated groundwater, decontamination water and discharge the treated water to a municipal sewer manhole on Maple Avenue. The location of the temporary water treatment system is shown on **Appendix E - Site Layout**.

The primary goal of the temporary water treatment system is to meet the effluent discharge requirements of the Industrial Discharge Permit from the Haverstraw Joint Regional Sewerage Board. To

meet this goal, the temporary water treatment system has capacity of up to 150 gpm and is equipped with a wireless auto-dialer connected to the process control system to allow system monitoring during the work. The treatment system includes:

- One 18,000-gallon influent weir tank
- One oil water separator with coalescing filter and non-aqueous phase liquid collection
- One submersible pump with level controls
- One triple bag filter skid with three single bag filters plumbed in parallel such that two bag filter vessels can operate while the other remains in standby.
- Two carbon vessels plumbed in series. Each vessel is filled with 3,000 pounds of reactivated liquid phase carbon.
- One flow meter w/ totalizer
- One 20,000-gallon fractionation tank for effluent storage prior to discharge to the municipal sewer system.

Discharge from the treatment system will be to a sewer manhole on Maple Avenue. Street opening permits will be obtained from the town and a police detail provided during the street opening required to tie into the manhole. The discharge pipe will be removed, and the manhole plugged after site work is completed. Temporary Water Treatment System plans and shop drawings will be provided under a separate submittal titled Wastewater Treatment System, Transportation, and Off-Site Disposal. Water Treatment is expected to take place whenever dewatering is occurring, up to 24 hours per day and 7 days per week.

Further clarification can be found in Charter's Water Control Plan included as **Appendix H** to this Plan.

11. SITE RESTORATION

Following completion of remediation and backfill operations, the Site will be graded to meet requirements shown in the contract drawings. The adjoining swale west of the site will also be regraded and restored.

Once site grading is complete, erosion control blanket and the geotextile fabric will be installed in the areas drainage swale shown on the contract drawings. The 18 inches of stone will be placed with the excavator and graded to match the grades shown on the contract drawings.

The remaining portions of the site will be covered with approximately 4 inches of topsoil seeded in accordance with Specification 02900. Top soil will be placed using loader and bulldozer, graded and seeded.

11.1. DEMOBILIZATION

As site work tasks are completed, equipment is demobilized from the Site. The erosion controls are removed and perimeter fencing installed. Charter performs the following activities to complete the Project and demobilize personnel and equipment from the site:

- Decontamination of construction equipment, vehicles, mobile storage containers, and fractionation tanks used for handling and management of contaminated and/or regulated materials prior to removing from the Site
- Removal of temporary facilities and Site/access controls upon completion of the Work
- Clear the Site of construction equipment and debris, repair any erosion or runoff related damage, and grade and cover areas utilized during the work
- Complete post-construction inspection and punch list items
- Soil erosion and sediment control measures are removed upon authorization by Construction Manager
- Perform post-construction condition surveys
- Perform final Site clean-up and conduct inspection
- Submit Final Reports and As-Built drawings as described in the Contract

12. QUALITY CONTROL

Charter's Construction Quality Control (CQC) program is implemented to verify compliance with project specifications and maintain a consistent quality work product. We employ the 3-phase Contractor Quality Control process (preparatory, initial, and follow-up inspections) to ensure compliance with definable features of work. Each phase provides the opportunity to review/evaluate methods, materials, and contract compliance, and identify potential deficiencies prior to initiating work. We enforce and track corrective actions for work that does not meet project requirements.

To enhance execution, our Project Team tracks productivity and evaluates progress through baseline metrics that provide early warning of potential problems to take proactive steps to achieve performance goals. Quality is maintained through the multiple phases of the work by establishing measurable quality standards, ensuring quality workmanship through inspections/audits, and reviewing quality at the project level weekly. We monitor Quality Control performance through three-phase inspections, audits, surveillance, and corrective actions. As part of the process, we capture data from lessons-learned to support our continuous improvement process.

All Charter employees are trained in accordance with the tasks they are assigned to perform.

Procedures to verify are set forth within "Appendix I" Quality Control Program and through daily reporting as identified within the specification and Section 12.2

Additionally, Charter upholds an extensive equipment maintenance program for all heavy equipment on-site, as listen in Section 2.4.1 of this Plan. The table below provides a summary of maintenance schedule for each piece of heavy equipment:

Component	Maintenance Schedule
Cooling System	As required
Damper Case	Every 1000 hours
Engine Oil Pan	Every 500 hours
Final Drive Case	Every 2000 hours
Grease	Every 50-100 hours
Hydraulic System	Every 5000 hours
Swing Machinery Case	Every 1000 hours

12.1. DFOW MEETINGS

Charter will hold planning meetings prior to any major definable feature of work. In this meeting we will review the safety hazards, scope, materials, anticipated schedule and address any concerns from the CM. Actual dates will be provided to the Owner and Engineer with 1 weeks notice.

1. Sheeting Installation – Early June 2018
2. TFS Erection - Early July 2018
3. Soil Loadout and Backfill – Late July 2018

12.2. REPORTING

Daily Reporting

1. Daily Report – Due by 10am the following day
    a. Summary of Staff and Equipment Used
    b. Work Performed
    c. List of Pay Quantities
    d. Summary of Safety Related Issues
    e. Daily Safety Meeting Review
    f. Description of QC Testing Performed
    g. Production Rates as applicable.

h. Weight Tickets for import/export

i. Quantity of Wastewater treated and discharged w/Water Treatment Report

j. Hourly Air Discharge readings from Carbon Vessel

k. Sheet Pile as built observations.

2. Daily Site Clean Up
3. Daily Truck Logs
4. Daily SOE Monitoring
5. Daily Vibration Monitoring (During SOE Install and Removal)

Weekl y Reporting

1. CPM Schedule Updates
2. 2 Week Look Ahead Updates
3. SWPPP Inspections – Also after rain events as required.

Monthly Reporting

1. EHASP Review with Employees
2. Submission of any related health reports
3. Invoices

Appendix A

Resumes

ANTHONY (TONY) PISANELLI, CHMM

VICE PRESIDENT / PRINCIPAL IN CHARGE

Tony has 32 years of experience in leading the successful completion of complex remediation, civil, and marine construction projects. He has extensive experience in the excavation, dewatering, and management of MGP impacted soils and sediments. As Charter's Vice President, Tony provides senior-level program management and is accountable for overall project performance and client satisfaction while serving as the lead point of contact in resolving project or contract issues. Tony possesses intimate knowledge of the estimation, planning, and execution of remedial, marine, and upland civil construction projects. He remains actively involved during the construction and restoration phases of the project and works closely with the Charter Project Team.

EDUCATION

- MS, Environmental Engineering & Hydrology, University of Vermont
- BS, Biology & Environmental Science, Clark University

ACEDEMIC/ PROFESSIONAL REGISTRATIONS & TRAINING

- Certified Hazardous Materials Manager (CHMM - #12620)
- Professional Groundwater Hydrologist (PGWH - # 935)
- OSHA 40 Hr HAZWOPER Training and 8 Hr Refresher
- USACE Construction Quality Management for Contractors

SELECTED PROJECT EXPERIENCE

- Parcels 1B&4, PSE&G, Camden, NJ
- Former Pratt Oil Works Acidic Soils IRM, Waste Management, Queens, NY
- Erie Street MGP Site Remediation, AGL Resources, Elizabeth, NJ
- Beverly MGP Remedy Implementation & Facilities Consolidation, National Grid, MA
- Wynn Everett Resort, Phase I Site Remediation, Everett, MA
- 642 Allens Avenue Site Remedial Implementation, National Grid, Providence, RI
- Merrimack River Coal Tar Sediment Dredging and Capping, Eversource, Manchester, NH
- Salem Harbor MGP Dredging and Beach Capping Project, National Grid, Salem, MA
- Lower Liberty Hill MGP Soil Removal Action, Liberty Utilities, Gilford, NH
- Muddy River Sediment Dredging Project, USACE, Boston, MA

FEATURED PROJECT EXPERIENCE

ERIE STREET MGP REMEDIATION | ELIZABETH, NJ

The Erie Street former MGP site (Site) is an approximately 24-acre site located west of the intersection of Third Avenue and South Second Street in Elizabeth, New Jersey. The site is an active operational facility currently used for storage of liquefied natural gas and the control center for operations, distribution, measurement and crew dispatch. Work is being phased to prevent interruption of critical services.

EDWARD (ED) PRICE, CHST

HEALTH & SAFETY DIRECTOR

Ed is a senior manager with 30 years of construction experience and has been Charter's Health and Safety (H&S) Director for 15 years. His experience, discipline, and attention to detail have led to the quality recognition of Charter's safety program. Under Ed's leadership, Charter has achieved no lost time since 2008 and zero reportable incidents since 2009, while executing remediation of former MGP and coal tar sites, complex mass excavations, high hazard demolition, dredging, and heavy civil construction projects. Ed has a unique understanding of construction processes and safety from both the compliance and job-site perspective.

EDUCATION

- B.S., Resource Economics, University of New Hampshire

ACEDEMIC/ PROFESSIONAL REGISTRATIONS & TRAINING

- OSHA 10-hour & 30-hour Construction Safety
- Safety & Health Specialist Certificate in Construction – OSHA Training Institute
- OSHA 40-hour Hazardous Waste Operations and Emergency Response
- OSHA 8-hour HAZWOPER Refresher
- OSHA 8-hour HAZWOPER Supervisor
- OSHA #3010 Trenching, Excavation & Soil Mechanics

PROFESSIONAL BACKGROUND

- Corporate Health & Safety Director, Charter, 2002 - Present
- Operations Manager, Clean Venture, Framingham, MA, 1995 - 2002
- Technical Services Manager, Northland Environmental, Providence, RI, 1994 - 1995
- Operations Manager, Triumvirate Environmental Boston, MA, 1988 - 1993

ADDITIONAL CERTIFICATIONS

- OSHA #3110 Fall Arrests System Training
- OSHA #7405 Fall Hazard Awareness for the Construction Industry
- OSHA #7505 Intro to Accident Investigation
- OSHA #7845 Record Keeping Rule Training
- Safety & Health Specialist Certificate in Construction – OSHA Training Institute
- NCS #201 Rigging Techniques/ Inspection Course
- First Aid/CPR Training
- North Respirator Training Certification
- DOT HM 215A Haz Materials Transportation Training
- DOT 8 Hr Hazardous Waste Training
- Incident Command Emergency Response Training
- OSHA 30 Hr Construction Safety Training
- OSHA 10 Hr Construction Safety Training
- Asbestos Supervisor License: MA, RI, ME
- Exxon Mobil LPS 8 Hr Training
- MA Deleading Supervisor License
- OSHA Hazard Communication Training
- Confined Space Entry Training
- USACE Construction Quality Management for Contractors Training

KYLE MERKOSKY

PROJECT MANAGER

Kyle has 13 years of experience in the environmental remediation and heavy civil construction industry. Kyle started his career working in the field. He has successfully worked on multi-million dollar jobs as a project manager and assistant project manager. Throughout his time in the industry Kyle has been focused on managing projects to ensure the work is conducted safely and the projects are delivered on schedule, on budget, and to the client's satisfaction. As a Project Manager, Kyle serves as a key communication link between Site Superintendents, Project Engineers, the Owner and Owner's Representative. Kyle's advanced communication skills and proactive management style have directly contributed to the successful execution of the projects where he has served as a Project Engineer and Project Manager.

EDUCATION

- BS, Engineering and Management, Clarkson University

ACEDEMIC/ PROFESSIONAL REGISTRATIONS & TRAINING

- 10 Hour OSHA Occupational Safety and Health
- OSHA 40-Hour HAZWOPER
- 8 Hour HAZWOPER Supervisor Training
- USACE Contractor Quality Control Management Training
- Lane Construction's LEADER Program - 2010
- Supervisor's Safety Training Course -2010
- Principled Management Class - 2010

SELECTED PROJECT EXPERIENCE

- Relief Holder No. 3 Remediation, Eversource, Worcester, MA
- Open Tar Well Remediation Project, Eversource, Framingham, MA
- Bridge over MWRA Aqueduct Crossing, Eversource, Framingham, MA
- Camden Gas Parcel Remediation & Cap Project, Confidential Client, Camden, NJ
- Sutton Brook Superfund Site Remediation, Sutton Brook Trust, Tewksbury, MA

FEATURED PROJECT EXPERIENCE

SUTTON BROOK DISPOSAL AREA SUPERFUND SITE | TEWKSBURY, MA

This 53 acre site is a former landfill that received municipal and industrial wastes from 1957 to 1986. Sutton Brook flows east to west through the site, dividing the landfill into two lobes. Heavy civil and environmental remediation work included large-scale excavation and materials management totalling 328,000 CY, stream diversion, vertical barrier wall installation, landfill grading and capping, and 132,000 SF of wetlands restoration.

Charter

CHAD QUINN

SUPERINTENDENT

Chad has 20+ years of experience in the construction industry. He is self-motivated and has excellent communication and people skills for the organizational control of all field construction activities. Chad is experienced in the remediation both upland and waterway projects that include mass and surgical excavation that requires excavation support, waste water treatment, underground utilities, along with heavy highway, and site development. Chad began his career as a laborer and has held the positions of Foreman, Site Superintendent, Construction Manager, General Superintendent and Subcontract Coordinator. Since joining Charter, Chad has served as Site Superintendent on complex Former MGP remediation projects involving soil excavation, in-situ soil treatment, steel sheet piling, sediment dredging, impacted material handling, stabilization, odor control and off-site transportation and disposal.

EDUCATION

- Brookdale Community College

ACADEMIC/ PROFESSIONAL REGISTRATIONS & TRAINING

- OSHA 40 Hr HAZWOPER & 8 Hr Refresher
- Transportation Worker Identification Credentials
- OSHA 29 - Confined Space Rescue Training
- OSHA 8 Hr HAZWOPER Supervisor Training
- OSHA Competent Person Training
- OSHA 30 Hr Construction Safety Training
- USACE Construction Quality Management for Contractors

SELECTED PROJECT EXPERIENCE

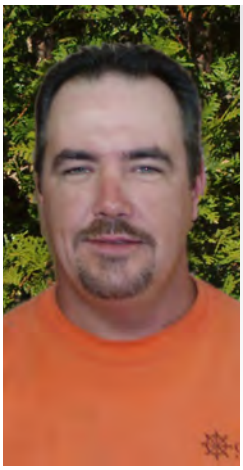
- Erie Street MGP Site Remediation, AGL Resources, Elizabeth, NJ
- Sediment Remediation, Delaware River, Former Camden Coke MGP Facility, Camden, NJ
- Parcel B Upland Former MGP Facility Remediation Project, Camden, NJ
- Belle Mead Remediation, Hillsborough, NJ
- DOT Route 35 MP 0-4 Rehabilitation Project
- New Jersey Meadowlands Landfill Project
- St. George Ferry Rehabilitation Project Staten Island NY, Demolition and Replacement of Bridge Ramps, Installation of New and Rehabilitation of Existing Drainage

FEATURED PROJECT EXPERIENCE

ERIE STREET MGP SITE REMEDIATION, AGL RESOURCES, ELIZABETH, NJ

Chad has successfully managed all field activities for this directly relevant project performed on an active MGP site. Specifically, Chad oversaw the excavation and removal of more than 100,000 tons of MGP-impacted soil, loaded and transported for thermal treatment at disposal facility. He was responsible for overseeing the safe and accurate installation of 2,720 ISS columns. Additionally, under his supervision, the team treated nearly 3 million gallons of contact water, removed and disposed concrete foundations and footings, and performed soft-dig for the location of more than 50 utilities on site.

Chad exceeded stakeholder expectation on this multi-scope project that required an intricate project sequencing in a tight work area that involved daily staging changes. He managed a field team who worked more than 56,000 hours with ZERO incidents.



TIMOTHY (TIM) BULLOCK

SITE SAFETY & HEALTH OFFICER

Tim has more than 27 years of construction experience as a Site Safety and Health Officer and a Site Superintendent on both heavy civil and environmental remediation projects. Tim has substantial experience safely and successfully completing complex heavy civil and environmental remediation and demolition projects. Tim supervises the safety aspects of field operations of Charter and subcontractor personnel on a day-to-day basis. His responsibilities include the recognition, evaluation, monitoring and abatement of hazards to people and the environment. Tim has consistently impressed Charter's clients with his open and honest communication, ability to efficiently complete difficult work tasks, and dedication to safely achieving project goals.

ACEDEMIC/ PROFESSIONAL REGISTRATIONS & TRAINING

- OSHA 10 Hr Construction Safety Training
- OSHA 30 Hr Construction Safety Training
- OSHA 40 Hr HAZWOPER Training & 8 Hr Refresher
- OSHA 8 Hr HAZWOPER Supervisor Training
- First Aid/CPR Training
- Confined Space Entrant/ Attendant Training
- 40 Hr Asbestos Contractor/ Supervisor Training
- Asbestos Supervisor's License
- USACE Construction Quality Management for Contractors

SELECTED PROJECT EXPERIENCE

- Camden Coke MGP Sediment Remediation, Camden, NJ
- Elizabeth Mine Superfund Site, Pilot Passive Treatment System Construction, S Strafford, VT
- Open Tar Well Remediation, Eversouce, Framingham, MA
- Allens Avenue Site Remedial Implementation, National Grid, Providence, RI
- Above Ground Storage Tank Removal, National Grid, Somerset, MA
- AFCEE HERC, Munitions Storage Area Construction, Andrews AFB, MD
- AFCEE, Construct Airmen Support Facility, Cape Cod Air Force Station, MA
- NAVFAC, Newport Naval Station Demolition of Fleet Cold Storage Building 42, Newport, RI
- USACE Louisville, Urban Assault Course, Fort Devens, MA
- USACE Huntsville, Lackland Airforce Base Demolition and Renovation, San Antonio, Texas

FEATURED PROJECT EXPERIENCE

CAMDEN COKE MGP SEDIMENT REMEDIATION | CAMDEN, NJ

Charter is under contract with a confidential client to perform MGP sediment remediation and shoreline reconstruction along the Delaware River in Camden, NJ. The Delaware River represents significant historical and economic importance to the region. Years of industrial activity along the riverbanks have resulted in a build up of contaminated sediment and debris requiring remediation and restoration. During this complex urban waterway project, Charter is sequencing the work to account for limited site access, on-site third party manufacturing facilities and utilities, and surrounding high-traffic roadways.

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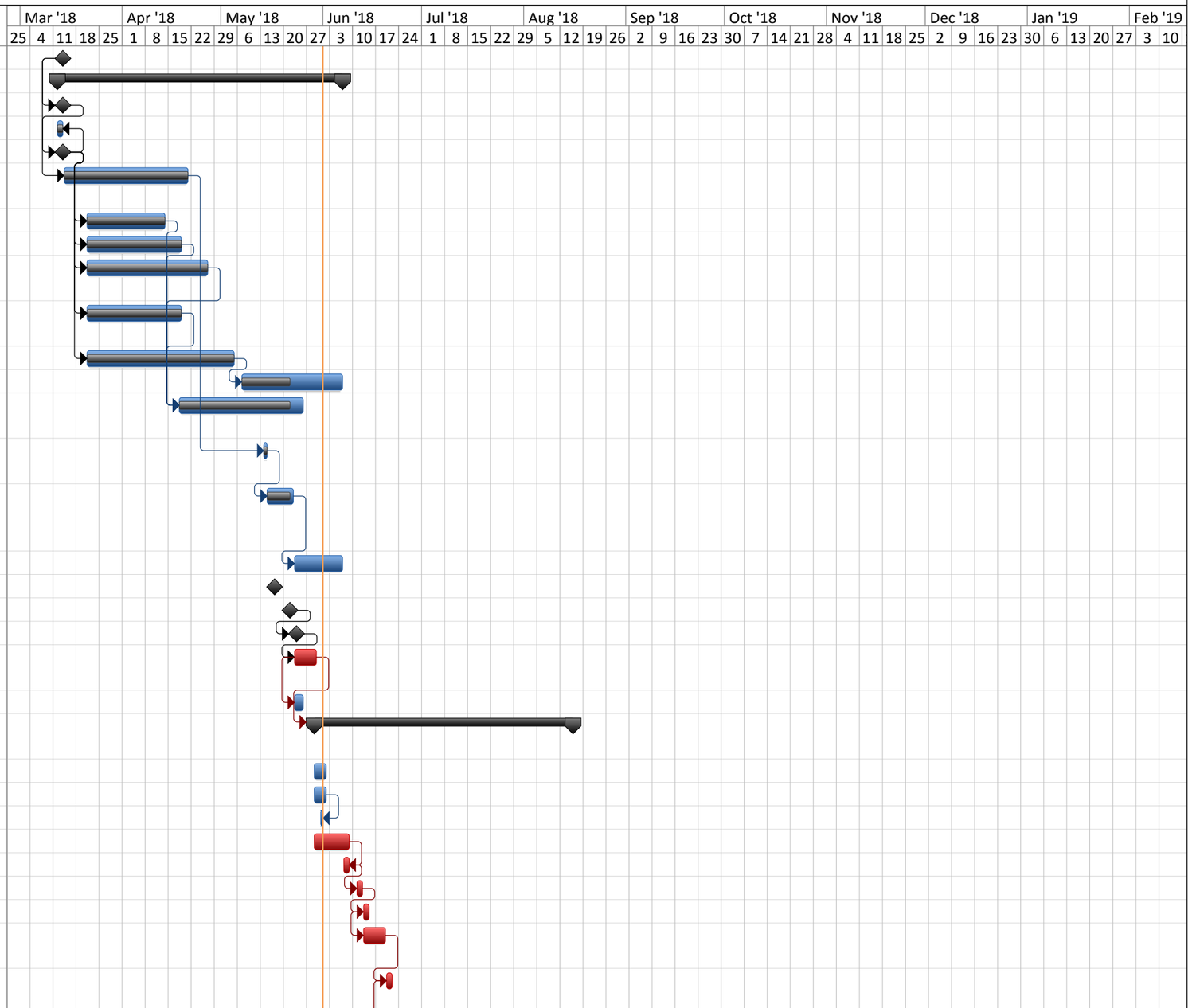
Appendix B

Project Schedule

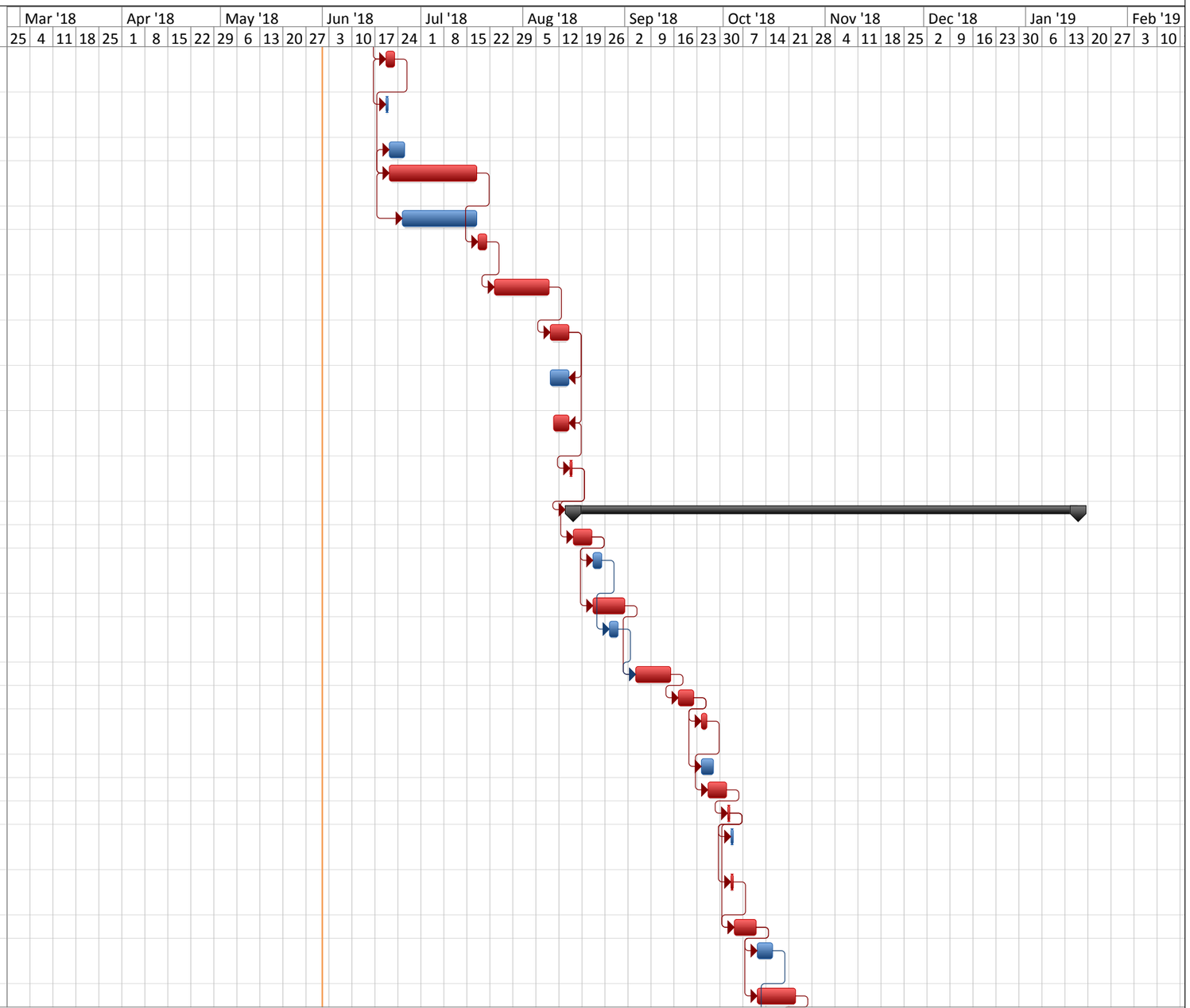
CPM Baseline Project Schedule REV02
Clove and Maple Avenues Former MGP Site OU1
Consolidated Edison - Orange & Rockland Utilities, Inc.
Haverstraw, New York

ID	Task Name	Duration	Start	Finish
1	**Task Order Award**	**0 days**	**Wed 3/14/18**	**Wed 3/14/18**
2	**Pre-construction Activities**	**62 days**	**Mon 3/12/18**	**Wed 6/6/18**
3	Notice of Award	0 days	Wed 3/14/18	Wed 3/14/18
4	Insurance	2 days	Mon 3/12/18	Tue 3/13/18
5	Notice to Proceed - Contract in Place	0 days	Wed 3/14/18	Wed 3/14/18
6	O&R - Precharacterization Data Supplied	28 days	Wed 3/14/18	Fri 4/20/18
7	Sheeting SOE Design - PE Stamped	18 days	Wed 3/21/18	Fri 4/13/18
8	TEP Submittal Preparation	21 days	Wed 3/21/18	Wed 4/18/18
9	TFS and TFS Footing Submittal - PE Stamped w/TEP	27 days	Wed 3/21/18	Thu 4/26/18
10	Water Treatment System Submittal - PE Stamped w/TEP	21 days	Wed 3/21/18	Wed 4/18/18
11	Water Discharge Permitting	33 days	Wed 3/21/18	Fri 5/4/18
12	Water Discharge Permit Approval	22 days	Mon 5/7/18	Wed 6/6/18
13	Owner/Engineer/NYDEC Submittal Review and Comment	28 days	Wed 4/18/18	Fri 5/25/18
14	Prepare and Submit Waste Stream Data to Disposal Facilities	1 day	Mon 5/14/18	Mon 5/14/18
15	Initial Data Review and Profile Review from Disposal Facilities - Including O&R Signature	6 days	Tue 5/15/18	Tue 5/22/18
16	Disposal Facility Approvals	10 days	Wed 5/23/18	Wed 6/6/18
17	EHASP Approval	0 days	Thu 5/17/18	Thu 5/17/18
18	O&R Public Meeting	0 days	Tue 5/22/18	Tue 5/22/18
19	Pre-Construction Meeting	0 days	Wed 5/23/18	Wed 5/23/18
20	Initial Site Survey, GPR and Prepare CAD Files	4 days	Wed 5/23/18	Tue 5/29/18
21	Survey of Abutting Properties	3 days	Wed 5/23/18	Fri 5/25/18
22	**Construction Activities - Site Preparation**	**55 days**	**Tue 5/29/18**	**Wed 8/15/18**
23	Mobilization	4 days	Tue 5/29/18	Fri 6/1/18
24	Site Clearing	4 days	Tue 5/29/18	Fri 6/1/18
25	Install Temp Fence and Secure Site	1 day	Thu 5/31/18	Thu 5/31/18
26	AECOM Air Monitoring	9 days	Tue 5/29/18	Fri 6/8/18
27	O&R Utility Confirmation	2 days	Thu 6/7/18	Fri 6/8/18
28	Install E&S Controls and Decon Pad	2 days	Mon 6/11/18	Tue 6/12/18
29	Grubbing of Tree Stumps	2 days	Wed 6/13/18	Thu 6/14/18
30	Site Demolition - Removal of Existing Abandoned Gas Structure and Fence	5 days	Wed 6/13/18	Tue 6/19/18
31	Leveling of Tented Fabric Structure Foundation until El. 28	2 days	Wed 6/20/18	Thu 6/21/18



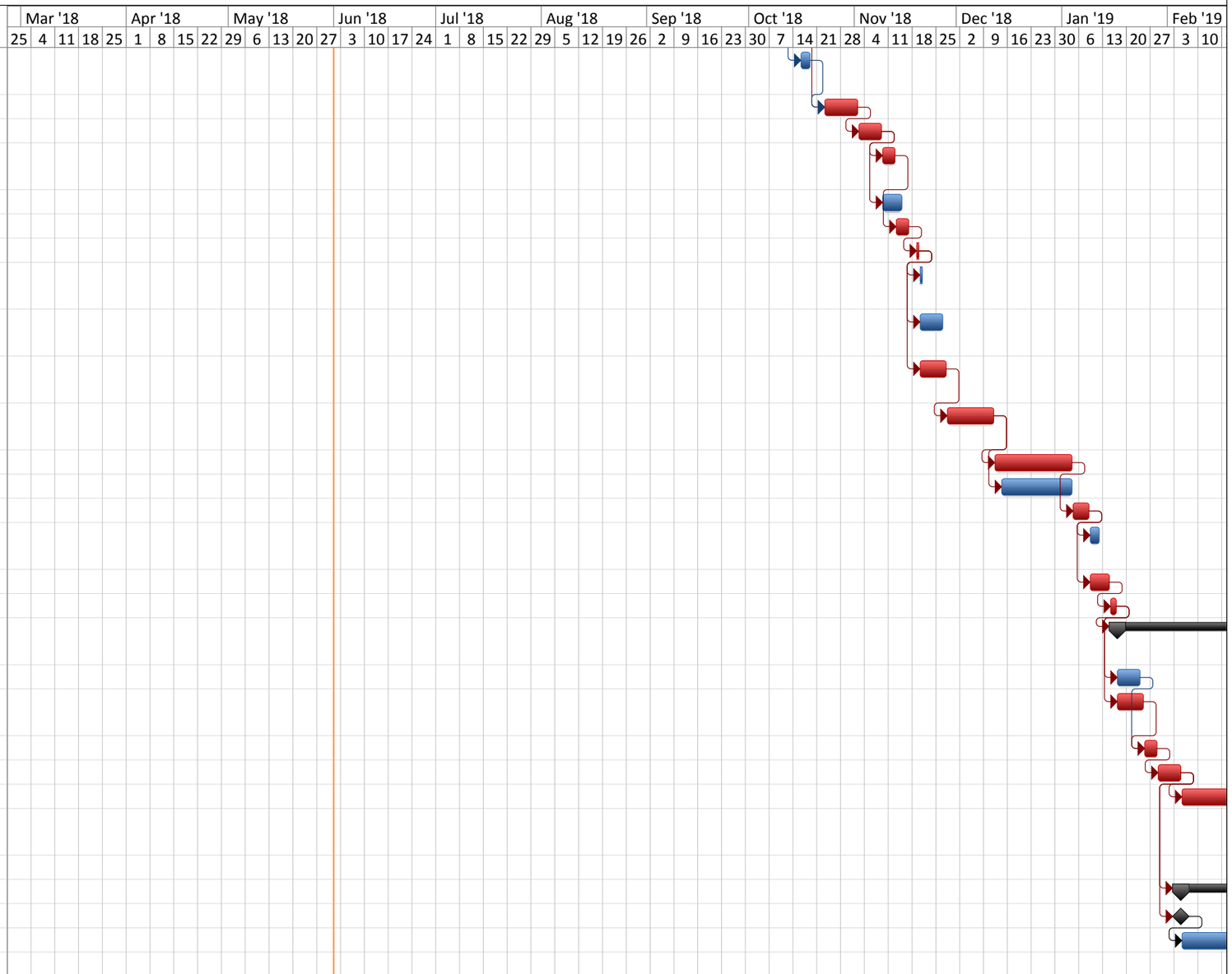
CPM Baseline Project Schedule REV02
Clove and Maple Avenues Former MGP Site OU1
Consolidated Edison - Orange & Rockland Utilities, Inc.
Haverstraw, New York

