FORMER TIDEWATER TERMINAL

ROCKLAND COUNTY

VILLAGE OF NYACK, NEW YORK

SITE MANAGEMENT PLAN

NYSDEC Site Number: C344067

Prepared for:

Foot of Main, LLC

27 NY Route 210, Stony Point, New York, 10980

Prepared by:

Henningson, Durham & Richardson Architecture and Engineering, PC

in association with HDR Engineering, Inc.

1 International Boulevard, Mahwah, New Jersey 07495

(201)-335-9300

Revisions to Final Approved Site Management Plan:

Revision No.	Date Submitted	Summary of Revision	NYSDEC Approval Date
	03/15/2017	Draft	
	6/07/2017	Final	
	10/12/2017	Final Rev01	
	12/11/2017	Final Rev02	

DECEMBER 2017

CERTIFICATION STATEMENT

I, STUART BASSELL, certify that I am currently a NYS registered professional engineer as in defined in 6 NYCRR Part 375 and that this Site Management Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

_____ P.E.

12/7/17 DATE

CERTIFICATION STATEMENT

I, STUART BASSELL, certify that I am currently a NYS registered professional engineer as in defined in 6 NYCRR Part 375 and that this Site Management Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

_____P.E.

_____DATE

TABLE OF CONTENTS

FORMER TIDEWATER TERMINAL

ROCKLAND COUNTY

VILLAGE OF NYACK, NEW YORK

SITE MANAGEMENT PLAN

Table of Contents

TABLE OF CONTENTS (Continued)

List of Figures

List of Tables

List of Appendices

List of Acronyms

AS	Air Sparging
ASP	Analytical Services Protocol
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CAMP	Community Air Monitoring Plan
C/D	Construction and Demolition
CFR	Code of Federal Regulation
CLP	Contract Laboratory Program
COC	Certificate of Completion
CO2	Carbon Dioxide
CP	Commissioner Policy
DER	Division of Environmental Remediation
EC	Engineering Control
ECL	Environmental Conservation Law
ELAP	Environmental Laboratory Approval Program
ERP	Environmental Restoration Program
EWP	Excavation Work Plan
GHG	Green House Gas
GWE&T	Groundwater Extraction and Treatment
HASP	Health and Safety Plan
IC	Institutional Control
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYCRR	New York Codes, Rules and Regulations
O&M	Operation and Maintenance
OM&M	Operation, Maintenance and Monitoring
OSHA	Occupational Safety and Health Administration
OU	Operable Unit

PID	Photoionization Detector
PRP	Potentially Responsible Party
PRR	Periodic Review Report
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
RAO	Remedial Action Objective
RAWP	Remedial Action Work Plan
RCRA	Resource Conservation and Recovery Act
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RP	Remedial Party
RSO	Remedial System Optimization
SAC	State Assistance Contract
SCG	Standards, Criteria and Guidelines
SCO	Soil Cleanup Objective
SMP	Site Management Plan
SOP	Standard Operating Procedures
SOW	Statement of Work
SPDES	State Pollutant Discharge Elimination System
SSD	Sub-slab Depressurization
SVE	Soil Vapor Extraction
SVI	Soil Vapor Intrusion
TAL	Target Analyte List
TCL	Target Compound List
TCLP	Toxicity Characteristic Leachate Procedure
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VCA	Voluntary Cleanup Agreement
VCP	Voluntary Cleanup Program

ES EXECUTIVE SUMMARY

The following provides a brief summary of the controls implemented for the Site, as well as the inspections, monitoring, maintenance and reporting activities required by this Site Management Plan:

Site Identification: C344067	Former Tidewater Terminal Site, Main and Gedney Street, Nyack, NY	
Institutional Controls:	1. Environmental Easement which requires periodic certification of the engineering and institutional controls; limits the use of the Property to Restricted Residential Use; restricts the use of groundwater as a source of potable or process water without the proper treatment as determined by NYSDOH and Rockland County DOH.	
Engineering Controls:	1. Cover system	
	2. Soil Vapor Intrusion Evaluation	
Inspections:		Frequency
1. Cover Inspection		Annually
2. .Foundation Drain Infiltration Basin Area		Monthly
Monitoring:		
1. Foundation Drain Infiltration Basin Sampling		Monthly
2. Soil Vapor Intrusion (indoor air) Monitoring		Yearly (during heating season)_
Maintenance:		
1. None		
Reporting:		
1. Periodic Review Report		Annually to Triennially

Site Identification: C344067	Former Tidewater Terminal Site, Main and Gedney Street, Nyack, NY
2. Monthly Infiltration Basin Inspection and Sampling Reports	Monthly

Further descriptions of the above requirements are provided in detail in the latter sections of this Site Management Plan.

1 INTRODUCTION

1.1 General

This Site Management Plan (SMP) is a required element of the remedial program for the Former Tidewater Terminal site located in Village of Nyack, New York (hereinafter referred to as the "site"). See Figure 1. The site is in the New York State (NYS) Brownfield Cleanup Program (BCP) Site No. C344067 which is administered by New York State Department of Environmental Conservation (NYSDEC).