ID	Task Name	Duration	Start	Finish
32	Install Temporary Conduits, Stabilize Staging Area and Haul Roads	3 days	Wed 6/20/18	Fri 6/22/18
33	Power Drop on Maple & Deenergize OHW on Maple Ave.	1 day	Wed 6/20/18	Wed 6/20/18
34	Install Site Facilities Access Allows	3 days	Thu 6/21/18	Mon 6/25/18
35	Pre-Trenching & Sheeting SOE Setup/ Installation	17 days	Thu 6/21/18	Tue 7/17/18
36	Vibration Monitoring - Active	15 days	Mon 6/25/18	Tue 7/17/18
37	Installation of Sumps within SOE Limits - Boring	3 days	Wed 7/18/18	Fri 7/20/18
38	Installation of the Tented Fabric Structure	13 days	Mon 7/23/18	Wed 8/8/18
39	Installation of 20,000CFM Air Handling Units	4 days	Thu 8/9/18	Tue 8/14/18
40	Installation Water Treatment System & Discharge Line	4 days	Thu 8/9/18	Tue 8/14/18
41	Electrical Hook Up for Excavation Related Temporary Facilities	3 days	Fri 8/10/18	Tue 8/14/18
42	Installation of Trucking Lining Staging Area	1 day	Wed 8/15/18	Wed 8/15/18
43	**Construction Activities - Remediation**	**104 days**	**Thu 8/16/18**	**Wed 1/16/19**
44	Excavate and Loadout Phase 1 Stage 1	4 days	Thu 8/16/18	Tue 8/21/18
45	Install SOE Bracing on South Side of Phase 1	3 days	Wed 8/22/18	Fri 8/24/18
46	Excavate and Loadout Phase 1 Stage 2	8 days	Wed 8/22/18	Fri 8/31/18
47	Install SOE Bracing on North Side of Phase 1 and SOE Load Transfer Plates	3 days	Mon 8/27/18	Wed 8/29/18
48	Excavate and Loadout Phase 1 Stage 3	9 days	Tue 9/4/18	Fri 9/14/18
49	Backfill Phase 1 Stage 3	5 days	Mon 9/17/18	Fri 9/21/18
50	Remove SOE Load Transfer Plates and North Side Bracing	2 days	Mon 9/24/18	Tue 9/25/18
51	Backfill Phase 1 Stage 2	4 days	Mon 9/24/18	Thu 9/27/18
52	Remove South Side SOE Bracing	4 days	Wed 9/26/18	Mon 10/1/18
53	Backfill Phase 1 Stage 1	1 day	Tue 10/2/18	Tue 10/2/18
54	F&I Stone Barrier over Phase 1 to prevent Contamination	1 day	Wed 10/3/18	Wed 10/3/18
55	Relocate Truck Lining Staging and Soil Amendment Silo	1 day	Wed 10/3/18	Wed 10/3/18
56	Excavate and Loadout Phase 2 Stage 1	4 days	Thu 10/4/18	Wed 10/10/18
57	Install SOE Bracing on South Side of Phase 2	3 days	Thu 10/11/18	Mon 10/15/18
58	Excavate and Loadout Phase 2 Stage 2	8 days	Thu 10/11/18	Mon 10/22/18



CPM Baseline Project Schedule REV02
Clove and Maple Avenues Former MGP Site OU1
Consolidated Edison - Orange & Rockland Utilities, Inc.
Haverstraw, New York

ID	Task Name	Duration	Start	Finish
59	Install SOE Bracing on North Side of Phase 2 and SOE Load Transfer Plates	3 days	Tue 10/16/18	Thu 10/18/18
60	Excavate and Loadout Phase 2 Stage 3	8 days	Tue 10/23/18	Thu 11/1/18
61	Backfill Phase 2 Stage 3	5 days	Fri 11/2/18	Thu 11/8/18
62	Remove SOE Load Transfer Plates and North Side Bracing	2 days	Fri 11/9/18	Mon 11/12/18
63	Backfill Phase 2 Stage 2	4 days	Fri 11/9/18	Wed 11/14/18
64	Remove South Side SOE Bracing	4 days	Tue 11/13/18	Fri 11/16/18
65	Backfill Phase 2 Stage 1	1 day	Mon 11/19/18	Mon 11/19/18
66	Relocate Trucking Lining Area and Demobilize Soil Amendment Silo	1 day	Tue 11/20/18	Tue 11/20/18
67	Removal and Demobilization of the Water Treatment System	3 days	Tue 11/20/18	Mon 11/26/18
68	Removal and Demoblization of the Air Handling Units	4 days	Tue 11/20/18	Tue 11/27/18
69	Removal and Demobilization of the Tented Fabric Structure	10 days	Wed 11/28/18	Tue 12/11/18
70	Sheeting SOE Removal	15 days	Wed 12/12/18	Thu 1/3/19
71	Vibration Monitoring	13 days	Fri 12/14/18	Thu 1/3/19
72	Excavate and Loadout Swale	3 days	Fri 1/4/19	Tue 1/8/19
73	Backfill Swale Excavation - Place Rip Rap	3 days	Wed 1/9/19	Fri 1/11/19
74	Excavate and Loadout Phase 3	4 days	Wed 1/9/19	Mon 1/14/19
75	Backfill Phase 3	2 days	Tue 1/15/19	Wed 1/16/19
76	**Construction Activities - Site Improvements**	**63 days**	**Thu 1/17/19**	**Wed 4/17/19**
77	F&I Topsoil	4 days	Thu 1/17/19	Wed 1/23/19
78	Remove Temp Fence and Install Perm Fence	5 days	Thu 1/17/19	Thu 1/24/19
79	F&I Seed	2 days	Fri 1/25/19	Mon 1/28/19
80	Demobilization	5 days	Tue 1/29/19	Mon 2/4/19
81	Winter Shutdown	48 days	Tue 2/5/19	Fri 4/12/19
82	Reseed as needed/Removal of E&S Controls	1 day	Mon 4/15/19	Mon 4/15/19
83	Roadway Repair	3 days	Mon 4/15/19	Wed 4/17/19
84	**Project Close Out**	**20 days**	**Mon 2/4/19**	**Tue 3/5/19**
85	Substantial Completion	0 days	Mon 2/4/19	Mon 2/4/19
86	Close Out Documentation	20 days	Tue 2/5/19	Tue 3/5/19
87	**Final Completion**	**0 days**	**Wed 4/17/19**	**Wed 4/17/19**



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Appendix C

Temporary Fabric Structure – PE Design

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Appendix D

Air Handling Unit Construction Details

tetraSOLV FILTRATION

Liquid & Vapor Filtration
Remedial • Industrial • Municipal

Operation & Maintenance Manual

V-ISO SERIES

Tetrasolv Filtration Vapor Filters

CONTENTS

V40 ISO

1.0 GENERAL DESCRIPTION

Tetrasolv V-ISO Series Filters utilize fixed bed filtration to treat vapor. The filters employ a variety of medias to remove or catalyze contaminants. Flow through the filter may be either up flow or down flow depending upon the media supplied and the operation parameters. Generally inlet and outlet locations are indicated on the filter and or the filter drawings.

The most common application utilizes activated carbon as the adsorption media. Typically vapor which contains low levels of organic contaminants flows upward through the column of activated carbon where the larger organic molecules adhere to the porous structure of the activated carbon granules. This adsorption begins at the bottom of the "bed" and continues upward as the original adsorptive area becomes saturated.

Complete saturation of the carbon is dependent upon many factors such as contaminant levels, temperature, compounds being adsorbed, humidity, etc. Typically a carbon usage calculation has been run on the influent stream to determine the expected rate of consumption of the activated carbon media. When monitoring has determined discharge air no longer meets discharge requirements the carbon will have to be removed and replaced.

The V-ISO comes in (2) configurations:

1) Integral - Unitized unit consisting of media bed, particulate filter and blower and controls.
2) Modular - Components are separate

2.0 SAFETY CONSIDERATIONS

It is important that the entire O&M manual be read prior to set up and operation of the carbon system. If you have any questions please contact Tetrasolv Filtration at the number listed below or support@tetrasolv.com.

- ***WARNING: Where system pressure may exceed design pressure we strongly recommend the use of a relief device. Exceeding the maximum pressure of the filter could result in catastrophic failure of the vessel.***

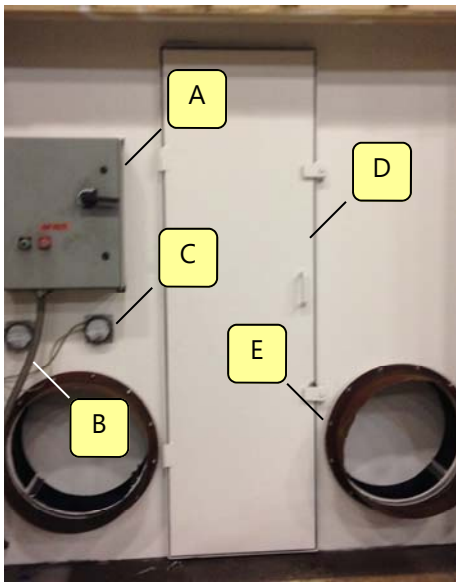
- Always adhere to "lockout/tagout" procedures when servicing the system.

- Wear appropriate safety equipment when operating system.

- ***WARNING: Wet or dry activated carbon preferentially removes oxygen from air. In closed or partially closed containers, oxygen depletion may reach hazardous levels. If workers must enter a container containing carbon, appropriate sampling and work procedures should be followed for potentially low-oxygen spaces - including all applicable federal and state requirements.***

- ***WARNING: High concentrations of certain compounds such as BETX and low concentrations such as ketones, aldehydes, organic acids and sulphur may cause severe temperature rises.***

- Understand the potential hazards of the stream being treated by the system. The activated carbon may contain higher concentrations of the contaminants being adsorbed than is in the influent stream. In addition the carbon may be considered hazardous material and therefore may require specific handling precautions unknown to Tetrasolv Filtration.



V20 & V40 ISO ACCESS

3.0 INSTALLATION

3.1 Shipment

Typically filters are shipped with media installed. However, in certain instances media is shipped to the site to be installed after installation. In very large systems it may be advisable to not install the media until adsorbers have been placed into final position and secured.

3.2 Unloading

Refer to the product data sheet for weight information for appropriate sizing information for the equipment to be used.

All components should be lifted either by crane or forklift as designated by the model.

- ***WARNING: Failure to follow the procedures outlined below can result in catastrophic damage to the system.***

Crane Lift - If a crane lift is to be used we recommend the following method. A "spreader" equaling 75% of the distance between the opposing lifting eyes on each adsorber should be used to insure proper lifting force direction. Attach an appropriately sized spreader beam and lifting cables to each lift eye of the component. The use of an experienced crane operator and quality equipment is highly recommended.

Fork-Lift - ISO Containers have fork pockets designed for specialized forklifts designed to pick ISO containers. Only forklifts designed for these types should be used.

Component

A - Control Panel
B - Particulate Filter DP Indicator
C - Media Bed DP Indicator
D - Particulate Filter and Blower Access
E - Inlet Connectors

3.3 Inspection

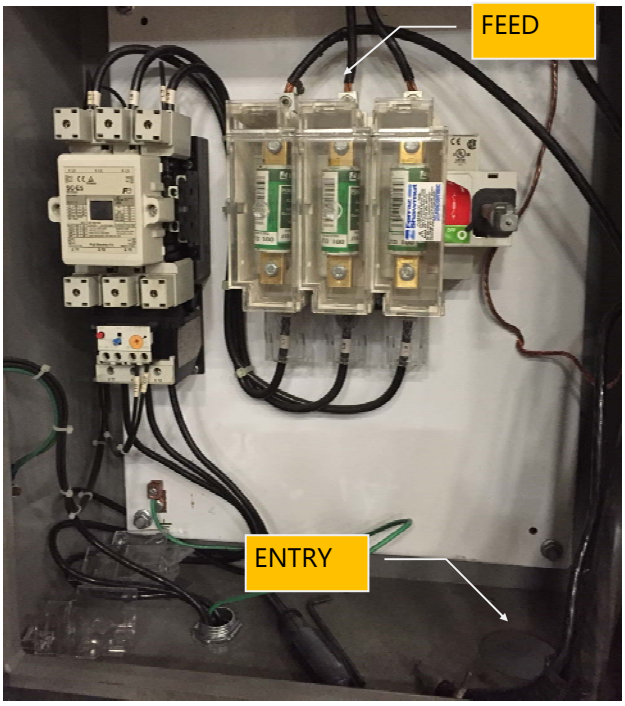
Perform the following inspections after un-loading the system. Note any discrepancies and contact TetraSolv immediately.

- Check the vessel exterior for damage which may have occurred during shipment. Inspect the support structures and piping support for damage.
- Inspect the piping system for damage. Insure the valves operate properly. Check installed instruments and instrument installation points for damage.
- If the filters are shipped without carbon visually inspect the interior of the vessel for damaged internals.
- Inspect the carbon discharge, drain and vent valves for damage

BED ACCESS AND VENT IN TRANSPORT POSITION

3.4 Set Up

The filter should be placed on a level concrete pad of appropriate thickness to support the system at it's maximum operational weight.



CONTROL PANEL INTERIOR

Open and secure the access doors to the unit. Connect the ducting and electrical.

INTEGRAL DESIGN & MODULAR DESIGN

Connect the electrical to the control panel. After connection the unit should be powered up and rotation checked. Rotation is checked by turning the blower on for 1 second. Check that air is flowing into the units at the duct inlet. If flow is not correct reverse any two of the feed units and test again.

WARNING: Electrical hazards exist in and around the panel area may include electrocution and arc-flash hazards. Use lock out / tag out precautions whenever accessing the interior of the panel.

WARNING: Electrical Connection and Testing should only be performed by a qualified electrician.

ALL MODELS

Connect the inlet connection to the vapor source using flexible hose. As the hose is under vacuum the use of duct tape or hose clamps is acceptable. Leaking on the suction side is generally acceptable for most installations

do to the high flow rate of the system.

EXHAUST CONFIGURATION

When the system arrives at the site the bed access / vent openings will be secured for transit. To place the units into operational mode remove the (2) securing bolts. Fully open the access hatch and swing the (2) hatch support posts into position and reinstall the securing bolts.

♦***WARNING: Only transport the system with the manway / vent access hatch in the transport position.***

Flowrates greater than 0 cfm / sq ft can produce bed fluidization in vapor phase filters. When this occurs carbon granules can be lifted and propelled out of the carbon bed in up-flow applications. In extreme cases large amounts of carbon can be expelled. If the system will be operating near or greater than the amount stated above please contact Tetrasolv for recommendations.

Carbon filters can be manifold in parallel operation for higher flowrates.

Vapor conditions such as high humidity and high temperature (> 125º F) can cause inefficient adsorbtion to occur. If these conditions exist contact Tetrasolv for support. Also, any free water or product and debris should be eliminated with a knockout filter prior to the vapor stream entering the system. Many other vapor issues may effect Adsorber operation and we therefore

VENT HATCH IN OPERATIONAL POSITION

recommend you discuss your specific installation with a representative.

4.0 OPERATION

Adsorber units only require periodic monitoring ifproperly installed. The following items may be monitored:

Pressure: Check inlet and outlet pressure. Increase in pressure differential may indicate media breakdown or presence of high moisture. Rapid increase in pressure drop could indicate adsorber failure.

Samples: Inlet and outlet sample points if provided for vapor analysis to determine system performance.

5.0 MEDIA REPLACEMENT

ADSORBENT MEDIA REPLACEMENT

Media replacement should be performed by trained service personnel regularly engaged in filtration service. The V-ISO Series is performed by vacuum extraction. Refill of the unit is accomplished with dry fill method from bulk sacks. To fill remove the securing hatches from the vent and fully open the hatch. After completion place return the hatch to operational configuration.

PARTICULATE FILTER MEDIA REPLACEMENT

Particulate filter media replacement is located inside the structure or the blower box through the blower access door. (2) bolts se-cure the door closed. The filter media should be replaced when the differential pressure exceeds 1” W.C. over the initial reading. The filter media is secured to the media support wall with pin and cotter clips. Remove the cotter pin and washer and remove the media. Trim the replace-ment media to length and reinstall.

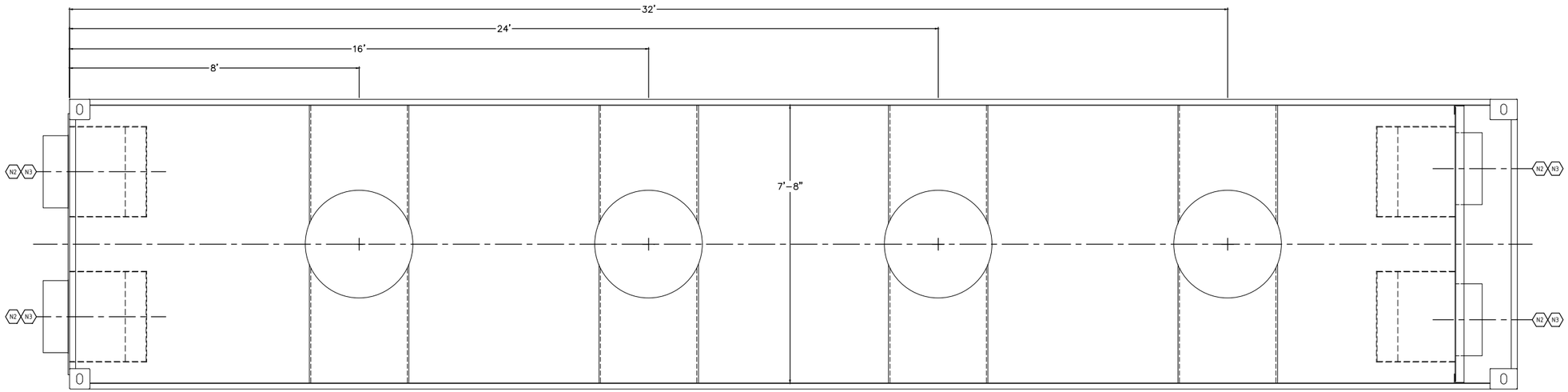
6.0 MAINTENANCE

6.1 Extended Shutdown

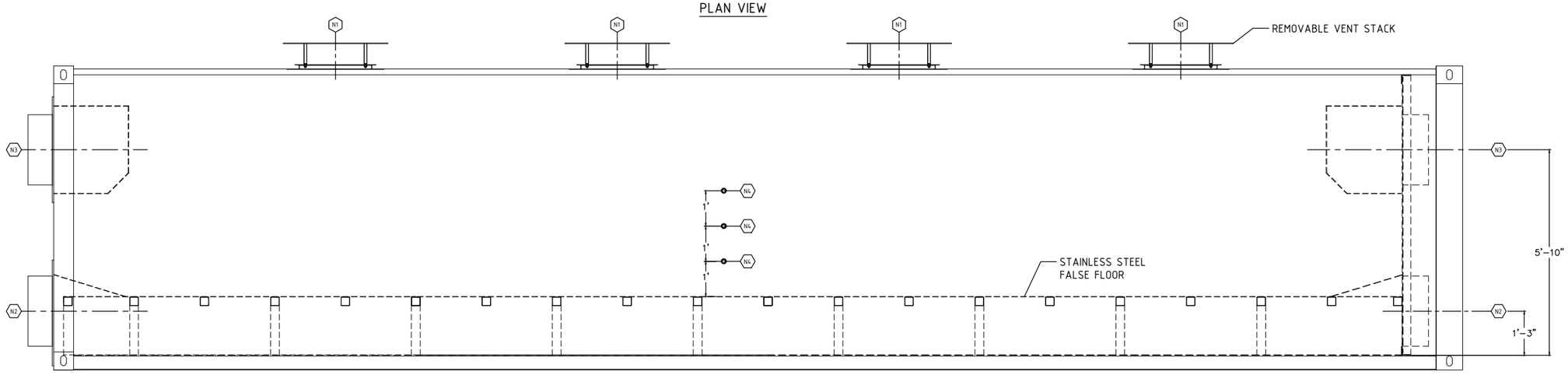
Monitor the system closely after extended shutdown for signs of potential problems such as interior false floor failure, all electrical and duct connections.

NOZZLE SCHEDULE OF OPENINGS

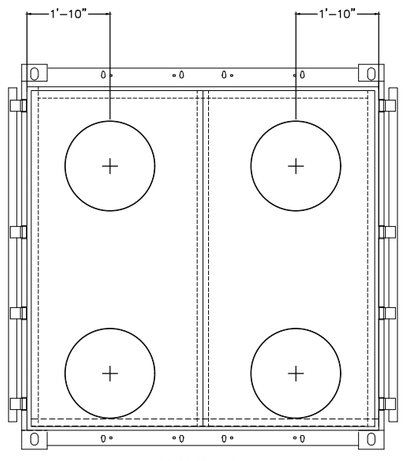
Mark	Size	Rating	Type	Qty	Nozzle Description / or Service
N1	24"	n/a	ANGLE RING	4	TANK ACCESS/VENT STACK w/ SCREEN
N2	24"	n/a	ROLLED PLATE	4	PROCESS INFLUENT
N3	24"	n/a	ROLLED PLATE	4	PROCESS EFFLUENT
N4	1"	3000#	COUPLING	3	SAMPLE PORT w/ BALL VALVE



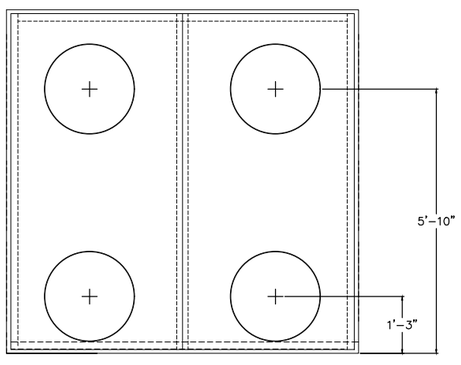
PLAN VIEW



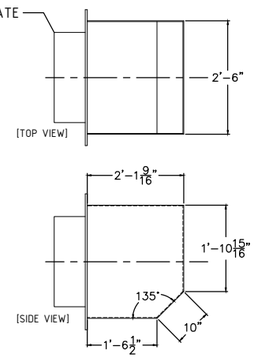
SIDE ELEVATION



FRONT VIEW



REAR VIEW



OUTLET DETAIL

VESSEL DESIGN DATA

Vessel Registration	NOT APPLICABLE	Year Built	2016
Vessel Construction	NOT APPLICABLE	Vessel Serial Number	UNKNOWN
Internal Design Pressure	1 PSIG	Sectional Bed Area	135 FT3
Internal Design Temperature	210 Deg. F.	Bed Depth at Rated Fill	63" (Assumes GAC @ 28lbs/FT3)
External Design Pressure	ATMOSPHERIC	Capacity (Volume)	1513 ft3 each
Operating Pressure	NOT APPLICABLE	Internal Design Pressure	1 PSIG
Operating Temperature	NOT APPLICABLE	Internal Design Temperature	210 Deg. F.
Min. Design Metal Temp.	NOT APPLICABLE	Shipping Weight (Empty)	8,500 LBS
MAWP (New & Cold)	NOT APPLICABLE	Operational Weight	48,500 LBS (W/ 40,000 LBS GAC)
MAWP (Hot & Corroded)	NOT APPLICABLE	Gaskets	Access: EPDM (Ring) Piping: Red Rubber (Full Face)
Hydrostatic Test Pressure	NOT APPLICABLE	Studs and Nuts	SA-193-B7 / SA-194-2H
Corrosion Allowance	NONE	Surface Prep.	Internal: SSPC-SP10, External: SSPC-SP10
Radiography	NONE	Internal Coating	Hempel Hempadure Phenolic Epoxy
Post Weld Heat Treat	NOT APPLICABLE	External Primer	Hempel Hempadure Phenolic Epoxy
Material Impact Tests	NOT APPLICABLE	External Paint or Coating	Hempel Hempadure Phenolic Epoxy
Material Hardness	NOT APPLICABLE	Insulation (type & thickness)	NOT APPLICABLE

tetraSOLV FILTRATION

REV	DESCRIPTION of CHANGE	DWN	CHK	APP	DATE
3	updated vent, added in/out	SDB	CK	-	4/17/18
2	pushed outlets back to rear wall, added flanges, updated BOM	SDB	CK	-	8/21/17
1	changed BOM to reflect shop changes	DS	DS	-	3/13/17

PROJECT: -

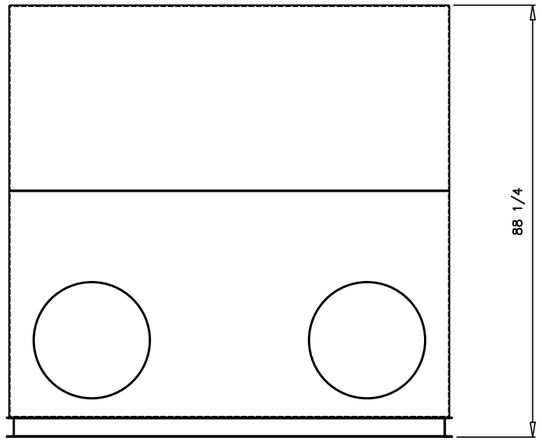
40,000 LB CARBON CAPACITY VAPOR ABSORBER
TETRASOLV MODEL V40-ISO ABSORBER

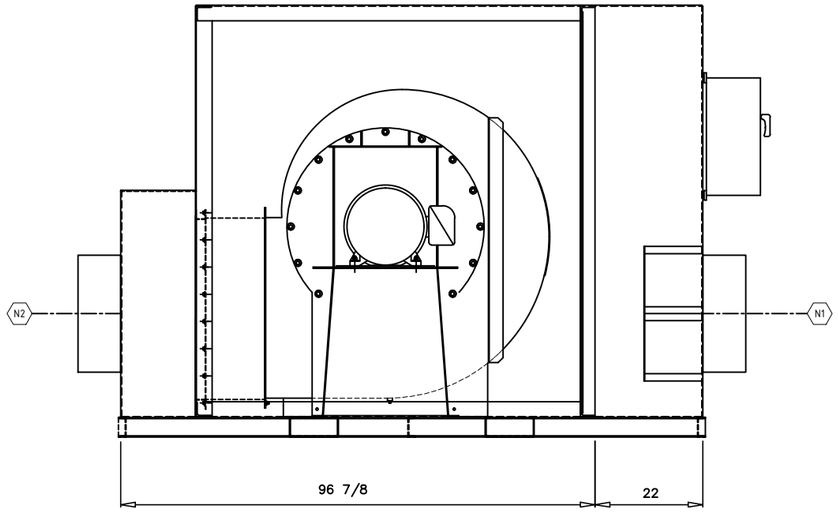
CUSTOMER / END USER: STANDARD

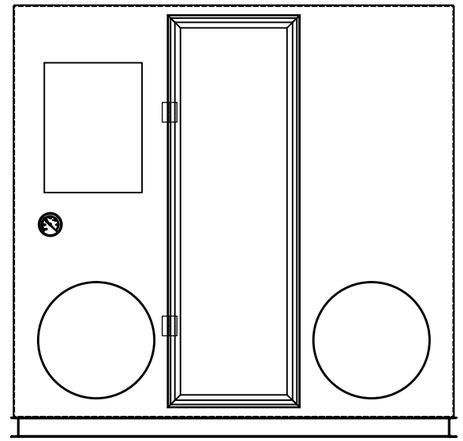
DRAWING TITLE: GENERAL ASSEMBLY PLAN VIEW

JOB #:	-	TAG #:	-	CUST PO:	UNKNOWN
DWN BY:	DS (TF)	DATE:	OCT 17/16	Qty Reqd:	ONE
CHK BY:	DS (TF)	DATE:	OCT 17/16	SCALE:	NTS
APP BY:	DD (TF)	DATE:	OCT 17/16	DWG #:	V40

REV: 3







NOZZLE SCHEDULE OF OPENINGS					
Mark	Size	Rating	Type	Qty	Nozzle Description / or Service
N1	24"	n/a	-	2	INLET/HOSE ADAPTER
N2	24"	n/a	-	2	OUTLET/HOSE ADAPTER

tetraSOLV FILTRATION

REV	DESCRIPTION of CHANGE	DWN	CHK	APP	DATE
-	-	-	-	-	-

PROJECT:
BLOWER CONTAINER
VAPOR BOX BLOWER
TETRASOLV MODEL V40-BLOWER

CUSTOMER: / END USER: TO BE DETERMINED

DRAWING TITLE: GENERAL ASSEMBLY PLAN VIEW

JOB #: -	TAG #: -	CUST PO: UNKNOWN			
DWN BY: DS (TF)	DATE: OCT 17/16	Qty Reqd: ONE			
CHK BY: DS (TF)	DATE: OCT 17/16	SCALE: NTS			
APP BY: DD (TF)	DATE: OCT 17/16	DWG #: V40-BL	REV: 0		

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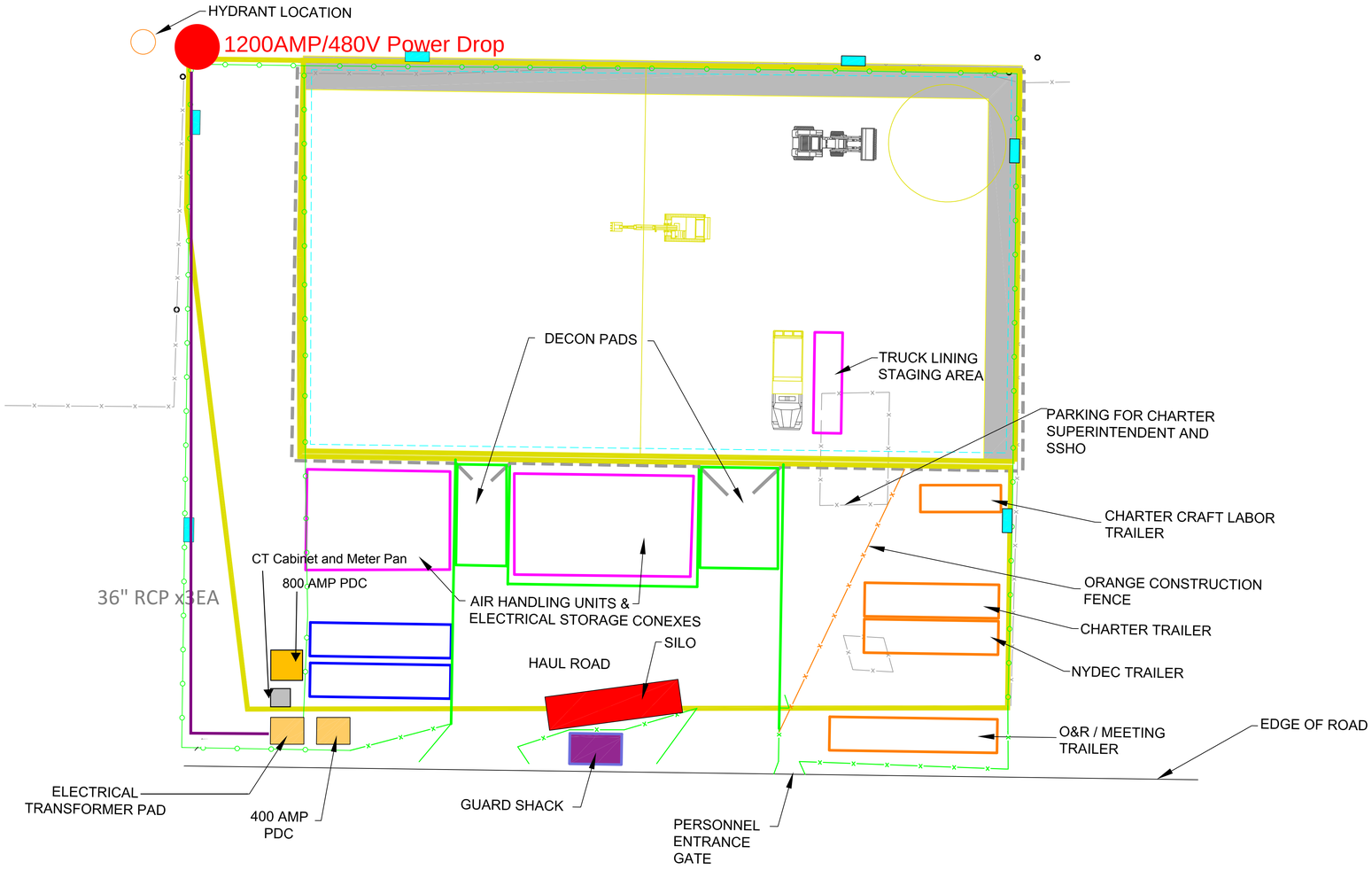
Appendix E

Excavation Phasing / Site Layout



NOTE: DECON PAD FOR SHALLOW EXCAVATION TO BE PLACED AT SITE ENTRANCE DURING PHASE 3

- APPROXIMATE LOCATION OF EARTH RETENTION SYSTEM
- PROPERTY LINE (SURVEY)
- PROPERTY LINE (2015 TAX MAP)
- EXISTING FENCE
- TEMPORARY CONSTRUCTION FENCE
- SILT FENCE
- OVERHEAD ELECTRIC
- UNDERGROUND ELECTRIC
- GAS
- STORM SEWER
- WATER
- MANHOLE
- CATCH BASIN
- GAS UTILITY PIPE
- GAS VALV E
- HYDRANT
- WATER VALVE
- ELECTRICAL BOX
- UTILITY POLE
- EXCAVATION LIMITS
- APPROXIMATE LOCATION OF TEMPORARY FABRIC STRUCTURE
- APPROXIMATE LOCATION OF FIELD OFFICES
- APPROXIMATE LOCATION OF WATER TREATMENT SYSTEM
- APPROXIMATE LOCATION OF AIR MONITORING STATIONS
- APPROXIMATE LOCATION OF AIR HANDLING UNITS (5)
- TRANSFORMER PAD
- APPROXIMATE LOCATION OF TEMPORARY ELECTRICAL CONDUIT
- APPROXIMATE LOCATION OF GUARD SHACK
- APPROXIMATE LOCATION OF TEMPORARY POWER SUPPLY DROP

N

0 20 40

SCALE IN FEET

Site Facilities Plan

REMEDIAL ACTION AT OPERABLE UNIT NO. 1
HAVERSTRAW CLOVE AND MAPLE AVENUES FORMER MGP SITE

SCALE: 1"=20' APRIL 9, 2018

Charter
500 HARRISON AVE.
BOSTON, MA 02118
857.246.6800

PROJECT #: 2-1671
DRAWN BY: MGS
APPROVED BY:

DATE	REVISIONS
4/18/2018	REV01
5/22/2018	REV02

STAGE–1 EXCAVATION AREA

STAGE–2 EXCAVATION AREA

DESIGN SECTION–B
23 SHEET PILE PAIRS = 105'–10"±

DESIGN SECTION–B
23 SHEET PILE PAIRS = 105'–10"±

3'–0" OFFSET FROM ℄ TO REAR F.O. SHEET

PROPERTY LINE

33'–0" | 16'–3"± CANT. | 16'–3"± CANT. | 33'–0"

WALE BREAK

W36x150 STEEL WALE (GR. 50) [ALONG NORTH SOE WALL ONLY]

W36x232 STEEL WALE (GR. 50, TYP., U.N.O.)

24"ø x 0.50 THICK STEEL PIPE CORNER BRACE (A252 GR. 3, TYP., U.N.O.)

46'–8"±

90° | 45°

B ES1 ES3

D ES1 ES4

C ES1 ES4

F ES1 ES5

E ES1 ES5

(TYP.) 7 — ES10

(TYP.) 3 — ES9

(TYP.) 5 — ES9

PHASE 1

PHASE 2

PHASE 3 - EVERYTHING OUTSIDE SOE

BOE EL. VARIES (BOE GRADING & SOIL BERMS TO REMAIN IN FRONT OF SOE WALLS AS SHOWN ON THIS DRAWING, PER CONTRACT)

8'–0"± WALE OVERLAP @ BRACING ELEVATION CHANGE

8'–0"± WALE OVERLAP @ BRACING ELEVATION CHANGE

DESIGN SECTION–C
10 SHEET PILE PAIRS = 45'–11"±
33'–0"
25'–5"± CANT.

DESIGN SECTION–D
10 SHEET PILE PAIRS = 45'–11"±
33'–0"
25'–5"± CANT.

DESIGN SECTION–A
5 SHEET PILE PAIRS = 23'–0"±
33'–0"

DESIGN SECTION–F
11 SHEET PILE PAIRS = 50'–6"±
33'–0"
25'–5"± CANT.

DESIGN SECTION–E
9 SHEET PILE PAIRS = 41'–4"±
33'–0"
25'–5"± CANT.

DESIGN SECTION–A
5 SHEET PILE PAIRS = 23'–0"±
33'–0"

DESIGN SECTION–D
11 SHEET PILE PAIRS = 50'–6"±

DESIGN SECTION–A
14 SHEET PILE PAIRS = 64'–4"±

PROPERTY LINE

DESIGN SECTION–A
23 SHEET PILE PAIRS = 105'–10"±

DESIGN SECTION–A
23 SHEET PILE PAIRS = 105'–10"±

AZ 19–700 (OR ZZ 19–700) STEEL SHEETPILES (GR. 60, TYP., MIN. Sx=34.8 IN^3/FT; MIN. Ix=288.4 IN^4/FT; OR GREATER)

G ES1 ES6 | A ES1 ES3 | 1 — ES9 (TYP.) | I ES1 ES8

LIMITS OF PROPOSED TENT STRUCTURE (SHOWN SCHEMATICALLY, V.I.F.)

DRAINAGE SWALE

S 58°34'00" W 200'

S 31°26'00" W

146 MAPLE AVE LOT 10

0 5' 10' 20' 30'
SCALE: 1" = 10'-0"

TEMPORARY SUPPORT OF EXCAVATION PLAN – STAGE 1

SCALE: 1" = 10'–0"

NO.	ISSUE/DESCRIPTION	BY	DATE

REMEDIAL CONSTRUCTION - CLOVE AND MAPLE AVENUES
FORMER MGP SITE, OPERABLE UNIT 1
HAVERSTRAW, NEW YORK

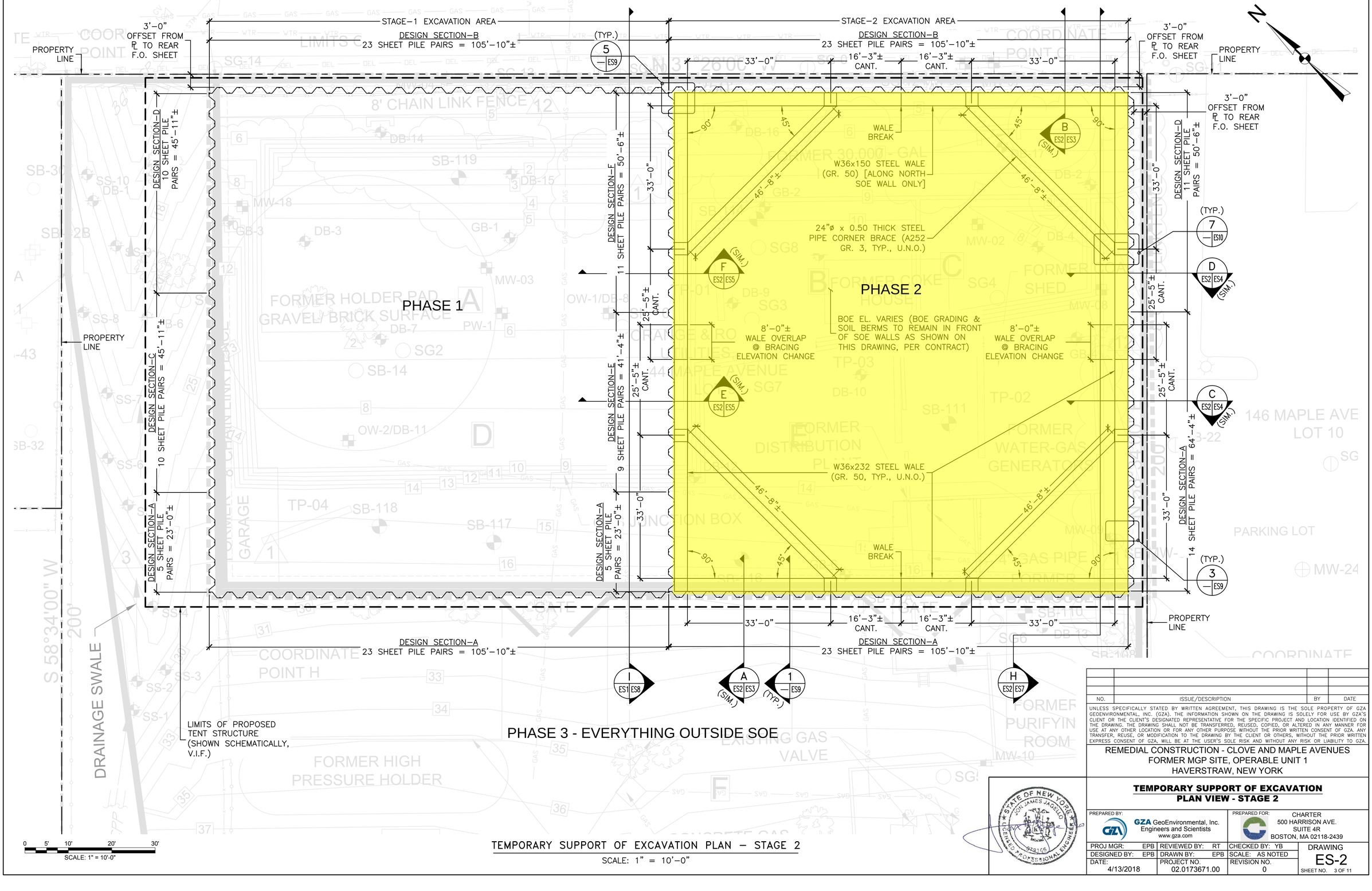
TEMPORARY SUPPORT OF EXCAVATION
PLAN VIEW - STAGE 1

PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

PREPARED FOR:
CHARTER
500 HARRISON AVE.
SUITE 4R
BOSTON, MA 02118-2439

STATE OF NEW YORK · JON JAMES JAGIELLO · 093155 · LICENSED PROFESSIONAL ENGINEER

PROJ MGR: EPB	REVIEWED BY: RT	CHECKED BY: YB	DRAWING ES-1
DESIGNED BY: EPB	DRAWN BY: EPB	SCALE: AS NOTED	
DATE: 4/13/2018	PROJECT NO. 02.0173671.00	REVISION NO. 0	SHEET NO. 2 OF 11



TEMPORARY SUPPORT OF EXCAVATION PLAN – STAGE 2

SCALE: 1" = 10'–0"

NO.	ISSUE/DESCRIPTION	BY	DATE

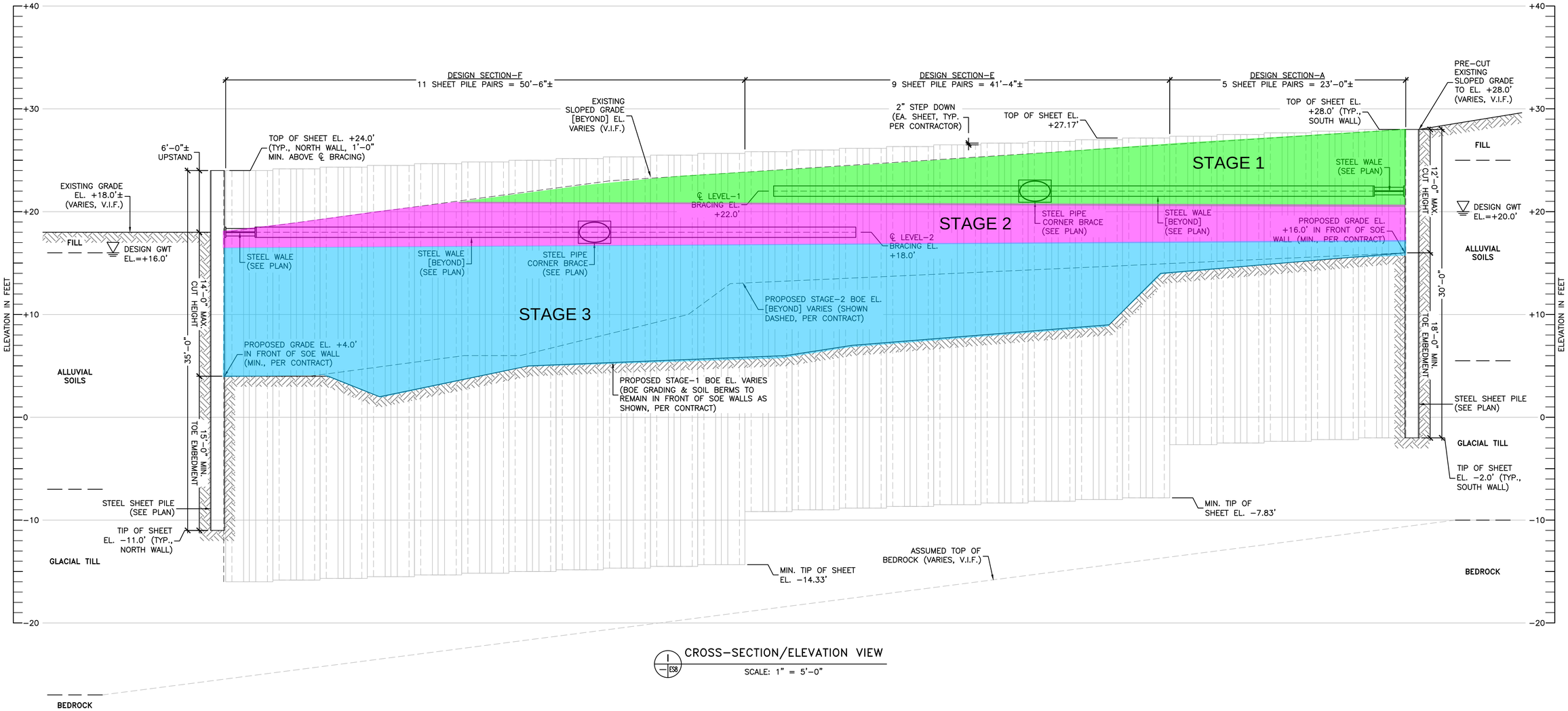
REMEDIAL CONSTRUCTION - CLOVE AND MAPLE AVENUES
FORMER MGP SITE, OPERABLE UNIT 1
HAVERSTRAW, NEW YORK

TEMPORARY SUPPORT OF EXCAVATION
PLAN VIEW - STAGE 2

PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com

PREPARED FOR: CHARTER 500 HARRISON AVE. SUITE 4R BOSTON, MA 02118-2439

PROJ MGR: EPB	REVIEWED BY: RT	CHECKED BY: YB	DRAWING
DESIGNED BY: EPB	DRAWN BY: EPB	SCALE: AS NOTED	ES-2
DATE: 4/13/2018	PROJECT NO. 02.0173671.00	REVISION NO. 0	SHEET NO. 3 OF 11



CROSS–SECTION/ELEVATION VIEW
SCALE: 1" = 5'–0"

0 2.5' 5' 10' 15'
SCALE: 1" = 5'-0"

NO.	ISSUE/DESCRIPTION	BY	DATE

REMEDIAL CONSTRUCTION - CLOVE AND MAPLE AVENUES
FORMER MGP SITE, OPERABLE UNIT 1
HAVERSTRAW, NEW YORK

TEMPORARY SUPPORT OF EXCAVATION
CROSS-SECTION/ELEVATION VIEW

PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

PREPARED FOR:
CHARTER
500 HARRISON AVE.
SUITE 4R
BOSTON, MA 02118-2439

PROJ MGR: EPB	REVIEWED BY: RT	CHECKED BY: YB	DRAWING ES-8
DESIGNED BY: EPB	DRAWN BY: EPB	SCALE: AS NOTED	
DATE: 4/13/2018	PROJECT NO. 02.0173671.00	REVISION NO. 0	SHEET NO. 9 OF 11

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Appendix F

Horizontal Bulk Storage Silo

LSC

ENVIRONMENTAL
PRODUCTS, LLC

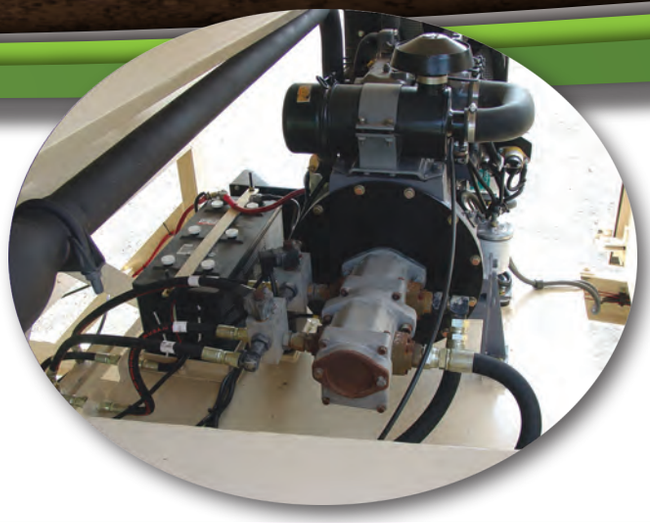
Horizontal Storage Silo
Model # HS 50T

The storage option ready-made with your facility in mind.

Compare the standard features of our portable HS 50T Horizontal Storage Silo to other bulk transfer units.

Diesel Power Unit

The HS 50T is powered with a diesel engine which allows for the unit to be moved within the landfill without the need for outside electrical power.



Hydraulic System

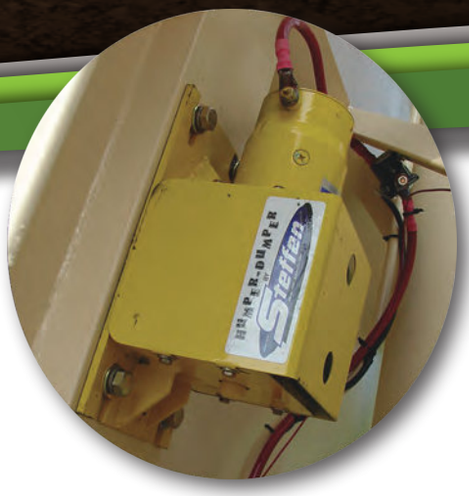
Rugged Sunstrand Pumps, Danfoss Motors, high quality components, and hoses are used to power the horizontal and diagonal augers on the HS 50T. Augers turn at 240 RPM, delivering about one ton of Portland Cement per minute into the Posi-Shell Applicator.

Baghouse Vibrator

The baghouse dust collection system comes with a 12-volt vibrator which is accessible at the engine area. This vibrator is used to clean the filtration bags and is activated with the simple push of a button.

Dust-Free System

The HS 50T includes four closure points on the baghouse dust collector and three on the product inspection hatch for dust-free transfer of product from pneumatic tankers.

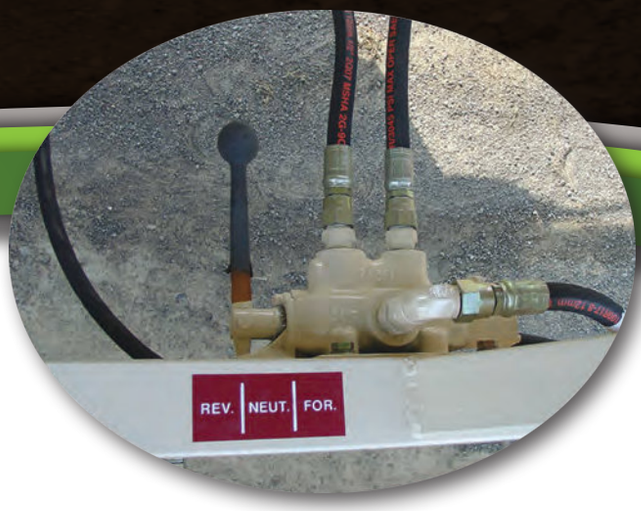


Bin Vibrator

The HS 50T is supplied with a Bin Vibrator which is used to move product toward discharge augers when product level is low in bin. Without this vibrator, fast and efficient offloading is impossible.

Electronic Scale

An electronic scale with digital display is supplied with the unit. Scale is used to accurately meter bulk cement product into the slurry mixture and is also useful in determining when product is to be ordered.



Reversible Augers

The horizontal and diagonal augers are supplied with individual hydraulic directional control valves which allow operator to easily run in reverse when necessary.

Heavy Duty Discharge Hose

A 10" heavy duty discharge hose is provided with double clamps to ensure that it stays securely in place while dispensing product.

Horizontal Storage Silo
Model # HS 50T

Specifications

STANDARD ITEMS

Width / Height / Overall Length:
8'6"/13'4"/36'

Empty Weight / Full Weight:
18,000 lbs./118,000 lbs.
(50 Ton Capacity)

Engine:
Perkins or Kubota 32-35 HP Diesel @ 3,000 RPM
Water Cooled
Air Cleaner w/ Service Indicator

Fuel Capacity:
52 Gallons

Electrical:
12 Volt/105 AMP Electrical Ignition
4D Heavy Duty Battery

Hydraulic System:
Open Loop Gear Drive
Sauer Sunstrand SNP 3 Double Gear Pump
Danfoss OMS 250 Motors
Filtration: Supply/Return
Tank Capacity: 28 Gallons
15W40

Discharge Augers:
7" Horizontal Auger, 9" Diagonal Auger
1 Ton per Minute @ 250 RPM

Inspection Hatch:
30" Inspection Hatch
3 Closure Points for Dust-Free Seal
1- 3' 4" Fully Guarded Ladder

Baghouse Filtration System:
Provides Dust-Free Transfer from Pneumatic Tanker
4 Closure Points for Dust-Free Seal
Removable, Replaceable Filtration Bags
Electric Vibrator for Easy Cleaning

Product Bin Vibrator:
12 Volt Vibrator to Speed Product Discharge

Operator Controls:
Electrically Activated Switches for:
Horizontal Auger
Diagonal Auger
Product Bin Vibrator
Accessible From Deck of Application Unit

Tires:
Pneumatic

Type of Drawbar:
Goose Neck/5th Wheel

OPTIONAL ITEMS

Electronic Scale:
Emery Winslow Digital Load Cell & Scale System
Accurately Meters Powdered Products
Useful For Batching and Product Inventory

Horizontal silo loading powdered product into a Posi-Shell Applicator.

2183 Pennsylvania Ave. • Apalachin, NY 13732 • Phone: 800.800.7671
www.lscenv.com

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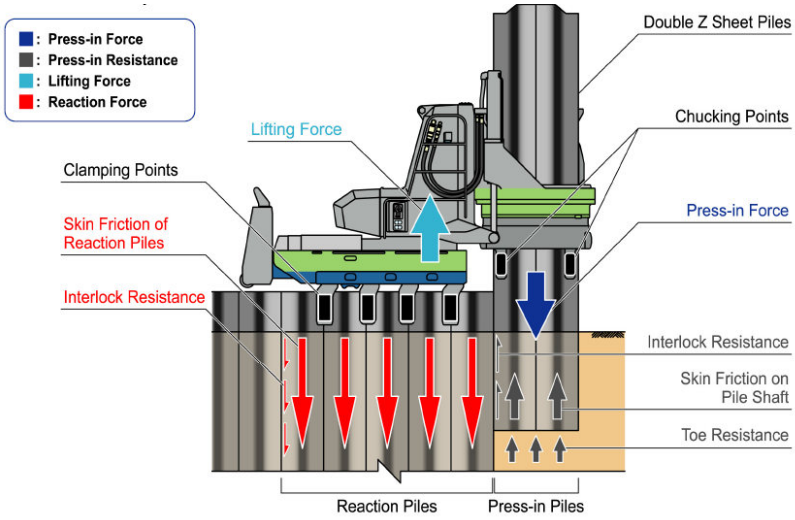
Appendix G

Giken Silent Piler

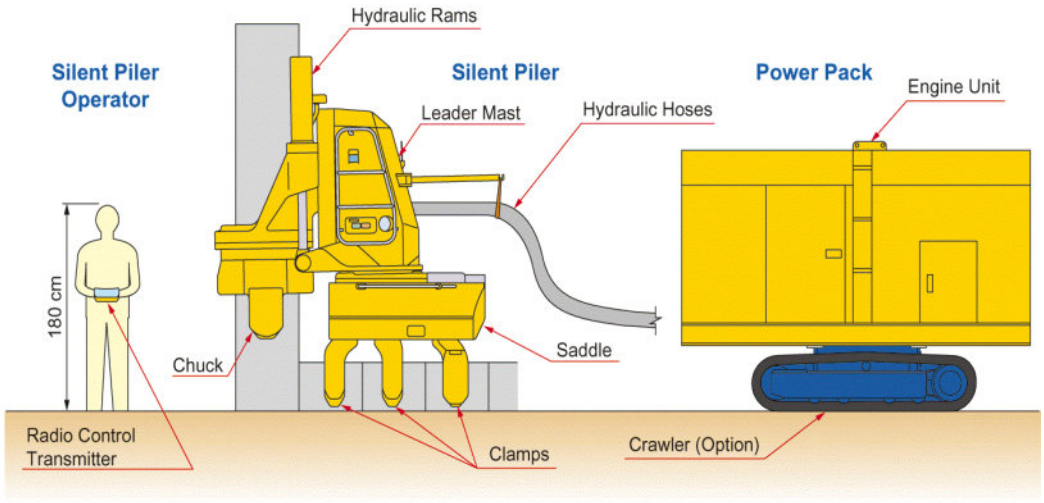
The Press-In Principle



Conventionally, prefabricated piles have been pounded or vibrated into the ground. Such methods inevitably generate excessive noise and vibration because of their reliance on percussive or vibratory energy. Giken has developed the reaction-based press-in machine, the Silent Piler and established the Press-in Method based on the principle of non-pollutive pile installation. In practical terms, the Silent Piler grasps previously installed piles and derives reaction force from the skin friction and interlock resistance of these reaction piles. This reaction force provides enables the press-in force to be derived to hydraulically jack subsequent piles into the ground.

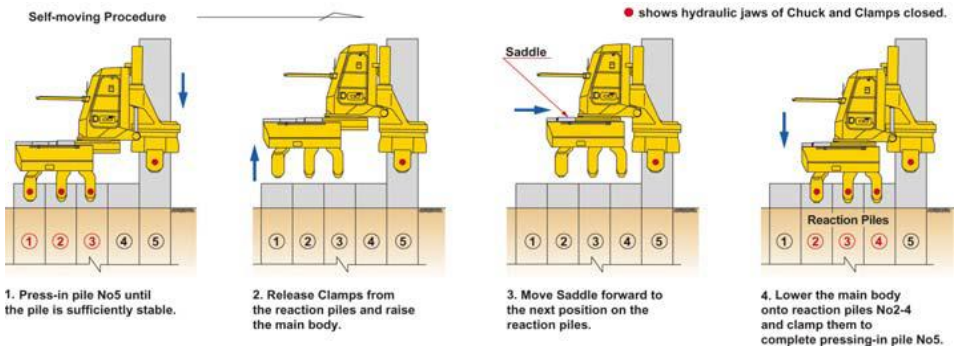
Equipment Components

The basic components of the Press-In method include the Silent Piler and a rubber track mounted 300HP Engine Unit. The operator controls the Silent Piler with a Radio Control Transmitter. The Hydraulic Hose connection is typically 20m in length.



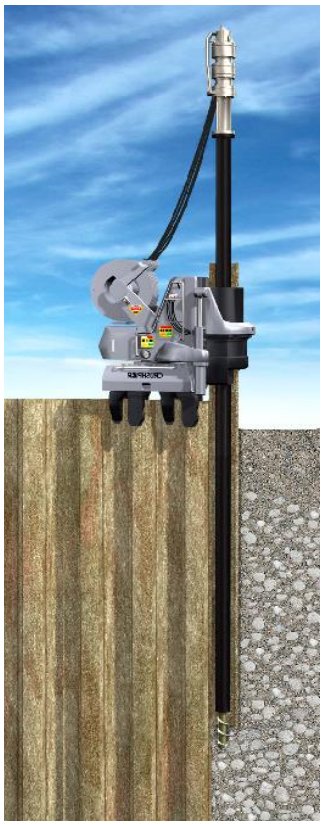
Remarks: Hydraulic hoses are omitted to show for simplifying Silent Piler pictures in all other pages.

Self Walking Feature

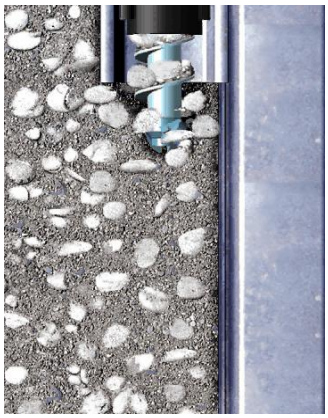


The Silent Piler consists of three distinct parts linked together by a sliding rail and mast (Fig. 5). The upper and lower parts of the machine slide horizontally on the rail of the lower body. The lower body normally has three or four clamping claws to hold the body on the piles by gripping the previously installed piles tightly. The part attached to the upper body that grip the pile is referred to the 'chuck'. It moves vertically up and down along the mast of the upper body. This moving function allows the static pile driving to be carried out, which eliminate the noise and vibration. Half-way through the press-in operation, the clamping claws of the lower body release the piles. The body of the Silent Piler is lifted up by the hydraulic jack. The whole body is then held by the chuck on the pile. The lower body finally moves forward along the rail and sits on the piles back.