Foot of Main, LLC. (the "Volunteer") entered into a Brownfield Cleanup Agreement (BCA) on August 23, 2006 with the NYSDEC to remediate the site. A figure showing the site location and boundaries of this site is provided in Figure 2. The boundaries of the site are more fully described in the metes and bounds site description that is part of the Environmental Easement provided in Appendix A.

After completion of the remedial work, some contamination was left at this site, which is hereafter referred to as "remaining contamination". Institutional and Engineering Controls (ICs and ECs) have been incorporated into the site remedy to control exposure to remaining contamination to ensure protection of public health and the environment. An Environmental Easement granted to the NYSDEC, and recorded with the Rockland County Clerk, requires compliance with this SMP and all ECs and ICs placed on the site.

This SMP was prepared to manage remaining contamination at the site until the Environmental Easement is extinguished in accordance with ECL Article 71, Title 36. This plan has been approved by the NYSDEC, and compliance with this plan is required by the grantor of the Environmental Easement and the grantor's successors and assigns. This SMP may only be revised with the approval of the NYSDEC.

It is important to note that:

- This SMP details the site-specific implementation procedures that are required by the Environmental Easement. Failure to properly implement the SMP is a

violation of the Environmental Easement, which is grounds for revocation of the Certificate of Completion (COC);

- Failure to comply with this SMP is also a violation of Environmental Conservation Law, 6NYCRR Part 375 and the BCA (Index #A3-0568-1006; Site #C344067) for the site, and thereby subject to applicable penalties.

All reports associated with the site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State. A list of contacts for persons involved with the site is provided in Appendix B of this SMP.

This SMP was prepared by Henningson, Durham & Richardson Architecture and Engineering, PC in association with HDR Engineering (HDR), on behalf of Foot of Main, LLC., in accordance with the requirements of the NYSDEC's DER-10 ("Technical Guidance for Site Investigation and Remediation"), dated May 3, 2010, and the guidelines provided by the NYSDEC. This SMP addresses the means for implementing the ICs and/or ECs that are required by the Environmental Easement for the site.

1.2 Revisions

Revisions to this plan will be proposed in writing to the NYSDEC's project manager. Revisions will be necessary upon, but not limited to, the following occurring: a change in media monitoring requirements, upgrades to or shut-down of a remedial system, post-remedial removal of contaminated sediment or soil, or other significant change to the site conditions. In accordance with the Environmental Easement for the site, the NYSDEC will provide a notice of any approved changes to the SMP, and append these notices to the SMP that is retained in its files.

1.3 Notifications

Notifications will be submitted by the property owner or their designee to the NYSDEC, as needed, in accordance with NYSDEC's DER – 10 for the following reasons:

- 60-day advance notice of any proposed changes in site use that are required under the terms of the BCA, 6NYCRR Part 375 and/or Environmental Conservation Law.
- 7-day advance notice of any field activity associated with the remedial program.
- 15-day advance notice of any proposed ground-intrusive activity pursuant to the Excavation Work Plan.
- Notice within 48-hours of any damage or defect to the foundation, structures or EC that reduces or has the potential to reduce the effectiveness of an EC, and likewise, any action to be taken to mitigate the damage or defect.
- Verbal notice by noon of the following day of any emergency, such as a fire; flood; or earthquake that reduces or has the potential to reduce the effectiveness of ECs in place at the site, with written confirmation within 7 days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.
- Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action submitted to the NYSDEC within 45 days describing and documenting actions taken to restore the effectiveness of the ECs.

Any change in the ownership of the site or the responsibility for implementing this SMP will include the following notifications:

- At least 60 days prior to the change, the NYSDEC will be notified in writing of the proposed change. This will include a certification that the prospective purchaser/Remedial Party has been provided with a copy of the BCA, and all approved work plans and reports, including this SMP.
- Within 15 days after the transfer of all or part of the site, the new owner's name, contact representative, and contact information will be confirmed in writing to the NYSDEC.

Table 1 on the following page includes contact information for the above notification. The information on this table will be updated as necessary to provide accurate contact information. A full listing of site-related contact information is provided in Appendix B.

Table 1: Notifications*

Name	Contact Information
Douglas MacNeal	(518)-402-9662,douglas.macneal@dec.ny.gov
Edward Moore	(845) 255 2987 edward.moore@dec.ny.gov
Kelly Lewandowski	(518) 402-9595 kelly.lewandowski@dec.ny.gov

* Note: Notifications are subject to change and will be updated as necessary.

2 SUMMARY OF PREVIOUS INVESTIGATIONS AND REMEDIAL ACTIONS

This section includes a concise description of the location and layout of the site; all areas of remaining contamination; remedial activities performed on-site; history; nature and extent of contamination, both before and after the remedy.