CRUSH Auguring System (Included in this proposal)

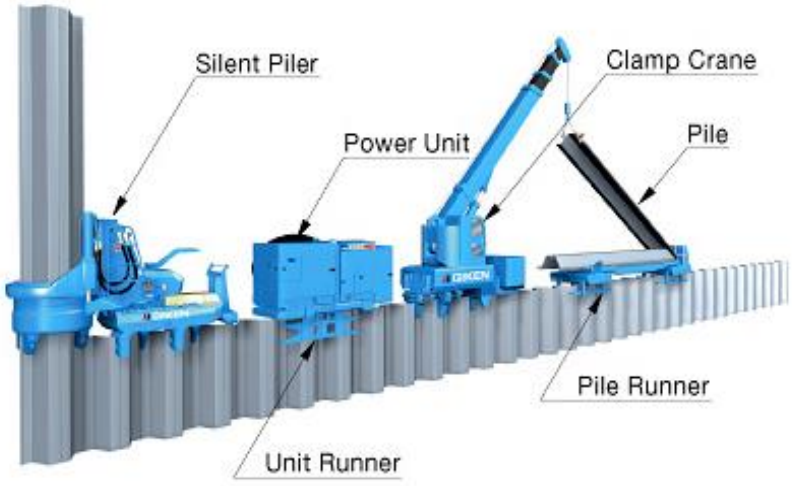


When soil conditions become too difficult or not applicable to the water cutting system, Blue Iron is capable of using the Crush System in conjunction with the Press-In Method. This system uses and integrated simultaneous auger which sites inside the pan of the sheet pile and augers at the pile is being pressed into the ground. This method is ideal when pressing sheets into soils with dense gravels, cobbles, boulders and in some cases bedrock.



The Auger is advanced at the same rate the sheet pile is pressed into the ground. This minimizes the stresses of hard driving to the pile and minimizes damages from occurring to the sheet pile as a result of the hard driving. The auger head is slightly advanced from the toe of the sheet pile and has an over-reaming head to ensure the sheet pile does not encounter an obstruction. The heads can be modified for the soil conditions and pile type. Once the sheet pile has been installed to the full depth, the auger is revered and extracted using a special chuck attachment designed specifically for the auger. The spoils generated are typically left in place.

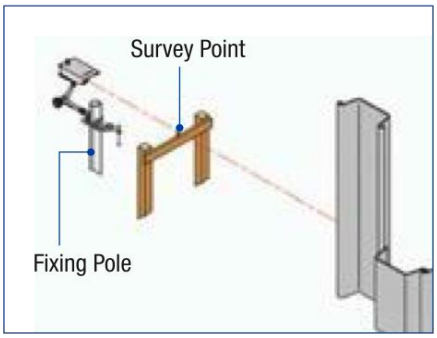
GRB System (Not anticipated for this Project)



Utilizing the principle of reaction force, the GRB Non-staging System enables whole piling operations to be carried out with ease over water, on embankment slopes and along very confined or restricted sites where normal piling rigs or service cranes cannot gain access. In the standard machine layout the Silent Piler is followed by a pile pitching "Clamp Crane" which, like the Silent Piler itself, walks along and clamps onto fully installed piles. Piles to be pitched into the Silent Piler are carried by an engine powered "Pile Runner" which travels upon a track formed from piles attached to the top of the piles

The GRB System provides solutions most beneficial to the overall planning of construction projects due to the advantages of the press-in principle and systemized silent piling technologies even under various site restrictions and adverse conditions, such as limited access, overhead obstruction and geological difficulties.

GIKEN Pile LASER and Tolerance



The Silent Piler grips the lowest point of the sheet pile possible, and can position piles 180 degrees, Blue Iron does not need to utilize a template to maintain a very high degree of tolerance while driving the sheet piles. Blue Iron uses a small Laser system as a reference point based on survey alignment of the pile wall. This allows the sheet piles to be installed very quickly, without false work setting and aligning a template system, while still maintaining a tolerance typically within ½ in. Actual production days are increased since the falsework is minimized. The Pile Laser is typically set up within 5 minutes and can be repositioned while piling operations are ongoing such that no downtime is experienced on site. This also allows the Silent Piler to drive piles in curves, as well as corners and angles.

Noise Advantages

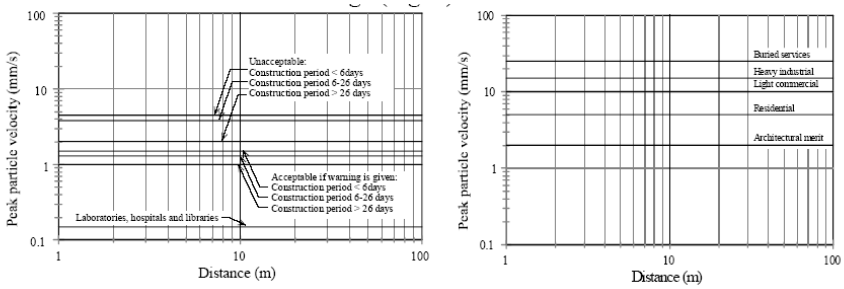
Noise pollution created during pile driving can present a health hazard to site operatives and cause annoyance to neighbors. British Standard BS5228 (1992) provides guidance on acceptable noise levels during construction. In urban areas, the noise level should not exceed 75 dB at the outside of a noise sensitive building, with a lower limit of 70dB to be applied in rural areas. Table 1 compares the noise level of conventional piling equipment with the Silent Piler.

Table 1: Typical ambient and piling-induced noise levels

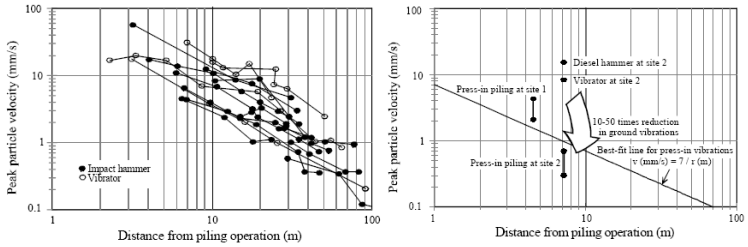
Environment (Selby, 1997)	*Noise level (dB)*
Inside a metro train	90-100
Inside a city bus	80-90
Street corner traffic	70-80
Conversational speech	60-70
Business office	50-60
Suburban living room	40-50
Library	30-40
Piling machinery (from BS5228)	***Noise source level (dB)***
Double acting diesel hammer (37 kJ)	135
Double acting air hammer (5.6 kJ)	134
Enclosed drop hammer (3 tonnes)	98
Hydraulic drop hammer (60 kJ)	121
Giken Seisakusho 'Silent Piler'	***Observed noise (dB)***
Power pack (loudest component)	75 @ r = 1m (Selby, 1997)

Vibration Advantages

Piling-induced ground vibrations can lead to human disturbance and structural damage. The draft Eurocode 3 provides guidelines for acceptable human exposure to ground vibrations depending on the length of the construction period and threshold for structural damage.



Head & Jardine (1992) have assembled database of previously published measurements of ground vibrations during dynamic piling in Fig. 10, plotted on same axes as used in Fig. 9. By overlaying these figures, the distance from the piling operation at which ground vibrations fall below the Eurocode thresholds can be found. White et al. (2002) reported field measurements taken from sites in New Orleans (USA) and Utrecht (Netherlands), clearly indicated a 10-50 times reduction in ground vibrations when Silent Piler was used as compared to conventional dynamic piling methods.



The problem of noise and vibration at construction site is a serious management problem that must be taken seriously into account during the planning and execution stages of construction. According to recent publications, noise pollution has contributed 40% from the public complaints while 10% were due to vibration problems. With the reduction in noise and vibration, it will remove a major concern from the construction management.

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Appendix H

Water Control Plan – PE Design

May 22, 2018

Mr. Kyle Merkosky
Charter Contracting Company, LLC
500 Harrison Avenue
Boston, MA 02118

Reference: Dewatering Plan Submittal Review Comments
Con Edison Former MGP
Haverstraw, New York
LRT Job # 4-1651

Dear Kyle:

This letter responds to the review comments for the Dewatering Plan submittal written by Lockwood Remediation Technologies, LLC (LRT) on behalf of Charter Contracting Company, LLC (Charter) for the above referenced project. The revised Dewatering Plan is also attached to this submittal.

Our responses below correspond to each of comments in the order they were presented.

General Comments

1. *Dewatering Plan – what are the reporting and notification procedures Contractor will follow in the event of a permit violation?*

Notification will immediately be made to the CM.
The following language for reporting an incident is summarized in the Village of Haverstraw Codes, Article II Discharge Standards, Chapter 240-4, General Discharge Prohibitions:
"In the case of an accidental discharge, it is the responsibility of the user to immediately telephone and notify the Publicly Owned Treatment Works (POTW) of the incident. The notification shall include location of discharge, type of waste, concentration and volume and corrective actions.

Within five days following an accidental discharge; the user shall submit to the Executive Director a detailed written report describing the cause of the discharge and the measures to be taken by the user to prevent similar future occurrences. Such notification shall not relieve the user of any expense, loss, damage or other liability which may be incurred as a result of damage to the POTW, fish kills or any other damage to person or property; nor shall such notification relieve the user of any fines, civil penalties or other liability which may be imposed by this chapter or other applicable law."

2. *Dewatering Plan, section 3.11 – sediment and media disposal to be completed by contractor.*

Section 3.11 has been updated in the Dewatering Plan with the following language:

Upon completion of the project, all sediment within the tanks and the spent media will be mixed in with soils and transported offsite for disposal. Charter will manage the waste disposal.

3. *Dewatering Plan, section 4.3, third bullet – would pumps with floats not be employed in the original system configuration to prevent possible overtopping as a preventative measure?*

LRT provides level controls (i.e. floats or transducers) with each pump.

4. *Dewatering Plan, section 4.3, sixth bullet – was this meant to say operation of the system outside normal working hours?*

LRT understands that the water treatment system will be operational 24 hours per day. This bullet item has been removed from the Dewatering Plan.

Please feel free to contact us at 774-450-7177 if you have any questions or if you require additional information. We look forward to working with you on this project.

Sincerely,
Lockwood Remediation Technologies, LLC

Kim Gravelle

Kim Gravelle, P.G.
Project Manager

Paul Lockwood

Paul Lockwood
President

DEWATERING PLAN

Former Clove and Maple Manufactured Gas Plant Site

120 Maple Avenue

Haverstraw, New York

Prepared by:

Prepared for:

Date: May 22, 2018

Ding-Gwo R. Gan, Ph.D., P.E.
NY Licensed Professional Engineer No. 080825

Contents

Section Page

Figures

Attachments

1. Introduction

This Construction Water Management and Treatment Plan has been prepared by Lockwood Remediation Technologies, LLC on behalf of Charter Contracting Company, LLC (Charter) for the excavation project at the Former ConEdison Manufactured Gas Plant, located in Haverstraw, New York. This Plan relies on the following documents: *Remedial Investigation Report* prepared by CMX, dated May 2009, the *Pre-Design Investigation Summary Report* prepared by Natural Resource Technology, dated February 17, 2017, specifications, drawings and available information provided by Charter. The Plan also relies on experience in dewatering under similar conditions and in similar soils. This was used to generate a finite difference dewatering model using Visual MODFLOW version 2012.1.

1.1 Purpose and Scope

The purpose of this Plan is to provide Charter with an overview of the anticipated dewatering effort, and additional information regarding the methods to be used; the size, type, and location of pumps; discharge locations; manufacturer's data for mechanical equipment; and anticipated dewatering/pumping rates.

1.2 Key Assumptions

To estimate pumping rates at the site the following assumptions were used in this study:

1. Ground surface elevations are variable and slope from El. +45' in the south to El. +20' in the north.
2. The bottom of excavation ranges from 2 to 24 feet below ground surface (bgs).
3. The depth to groundwater ranges from approximately El. +19' to El. +22'.
4. The support of excavation will be steel sheeting installed into the till layer.
5. Subsurface lithology at the site consist of fill consisting of varying amounts of miscellaneous soil and demolition debris, underlain by alluvium made up of discontinuous units of fine to coarse sand, silts and clays. This layer acts as a confining unit across a majority of the site.
6. Four (4) deep sump wells will be completed via drilling to approximately 30 feet bgs. To fully dewater the excavation additional localized sumping may be necessary to maintain dry conditions. Localized sumps will be installed by others.
7. Primary contaminants of concern in the waste stream include total suspended solids (TSS), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polycyclic aromatic hydrocarbons (PAHs), non-aqueous phase liquid (NAPL) and metals. If additional

analytes are encountered, modification to the proposed water treatment system may be required which may affect pricing.

8. The influent flow rate has been estimated at less than 80 gallons per minute (gpm); however, LRT is recommending a treatment system capacity of 150 gpm to address the initial flow rate and any contingencies. Please note that this is only an estimate and actual site conditions may vary.
9. All treated effluent water will be managed and discharged in accordance with a Haverstraw Joint Regional Sewer Board discharge permit.

1.3 Description of Dewatering Model and Model Assumptions

A finite difference model using Visual MODFLOW version 2012.1 was created for the dewatering estimate. The model consists of two layers. One layer simulating the fill and alluvium layer and one layer simulating the glacial till. For purposes of estimation of pumping rates at the site, the following assumptions were used in this study:

1. The model dimensions are 115,510 square feet centering on the deepest portion of the excavation. The model area was divided into a 40 by 30 nodal array.
2. The model was run under steady-state conditions. The actual time required to achieve steady-state conditions on a dewatering job varies but for this site it may take several days depending on how fast the water in storage is removed from the overburden and if any significant rainfall occurs.
3. The estimated recharge based on annual averages and degree of surface permeability was input as 2.0 inches per year.
4. The model has two layers with Layer 1 simulating the fill and alluvium layer having an arbitrary thickness of 31 feet to El 0'. Layer 2 simulates the glacial till layer and was assigned an arbitrary thickness of 30 feet to El. -30'. Actual elevations of stratigraphic sequences were incorporated into the model based on the geotechnical information provided to LRT.
5. The hydraulic conductivity (permeability) of Layer 1 and Layer 2 is estimated at $1x10^{-3}$ cm/s and $1x10^{-6}$ cm/s respectively. This site specific hydraulic conductivity is estimated based on geotechnical classification of the stratification at the site by others and using published values for those classifications (i.e. Fetter, 1988).
6. The effective porosity of the subsurface was assumed to be 0.30.
7. Any dewatering sumps installed will be completed a minimum of 5' below the bottom of the excavation.

2. Anticipated Conditions

2.1 Subsurface Soils and Groundwater

Available data from subsurface investigations indicate subsurface material at the site consists of fill consisting of loamy soil, some cobbles, gravel, brick fragments, cinders, coal and glass shards. An Alluvium layer underlies the fill and consists of several subunits including coarse-grained sand and gravel, silt and clay with fine sand/silt mixtures, fine sand, silt, and fine to coarse-grained sand. This layer varies in thickness across the site (13.7 feet to greater than 28 feet thick). A Glacial Till layer underlies the clay and consists of dense silty clay to dense sandy clay.

For detailed information regarding depth and elevations of the various soil strata encountered at each of the boring locations, the *Remedial Investigation Report* prepared by CMX, dated May 2009 and the *Pre-Design Investigation Summary Report* prepared by Natural Resource Technology, dated February 17, 2017.

Groundwater measured from observation wells at the site is El. +19 to El.+22'. Area groundwater levels are influenced by numerous other factors including below-grade structures, precipitation, surface runoff, local construction activity, pumping of dewatering systems, leakage from utilities, and seasonal variations. Water levels should be anticipated to fluctuate and may differ during construction from those reported herein.

2.2 Excavation Dimensions and Depths

The dimensions of the deep excavation are approximately 115' long by 215' wide to a maximum depth of El. +2'. LRT has assumed that the dewatering target is 2' below the bottom of the excavation. The SOE will be steel sheeting toed into the till.

2.3 Pumping Rates

As mentioned previously, for purposes of estimation of dewatering, a dewatering model was completed in Visual MODFLOW. This model was based on site specific information that included geology reported in soil borings completed by Arcadis and the proposed excavation plan. One model was calibrated to observed non-pumping conditions. The second model was completed to simulate pumping conditions. Static groundwater elevations simulated in the model were assumed to be at or near El. +22', as a conservative measure.

Based on the results of the modeling, the combined steady-state dewatering flow rate is expected to be approximately 5-10 gpm per deep well/sump with a collective flow rate of between 40 to 80

gpm. This estimated flow rate lowers ground water elevations within the footprint of the excavation to less than El. 0'.

The actual flow rates for each area will depend on the amount of excavation open at one time. The total flow rate for all treatment areas is not expected to exceed 100 gpm. It is anticipated that this water will be removed from the excavation via deep wells. Actual orientation and spacing of the deep wells mostly depend on site conditions and on the amount of precipitation that occurs at the time of active dewatering. The output graphs showing the model results are included in Attachment A.

3. Dewatering and Water Treatment Methods

3.1 General

Charter shall maintain site grades to direct runoff in the excavation to the dewatering wells. If additional dewatering points are necessary, Charter can install additional localized sumps within the excavation. The effective radius of each dewatering sump can be enhanced via gravel placement. In addition, Charter will manage and treat the dewatering effluent to minimize the potential for offsite erosion, damage, or contamination. Following dewatering, the dewatering system elements will be removed and/or abandoned in place.

3.2 Dewatering Wells

A total of four (4) deep wells to an approximate depth of 30' bgs will be installed using hollow stem auger drilling techniques. Each well will be installed with a minimum of 10' of 8" PVC well screen connected to 8" SCH 40 PVC riser to the surface. The screen shall be packed with an appropriate gravel pack to approximately 2' above the top of the screen and natural material backfilled to surface. Each well will be secured with a temporary well cap. Refer to Figure 2 for dewatering well locations. If necessary, localized sumps installed with an excavation can be used to enhance the dewatering wells.

At the end of the project, the dewatering wells will be abandoned by backfilling with grout to surface grade via a tremie tube.

3.3 Dewatering Sumps

Charter will install as many sumps as necessary along the perimeter of the excavations, however, for conceptual purposes four (4) sumps are shown on (Figure 2), each with their own submersible pump. The final number and combination of sumps will be determined by Charter based on the actual conditions encountered in the field. If total influent flow rate of dewatering required exceeds the flow rate calculated in this dewatering plan, additional sumps may be installed.

3.4 Pumps

Pumps are expected to be 2-inch diameter and 3-inch diameter electric submersible pumps.

3.5 Discharge Lines

Discharge lines will run from the submersible pumps to a water treatment system as described in Section 3.5. It is anticipated that a combination of PVC pipe, flexible hose, and quick-connect connections will be used for the discharge lines.

3.6 Water Treatment System

Charter will provide a water treatment system suitable to meet the applicable discharge criteria. This system includes a weir tank, oil/water separator, bag filtration, carbon treatment, and a flow meter/totalizer (refer to Figure 5 for a system schematic, Attachment C for individual cut sheets of system components and Attachment D for the water treatment system calculations.

The treatment system is capable of treating a waste stream of up to 150 gpm and begins with one (1) 18,000-gallon weir tank. Water in the weir tank will flow, via gravity, into one oil/water separator (OWS). Non-aqueous phase liquid will drain via gravity to a 55-gallon drum. Water from the OWS will be pumped via a 5HP centrifugal pump skid to a triple bag filter skid with three single bag filters plumbed in parallel such that two bag filter vessels can be operated while the other remains on standby. During a bag filter change-out, two vessels are opened while the other is closed so that water treatment never needs to be shut down. Each bag filter vessel includes isolation valves, sample ports and pressure gauges on the influent and effluent piping so that it is clear when a bag filter change-out is required. Bag filter housings are stainless steel and each housing is rated for maximum flow rate of 100 gpm and 125 PSI per housing or a total flow rate capacity of 300 gpm.

From the bag filters, water is discharged to two (2) carbon vessels each containing 3,000 pounds of reactivated liquid phase carbon. Each vessel is rated for a maximum flow rate of 150 gpm and 75 PSI and includes isolation valves, sample ports and pressure gauges on the influent and effluent piping so that it is clear when backwashing is required. Following the carbon treatment water will flow through one (1) flow meter/totalizer prior to one (1) 21,000-gallon effluent frac tank. One (1) submersible pump will be positioned within the effluent frac tank and equipped with level controls and capable of pumping water at 150 gpm. Water will be pumped from the last effluent frac tank to the effluent discharge line.

Secondary containment berms will be installed under all of the tanks and treatment system components. Containment areas will be pumped down daily or as needed and the water from the spills or rain will be pumped into the weir tank for treatment.

3.7 Flow Metering

Flow metering (instantaneous and total) is required on this project. The water treatment system includes a non-resettable flow meter and totalizer. See Attachment C for a cut sheet.

3.8 Pump Tests

Dewatering for this project will be completed using dewatering sumps and pumps within the deep wells. Pump tests are not planned as part of this project.

3.9 Record Keeping

During dewatering, Charter will maintain results of monitoring and inspection reports dictated by the applicable permit requirements/conditions.

3.10 Dewatering System Layout

The proposed dewatering system layout for this project indicates the anticipated number of deep wells and is presented in Figure 2. As mentioned, the final number, combination, location and configuration of these components will be determined by the actual conditions encountered in the field.

3.11 Sediment and Media Disposal

Upon completion of the project, all sediment within the tanks and the spent media will be mixed in with soils and transported offsite for disposal. Charter will manage the waste disposal.

4. Backup Systems and Contingencies

4.1 Backup System

An electrical service will be provided by Charter for the operation of the dewatering system and water treatment system. Backup power can be provided by emergency power generators supplied by Charter. Alternately alarm telemetry will be provided with the dewatering and water treatment systems that will address if primary power is lost.

4.2 Contingency Plans

Formal contingency plans will be developed by Charter after assessing a particular situation. The plans may include but would not be limited to the following:

- Repositioning/installing additional wells and/or pumps;
- Using excavation support measures to reduce flows into the excavation to avoid overwhelming the water treatment system;
- Providing pumps equipped with floats in all tanks. Floats will trigger system alarms within the telemetry unit and shut down the water treatment system to avoid system overtopping;
- Providing additional frac tanks for effluent storage if required;
- Adding additional treatment system components or reconfiguring and/or reconfiguring the system components to address groundwater constituents that exceed discharge criteria; and

Figures

Source: USGS Base Map from TopoZone – Haverstraw, New York

Notes

1. Figure is not to scale.

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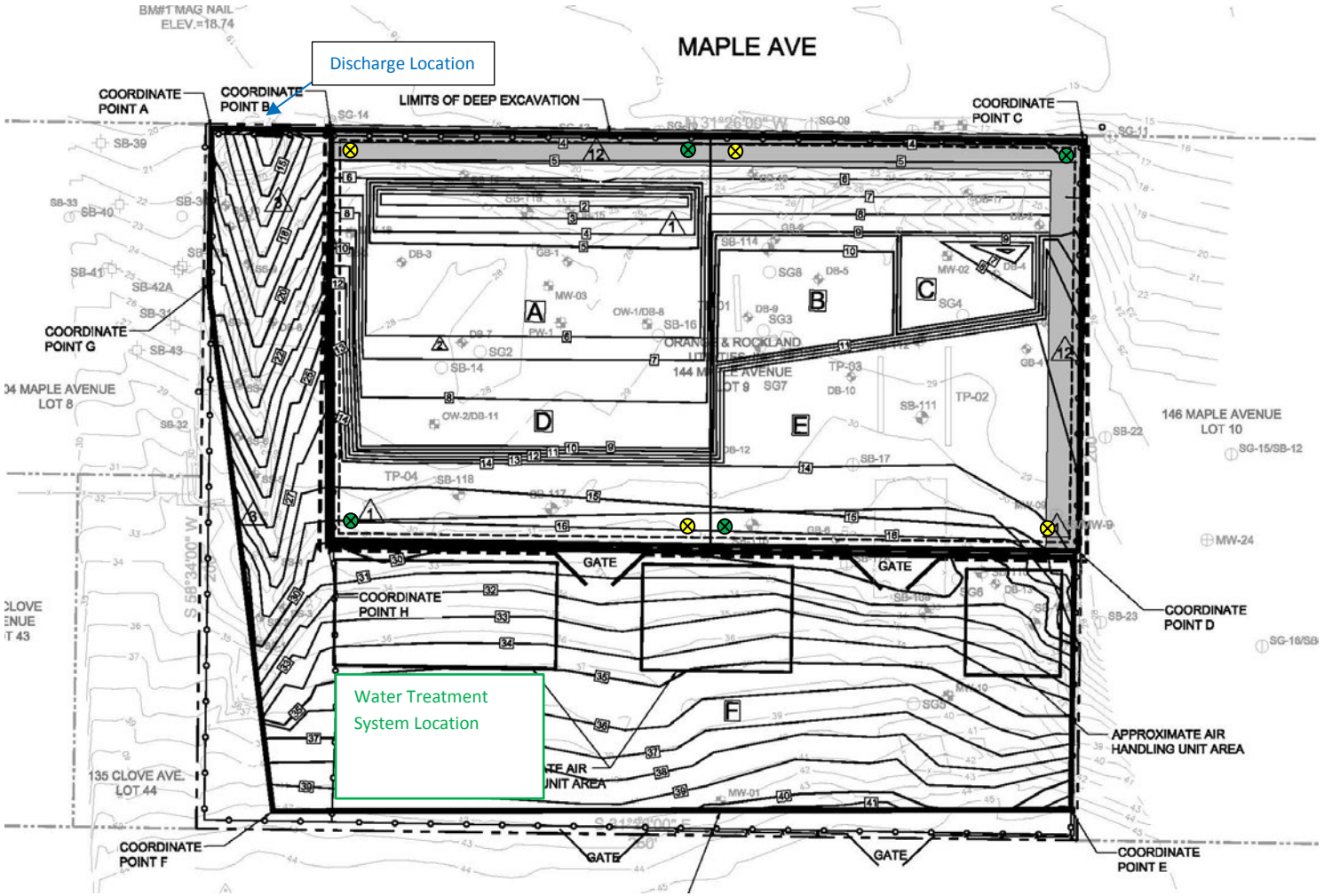
Fax: 888.835.0617
www.lrt-llc.net

Figure 1 – Locus Plan
Former Clove and Maple MGP Site
120 Maple Avenue
Haverstraw, New York



Source: Sheet C050 – Excavation and Temporary Shoring Plan – Stirling Environmental Engineering, Inc., dated July 2017

Notes

1. Figure is not to scale.

Key

Dewatering Sump
Dewatering Well

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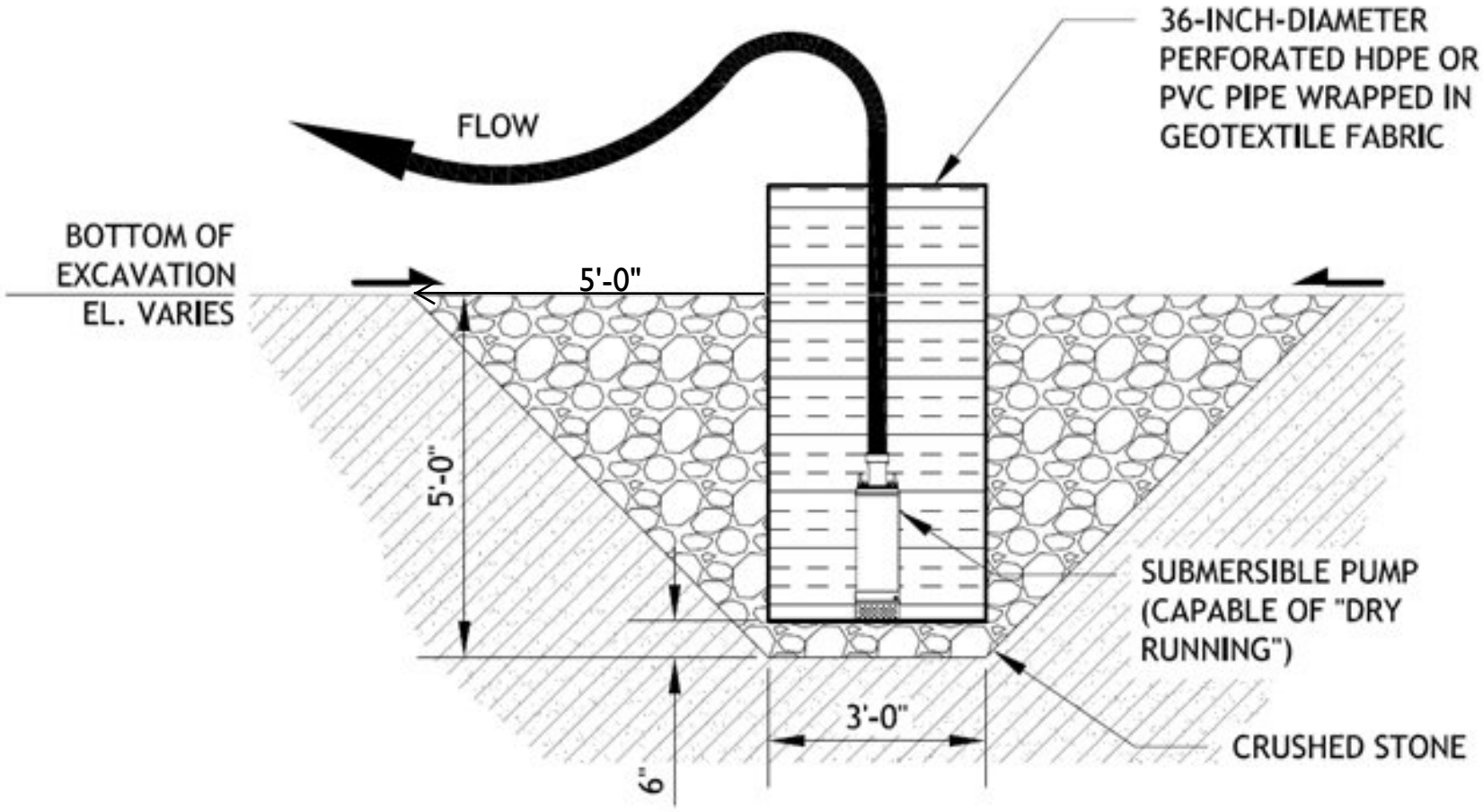
Figure 2 – Dewatering System Layout
Former Clove and Maple MGP Site
120 Maple Avenue
Haverstraw, New York



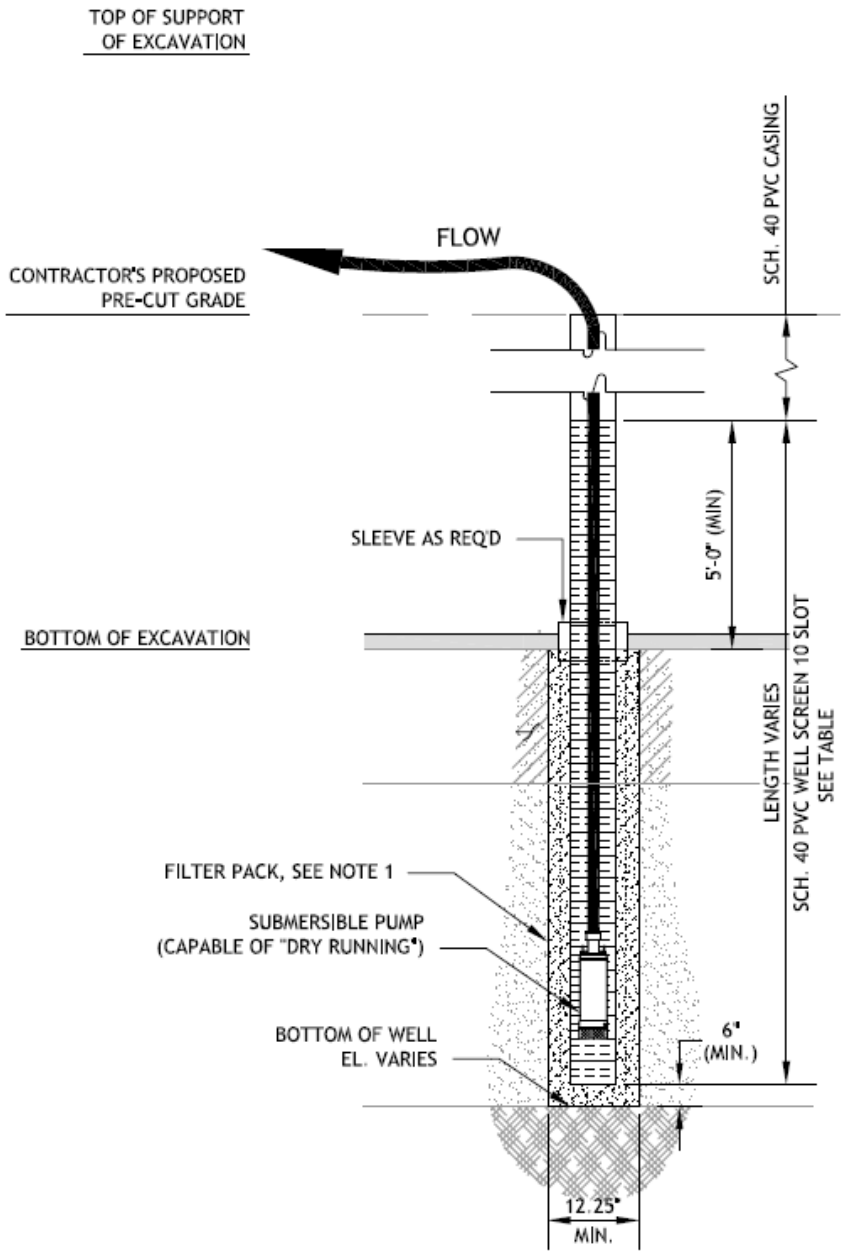
TYPICAL SUMP AND PUMP DETAIL

SCALE: ¼" = 1'-0"

Notes

1.) Figure is not to scale.

LRT Lockwood Remediation Technologies LLC	Lockwood Remediation Technologies, LLC 89 Crawford Street Leominster, MA 01453 Office: 774-450-7177 DESIGNED BY: LRT DRAWN BY: BAW CHECKED BY: REVISION:	**Figure 3 - Dewatering Sump Detail**	**Former Clove and Maple MGP Site** **120 Maple Avenue** **Haverstraw, New York**	PROJECT No. 4-1651	FIGURE No. 3



TYPICAL DEWATERING WELL DETAIL

SCALE: NTS

Notes

1. Filter pack will be a No. 1 or No. 2 sand.
2. Figure is not to scale.

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Figure 4 – Dewatering Well Detail
Former Clove and Maple MGP Site
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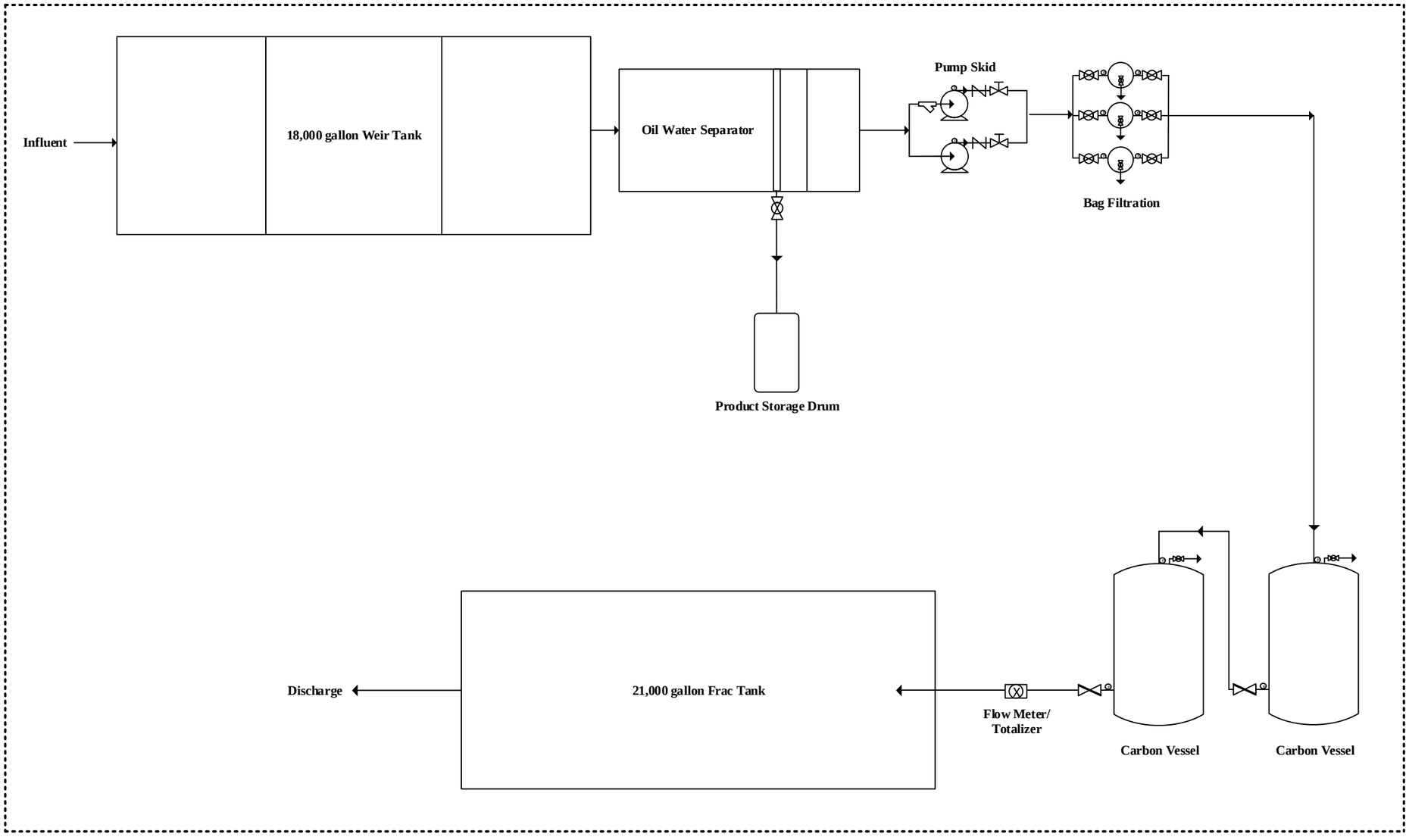
Haverstraw, New York



Key:

Piping/Hose	Ball Valve	Check Valve
Secondary Containment	Butterfly Valve	Y-Strain/Cleanout
Contingency	Gate Valve	Siphon Break
	Bleed Valve Assembly	Flow Switch
	Pressure Gauge	Static Mixer

Notes:
1. Figure not drawn to scale

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Leominster, MA 01453
Office: 774-450-7177

DESIGNED BY: LRT DRAWN BY: B.A.W.

DATE: 4-5-18 REVISION:

Water Treatment System Schematic

Water Treatment System

Former Clove and Maple MGP Site
120 Maple Avenue
Haverstraw, New York

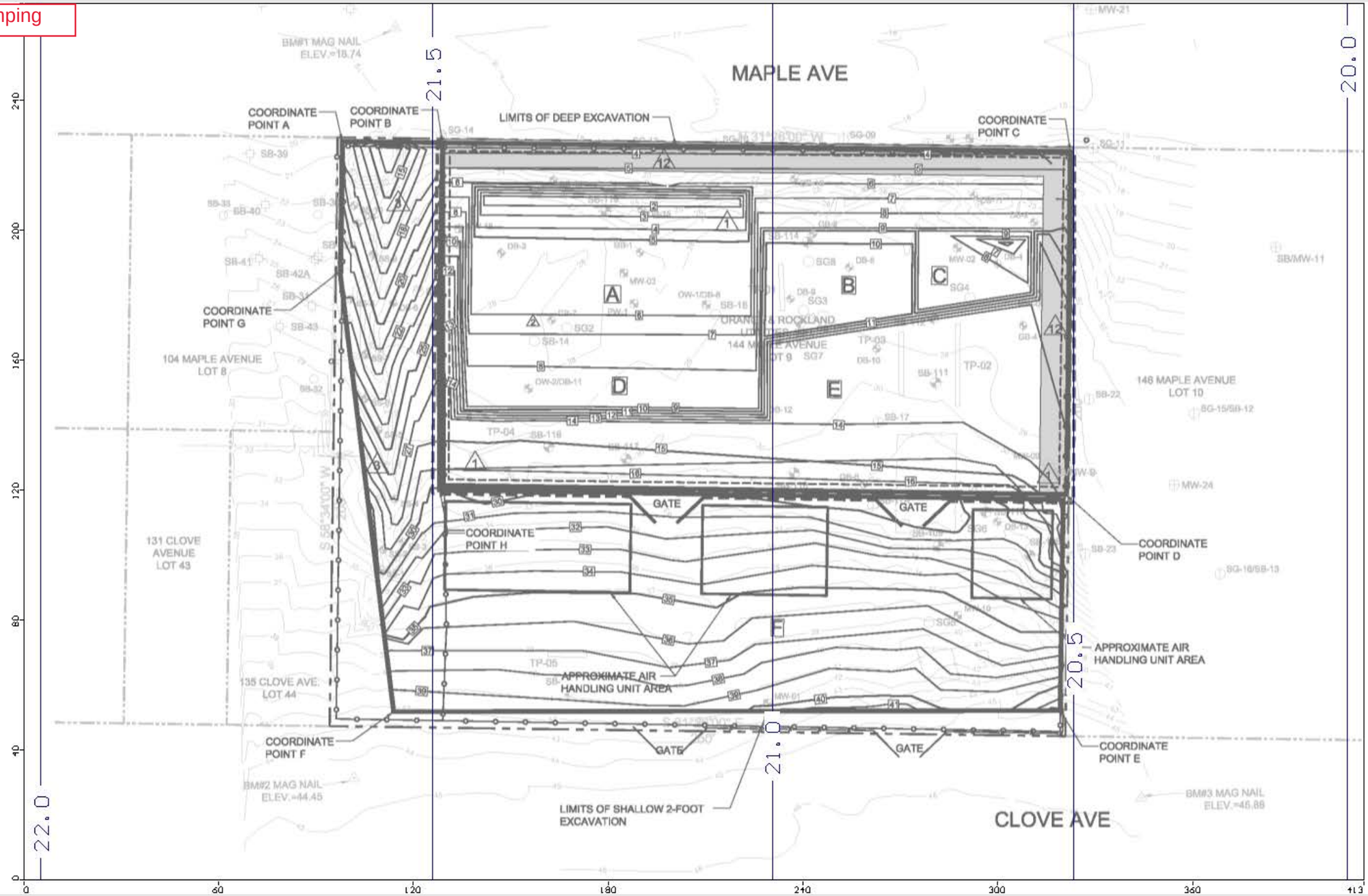
PROJECT No. 4-1651

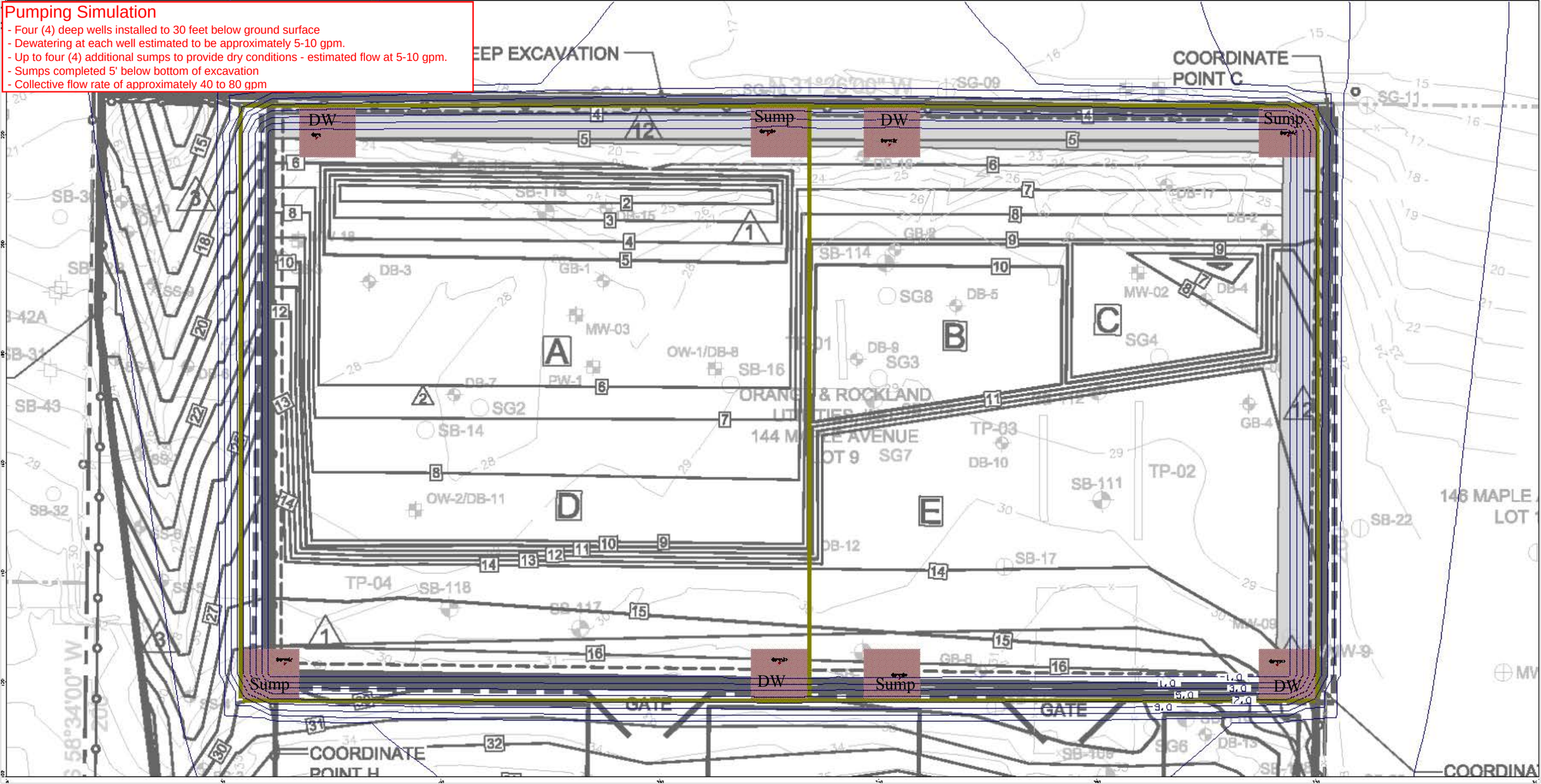
FIGURE No. 5

Attachment A

Dewatering Model Outputs

Calibration - Non-Pumping




Pumping Simulation
- Four (4) deep wells installed to 30 feet below ground surface
- Dewatering at each well estimated to be approximately 5-10 gpm.
- Up to four (4) additional sumps to provide dry conditions - estimated flow at 5-10 gpm.
- Sumps completed 5' below bottom of excavation
- Collective flow rate of approximately 40 to 80 gpm
EEP EXCAVATION
COORDINATE POINT C
COORDINATE POINT H
DW
Sump
DW
Sump
Sump
DW
Sump
DW
A
B
C
D
E
GATE
GATE
SB-16
SB-14
SB-118
SB-111
SB-17
SB-22
SB-43
SB-32
SB-31
SB-30
TP-01
TP-02
TP-03
TP-04
MW-02
MW-03
MW-09
OW-1/DB-8
OW-2/DB-11
DB-3
DB-4
DB-5
DB-9
DB-10
DB-12
DB-13
DB-17
SG2
SG3
SG4
SG6
SG7
SG8
SG-09
SG-11
GB-1
GB-2
GB-4
PW-1
ORANGE & ROCKLAND UTILITIES
144 MAPLE AVENUE
LOT 9
146 MAPLE
LOT
S31°26'00" W
S58°34'00" W

Attachment B

Dewatering System Cut Sheets

Construction Solutions
Power Solutions
Lighting Solutions
Online Ordering

Documentation

- Pumps-Submersible-Maintenance
- ST-2037-47-47B-38P-40T-rev-3-manual
- ST-2037-47-38P-40T-rev-0-french-manual

Related Media

- Canada - Electric Submersible Pumps Brochure
- Electric Submersible Pumps Brochure
- Pump Selection Handbook

Go Back

ST2047

2 Inch Discharge, 115V 1Ø, 1.0 HP, 87 GPM, 47' Total Head

This lightweight, compact submersible centrifugal pump is ideal for moving water in multiple confined and open area applications. This is a powerful, versatile, low maintenance pump that is perfect for a wide range of operations supporting Contractors, Service Utilities, Municipalities, and Homeowners. Further, the ST2047 incorporates a rugged cast aluminum housing, internal thermal overload protection, dual shaft seals, sealed ball bearings impeller and molded 50' Power Cable with strain relief.

- **1.0HP, 115V/9.8A, 1Ø, UL & CUL Listed Electric Motor.**
- **Built-in Overload Protection.**
- **2" (NPT) Female Discharge Port.**
- **Reliable double mechanical oil-filled seals.**
- **Cast iron/steel motor casing serves as heat conductor.**
- **Pumps Liquid Up To 120° F.**
- **50' of molded power cord w/strain relief**
- **Dewaters Flat Surfaces Up To 1" Levels.**

Performance Data | Options

Unit Specifications

Impeller Type		Neoprene Rubber over Cast-Iron
Impeller Disc Size	2 in	50 mm
Total Head	47 ft	14.3 m
Water Capacity	87 gpm	329 lpm

Dimensions & Weights

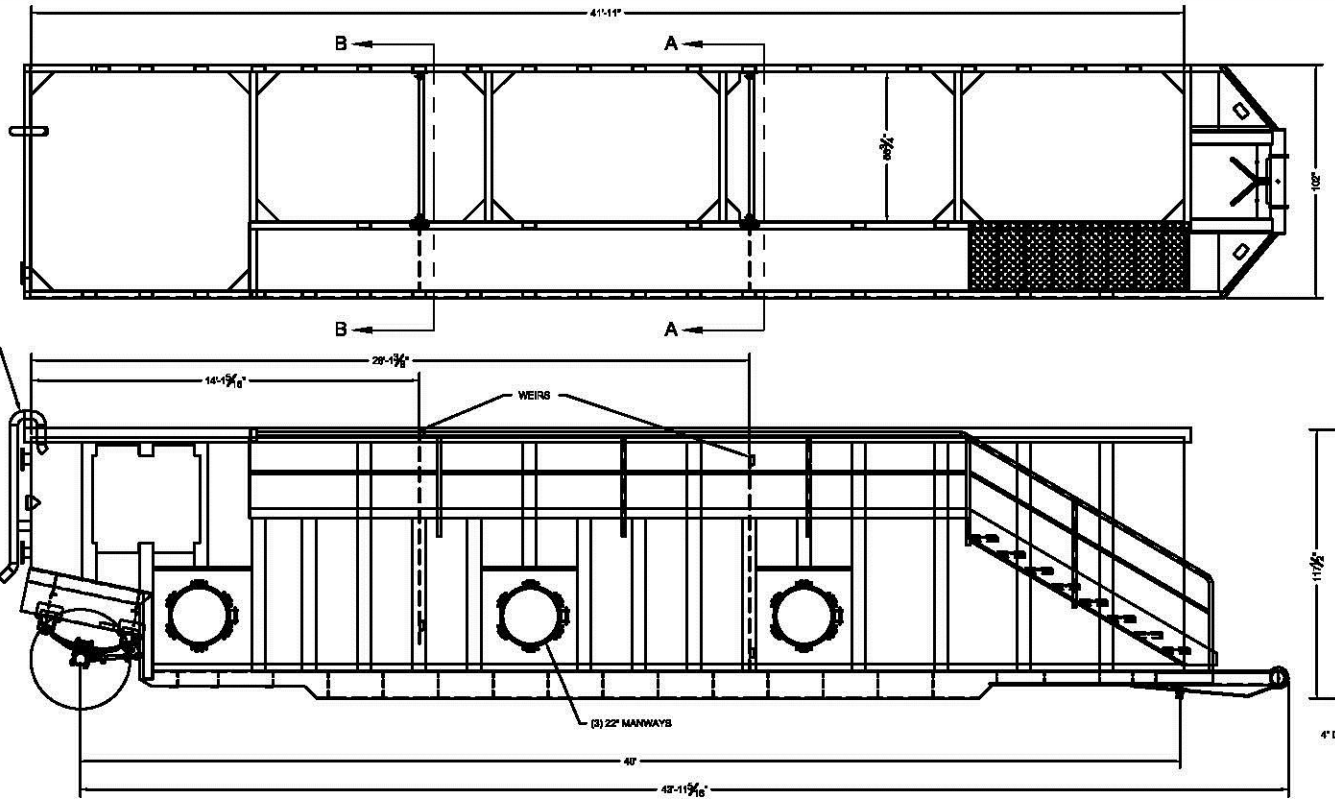
Pump Diameter	7.4 in	188 mm
Overall Height	15.4 in	391 mm
Operating Weight	33 lb	15 kg

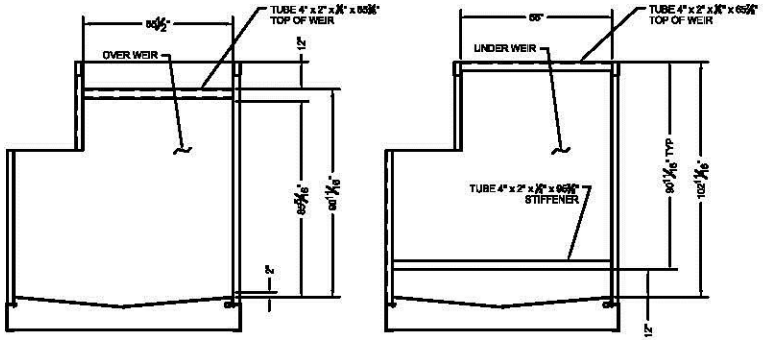
Electrical Specifications

Power	1 HP	0.75 kW
Phase		Single
Voltage		115 V
Starting Amperage		49 A
Running Amperage		9.8 A
Cable Length	50 ft	15.2 m

Attachment C

Water Treatment System Cut Sheets





SECTION VIEW "A-A"

SECTION VIEW "B-B"

NOTE:
This drawing is a representation baseline for this model of tank. Variations between this drawing and the actual equipment do exist, primarily with appurtenance locations, sizes and quantities.

STANDARD SPECIFICATION

CAPACITY: .... 18,480 GALLONS (440 BBL)
SIDE SHEETS: .... 1/4" A36 PLATE
FRONT SHEET: .... 1/4" A36 PLATE
REAR SHEET: .... 1/4" A36 PLATE
FLOOR: .... 1/4" A36 PLATE
MAIN FLOOR RAILS: .... 12" x 20.7# STRUCTURAL CHANNEL
FLOOR CROSSMEMBERS: .... 1/4" A36 PLATE
SIDE STAKES: .... ONE PIECE 3/16" A36 PLATE
SUSPENSION: .... 3 LEAF SPRING, 22,500 LBS. CACPACITY
AXLE: .... 77.5" TRACK, 22,500 LBS. CAPACITY
TIRES: .... 11R22.5 RADIAL
WHEELS: .... 8.25 x 22.5 STEEL
MANWAYS: .... 3 - 25" DIA. CURB SIDE
VALVES: .... 2 - 4" BUTTERFLY VALVE (FRONT & REAR)
1 - 4" DRAIN BUTTERFLY VALVE (REAR)
1 - 4" DRAIN BUTTERFLY VALVE (FRONT)
INLET PIPING: .... 1 - 3" PIPE SYSTEM (REAR)
BLAST: .... (INTERIOR) SSPC-SP-10 (NEAR WHITE)
(EXTERIOR) SSPC-SP-6 (COMMERCIAL BLAST)
PAINT: .... (INTERIOR) EPOXYPHENOLIC 100% SOLID 20.0 MILS D.F.T.
(EXTERIOR) FINISH COAT POLURETHANE 4.0 TO 5.0 D.F.T.

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Office: 774-450-7177

REV	CHANGE	ECN	DATE	BY
	REVISION			

NOTES:
1. DO NOT SCALE PRINT.
2. DESTROY ALL PREVIOUS REVISIONS.
3. ALL DRAWING CHANGES ARE TO BE MADE ON CAD SYSTEM.

TOLERANCE, UNLESS OTHERWISE NOTED.
.X ± .050
.XX ± .020
.XXX ± .010
∠ ± 1°

DESCRIPTION:
AL 470-WT
STANDARD SPECIFICATIONS
OPEN TOP WEIR
DOUBLE OVER ADJUSTABLE WEIRS

PLASMA / DXF FILE: —

MATERIAL: —

FIRST USED:

ECN:

DRW: CES	DATE: 03-23-15	SIZE	PART NO.:	REV.
		B		
SCALE:	BOOK NO.:			

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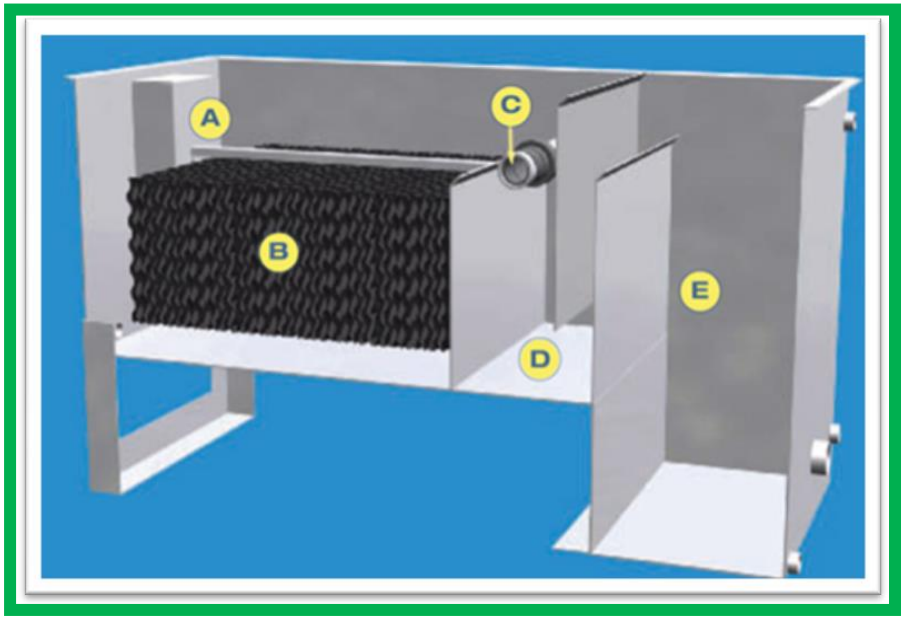
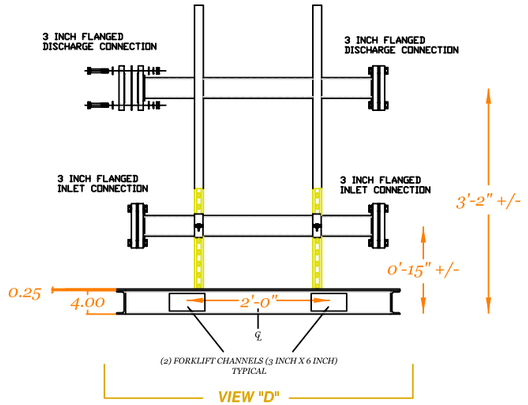
LRT Environmental Oil Water Separator



Specifications:

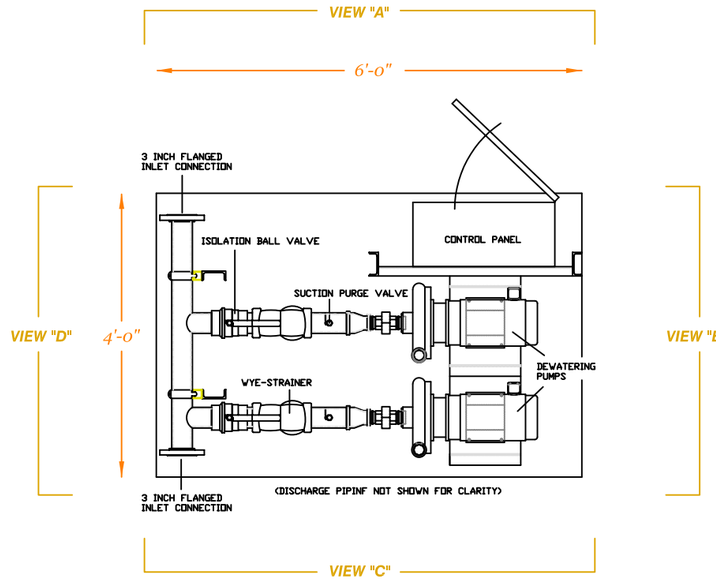
- Rated for 200 gpm
- Manual drain line for NAPL
- Coalescing Media

A: Inlet
B: Separation Chamber with Coalescing Media
C: Drain Line for Oil/NAPL
D: Clarifier with Sludge Drain Line
E: Clean Water Chamber



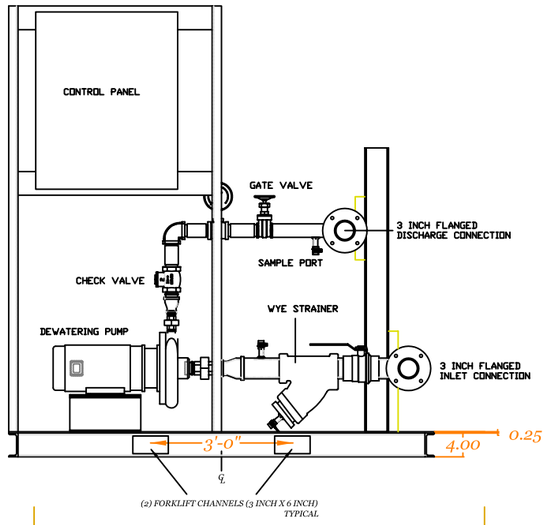
5 HP DEWATERING PUMPSKID

ELEVATIONAL VIEW



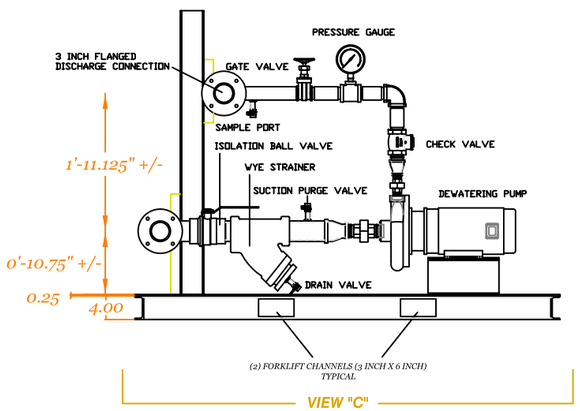
5 HP DEWATERING PUMPSKID

TOP VIEW



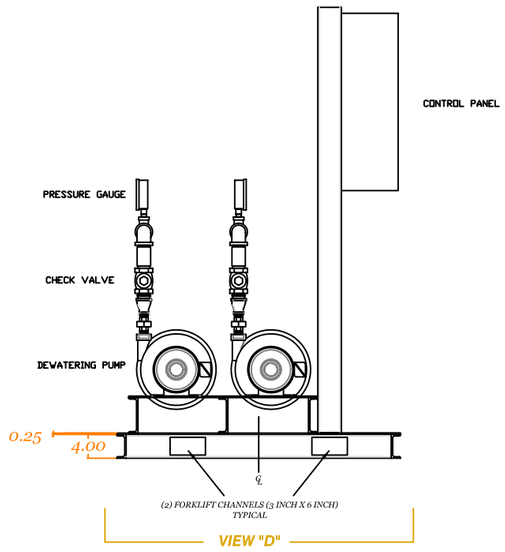
5 HP DEWATERING PUMPSKID

ELEVATIONAL VIEW



5 HP DEWATERING PUMPSKID

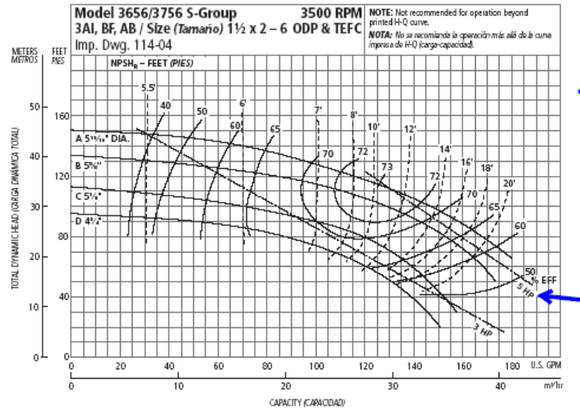
ELEVATIONAL VIEW



5 HP DEWATERING PUMPSKID

ELEVATIONAL VIEW

Performance Curves – 60 Hz, 3500 RPM
Curvas de desempeño – 60 Hz, 3500 RPM



Optional Impeller / Impulsor optativo	
Ordering Code / Código de pedido	Dia. / Diá.
A	5¹¹⁵/₁₆"
B	5⅜"
C	5⅛
D	4¼

NOTE: Pump will pass a sphere to ⅜" diameter.