2.1 Site Location and Description

The site is located in Village of Nyack, Rockland County, New York and is identified as Section 66.39 Block 1 and Lot 2 on the Rockland County Tax Map. The site is an approximately 0.8-acre area of a larger 2.6 acre property. It is bounded by the Former O&R Nyack MGP site to the north, Main Street to the south, Gedney Street to the east, and The Hudson River to the west (see Figure 2 – Site Layout Map). The boundaries of the site are more fully described in Appendix A – Environmental Easement. The owner(s) of the site parcel(s) at the time of issuance of this SMP is/are:

William F. Helmer
Foot of Main, LLC
27 Route 210
Stony Point, New York 10980

2.2 Physical Setting

2.2.1 Land Use

As discussed above the site encompasses the western 0.8-acre portion of the 2.6-acre property identified as Block 66.39 and Lot 1-2 on the Rockland County, New York Tax Map # 66. The lot is composed of the following (numbers 4 and 5, below, constitutes the site) and are detailed in Figure 2:

1. Underwater lands beneath the Hudson River. This area is approximately 1.4 acres.
2. Lower terrace (approximately 0.3 acres). This section is used for controlled access parking (through a gate) for the Clermont Condominium complex to the south.

There is a public access easement along the waterfront (identified as Easement E in Figures 2). Orange & Rockland Utilities (O&R) completed a project to remediate coal tar-contaminated soil over the northern two-thirds of the lower terrace. The area of remediation is indicated in Figures 2. This remediation was completed through in-situ soil stabilization techniques and the area is subject to use restrictions that have been put in place by the Volunteer, O&R, and the NYSDEC. The area is currently paved and in use as parking.

3. Main Street extension (approximately 0.1 acres). This section, identified as Easement B in Figures 2, effectively functions as a public street. The easement is extensively developed with subsurface utilities, including water supply, storm water, electric power, and telephone lines. This area is currently paved and has been maintained as gated access to the lower parking lot.
4. Middle terrace (approximately 0.3 acres). This section is part of the site, the eastern portion of this has recently been remediated by the Volunteer. Upon Village of Nyack approval, the rest of this area will be excavated for the construction of a 5-story building and two-tier subterranean parking garage (Figure 2).
5. Upper terrace (approximately 0.5 acres). This section has been currently remediated by the Volunteer and has been prepped for the construction of a 5-story building and parking garage (Figure 2).

The site is zoned Residential with a Waterfront Development C-3 designation, based on the Village of Nyack's zoning map and is currently vacant awaiting planning board approval for construction.

The properties adjoining the site and in the neighborhood surrounding the site primarily include mixed residential/commercial properties. The properties immediately south of the site include commercial and residential properties; the properties immediately north of the site include vacant commercial properties; the properties to the west of the site include commercial and residential properties; The Hudson River is located to the east of the site.

2.2.2 Geology

The site is located in the Triassic Lowlands of the New England Province. The Triassic Lowlands are characterized by broad gentle valleys and only a moderate pattern of ridges. The area is underlain by the igneous and sedimentary bedrock of the Triassic Newark Group, specifically the conglomerates, sandstones and shales. Bedrock underlying the site is mapped as the Newark Group – Brunswick formation. The Brunswick Formation (Upper Triassic) consists of sandstone (most likely arkose sandstone), siltstone, mudstone, and conglomerate bedrock. The Newark Group in general includes shale, sandstone, and red conglomerate. Bedrock cores obtained at the site indicate that the rock is reddish-brown and gray mottled sandstone, fractured, and generally fine to medium grained.

There is a plateau in the surface of the bedrock at elevation 16 ft through the center of the upper tier and a portion of the middle tier. The surface slopes steeply from this plateau to the east and to the north, and more moderately from the upper tier to the south toward Main Street. As a result, depth-to-bedrock widely varies throughout the site. During the 2016 remedial action the surface of the weathered bedrock soil interface beneath the site as well as the competent bedrock surface were exposed. The observations made during that action confirm the original supposition made during the 2009 remedial investigation that there is a depression in the surface of the bedrock in the northwestern corner of the site In the upper tier, depth to bedrock is typically in the range of 15 to 17 feet. In middle and southern portions of the western half of the middle tier, the depth is less than 5 feet. Along the eastern border of the site, the depth to bedrock is estimated to be on the order of 20 feet.

Site soils, as characterized during the 2009 site investigation, are generally classified as follows:

- "Fill" - the upper portion of the overburden, which ranges from 0 to 6 feet below the ground surface (bgs). This material is from prior construction/demolition and possible filling activities at the site. Site soils are classified as brown to dark grey

fine sand, angular gravel, black silt, brick, concrete, metal, and minor amounts of ash, coal fragments, wood, etc.

- "Glacial till" -, the middle portion of the overburden, which ranges from 1 foot to 15 feet bgs, consisting primarily of reddish brown silty fine sand with some tan and grey fine sand with varying amount of fine to course gravel.
- "Bedrock" – the bedrock consisted of a reddish-brown and gray mottled pattern, fine to medium grained sandstone, with thin to medium bedding and slightly to moderate fracturing. The depth to bedrock ranged from 2.5 to 15 feet bgs.