NOTA: *La bomba dejará pasar una esfera de hasta ⅜ de pulgada de diámetro.*

Polyester Liquid Filter Bag

Features

* Polyester liquid bag filter are available with a carbon steel ring, stainless steel ring or plastic flanges.
* Heavy-duty handle eases installation and removal
* Metal ring sewn into bag top for increased durability and positive sealing
* Wide array of media fibers to meet needed temperature and micron specifications

Applications

Polyester liquid filter bags can be used in the filtering of a wide array of industrial and commercial process fluids

Sizes

Our liquid filter bags are available for all common liquid bag housings. Dimensions range from 4.12" diameter X 8" length thru 9" diameter X 32" length.

Micron Ratings

Available fibers range from 1 to 1500 microns

Options

* Bag finish or covers for strict migration requirements.
* Plastic top O.E.M. replacements
* Multi-layered filtering capabilities for higher dirt holding capacities

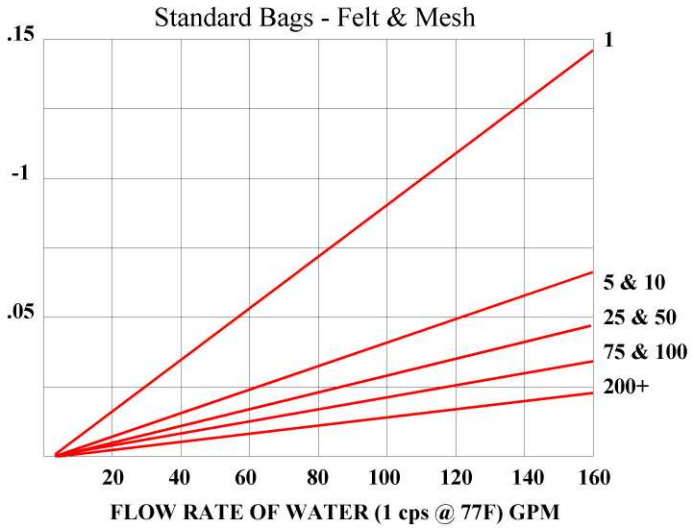
Optional Filter Media

Felt: Nomex, Polyester, Polypropylene

Monofilament: Nylon, Polyester, Polypropylene

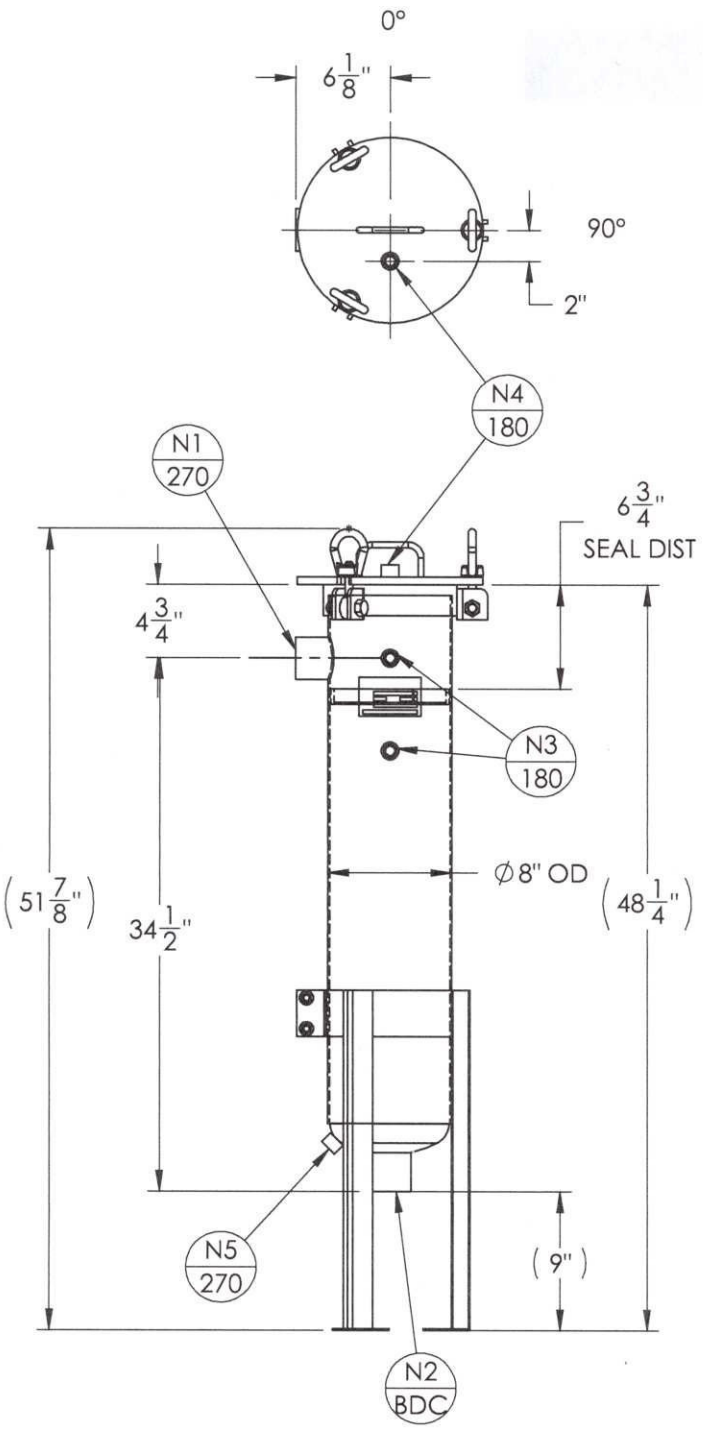
Multifilament: Nylon, Polyester

Polypropylene: Oil Removal

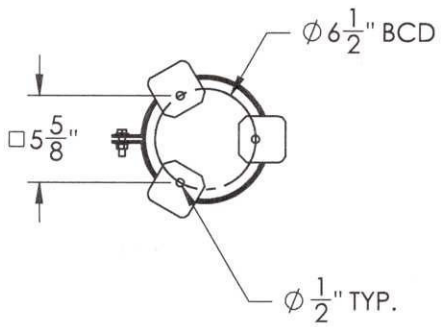


NOZZLE SCHEDULE			
MARK	QTY	SIZE / RATING	DESCRIPTION
N1	1	2" 150# NPT	INLET
N2	1	2" 150# NPT	OUTLET
N3	2	1/2" 3000# NPT	PRESS GA
N4	1	1/2" 3000# NPT	VENT
N5	1	1/2" 3000# NPT	CLEAN DRAIN
N6	-	-	DIRTY DRAIN

VESSEL DESIGN CONDITIONS			
CODE:	BEST COMMERCIAL PRACTICE		
M.A.W.P.:	150 PSI @ 250°F	M.D.M.T.:	-20° F @ 150 PSI
M.A.E.P.:	15 PSI @ 250°F		
CORROSION ALLOWANCE:	NONE	HYDROTEST PRESS:	195 PSI
STAMP:	'NC'	SERVICE:	NON LETHAL
PWHT:	N/A	RADIOGRAPHY:	N/A
MATERIAL:	SS 304/L	GASKET:	BUNA-N



DRY WEIGHT: 77.62 #'s
FLOODED WEIGHT: 140 #'s
SHIPPING WEIGHT: 100 #'s
VESSEL VOLUME: 1.0 C.F.



1:1

NOTES:
- VESSEL WILL HOUSE (QTY=1) DOUBLE LENGTH BASKET.

THIRD ANGLE PROJECTION

TOLERANCES-UNLESS OTHERWISE NOTED
DECIMAL .X ±.1" .XX ±.02" .XXX ±.005"
FRACTIONAL ≤24" ±1/16" >24" ±1/8"
ANGULAR ±1°
MAX. MACHINED SURFACE FINISH 125

REV.	DATE	REVISION	DRAWN	APP'D

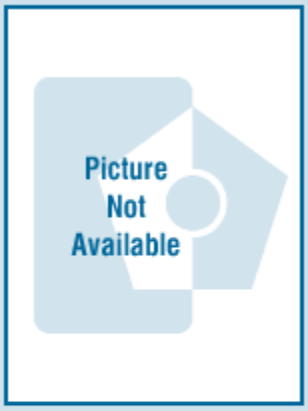
89 Crawford Street
Leominster, MA 01453
Tel: 774.450.7177
Fax: 888.835.0617

LRT Provided Bag Filter Housing

EQUIPMENT:	BAG FILTER HOUSING (EB SERIES)				
MODEL NO:	S4EB112-2P-SW				
CUSTOMER:	-				
PARENT: NONE	DRAWN: CR	DATE: JAN 13 2011	JOB No. V-	DWG. No. 001-0123	REV. No. 0
PAGE: 1 OF 4	CHK'D: JM	SCALE: NTS			

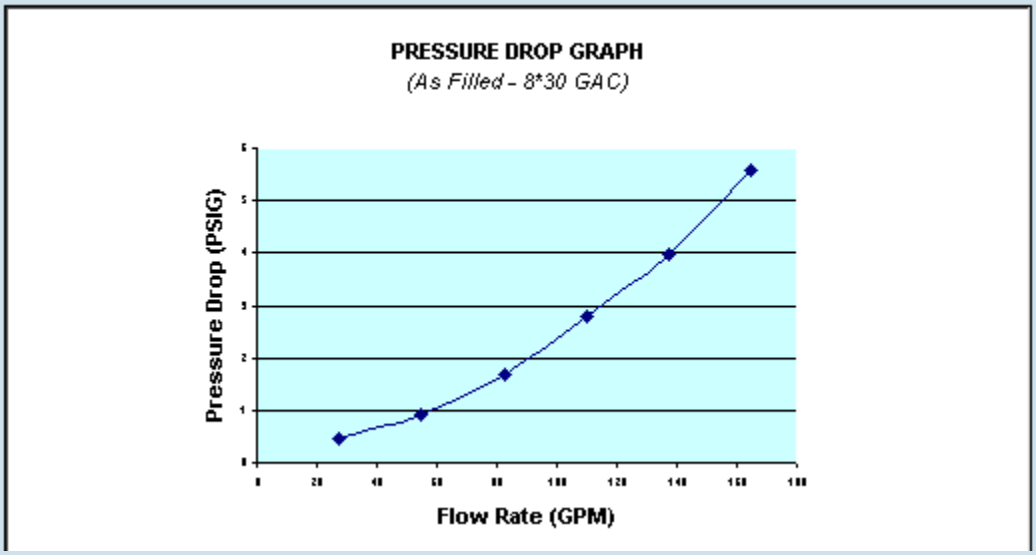
89 Crawford Street
Leominster, Massachusetts 01453
Tel: 774.450.7177
Fax: 888.835.0617
www.lrt-llc.net

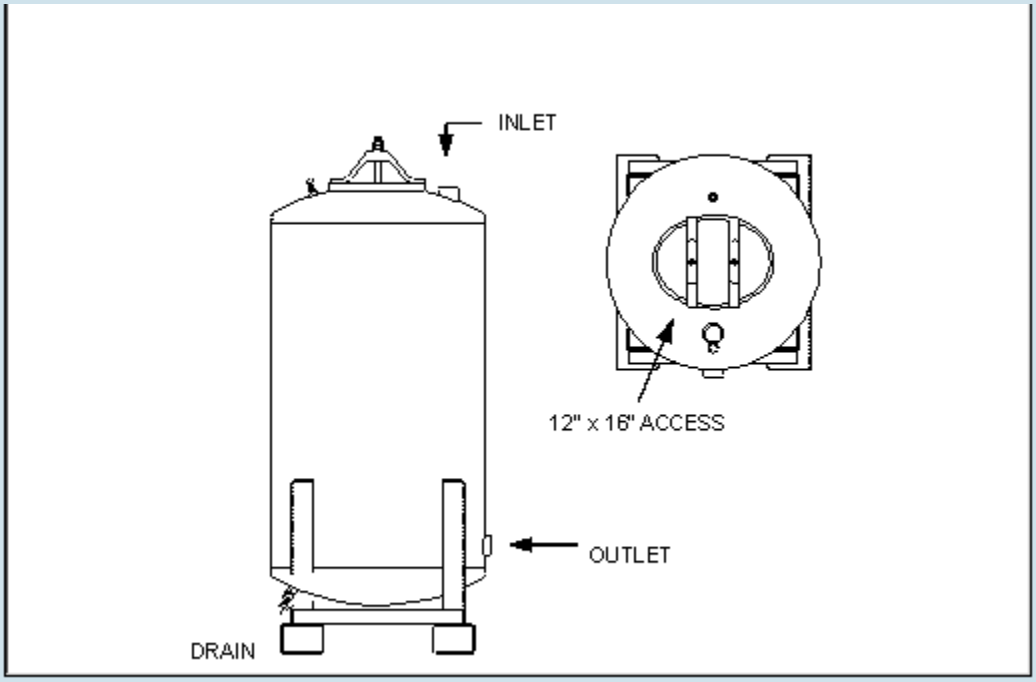
HPAF SERIES FILTERS
MODEL HPAF-3000



The HPAF-3000 filter is a media filter vessel designed to treat liquid streams. While the typical design application is a activated carbon adsorbtion unit, the filter can easily accommodate many medias. Some applications include:

- Dissolved Organic Removal (Activated Carbon)
- Suspended Solids Removal (Sand Filter)
- Dissolved Minerals (Softener Resin)
- Oil and Grease Removal (Organo-Clays)
- Dissolved and Precipitated Metals Removal
- Special Organics (Resin/Carbon Blend)
- Catalytic Reactor (Chlorine and Peroxide Removal)
- Bio-Remediation Contactor Unit





HPAF-3000 SPECIFICATIONS			
Overall Height	8'11"	Vessel/Internal Piping Materials	CS (SA-36) / SCH 40 PVC
Diameter	60"	Internal Coating	Polyamide Epoxy Resin
Inlet / Outlet (FNPT)	3"	External Coating	Epoxy Mastic
Drain / Vent (FNPT)	1" / 1/2"	Maximum Pressure / Temp	75 PSIG / 140° F
GAC Fill (lbs)	3,000	Cross Sectional Bed Area	19.5 FT^2
Shipping / Operational Weight (lbs)	3,525/10,635	Bed Depth/Volume	5.5 FT / 107 FT^3

89 Crawford Street
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www.lrt-llc.net

FILTRATION MEDIA :
8x30 RE-ACTIVATED CARBON
4x10 RE-ACTIVATED CARBON

GENERAL DESCRIPTION

Select Re-Activated carbon from domestic sources is quality screened during our purchasing process for activity, density and fines. The use of re-activated carbon is recommended as a lower cost alternative for most sites where drinking water quality is not necessary. In many cases our re-activated carbon meets and exceeds imported virgin carbon. In addition all carbon either sold by itself or installed in our filtration units traced by lot number to the installation or sale.

8x30 (Liquid Phase) Standard Specifications:	Standard	Value
Iodine Number	ASTM D-4607	800 Minimum
Moisture Content	ASTM D-2867	5% Maximum (as packed)
Particle Size	ASTM D-2862	8x30 US Mesh
Ash		10% Maximum
Total Surface Area (N2BET)		1050 Minimum
Pore Volume (cc/g)		0.75

4*10 (Vapor Phase) Standard Specifications:	Standard	Value
Carbon Tetrachloride Activity Level	ASTM D-3467	40 Minimum
Moisture Content	ASTM D-2867	5% Maximum (as packed)
Particle Size	ASTM D-2862	4x10 US Mesh
Ash		10% Maximum
Total Surface Area (N2BET)		1050 Minimum
Pore Volume (cc/g)		0.75

ZENNER PERFORMANCE
Cast Iron Turbine Meters
Sizes 2” through 12”

INTRODUCTION: ZENNER PERFORMANCE Turbine Meters are designed for applications where flows are usually moderate to high and occasionally low. They are used in measurement of potable cold water in commercial and industrial services where flows are in one direction.

OPERATION: Water flows through the turbine section which causes the rotor to turn proportionately to the quantity of water flowing through the meter. A drive magnet transmits the motion of the rotor to a driven magnet located within the hermetically sealed register. The magnet is connected to a gear train which translates the rotations into volume totalization displayed on the register dial face. The only moving parts in the meter are the rotor assembly and vertical shaft .

CONSTRUCTION: ZENNER PERFORMANCE Turbine Meters consist of three basic components: Cast Iron Epoxy Coated main case, measuring element, and sealed register. The measuring element assembly includes the rotor assembly, vertical shaft and a calibration vane which eliminates the need for calibration change gears.

MAINTENANCE: ZENNER PERFORMANCE Turbine Meters are engineered and manufactured to provide long-term service and operate virtually maintenance free. If necessary the universal measuring element (UME) can be removed from the main case for maintenance. Interchangeability of certain parts between like sized meters minimizes spare parts inventory.

CONFORMANCE: ZENNER PERFORMANCE Turbine Meters are tested and comply with AWWA C701 Class II performance standards.

STRAINERS: ZENNER PERFORMANCE recommends the use of a separate strainer upstream from the turbine meter. Strainers reduce the chance of damage to the rotor as well as the frequency in which it must be removed for inspection. The lack of a strainer may void the warranty of the turbine meter.

CONNECTIONS: Companion flanges for installation of meters on various pipe types and sizes are available in bronze or cast iron.

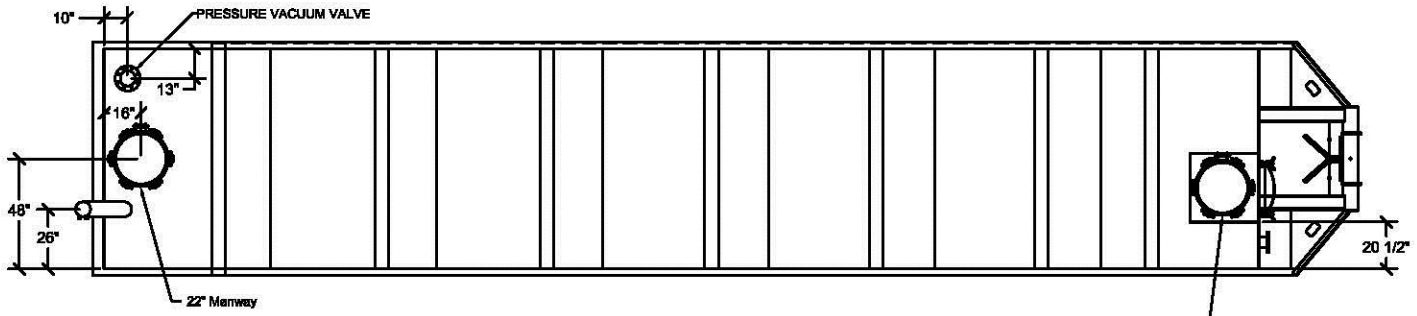
PMT04

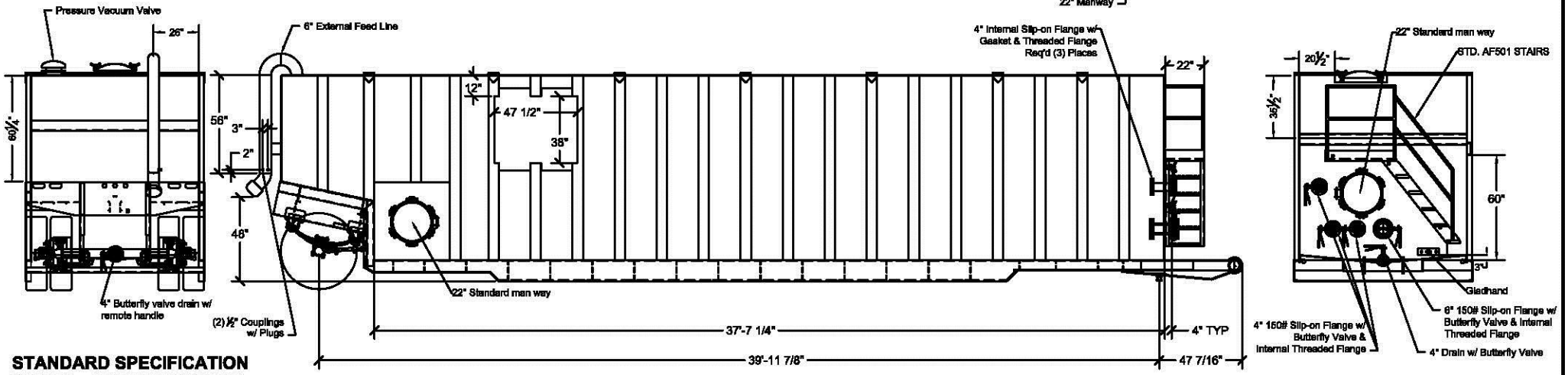
PMT06

ZENNER PERFORMANCE
15280 Addison Rd #340, Addison, TX 75001, (972) 386-6611, Fax (972) 386-1814
www.zennerusa.com

MODEL		PMT02	PMT03	PMT04	PMT06	PMT08	PMT10	PMT12
SIZE		2"	3"	4"	6"	8"	10"	12"
Flow rate maximum intermittent	USGPM	400	550	1250	2500	4500	7000	8800
Maximum continuous	USGPM	200	450	1000	2000	3500	5500	6200
Optimum operating flow range	USGPM	3 - 200	5 - 550	10 - 1250	20 - 2500	30 - 4500	50 - 7000	90 - 8800
Low flow rate	USGPM	2	2-1/2	5	12	20	45	65
Start-up flow rate	USGPM	7/8	1-1/8	1-3/8	7-1/2	8	15	15
Maximum Working Pressure	P.S.I.	160	160	160	160	160	160	160
Maximum Temperature	Deg. F	140	140	140	140	140	140	140
Length	Inches	7-7/8	8-7/8	9-7/8	11-7/8	13-3/4	17-3/4	19-5/8
Height	Inches	9-1/2	10-1/4	11	12-7/8	14-1/4	19	20-1/4
Width	Inches	7	7-1/2	9	11	13-1/2	16	19
Weight	Pounds	24	32	38	84	126	225	255
Number of holes per flange		4	4	8	8	8	12	12

ZENNER PERFORMANCE
15280 Addison Rd #340, Addison, TX 75001, (972) 386-6611, Fax (972) 386-1814
www.zennerusa.com





STANDARD SPECIFICATION

CAPACITY: .... 21,000 GALLONS (500 BBL)
SIDE SHEETS: .... 1/4" A36 PLATE
TOP SHEET: .... 1/4" A36 PLATE
FRONT SHEET: .... 1/4" A36 PLATE
REAR SHEET: .... 1/4" A36 PLATE
FLOOR: .... 1/4" A36 PLATE
MAIN FLOOR RAILS: .... 12" x 20.7# STRUCTURAL CHANNEL
FLOOR CROSSMEMBERS: .... 1/4" A36 PLATE
SIDE STAKES: .... ONE PIECE 3/16" A36 PLATE
SUSPENSION: .... 3 LEAF SPRING, 22,500 LBS. CACPACITY
AXLE: .... 77.5" TRACK, 22,500 LBS. CAPACITY
TIRES: 11R22.5
WHEELS: .... 8.25 x 22.5 STEEL
MANWAYS: .... 3 - 22" DIA. FRONT & TOP
1 - 22" DIA. CURB SIDE
VALVES: .... 1 - BLAYLOCK PRESSURE VALVE
4 - 4" BUTTERFLY (FRONT)
1 - 4" BUTTERFLY VALVE (REAR DRAIN)
1 - 6" BUTTERFLY VALVE (FRONT
INLET PIPING: .... 1 - 6" PIPE SYSTEM (REAR)
BLAST: .... (INTERIOR) SSPC-SP-10 (NEAR WHITE)
(EXTERIOR) SSPC-SP-6 (COMMERCIAL BLAST)
PAINT: .... (INTERIOR) EPOXYPHENOLIC 100% SOLID 20.0 MILS D.F.T.
(EXTERIOR) PRIMER COAT EPOXY 3.0 TO 4.0 MILS D.F.T.
(EXTERIOR) FINISH COAT POLURETHANE 3.0 TO 4.0 D.F.T.

NOTE:
This drawing is a representation baseline for this model of tank. Variations between this drawing and the actual equipment do exist, primarily with appurtenance locations, sizes and quantities.

REV	CHANGE	ECN	DATE	BY
REVISION				

89 Crawford Street
Leominster, Massachusetts 01453
Office: 774-450-7177

NOTES:
1. DO NOT SCALE PRINT.
2. DESTROY ALL PREVIOUS REVISIONS.
3. ALL DRAWING CHANGES ARE TO BE MADE ON CAD SYSTEM.

TOLERANCE, UNLESS OTHERWISE NOTED.
.X ±.090
.XX ±.030
.XXX ±.010
∠ ± 1°

DESCRIPTION: AF 501-MI
STANDARD SPECIFICATIONS
INTERNAL MANIFOLD
—

PLASMA / DXF FILE

MATERIAL: —

FIRST USED:

ECN:

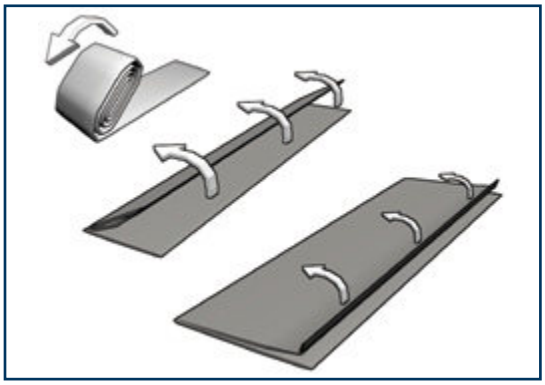
DRW: CES	DATE: 06-02-15	SIZE	PART NO.:	REV.
		B		
SCALE: NTS	BOOK NO.:			

Portable Spill Berms

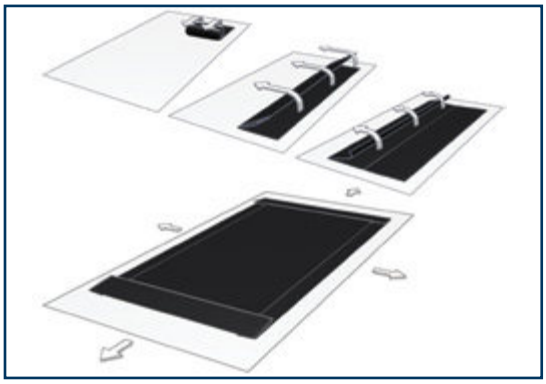
Portable secondary containment berms

- One piece pop-up berm is ready to use
- Bracketed berm easily sets up in minutes
- Manufactured with UV and chemically resistant membranes
- Durable and light-weight
- Portable, reusable, and repairable
- Prompt manufacturing lead time
- Custom designs engineered to meet your specific needs

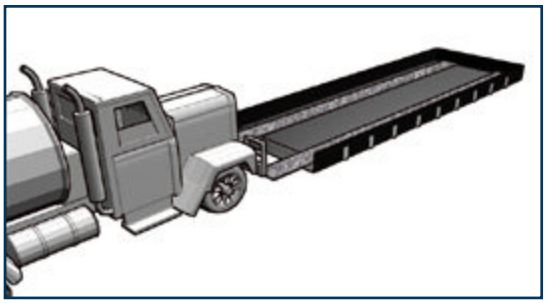
Berm Installation



1. Unpack all components and locate the ground cover. The ground cover is the thick cloth type material. Unfold the ground cover and position it in the desired location.

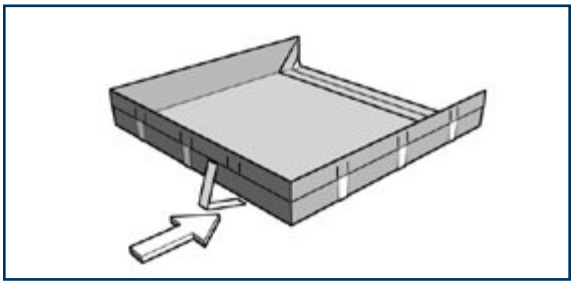


2. Next, locate the spill berm. Unfold the spill berm and center it on top of the ground cover.



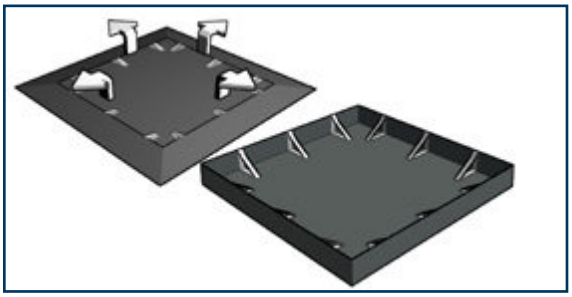
3. If the optional track guard is used, position it on top of the erected berm.

Bracketed Berm



For the bracketed berm, locate the aluminum angle brackets. Insert the angle brackets into the perimeter pockets on three sides of the spill berm. Use the unsupported end for equipment entry. After equipment is in place, insert the angle brackets on the fourth side to complete the installation.

Pop Up Berm



For the InstaBerm, pull all four sidewalls of the spill berm outward so that they are standing upright. Straighten the top angles of the wall supports inside the berm. The walls will move further outward as the berm is filled.

APPLICATIONS

- Roll-off Containers
- Tanker Trucks
- Frac Tanks
- Decon Wash Pads
- Emergency Response
- Drum Storage
- Portable Pumps

Attachment D

Calculations

DESIGN CALCULATIONS

Water Treatment System
Former Clove and Maple MGP Site
120 Maple Avenue
Haverstraw, New York

Treatment System Description:
System designed to treat groundwater at a maximum flow rate of 150 gallons per minute (gpm). Water treatment components include an 18,000-gallon weir tank, an oil-water separator, a 5-hp duplex pump skid, a bag filter skid with three single bag filters, two 3,000 lb carbon vessels plumbed in series, and a 3-inch flow totalizer meter. Refer to Water Treatment System Schematic.

A. 18,000 Gallon Weir Tank

V = 18,000 gallons
System Detention Time dt = V/Q = 18,000 gallons/150 gallons per minute = 120 minutes or 2 hours Typical dt >= 2 hours for primary settling.

Since design dt > typical dt; OK

Determine gravity discharge through 4 inch outlet to oil water separator (assumes weir tank is raised to maintain 1' elevation head)
Water level in tank at time of discharge = 7 feet
Height of drain port = 0 feet
Elevation Head = water level - drain port outlet = 7 - 0 = 7 feet
Discharge Velocity Vo = Cv * [Square Root (2*g*h)] = 0.7 * [Square Root(2*32 ft/sec*7')] = 14.8 ft/sec Q = V*A = 14.8 ft/sec * 0.087 SF = 1.29 CF
Qsystem = 150 gpm
Since Q > Qsystem, gravity flow OK

B. Oil Water Separator

Make/Model = LRT Coalescing
Type = Coalescing with manual NAPL drain line Qmax = 200 gpm
Qsystem = 150 gpm
Since Qsystem < Qmax; OK

C. Duplex Pump Skid

Number of Pumps = 2 (one on-line; one off-line) Type = Centrifugal
Power = 5 HP, 230V, 3-phase
Inlet = 3"
Discharge = 3"
Pump Qmax = 174 gpm per pump
Q system = 150 gpm
TDH @ 150 gpm = 82'...per pump curve

To achieve Q system = 150 gpm; TDH @ pump must be <= 82'. Refer to Section G below.

D. Bag Filters

Three single bag filters plumbed in parallel (two on-line; other in stand-by)
Press max = 125 psi
Qmax = 100 gpm/filter
Q system = 150 gpm/2 filters = 75 gpm/filter
Since Q system < Qmax; OK
Press Drop without bags @ 75 gpm = approx. 0.5 psi = 1.2 feet
Press Drop with 5 micron bags @ 75 gpm = approx. 0.5 psi + 0.03 psi = 0.53 psi = 1.2 feet
Note: Bags typically changed out at 5 psi pressure differential. Therefore, max pressure drop = 5 psi = 11.6 feet.

E. Carbon Filters

Two 3,000 lb vessels in series
Model HPAF 3000
Press max = 75 psi
Bed Diameter = 5 feet
Bed Area = pi x (5 feet)(5 feet)/4 = 19.6 SF
Bed Volume = 107 CF (per spec sheet)
Bed Depth = V/A = 107 CF/ 19.6 SF = 5.5 feet
Temperature (groundwater) = approximately 50 degrees

Press. Drop at 150 gpm = 4.5 psi/vessel (per curve) = 10.4 feet/vessel

EBCT = Bed Volume/Q = (107CF x 7.48 gal/CF)/150 gpm = 5.3 min. (per vessel) or 10.6 minutes total

Typical range for VOCs 7 to 10 minutes
Since 10.6 min > range; OK

F. Flow Meter/Totalizer

Make/Model: Mc Propeller/ MG/MS 100 (or equiv.)
Size = 3 inch
Qmax - 250 gpm
Qmin = 40 gpm
Q system = 150 gpm;
Since Qmin < Q system < Qmax; OK
Press Drop @ 150 gpm is not rated; but 29.5" wc at Qmax; therefore assume 29.5" wc at 150 gpm = 2.5 feet

G. System Head Loss (Centrifugal Pumps to Discharge)

Components	*Scenario 1 (clean bag filters) Head Loss (feet)*	*Scenario 2 bag filters at 5 psi Head Loss (feet)*
3 inch hose/piping at 150 gpm (100' @ 5.7'/100')	5.7	5.7
3" fittings (equiv. pipe length 100' @ 5.7'/100')	5.7	5.7
Bag Filters	1.2 (clean bag)	11.6 (bag @ 5 psi)
Carbon Filter #1	10.4	10.4
Carbon Filter #2	10.4	10.4
Flow Meter	2.5	2.5
Total	35.9	46.3

Duplex Pump TDH @ 150 gpm (Qsystem) = 82 feet.
Since total head loss for Scenerios 1 and 2 < 82 feet; system can achieve 150 gpm. Therefore; design OK.

Attachment E

Safety Data Sheets

89 Crawford Street
Leominster, MA 01453
Tel: 774.450.7177
Fax: 888.835.0617
www.lrt-llc.net

SAFETY DATA SHEET

Revision Date: 11/11

1.1 IDENTIFICATION OF PRODUCT.

Designation: - Activated carbon

1.2 COMPANY.

Lockwood Remediation Technologies, LLC
89 Crawford Street
Leominster, MA 01453

Phone: 774-450-7177
Fax: 888-835-0617

2 HAZARDOUS AND OTHER INGREDIENTS.

Exposure limits may vary. It is recommended that information about locally applicable exposure limits be obtained.

%w/w	Compound	CAS No	MAK mg/m^3	TLV mg/m^3	PEL mg/m^3
			(Germany)	(ACGIH)	(OSHA)
100	Bituminous Carbon	7440-44-0		2 mg/m3	15 mg/m3
			T Dust	T dust	

3 PHYSICAL DATA.

State:	Solid
Appearance:	Black granule, extradite, or powder
pH:	Not applicable
Boiling point or range:	Sublimes
Melting point or range:	3550 C (6422 F)
Vapor pressure:	1 @3586 C (6487 F)
Vapor density:	0.4
Density relative to water:	1.5 – 1.8 Specific gravity
Solubility in water:	Insoluble in water
Partition coefficient: (n-octanol/water):	
Other data:	odorless

4 FIRE AND EXPLOSION HAZARD DATA.

Fire, explosion and reactivity hazards:	Flammable.
Flammability and flammability limits:	Flammable.
Autoflammability:	Not applicable.
Explosive properties:	Non explosive.
Oxidizing properties:	Non oxidizing.

Fire fighting measures:
As with most organic solids, fire is possible at elevated temperatures or by contact with an ignition source.

Explosion:
Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Minimum explosible concentration 0.140 g/l.

Fire Extinguishing Media:
Water or water spray.

Unusual Fire and Explosion Hazards:
Contact with strong oxidize such as ozone, liquid oxygen, chlorine, permanganate, etc., may result in fire.

Special Information:
In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

5 STABILITY AND REACTIVITY DATA.

The product is stable under normal handling and storage conditions.

Conditions to avoid:	Incompatibilities.
Materials to avoid:	Liquid air and oxidizing materials. Strong oxidizers such as ozone, liquid oxygen, chlorine, permanganate, etc
Hazardous decomposition products:	Involvement in a fire causes formation of carbon dioxide and carbon monoxide.

Emergency Overview

WARNING! FLAMMABLE SOLID. ACTIVATED CARBON AFFECTS THE RESPIRATORY AND CARDIOVASCULAR SYSTEMS.

CAUTION!!! Wet activated carbon removes oxygen from air causing a severe hazard to workers inside carbon vessels and enclosed or confined spaces. Before entering such an area, sampling and work procedures for low oxygen levels should be taken to ensure ample oxygen availability, observing all local, state, and federal regulations.

J.T. Baker SAF-T-DATA(tm) Ratings (Provided here for your convenience)

Health Rating: 1 - Slight
Flammability Rating: 3 - Severe (Flammable)
Reactivity Rating: 1 - Slight
Contact Rating: 1 - Slight
Lab Protective Equip: GOGGLES; LAB COAT; CLASS B EXTINGUISHER
Storage Color Code: Orange (General Storage)

Potential Health Effects

Inhalation:
May cause mild irritation to the respiratory tract. The acute inhalation LC50 (Rat) is >64.4 mg/l (nominal concentration) for activated carbon.

Ingestion:
No adverse effects expected. May cause mild irritation to the gastrointestinal tract. The acute oral LD50 (Rat) is >10g/kg.

Skin Contact:
Not expected to be a health hazard from skin exposure. May cause mild irritation and redness. The primary skin irritation index (Rabbit) is 0.

Eye Contact:
No adverse effects expected. May cause mild irritation, possible reddening.

Chronic Exposure:
Prolonged inhalation of excessive dust may produce pulmonary disorders. The effects of long-term, low-level exposures to this product have not been determined. Safe handling of this material on a long-term basis should emphasize the avoidance of all effects from repetitive acute exposures.

Aggravation of Pre-existing Conditions:
No information found.

6. First Aid Measures

Inhalation:
Remove to fresh air. Get medical attention for any breathing difficulty.

Ingestion:
Give several glasses of water to drink to dilute. If large amounts were swallowed, seek medical attention.

Skin Contact:
Not expected to require first aid measures. Wash exposed area with soap and water. Seek medical attention if irritation develops.

Eye Contact:
Wash thoroughly with running water for at least 15 minutes. Seek medical attention if irritation develops.

7. Accidental Release Measures

Remove all sources of ignition. Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Clean up spills in a manner that does not disperse dust into the air. Use non-sparking tools and equipment. Reduce airborne dust and prevent scattering by moistening with water. Pick up spill for recovery or disposal and place in a closed container. Warning! Spent product may have absorbed hazardous materials.

8. Handling and Storage

Protect against physical damage. Store in a cool, dry well-ventilated location, away from any area where the fire hazard may be acute. Outside or detached storage is preferred. Separate from incompatibles. Containers should be bonded and grounded for transfers to avoid static sparks. Storage and use areas should be No Smoking areas. Use non-sparking type tools and equipment, including explosion proof ventilation. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

CAUTION!! Wet activated carbon removes oxygen from air causing a severe hazard to workers inside carbon vessels and enclosed or confined spaces. Before entering such an area, sampling and work procedures for low oxygen levels should be taken to ensure ample oxygen availability, observing all local, state, and federal or national regulations.

9. Exposure Controls/Personal Protection

Exposure Guidelines:
OSHA PEL*:
5mg/M3 (Respirable)
ACGIH TLV*:
10 mg/M3 (Total)
*PELs and TLVs are 8-hour TWAs unless otherwise noted.

Ventilation System:
A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):
For conditions of use where exposure to the dust or mist is apparent, a half-face dust/mist respirator may be worn. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:
Wear protective gloves and clean body-covering clothing.

Eye Protection:
Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

10. Toxicological Information

Investigated as a reproductive effector.

--------\Cancer Lists\----------

Ingredient	---NTP Carcinogen--- Known	Anticipated	IARC Category
Activated Carbon (7440-44-0)	No	No	None

11. Ecological Information

Environmental Fate:
No information found.

Environmental Toxicity:
No information found.

12. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

13. Transport Information

Proper Shipping Name:
NOT REGULATED
Hazard Class:
N/A
Identification Number:
N/A
Packing Group:
N/A
This product has been tested according to the United Nations *Transport of Dangerous Goods* test protocol for spontaneously combustible materials. It has been specifically determined that this product does not meet the definition of a self heating substance or any hazard class, and therefore is not a hazardous material and not regulated.

14. Regulatory Information

SARA TITLE III:
N/A
TSCA:
The ingredients of this product are on the TSCA Inventory List.
OSHA:
Nonhazardous according to definitions of health hazard and physical hazard provided in the Hazard Communication Standard (29 CFR 1910.1200)
CANADA

WHMIS CLASSIFICATION:
Not Classified
DSL#:
6798
EEC
Council Directives relating to the classification, packaging, and labeling of dangerous substances and preparations.
Risk (R) and Safety (S) phrases:
May be irritating to eyes (R36).

15. Other Information

NFPA Ratings: Health: 0 **Flammability:** 1 **Reactivity:** 0

Label Hazard Warning:
WARNING! FLAMMABLE SOLID. ACTIVATED CARBON AFFECTS THE RESPIRATORY AND CARDIOVASCULAR SYSTEMS.

Label Precautions:
Keep away from heat, sparks and flame. Avoid contact with eyes, skin and clothing. Avoid breathing dust. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

Label First Aid:
If inhaled, remove to fresh air. Get medical attention for any breathing difficulty.

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Appendix I

Quality Control Program

Construction Quality Control Program

Introduction

To achieve construction quality objectives, Charter has an established, comprehensive Corporate Quality Control Program that ensures data quality, maximizes quality workmanship, avoids rework, and supports continuous improvement of our work product. Our Quality Control program has been in place since our inception, and has been used to execute remediation and construction projects throughout the country.

Our Quality Control Program is designed to manage and control all aspects of the work and to obtain the highest levels of customer satisfaction. Charter develops the quality control plans, procedures, personnel, and organizational support and structure necessary to produce an end product that complies with regulations and contract requirements.

Our Quality Control program is built on a foundation of business practices that provide the framework for integrating quality control into all aspects of our project operations.

Quality is achieved though the implementation of the following practices:

- Understanding client and regulatory requirements and preparing plans based on these requirements;
- Successfully executing work in accordance with specifications;
- Implementing a consistent approach for project execution and control of process performance;
- Using a three-phase Construction Quality Management system for construction work;
- Continuously improving the process by integrating best practices and lessons learned into standard procedures and operations;
- Delivering increased value to our clients through innovative and alternative approaches to projects;
- Enhancing execution through delineation of responsibilities and lines of authority, and through relationships with our team members.

Quality Control Organization

To ensure effective Quality Control execution, our Quality Control Program is overseen by Charter's Corporate Quality Control Program Manager, Timothy Cady, PE who has more than 30 years of civil and environmental engineering construction quality control experience. He works with the key project management staff to establish project-level Quality Control controls based on Charter's

Corporate Quality Control Plan and contract deliverable requirements, and confirms compliance with contract requirements, work procedures and project submittals to achieve quality work execution.

For each project, an on-site Contractor Quality Control Manager (CQCM) is identified to oversee quality and project compliance in accordance with contract scope of work requirements. The CQCM reports directly to the Corporate Quality Control Program Manager, but interfaces with the Project Manager to address Quality Control issues in a timely manner. The CQCM reviews submittals for compliance, prepares Daily Quality Control Reports, ensures effective recordkeeping, and has the authority to stop work for noncompliance, and enforces/tracks corrective actions.

Quality Control Process

Our Corporate Quality Control Manager works with the CQCS and the Project Manager to develop a project-specific Contractor Quality Control Plan. The Plan provides guidance for managing and controlling all aspects of work: personnel, procedures, submittal approval, procurement, storage of materials/equipment, daily operations, tests, required inspections, and record keeping.

Our Contractor Quality Control Plan generally includes the following sections:

- Background;
- Quality Control Organization;
- Qualifications of Contractor Quality Control Personnel;
- Delegation of Contractor Quality Control Responsibilities and Authority;
- Outside Organizations;
- Meetings;
- Submittal Procedures & Register;
- Testing Laboratory Information;
- Site Quality Control Activities, Testing Procedures and Methods;
- Documentation Procedures ;
- Tracking Deficiencies and Corrective Actions;
- Definable Features of Work;
- Three Phase Control and Reporting Procedures;
- Changes to Contractor Quality Control Plan;
- Appendices/Forms.

For each project that involves environmental investigation and data management, our' Quality Control staff works closely with our technical subject-matter experts to prepare a Quality Assurance Project Plan (QAPP) that complies with governing regulations and contract requirements. The QAPP is modeled on prior plans that are used as a template to avoid unnecessary time and expense.

The QAPP defines data quality objectives, establishes data management processes, identifies laboratory audit procedures and requirements, outlines data validation requirements, and confirms compliance of data submittals for achieving quality work execution meeting project-specific requirements.

Quality Control Execution

To ensure our clients receive quality services from Charter, we:

- Assign properly trained, experienced staff with appropriate technical qualifications;
- Conduct interdisciplinary reviews of work products and independent senior peer-level reviews of deliverables by discipline, prior to submittal;
- Perform periodic design review, records review, and field audits to ensure conformance with requirements;
- Implement and track corrective actions to reestablish conformance and mitigate any adverse impacts;
- Identify continuous improvement in our approach and processes.

We employ the 3-phase Contractor Quality Control process (preparatory, initial, and follow-up inspections) to ensure compliance with definable features of work. Each phase provides the opportunity to review/evaluate methods, materials, and contract compliance, and identify potential deficiencies prior to initiating work. We enforce and track corrective actions for work that does not meet project requirements.

To enhance execution, our Project Team tracks productivity and evaluates progress through baseline metrics that provide early warning of potential problems to take proactive steps to achieve performance goals.

Quality is maintained through the multiple phases of the work by establishing measurable quality standards, ensuring quality workmanship through inspections/audits, and reviewing quality at the project level weekly.

We monitor Quality Control performance through three-phase inspections, audits, surveillance, and corrective actions. As part of the process, we capture data from lessons-learned to support our continuous improvement process.

We actively pursue client feedback through a post-project performance evaluation process; we seek objective feedback on our performance; and we track and evaluate trends to improve our product on future task. Data and results of our evaluation are reported to our management team to ensure corrective actions are taken if necessary, and lessons learned are communicated.

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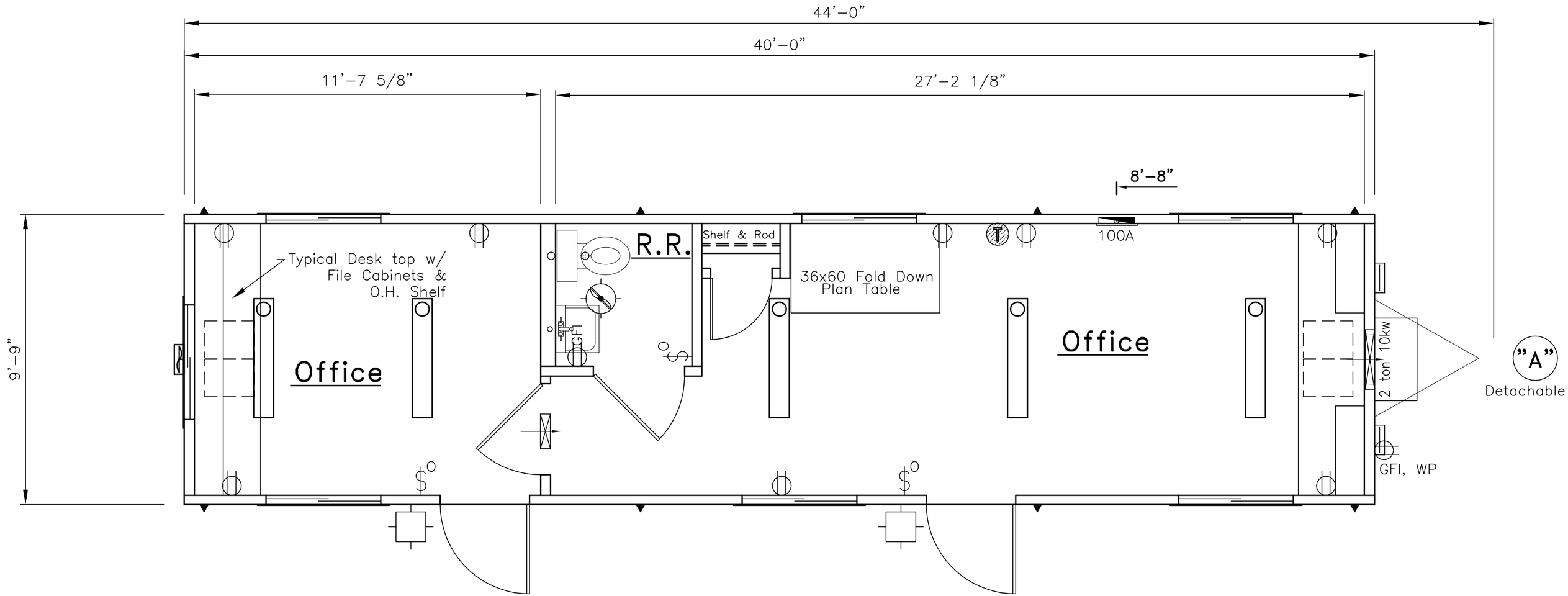
Appendix J

Office Trailer Cut Sheets

10 x 44 Office Trailer w/ Bath



194 Ayer Road · Littleton, MA 01460 · Toll-Free: 800-257-2536 · Tel: 978-486-0120 · Fax: 978-486-0347 · www.triumphmodular.com

10 x 36 Office Trailer

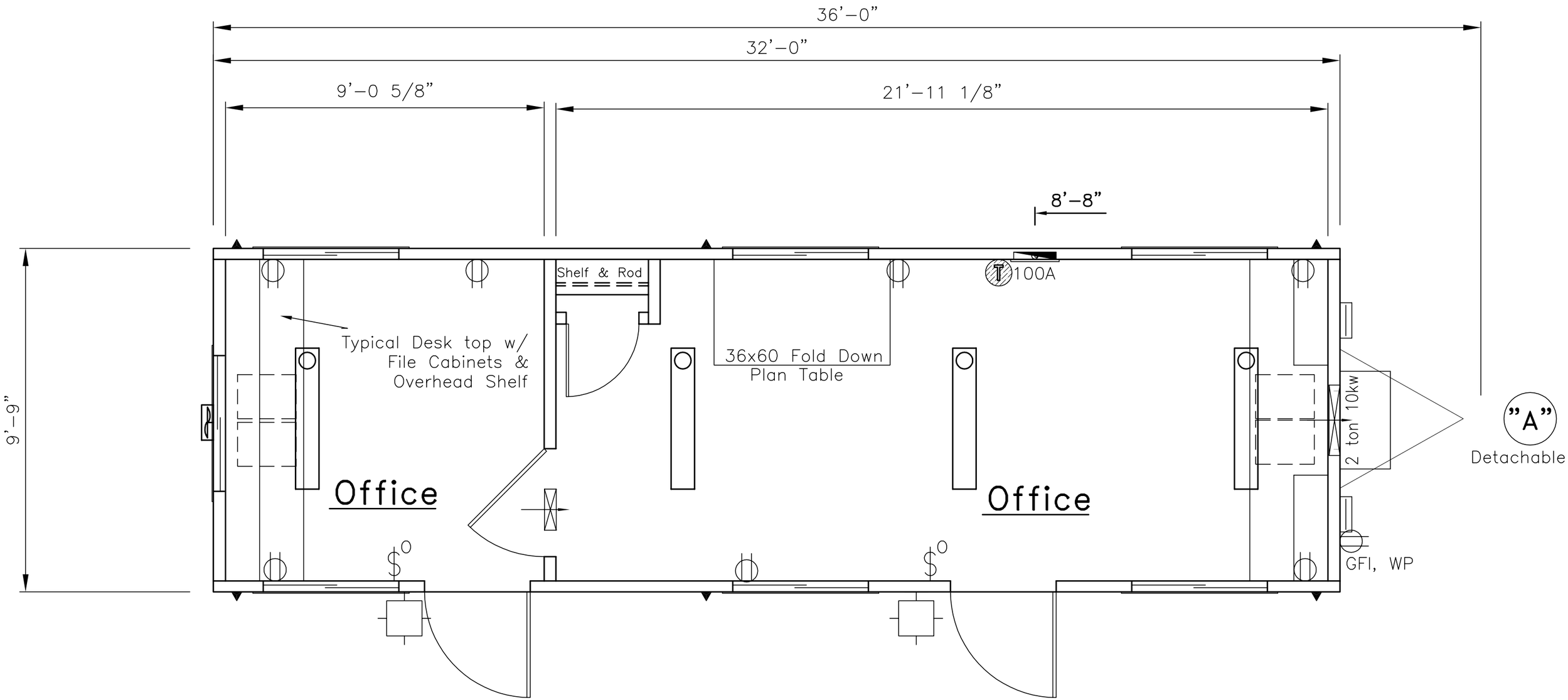


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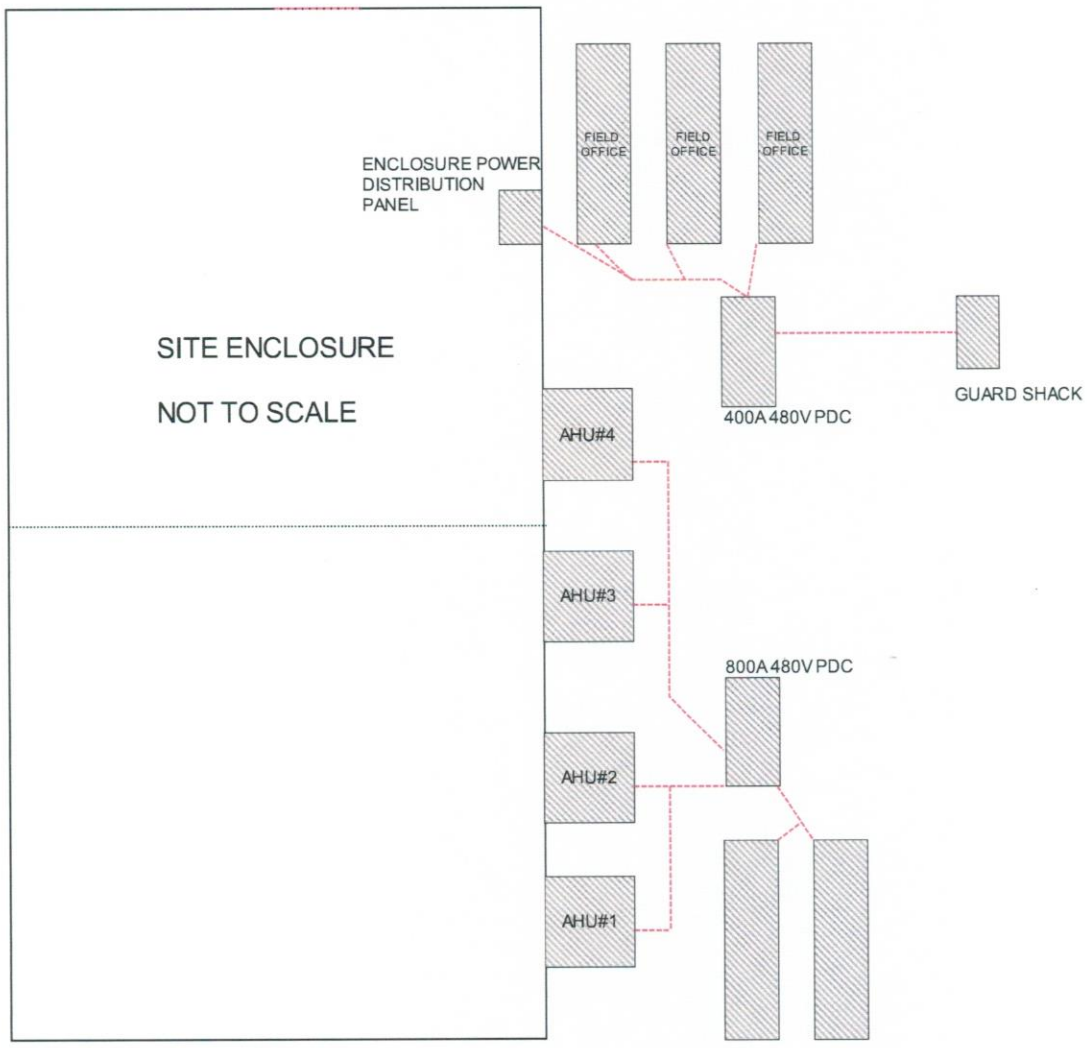
Figure 1

Site Electrical Layout


ENCLOSURE POWER DISTRIBUTION PANEL
FIELD OFFICE
FIELD OFFICE
FIELD OFFICE
SITE ENCLOSURE
NOT TO SCALE
400A 480V PDC
GUARD SHACK
AHU#4
AHU#3
800A 480V PDC
AHU#2
AHU#1

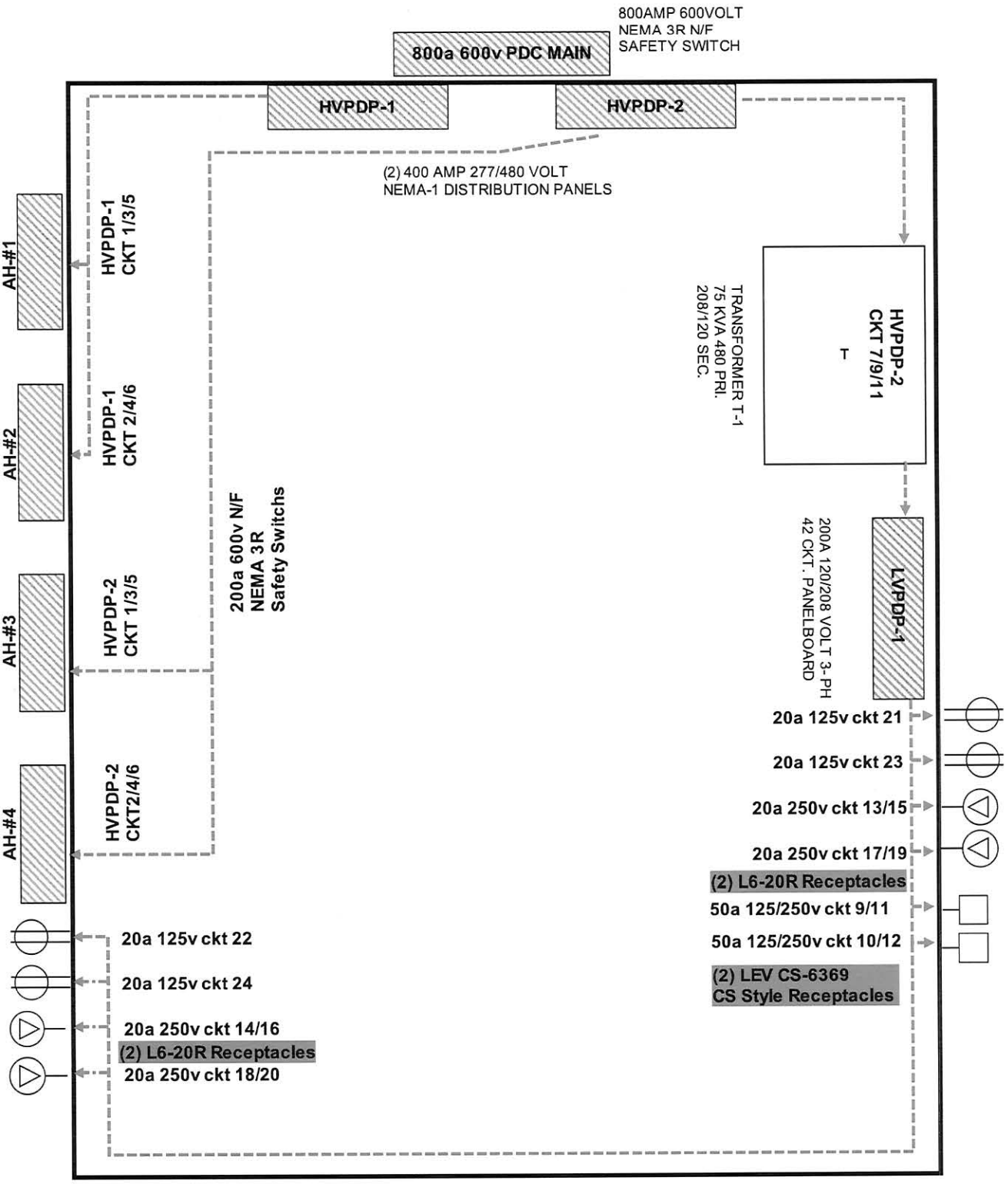

800AMP 600VOLT
NEMA 3R N/F
SAFETY SWITCH
800a 600v PDC MAIN
HVPDP-1
HVPDP-2
(2) 400 AMP 277/480 VOLT
NEMA-1 DISTRIBUTION PANELS
AH-#1
AH-#2
AH-#3
AH-#4
HVPDP-1
CKT 1/3/5
HVPDP-1
CKT 2/4/6
HVPDP-2
CKT 1/3/5
HVPDP-2
CKT2/4/6
200a 600v N/F
NEMA 3R
Safety Switchs
TRANSFORMER T-1
75 KVA 480 PRI.
208/120 SEC.
HVPDP-2
CKT 7/9/11
200A 120/208 VOLT 3-PH
42 CKT. PANELBOARD
LVPDP-1
20a 125v ckt 21
20a 125v ckt 23
20a 250v ckt 13/15
20a 250v ckt 17/19
(2) L6-20R Receptacles
50a 125/250v ckt 9/11
50a 125/250v ckt 10/12
(2) LEV CS-6369
CS Style Receptacles
20a 125v ckt 22
20a 125v ckt 24
20a 250v ckt 14/16
(2) L6-20R Receptacles
20a 250v ckt 18/20