The thickness of the fill and till varies throughout the site.

A generalized geologic cross section is shown in Figure 3a, 3b, and 3c. Site specific boring logs are provided in Appendix C.

2.2.3 Hydrogeology

Two water bearing units were identified during the 2009 remedial investigation. An overburden unit situated in the upper terrace and the far eastern side of the site and a bed rock unit which cover the entire site. Groundwater is not present in the overburden in the center of the site in the area of the shallow bedrock noted above. Where the bedrock deepens to the east, the overburden again contains groundwater. In 2009 where present, groundwater in the overburden appeared to flows towards southeast and depth to water range from elevation of 24.02 above mean sea level (amsl) in the north western corner of the site at HVMS-1 to 10.95 amsl at the south eastern side of the site at MW09-02.

Groundwater occurs in the fractured bedrock, with flow southeast toward the Hudson River. The hydraulic gradient in the groundwater appears to be down from the overburden to the bedrock, except for an area in the center of the site where available data from 2009 indicated an upward gradient.

There are no streams or surface waters on the site. The Hudson River is approximately 50 ft east of the eastern bound of the site. The Village of Nyack is serviced by a municipal water system. There are no known users of groundwater in the vicinity of the site.

A groundwater contour map is shown in Figure 4. Groundwater elevation data is provided in Table 1. Groundwater monitoring well construction logs are provided in Appendix C.

It should be noted that during the remedial excavation of the property (summer 2016) the overburden and bedrock water tables were not encountered even though the remedial excavation proceeded a few feet into the bedrock along the central and western portions of the site. However, there was lower than normal precipitation during this period. Records show that the 2016 precipitation in the Village of Nyack was about 10-inches below its average annual precipitation of 51.98 inches.

2.3 Investigation and Remedial History

This section includes a concise description of available site history and all investigation and remedial activities performed for the site. The descriptions are provided in chronological order and provide a brief summary of the findings of each project record.

Site History

Information was assembled to document the history of the site back to the year 1887. The early history of the site, as documented below, is primarily from the Sanborn fire insurance maps, copies of which have been placed in the public repositories for this Brownfield project.

The 1887 insurance map shows dwellings and a boat and sail maker in the upper terrace. The middle terrace is vacant.

The 1892, 1896, and 1903 insurance maps show the site being used for boat building by the Charles L. Seabury & Co. (1892 and 1896) and the Pinckney Co. (1903). There is a large machine shop that covers the southern half of the middle terrace. There are several smaller structures on the upper and middle terraces, with one structure on the middle terrace being labeled "coal".

The 1910 map shows that the boat builder's buildings are vacant.

The 1919 map shows the site is vacant except for a new warehouse that straddles the middle and lower terraces.

In the 1926 map, there are three horizontal, aboveground gasoline tanks in the middle terrace and the warehouse shown in 1919 is labeled as including a garage. The three aboveground storage tanks (ASTs) are shown in Figure 4. The name of Tidewater Oil Sales Corporation appears on the map.

The 1946, 1957 and 1966 insurance maps are identical and show the facilities of the Tidewater Oil Sales Corporation. The warehouse and garage shown in the 1926 map are gone. In the middle terrace, there are two large circular gasoline ASTs plus the three horizontal ASTs present in 1926. In the upper terrace, there are a loading rack, pump house (which apparently was used for marine transfer operations, though this history is uncertain) and an auto/truck garage and office. These features are shown in Figure 5. The positions of the ASTs are taken from scans of the historic maps and their actual locations on that figure are therefore approximate. The positions of the garage and pump house, taken from a land survey drawing, are more accurate. The position of the truck rack is taken from a 2005 sketch map of the concrete slab for that rack.

The fire insurance maps do not depict two underground petroleum storage tanks (USTs) that were excavated in 1992.

Additional information on site history is provided in the RI report and materials attached to the BCP application.

The list of previous known owners of the site is provided below:

OWNER NAME	ADDRESS	
Tidewater Oil Company	unknown: out of business	
Tidewater Associated Oil Company	unknown: out of business	
Henry & Albert Shotmeyer Brothers Company	unknown: out of business	
Grand Development Corporation	unknown: out of business	
Robert N. Lee, Jr.	unknown	
Nyack Waterfront Associates	unknown	
Hudson Vista Assoc.	27 Route 210 Stony Point, NY 10980	
Foot of Main, LLC	27 Route 210 Stony Point, NY 10980	Current site owner

The list of known prior operators at the site is provided below:

NAME	ADDRESS
Charles L. Seabury, Co.	unknown: out of business (operated circa 1892-1896)
Pinckney Co.	unknown: out of business (operated circa 1903)
Pattern Storage	unknown: out of business (operated circa 1919)
Tidewater Oil Sales Corp.	unknown: out of business (operated circa 1926-1966)

Investigation

Numerous site investigations have been conducted on the site. A comprehensive map of all site investigation sampling locations has been included as Figure 5. Prior assessments and investigations are summarized below and copies of these reports have

been previously provided. These reports can be found at the public repository located at the Nyack Library if a complete account of these investigations is required.