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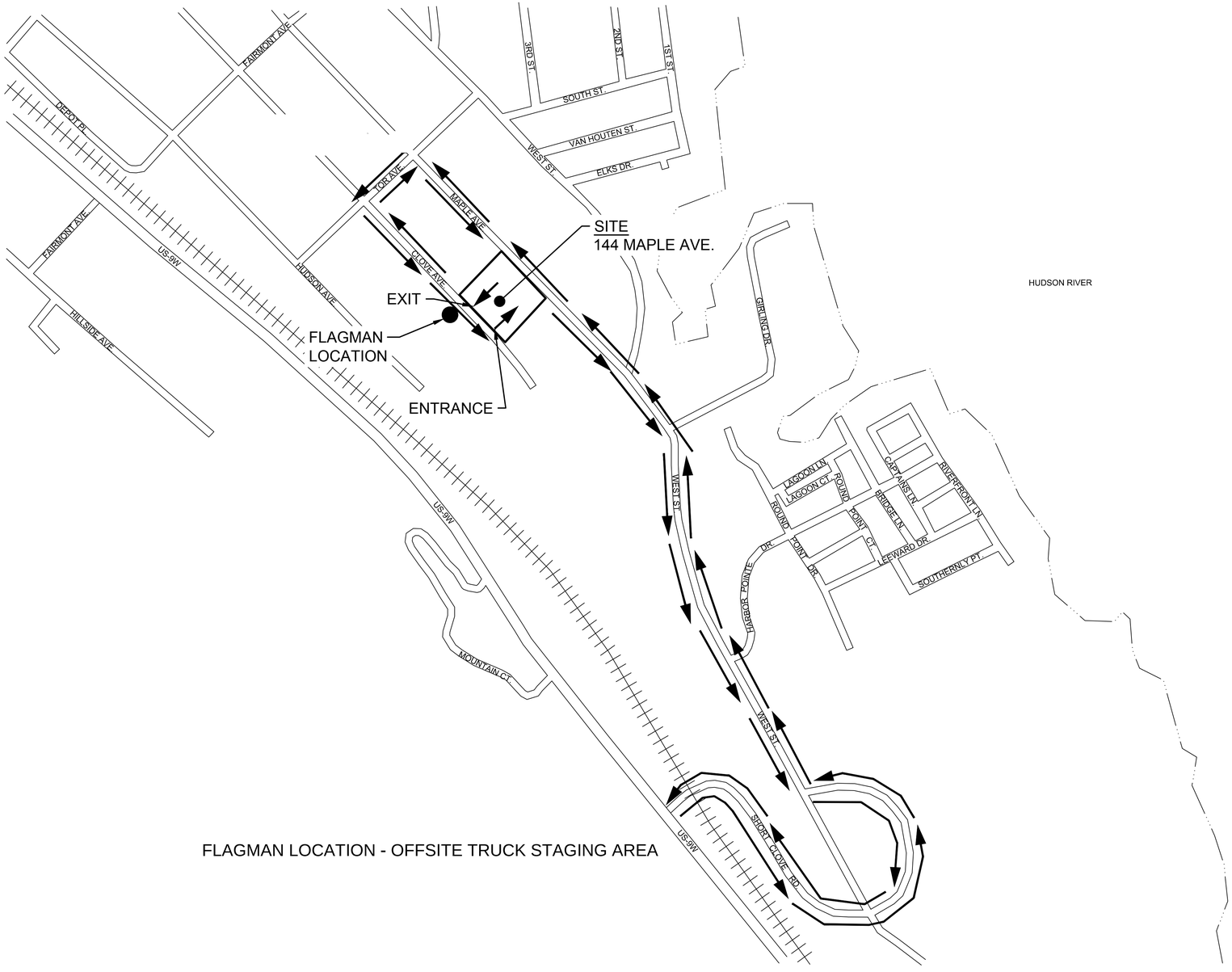
Figure 2

Traffic Control Plan



FLAGMAN LOCATION - OFFSITE TRUCK STAGING AREA

TRAFFIC FLOW DIRECTION

FLAGMAN LOCATION

CONTRACTOR NOTES:

1. PERFORM STREET SWEEPING ONCE PER DAY AND/OR AS DIRECTED BY CONSTRUCTION MANAGER WITH A COMMERCIAL STREET SWEEPER.
2. DECONTAMINATE TRUCKS AS NEEDED, AND AS DIRECTED BY CONSTRUCTION MANAGER, TO MINIMIZE OFF-SITE TRACKING OF SOIL.
3. PROVIDE FLAGMAN AND BARRICADES AS NECESSARY TO CONTROL TRAFFIC AS INDICATED ON THE TRUCK ROUTE DETAIL.
4. RESTRICT PROPOSED EXCAVATION BOUNDARIES TO AUTHORIZED PERSONNEL ONLY. DECONTAMINATE EQUIPMENT INSIDE EXCAVATION ZONES PRIOR TO LEAVING THE ZONE.
5. PARK ALL PERSONNEL AND VISITOR VEHICLES IN A DESIGNATED OFF-SITE PARKING AREA, AS APPROVED BY THE CONSTRUCTION MANAGER. OBTAIN PERMITS FROM VILLAGE OF HAVERSTRAW AND/OR PRIVATE FACILITIES AS REQUIRED FOR ANY OFF-SITE PARKING.

N

NOT TO SCALE

	REVISION:	DATE:	APP'D BY:
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SSi Silar Services Inc. | Natural Resource Technology | STERLING Sterling Environmental Engineering, P.C.

PROJECT NO.	2254/3.0
DRAWN BY:	DMD 07/27/2015
CHECKED BY:	RCW 07/25/2017
APPROVED BY:	.

TRAFFIC CONTROL PLAN

REMEDIAL CONSTRUCTION
CLOVE AND MAPLE AVENUES FORMER
MGP SITE, OPERABLE UNIT 1
HAVERSTRAW, NEW YORK

DRAWING NO: D2254-3-C040-00
REFERENCE: .

SHEET NO. C040

IMAGES: .\Reference\ConEd Logo_B&W.jpg; .\Reference\ESRI Aerial 150724.jpg; .\Reference\Truck Route C031 Raster.jpg; .\Reference\ConEd Logo...
XREFS: .\Xref\Xref - Backround 2254-3.dwg

EXHIBIT B
FACT SHEET

Orange & Rockland

O&R to begin work on vacant property next door.

- Starting in May 2018, O&R will be conducting work on the vacant property located next door to Head Start.
- The property was once used to manufacture gas from coal before natural gas was available. The gas plant operated from 1887–1935.
- The gas manufacturing process left some oily, tar-like wastes behind on the site and the work to be done involves excavation and removal of the soil/dirt that contain these wastes.
- The excavation work will be conducted under a large tent that will have an air treatment system to contain dust and odors.
- Air monitoring stations that will operate 24 hours/day, 7 days/week will be placed around each of the 4 sides of the property to monitor the air and insure that there are no air emissions coming from the work site.
- The work on the site will be monitored by the New York State Department of Environmental Conservation to insure that work is done properly and in accordance with all health and environmental rules.
- The project is expected to take 7–9 months to complete.
- Trees and other vegetation will be cleared from the site at the start of the work.
- There will be construction noise during the day and truck traffic on the local streets. Every effort will be made to minimize any traffic impacts around Head Start particularly during drop off and pick up times.
- Clean soil will be brought to the site to fill in excavation areas and once the work is completed, the property will be seeded and trees will be planted.
- A public meeting will be held on May 22, 2018 at 7pm at Haverstraw Village Hall, 40 New Main Street, Haverstraw, New York 10927 for more information.
- Questions about the project can be directed to **Kate Wysokowski** at O&R at **845-577-2539**.
- Contact information for NYSDEC or the NYS Department of Health is also available.

1805-0112-R

Orange & Rockland

O&R comenzará a trabajar en la propiedad vacante al lado.

- A partir de mayo, O&R comenzara trabajos en la propiedad ubicada al lado de Head Start.
- La propiedad se utilizó para fabricar gas a partir de carbón antes de que el gas natural estuviera disponible. La planta de gas funcionó desde 1887-1935.
- El proceso de fabricación de gas dejó residuos aceitosos y similares en la propiedad y el trabajo requiere la excavación y eliminación del suelo / tierra.
- El trabajo de excavación se realizará bajo una carpa grande que tendrá un tratamiento de aire para contener el polvo y los olores.
- Se colocarán estaciones de monitoreo de aire que operarán las 24 horas del día, los 7 días de la semana, alrededor de cada uno de los 4 lados de la propiedad para asegurar que no haya emisiones al aire provenientes del sitio de trabajo.
- El trabajo en el la propiedad será monitoreado por el Departamento de Conservación Ambiental del Estado de Nueva York para asegurar que el trabajo se realice de manera adecuada y de acuerdo con todas las normas de salud y medioambientales.
- Se espera que el proyecto tome entre 7 y 9 meses para completar.
- Los árboles y otra vegetación serán eliminados del sitio al inicio del projecto.
- Habrá ruido de construcción durante el día y tráfico de camiones en las calles locales. Se hará todo lo posible para minimizar los impactos del tráfico en Head Start, particularmente durante los horarios de entrega y retiro.
- Se traerá tierra limpia al sitio para rellenar las áreas de excavación y una vez que se complete el trabajo, se sembrarán árboles.
  - habrá una reunión el 22 de mayo de 2018 a las 7 p.m. en Haverstraw Village Hall, 40 New Main Street, Haverstraw, New York 10927.
- Las preguntas sobre el proyecto pueden dirigirse a **Kate Wysokowski** de O&R **845-577-2539**.
- La información de contacto para NYSDEC o el Departamento de Salud de NYS está disponible.

FACT SHEET ORU- Haverstraw Clove and Maple Former MGP – OU-1

State Superfund Program

120 Maple Avenue
Haverstraw, NY 10927

SITE No. 344049

May 2018

NYSDEC REGION 3

Cleanup Action to Begin at State Superfund Site Public Meeting Announced

Project Update and Public Information Meeting
Tuesday, 5/22/18 at 7:00 PM
Haverstraw Village Hall, 40 New Main Street, Haverstraw, 10927

NYSDEC invites you to this discussion about cleanup activities about to begin at the site. Drop in any time during the session to ask questions and discuss the upcoming site activities.

Action is about to begin that will address contamination related to the ORU – Haverstraw Clove & Maple Former MGP – OU-1("site") located at 120 Maple Avenue, Haverstraw, NY, Rockland County under New York's State Superfund Program. The cleanup activities will be performed by Orange and Rockland Utilities ("remedial party") with oversight provided by the New York State Department of Environmental Conservation (NYSDEC). Documents related to the cleanup of this site are available at the location(s) identified to the left under "Where to Find Information".

Remedial activities are expected to begin in May 2018, and last about 7-9 months. The estimated cost to implement the remedy is $9.8 M.

Highlights of the Upcoming Cleanup Activities: The goal of the cleanup action for the site is to achieve cleanup levels that protect public health and the environment. The key components of the remedy are:

- Excavation and off-site disposal of approximately 18,000 cubic yards of coal tar contaminated soil to approximate depths of up to 22 feet. Most of the excavation work will be conducted inside a temporary fabric structure to reduce odors and noise.
- Excavation and off-site disposal of existing former MGP structures, debris, piping, and major obstructions.
- Backfill excavated areas with clean soil and gravel and installation of a site cover.

Where to Find Information:
Project documents are available at the following location(s) to help the public stay informed.

Haverstraw Kings Daughters Library
Rosman Center – 10 West Ramapo Rd
Garnerville, NY 10923
(845) 786-3800

NYSDEC
21 South Putt Corners Road
New Paltz, NY 12561
(845) 256-3154

Who to Contact:
Comments and questions are always welcome and should be directed as follows:

Project-Related Questions
Wayne Mizerak, Project Manager
NYSDEC
625 Broadway, Albany, NY 12033-7014
(518) 402-9657
wayne.mizerak@dec.ny.gov

Health-Related Questions
Anthony Perretta
NYSDOH
Bureau Environmental Exposure Investigation
ESP Corning Tower, Room 1787
Albany, NY 12237
(518) 402-7860
beei@health.ny.gov

For more information about New York's State Superfund Program, visit:
www.dec.ny.gov/chemical/8439.html

O & R Contacts

Katherine Wysokowski
Public Affairs Manager
(845) 577-2539
Wysokowskik@oru.com

Maribeth McCormick
Manager – Environmental Services Remediation
(845) 294-1757
mccormickm@oru.com

STATE SUPERFUND PROGRAM

- Placement of an environmental easement on the site that will allow the use and development of the property for restricted residential, commercial or industrial use (subject to local zoning laws) and restrict the use of groundwater as a source of potable or process water.
- Development and implementation of a site management plan that will detail the need for soil management in the event of any future excavations. The site management plan will also provide for long-term monitoring at the site.

A site-specific health and safety plan (HASP) and a Community Air Monitoring Plan (CAMP) will be implemented during remediation activities. The HASP and CAMP establish procedures to protect on-Site workers and residents and includes required air monitoring as well as dust and odor suppression measures.

Next Steps: After cleanup activities are completed, NYSDEC will prepare a Final Engineering Report (FER). The FER will describe the cleanup activities completed and certify that cleanup requirements have been achieved or will be achieved.

NYSDEC will keep the public informed throughout the cleanup of the site.

Site Description: The Orange and Rockland Utilities (O&R) Clove and Maple site is a former manufactured gas plant (MGP) and is located at 120 Maple Avenue in a residential and commercial portion of Haverstraw, Rockland County, New York and is identified as Block 1, Lot 9 on the Village of Haverstraw Tax Map. The site is approximately 1 acre in size and was operated from 1887 through 1935. The site ceased operation in 1935 after the introduction of natural gas in the area. The plant structures were demolished in the 1960s and the property was subsequently used as a natural gas regulator station. The site is bounded by two residential properties to the northwest, Maple Avenue to the northeast, Clove Avenue to the southwest and a Head Start facility to the southeast. The site is currently owned by O&R and was utilized as a natural gas regulator station until 2007 at which time the station was decommissioned. The site is currently vacant and only the piping associated with the former regulator station remains at the site. The site is currently zoned for light industrial uses. The majority of the surrounding area is residential.

Additional Site details, including environmental and health assessment summaries, are available on NYSDEC's Environmental Site Remediation Database (by entering the Site ID, 344049) at:

http://www.dec.ny.gov/cfmx/extapps/derexternal/index.cfm?pageid=3

Summary of the Investigation: The primary contaminants of concern are found in coal tar that was the by-product from the operation of the former MGP. Site investigations revealed that both soil and groundwater are contaminated with volatile and semi-volatile organic compounds exceeding SCGs mainly at depth throughout the site. Non-aqueous phase liquids (NAPL) were found in soil at depths ranging from 6 to 22 feet below ground surface (bgs) on-site.

State Superfund Program Overview: New York's State Superfund Program (SSF) identifies and characterizes suspected inactive hazardous waste disposal sites. Sites that pose a significant threat to public health and/or the environment go through a process of investigation, evaluation, cleanup and monitoring.

NYSDEC attempts to identify parties responsible for site contamination and require cleanup before committing State funds.

For more information about the SSF, visit:

http://www.dec.ny.gov/chemical/8439.html

We encourage you to share this fact sheet with neighbors and tenants, and/or post this fact sheet in a prominent area of your building for others to see.

Receive Site Fact Sheets by Email

Have site information such as this fact sheet sent right to your email inbox. NYSDEC invites you to sign up with one or more contaminated sites county email listservs at:

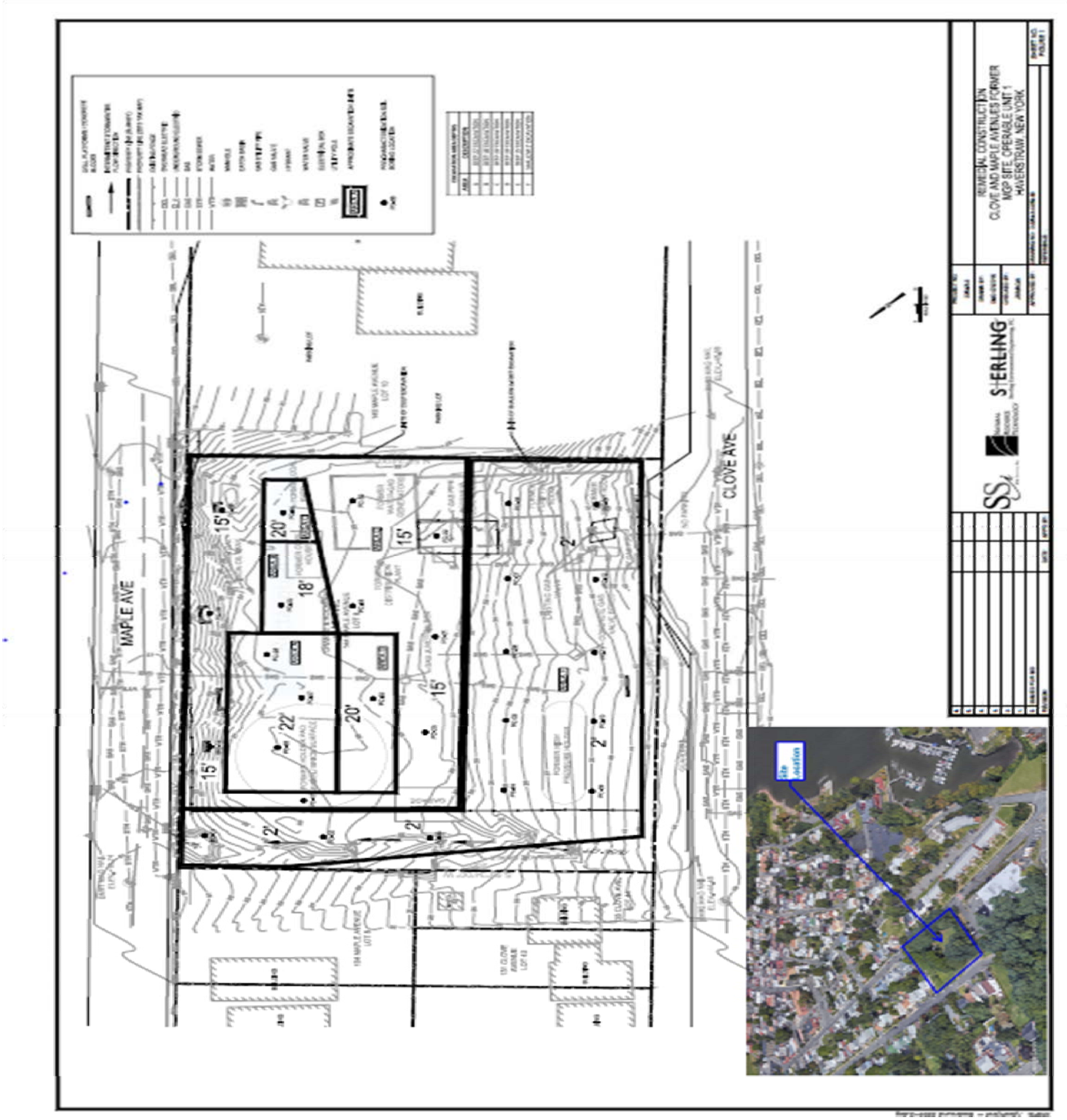
www.dec.ny.gov/chemical/61092.html

It's quick, it's free, and it will help keep you better informed. As a listserv member, you will periodically receive site-related information/announcements for all contaminated sites in the county(ies) you select.

Note: Please disregard if you have already signed up and received this fact sheet electronically.

STATE SUPERFUND PROGRAM

Site Location



Orange & Rockland

UPDATE

Former Manufactured Gas Plant (MGP)
Clove/Maple Avenues in Haverstraw, NY

We've made progress on our remediation project at the former MGP site. We couldn't have done it without your support and patience. Thank you.

We're looking forward to completing the project in June. In the meantime, here are highlights on what you can expect for the remainder of the project:

- Construction activities have shifted from installation of the ground support system and erection of the tent to excavation of impacted soils.
- The excavation of MGP impacted soils is being done inside the tent that was constructed to contain any vapors, dust and/or odors.
- There will be an increase in truck traffic on Maple and Tor Avenues as trucks are coming to the site to be loaded with soil for transport to a permitted disposal facility.
- There will be flaggers along Clove Avenue and Tor Avenue to control the truck traffic and every effort will be made to minimize traffic flow disruption on these streets.
- There are 8 air-monitoring stations that operate 24 hours/day, 7 days a week along the perimeter of the site to monitor the air and ensure that there are no air emissions coming from the work site.
- The work on the site is being monitored by the New York State Department of Environmental Conservation (NYSDEC) to ensure that work is done properly and in accordance with all health and environmental rules.
- Clean soil will be brought to the site to fill in excavation areas and the property will be seeded once the work is completed.
- The project is expected to be completed in June 2019.

If you have any questions or concerns about the project, please contact the hotline at **(845) 858-0018**. A representative from O&R will contact you in order to answer your questions or address your concerns.

If you have questions for the NYSDEC, please contact Wayne Mizerak at **(518) 402-9657**.

We apologize for any inconvenience. Thank you for your continued cooperation and patience as we complete this project.

Orange & Rockland

ACTUALIZACIÓN

Antigua Planta de gas manufacturado (MGP)
Clove/Maple Avenues en Haverstraw, NY

Hemos progresado en el proyecto de saneamiento en el antiguo sitio de la MGP. No podríamos haberlo logrado sin su apoyo y paciencia. Gracias.

Esperamos finalizar el proyecto en el mes de junio. Mientras tanto, a continuación presentamos los aspectos destacados de lo que puede esperar para el resto del proyecto.

- Las actividades de construcción han pasado de la instalación del sistema de apoyo en tierra y el levantamiento de la tienda a la excavación de suelos afectados.
- La excavación de los suelos afectados de MGP se realiza dentro de la tienda que se construyó para contener vapores, polvo u olores.
- Habrá un aumento del tránsito de camiones en Maple Avenue y Tor Avenue ya que irán camiones al sitio para cargar la tierra que deben transportar a un centro de eliminación de residuos autorizado.
- Estarán presentes personas encargadas de la señalización en toda Clove Avenue y Tor Avenue para controlar el tránsito de camiones y se hará todo lo posible para reducir la alteración del flujo de tránsito en estas calles.
- Hay 8 estaciones de control de la calidad del aire que operan las 24 horas del día, los 7 días de la semana, alrededor del perímetro del sitio para supervisar el aire y garantizar que no haya emisiones al aire provenientes del sitio de la obra.
- La obra en el sitio es supervisada por el Departamento de Conservación Ambiental del Estado de Nueva York (New York State Department of Environmental Conservation, NYSDEC) para garantizar que el trabajo se lleve a cabo de forma correcta y de conformidad con todas las normas sanitarias y ambientales.
- Se llevará tierra limpia al sitio para rellenar las áreas de excavación y se sembrará en la propiedad una vez que se complete la obra.
- Se tiene previsto que el proyecto se termine en junio de 2019.

Si tiene alguna pregunta o inquietud sobre el proyecto, comuníquese con la línea directa al (**845) 858-0018**. Un representante de Orange & Rockland (O&R) se comunicará con usted a fin de responder sus preguntas y abordar sus inquietudes.

Si tiene alguna pregunta para el NYSDEC, comuníquese con Wayne Mizerak al **(518) 402-9657**.

Pedimos disculpas por las molestias ocasionadas. Gracias por su constante colaboración y paciencia mientras terminamos el proyecto.

(Fact Sheet Begins Next)

Act Now to Continue Receiving Information About This Site!

DEC's Division of Environmental Remediation (DER) now distributes information about contaminated sites *electronically by email*.

If you would like to continue to receive information about the contaminated site featured in this fact sheet:

You must sign up for the DER email listserv:

www.dec.ny.gov/chemical/61092.html

DER cannot register your email address - only the email address owner can do so. If you already have signed up for the listserv for the county in which the site is located, you need do nothing.

Why You Should Go "Paperless":

- ☑ Get site information faster and share it easily;
- ☑ Receive information about all sites in a chosen county - read what you want, delete the rest;
- ☑ It helps the environment and stretches your tax dollars.

If "paperless" is not an option for you, call or write to the DER project manager identified in this fact sheet. Indicate that you need to receive paper copies of fact sheets through the Postal Service. Include the site name in your correspondence. The option to receive paper is available to individuals only. Groups, organizations, businesses, and government entities are assumed to have email access.

Where to Find Information

Access project documents through the DECinfo Locator and at these location(s):
https://www.dec.ny.gov/data/DecDocs/344049/

Haverstraw Kings Daughters Library
Rosman Center – 10 West Ramapo Rd
Garnerville, NY 10923
(845) 786-3800

NYSDEC
21 South Putt Corners Road
New Paltz, NY 12561
(845) 256-3154

Who to Contact

Comments and questions are welcome and should be directed as follows:

Project-Related Questions
Justin Starr, Project Manager
NYSDEC
625 Broadway, Albany, NY 12033-7014
(518) 402-9797
Justin.Starr@dec.ny.gov

Project-Related Health Questions
Anthony Perretta
NYSDOH
Bureau Environmental Exposure Investigation
ESP Corning Tower, Room 1787
Albany, NY 12237
(518) 402-7860
beei@health.ny.gov

For more information about the MGP Program, visit:
http://www.dec.ny.gov/chemical/8430.html

O & R Contacts
Matt Mariconi
Public Affairs Manager
(845) 577-2417
mariconim@oru.com

Maribeth McCormick
Manager – Environmental Services Remediation
(914) 557-1361
mccormickm@oru.com

FACT SHEET

Manufactured Gas Plant Program

O&R- Haverstraw Clove & Maple Former MGP – OU-1
120 Maple Avenue
Haverstraw, NY 10927

SITE No. 344049

November 2019

NYSDEC REGION 3

Project Status Update for Haverstraw – Clove & Maple OU-1 Former MGP Site

Construction activities are coming to end at the Haverstraw Clove & Maple OU1 portion of the former Manufactured Gas Plant (MGP) site located at 120 Maple Avenue, Haverstraw, Rockland County, under New York's State Superfund Program. A significant portion of the cleanup activities have been completed to address contamination related to the former MGP site. The cleanup activities have been conducted by Orange and Rockland Utilities, Inc. ("remedial party") with oversight provided by the New York State Department of Environmental Conservation (DEC). Documents related to the cleanup of this site are available at the locations identified at left under "Where to Find Information."

Status of Cleanup Activities:

- Deep excavation activities that were conducted within the temporary fabric structure (tent) have been completed and backfilled. Shallow soil excavation is ongoing.
- The temporary fabric structure has been disassembled and removed from the site.
- The sheet piling utilized to support the deep excavation is currently being removed. This work is expected to be completed by the end of November.
- The Community Air Monitoring Plan (CAMP) will continue to be implemented until all intrusive work is completed.

Next Steps:

- Once shallow soil excavation is completed, the site will be backfilled and graded. Topsoil will be placed, and the site will be seeded.
- Demobilization is expected by the end of December, with final restoration activities potentially occurring as late as this spring depending on weather conditions.
- The site will be fenced, as it was prior to the remediation, so it will be secure and on-street parking can return.
- A construction completion report (CCR) and site management plan will be prepared for DEC review and approval. The CCR will describe the cleanup activities completed and certify that cleanup requirements have been achieved.
- An environmental easement will be placed on the property.
- Once DEC has accepted the CCR, another fact sheet will be released stating that the OU1 remedial action is complete.
- O&R plans to maintain ownership of the property for the foreseeable future and will implement the monitoring required by DEC.

MANUFACTURED GAS PLANT PROGRAM

Site Description: The Orange and Rockland Utilities, Inc. (O&R) Clove & Maple site is a former manufactured gas plant (MGP) and is located at 120 Maple Avenue in a residential and commercial portion of Haverstraw, Rockland County, New York, and is identified as Block 1, Lot 9 on the Village of Haverstraw Tax Map. The site is approximately 1 acre in size and was operated from 1887 through 1935. The site ceased operation in 1935 after the introduction of natural gas in the area. The plant structures were demolished in the 1960s and the property was subsequently used as a natural gas regulator station. The site is bounded by two residential properties to the northwest, Maple Avenue to the northeast, Clove Avenue to the southwest and a Head Start facility to the southeast. The site is currently owned by O&R and was utilized as a natural gas regulator station until 2007 at which time the station was decommissioned. The site is currently zoned for light industrial uses. Most of the surrounding area is residential. For ease of remediation and management, the site was divided into 3 "operable units" (OUs), nos. 1, 2 and 3. OU-2 and OU-3, covering the off-site and the Hudson River Embayment respectively, will be addressed at a later date.

Additional site details, including environmental and health assessment summaries, are available on NYSDEC's Environmental Site Remediation Database (by entering the Site ID, 344049) at:

http://www.dec.ny.gov/cfmx/extapps/derexternal/index.cfm?pageid=3

MGP Program Overview: New York's MGP Program oversees the investigation and cleanup of former MGP sites. Sites in the MGP program go through a process of investigation, evaluation, cleanup and monitoring.

The gas manufacturing process involved the heating of coal and/or petroleum products to produce a gas mixture. Once cooled and purified, the gas was distributed through a local pipeline network. The gas was used for heating and cooking much like natural gas is used today. In the early years, the gas was also used for lighting in homes and in streetlights. A dense, oily liquid known as coal tar would condense out of the gas at various stages during its production, purification and distribution, and be discharged to the subsurface.

For more information about the MGP Program, visit:
http://www.dec.ny.gov/chemical/8430.html

We encourage you to share this fact sheet with neighbors and tenants, and/or post this fact sheet in a prominent area of your building for others to see.

Stay Informed With DEC Delivers
Sign up to receive site updates by email:
www.dec.ny.gov/chemical/61092.html

Note: Please disregard if you already have signed up and received this fact sheet electronically.

DECinfo Locator
Interactive map to access DEC documents and public data about the environmental quality of specific sites: http://www.dec.ny.gov/pubs/109457.html

MANUFACTURED GAS PLANT PROGRAM

CLOVE AND MAPLE FORMER MGP SITE
HAVERSTRAW, NEW YORK

ORANGE AND ROCKLAND UTILITIES, INC.

GEI Consultants
Project 091950-1

OU-1 AND OU-2
LOCATION AERIAL
PHOTOGRAPH
January 2010 Figure 2