Raamont Associates (1983)

On January 27, 1983, Raamont Associates, P.C. oversaw the completion of one soil boring (B-3) in the middle terrace of the site. The boring encountered 15 feet of glacial till and was continued 5 feet into the sandstone bedrock. During this investigation it was noted that soil from the 10 and 12 foot interval had a "strong fuel oil smell."

Dames & Moore (D&M) (1992)

In 1992, Dames & Moore (D&M) removed two 1,000-gallon USTs and associated piping and dispenser from the upper terrace, minor staining and gasoline odors were observed around the fill lines and pump island. D&M also excavated and segregated contaminated soil from the tank pit area. At the end of the work, the pit was 30 ft long, by 10 ft wide, by 10 ft deep. Five post-excavation soil samples were collected from the tank excavation (TP-1 through TP-5). Samples were analyzed for total petroleum hydrocarbons (TPH) per EPA Method 418.1, benzene, toluene, ethylbenzene and xylenes per Method 8240, and total lead per Method 6010. The reported chemical concentrations are compliant with the current 6 NYCRR Part 375 Residential and Protection of Groundwater Restricted Use Soil Cleanup Objectives (SCOs), except for the West Wall ethylbenzene concentration which is over the Protection of Groundwater SCO of 1,000 ug/kg. The NYSDEC assigned Spill No. 9200781 for the reported contamination. After the sampling, D&M backfilled the excavation with apparently clean soil that had been excavated during the UST removal and an additional 60 yd^3 of imported material.

In addition to the post exaction samples, D&M also advanced seven soil borings, six (B-1, -2, -3, -5, -6, -8; there was no B-4) on the site and one (B-7) off-site. B-1 was installed to a depth of 16 feet at an up-gradient location. Weathered gasoline odors were present from 7 feet to 11 feet and PID readings ranged from 0 to 35 PPM. B-2 was installed southeast of the garage area where gasoline and oil containers had been found by D&M. Based on an absence of apparent contamination in the soil, drilling was completed to a

depth of only 4 feet. Borings B- 3 (15 feet deep) and B-5 (11 feet deep) were installed in the area of the former large ASTs. At B-3, no staining was observed, however PID readings as high as 300 PPM were recorded and petroleum odors were present from 7 feet through the end of the boring. At B-5, soil staining was observed between 3 and 8 feet, and a black oily material was present in the soil at 7 feet. An unstained layer of clay between 8 and 9 feet was also observed. Below the clay layer sand was observed with "strong" staining which continued to the bottom of the boring. PID readings as high as 3900 PPM were recorded. B-6 was installed to a depth of 11 feet in the area of three former horizontal ASTs. Petroleum staining was evident between 3 and 8 ft and a black oily material was present in the soil at 7 feet. PID readings ranged between 60 and 3900 PPM. B-8 was installed to a depth of 15.5 feet (split spoon sampling to 10 feet and auguring only below that) in an area where D&M had seen a 3000 ft^2 area of dark staining on a 1965 aerial photograph. Heavy petroleum staining was reported in the soil from 1 to 10 ft, with oil-saturated soil being present at and immediately above the water table (7 feet); all samples and cuttings yielded strong odors and PID readings were as high as 500 PPM. D&M submitted eight soil samples (one from each boring, except for B-5 and B-8 – two samples each) collected from the site borings to a laboratory for analysis. All samples were analyzed for TPH, lead, and VOCs; the samples from B-5 and B-8 were also analyzed for SVOCs and PCBs. analytical results from the B-1 sample (collected at the interval with the highest PID reading) contained just 5.1 ug/kg ethylbenzene. The B-2 sample contained 14 ug/kg methylene chloride (possibly a result of contamination induced at the test laboratory). The sample collected from B-3 (10-12 ft deep: 200-300 PPM PID reading) contained 190 ug/kg 1,1,1-trichloroethane (TCA). This concentration is compliant with Residential and Protection of Groundwater SCOs. The TPH scan also detected the presence of 960 ug/kg of diesel/No. 2 fuel oil in the B-3 sample. In spite of the contamination noted on the boring log during the drilling of B-5, only trace amounts of methylene chloride were reported in just one of the two soil samples (no other VOCs were detected) and the TPH scan was negative, except for trace jet fuel in the 9-11 foot sample. The 4-5 foot sample for B-5 was analyzed for SVOCs; 13 compounds were detected with the highest concentration of 1200 ug/kg being reported for benzo(k)fluoranthene and the total SVOC concentration being 8,345 ug/kg. However, these concentrations are compliant

with the Residential and Protection of Groundwater SCOs. The 10-12 foot sample (PID reading 200-1200 PPM) collected at B-6 contained 400 ug/kg methylene chloride, 2000 ug/kg ethylbenzene (non-compliant with the Protection of Groundwater SCO of 1,000 ug/kg), and 500 ug/kg kerosene. In spite of the heavy petroleum contamination, only 51 ug/kg methylene chloride and 3.8 ug/kg toluene were the only VOCs detected in the two B-8 samples; one sample contained 1900 ug/kg diesel/No. 2 oil. The total SVOC concentrations for the two samples were about the same, in the range of approximately 15,000 to 17,000 ug/kg, though the samples had a different mix of individual compounds. Both the B-8 (4-6 ft) and B-8 (6-8 ft) sample concentrations are compliant with the Part 375 Residential and Protection of Groundwater SCOs, except for three exceptions:

- benzo(a)anthracene 1300 ug/kg > 1000 ug/kg (groundwater SCO)
- benzo(a)pyrene 1500 ug/kg > 1000 ug/kg (residential SCO)
- chrysene 1700 ug/kg > 1000 ug/kg (groundwater SCO)

D&M also constructed four monitoring wells, two of which are on the site: B-1 was completed as MW-1 (also identified as HVMW-1S) and B-8 was completed as MW-3 (no longer existing and was historically identified as DMMW-3). Samples collected in 1992 from these wells were analyzed for VOCs, SVOCs, TPH, and priority pollutant metals (antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, and zinc). The test results for MW-1 and MW-3 indicate, other than likely laboratory and sampling induced contaminants, chemical concentrations for VOC and SVOCs in the groundwater at HVMW-1S sample are low. Total VOC concentrations for these wells ranged from ND in MW-1 to 280 in MW-3, while SVOC concentrations ranged from ND in MW-1 to 82 in MW-3, with some of these concentrations being estimated. Priority Pollutant Metals were not detected in either the MW-1 or the MW-3 sample. Diesel/No. 2 fuel was reported in the TPH scan at a concentration of 980 ug/L in MW-1, TPH was not detected in MW-3.

Lawler, Matusky & Skelly (LMS) (1994)

In April 1994, LMS completed five test pits, two of which are on the BCP site. Test pit TPSS-3 was advanced on the upper portion of the site (upper tier) near the concrete pad. The sample results indicated no SVOC, TCLP volatiles or BTEX compounds were detected. Additionally, TPSS-4 was advanced on the upper portion (upper tier) of the site near the crest of the embankment. Analytical results indicate that one TCLP volatile compound (2-butanone) was detected at low level concentration, while nine SVOCs ranging from 39 ug/kg of indeno(1,2,3-cd)pyrene to 94 ug/kg of Di-n-butylphthalate, all of the concentrations were below the quantitation limits. Additionally, three low concentrations of BTEX compounds were also detected. As part of this investigation LMS also sampled D&M's wells MW-1 and MW-3. MW-1 located on the upper portion of the site near Gedney Street showed signs of petroleum related contamination; four VOCs were detected. Monitoring well MW-3 was located on the bulkhead near the Main Street extension. Laboratory analyses indicate that 13 VOCs compounds were detected. Benzene was found at 62 ug/l, well above the standard of 0.7 ug/l. Several BTEX chemicals were detected as well.

Clough, Harbour & Associates (CHA) (1995)

In 1995, CHA conducted a geophysical investigation, advanced test pits and soil borings, and conducted a groundwater study of the site and the adjoining land. The studies were conducted for the New York Thruway Authority as part of that agency's assessment of the property's suitability as a ferry terminal. The geophysical study included the use of a terrain conductivity meter and metal detection. One low conductivity anomaly was found on the lower terrace (east of the Brownfield site) immediately east of D&M's MW-3. CHA attributed the low conductivity to possible petroleum contamination, indicating that the contamination reported in the water samples collected from this well may be a manifestation of that lower terrace contamination. CHA also found subsurface metal anomalies throughout much of the upper terrace and one subsurface metal anomaly south of D&M's MW-3 between the middle terrace (on-site) and the lower terrace (off-site) and extending into off-site Easement B. CHA subsequently investigated these anomalies with their test pit and soil boring programs.

PID measurements were completed with soils retrieved from the pits in the field and again at CHA's office. A number of soil samples were retained for laboratory analysis. Prior to analysis, extracts of the soil were prepared per the Toxicity Characteristic Leachate Procedure (TCLP); the extracts were then analyzed for four metals (lead, chromium, cadmium, and mercury), SVOCs (Method 8270), and VOCs (Method 8021). The results were reported in units of ug/L. Measurements of mass chemical content (as would be reported in units of ug/kg) were not conducted. Test Pit-1 (TP-1) and TP-2 were completed to depths of 7 ft and 8 ft, respectively, through a magnetic anomaly in the upper terrace (Figure 5). Metal pipe was present at TP-1; concrete at TP-2. A petroleum odor was present in an ashy material encountered at 4 feet; the PID reading was 6 PPM. The extract for the ashy sample collected from the 4-ft depth contained six petroleum-related VOCs at concentrations ranging from 1 to 7 ug/L.

TP-4 was completed to a depth of 5 ft in the center of a magnetic anomaly that coincided with a concrete pad (former truck rack shown on the Sanborn maps) immediately east of the USTs removed by D&M. TP-3 was completed to a depth of 9 feet immediately south of the anomaly, and TP-4A was completed to a depth of 6 ft immediately east. At TP-4, a concrete slab was removed, below which there were pipes and flanges. The soil was stained grey and had a heavy petroleum odor. The extract for the soil sample collected at 4 to 6 ft deep contained 13 petroleum-related VOCs with the highest concentrations for 1,2,4-trimethylbenzene (1200 ug/L), m,p-xylene (1100 ug/L), and naphthalene and ethylbenzene (each 330 ug/L). Electrical wires were present near the surface at TP-3. A 0.5-foot-thick layer of ash was present below 4 ft, and at 8 ft the soil had a petroleum odor. The extract for the sample collected at 9 ft contained 11 petroleum-related VOCs, with 1,2,4-trimethylbenzene being present at the highest concentration (260 ug/L). At TP-4, electrical wires were also present as well as a layer of gravel, crushed stone and ash that appeared to offer a preferential path for the drainage of fluids beneath the concrete slab to the west. PID measurements for the soil at 5 ft were 75 PPM in the field and 250 PPM in the office. No sample was collected at this location.

TP-7t (over 60 ft of trench), TP-7, and TP-9 were completed as part of the investigation of a linear magnetic anomaly southeast of the concrete slab near the former USTs. Cable and several metal and clay pipes were uncovered along this alignment. The metal pipes exposed in the pits appeared to lead to the concrete slab, though the test pit logs are not totally clear on this point. The exposed soil was discolored and had petroleum odors to different degrees, with the 8 to 9 ft soil at TP-9 apparently being the most contaminated. A "water-based fluid" drained from the pipes where the TP-7t trenching severed the lines leading from underneath the concrete slab. No chemicals were detected in the extract for the soil sample collected at 8-ft from TP-9.

TP-6, TP-10, and TP-14 were completed to depths of 8 to 10 ft in the magnetic anomaly east of the TP-7t test trench. No metallic material was unearthed. Petroleum-contaminated soil was encountered in all three pits, and ash in two (TP-10 and TP-14). At TP-6, petroleum saturated soil was present at 5 ft, though the deeper soil at 9-10 ft was retained for laboratory analysis; at detection limits of 20 ug/L, only n-butylbenzene (20 ug/L) and naphthalene (17 ug/L) were detected in the extract for that sample. The extract for the TP-14 sample collected at 6-8 ft contained eight petroleum-related VOCs at concentrations ranging from 1 to 8 ug/L.

TP-11 and TP-12A were completed in the magnetic anomaly just south of the above discussed anomaly, and TP-12B was completed farther to the south. Metal debris was found in TP-11 and pipes leading to the nearby building were found in TP-12B. No metal was found at TP-12S. Petroleum contamination was noted at different depths in TP-11, but none was noted at TP-12A and TP-12B. Ash was present at all three locations. The test pit log shows that the soil from the ashy material from TP-12B was retained for analysis; however, apparently that sample was never analyzed. TP-15 and TP-16 were completed to 8 ft along the north property line of the site. No contamination was evident during the completion of those pits.

CHA completed one test pit and four borings off-site for the investigation of the magnetic anomaly south of D&M's MW-3. Three of the borings met premature refusal.

The fourth, B-2C was completed just outside the site, uncovered soil evidencing heavy petroleum from 2 ft to the bottom of the boring at 10 ft However, the extract for the composite soil sample collected over 2 to 8 ft contained only six petroleum-related VOCs at concentrations ranging from just 2 to 5 ug/L. Lead was detected in the extract at a concentration of 1.8 mg/L (1800 ug/L).

CHA constructed one new groundwater monitoring well on the site – MW-1C. HA reported bedrock at 19 ft, which conflicts with the findings of subsequent studies. The well was installed to a depth of 18 ft in the upper terrace along the eastern edge of the concrete pad. Petroleum contamination was noted throughout most of the drilling, with the greatest degree of contamination being present at 8 to 10 ft; the depth-to-groundwater was 9 ft.

CHA collected groundwater samples from their new and D&M pre-existing monitoring wells. The samples were analyzed for VOCs per Method 624, SVOCs per Method 625, and four metals (lead, cadmium, chromium, and mercury), except for the MW-1 sample, which was analyzed only for VOCs. CHA reported 1.3 ug/L benzene in MW-1, whereas, at a detection limit of 5 ug/L, D&M did not detect this compound. At D&M MW-3, the benzene concentration went down from 280 ug/L, as measured by D&M in 1992, to 44 ug/L, as measured by CHA in 1995. At MW-1C, CHA reported 180 ug/L benzene and 560 ug/L ethylbenzene, but no other compounds.

RETEC Group, Inc. (RETEC) (2002)

As part of the remedial, feasibility, and design studies of the coal gasification site to the north, RETEC completed a number of investigations at the subject site. New monitoring wells were constructed: HVMW-34D, HVMW-37D, HVMW-38D, HVMW-40D, HVMW-41D, HVMW-42D. The "D" suffix is RETEC's notation that the wells were screened in the bedrock, rather than the overburden as was the case for the D&M and CHA work at the site. Two additional borings were advanced: HV-12 and HV-13. Soil samples were not retained for laboratory analysis during this work, except for one sample from each of the two additional borings. RETEC did not sample the groundwater wells at the site.

Therefore, except for the two soil samples, only descriptive information is available as to the presence of contamination at the site from RETEC's work.

HVMW-34D was installed in the upper terrace at the northernmost extent of the large gasoline ASTs shown on the historic maps of the site. Bedrock was encountered at 12 ft. During the drilling trace black NAPL and hydrocarbon-like sheen were noted in the bedrock fractures between 15 ft and 25 ft. The well was screened from 15 to 30 ft and depth-to-water was approximately 11 ft. The well was checked four times for the presence of LNAPL and DNAPL (none detected).

HVMW-37D was installed in the upper terrace near the western edge of the same AST for HVMW-34D. Bedrock was encountered at 12 ft. The log indicates that contaminated material was not encountered during drilling. The well was screened from 15 to 30 ft and depth-to-water was approximately 15 ft. The well was checked four times for the presence of LNAPL and DNAPL (none detected).

HVMW-38D was installed in the upper terrace approximately 40 ft west of HVMW-34D. Bedrock was encountered at 12 ft. The log indicates that contaminated material was not encountered during drilling. The well was screened from 14 to 29 ft and depth-to-water was approximately 10 ft. The well was checked four times for the presence of LNAPL and DNAPL (none detected).

HVMW-40D was installed in the middle terrace east of HVMW-34D. Relatively shallow bedrock (2.5 ft deep) was present at HVMW-40D. There was a trace hydrocarbon-like sheen in a bedrock fracture at 11 ft. The well was screened from 4 to 19 ft and depth-to-water was approximately 12 ft. The well was checked four times for the presence of LNAPL and DNAPL (none detected).

HVMW-41D was installed in the middle terrace southeast of HVMW-37D. Relatively shallow bedrock (3.2 ft deep) was present at HVMW-40D. There was a trace hydrocarbon-like sheen in a bedrock fracture at 11 ft. The well was screened from 5 to 20

ft and depth-to-water was approximately 10 ft. The well was checked four times for the presence of LNAPL and DNAPL, and LNAPL was present each time at thicknesses of between 0.01 ft and 0.06 ft (about ¾ inch).

HVMW-42D was installed in the upper terrace immediately east of the concrete slab remnant of the former loading dock. Depth to bedrock was 8.8 ft. Figure 5 indicates that this well is just 11 ft west of CHMW-1C, where CHA reported bedrock at 19 ft. The log indicates that contaminated material was not encountered during drilling. The well was screened from 10 to 25 ft and depth-to-water was approximately 8 ft. The well was checked four times for the presence of LNAPL and DNAPL (none detected).

The additional borings HV-12 and HV-13 were completed to their refusal depths of 8.7 ft and 14.6 ft, respectively, in the middle terrace. At HV-12, other than trace coal fragments between 4 and 6 ft, there was no evidence of contamination; PID measurements were negative (i.e., no deflection from ambient levels). At HV-13, traces of coal fragments and cinders were noted at intermittent depths, and PID readings gradually increased with depth from 0.6 PPM (2 to 4 ft) to 8.2 PPM (12 to 14 ft). RETEC retained soil at 7.5 ft to 8.5 ft from HV-12 and 14 ft to 14.5 ft from HV-13 for analysis for VOCs and SVOCs. No VOCs were detected in the soil samples. Total SVOC concentrations were approximately 18,000 and 3,000 ug/kg for HV-12 and HV-13, respectively. Nevertheless, the concentrations are compliant with the Part 375 Residential and Protection of Groundwater SCOs, except for four HV-12 exceptions:

- benzo(a)anthracene 1200 ug/kg > 1000 ug/kg (groundwater SCO)
- benzo(a)pyrene 1200 ug/kg > 1000 ug/kg (residential SCO)
- benzo(b)fluoranthene 1400 ug/kg > 1000 ug/kg (residential SCO)
- chrysene 1700 ug/kg > 1000 ug/kg (groundwater SCO)

Henningson Durham & Richardson Architecture and Engineering, Inc. (HDR) (2009)

The RI is fully documented in the RI report, available at the public repositories. The RI included 32 soil borings, with coring into the bedrock at 12 locations. Five

permanent groundwater monitoring wells were completed in the soil overburden and two were constructed into bedrock. Seven temporary monitoring wells were constructed, sampled, and later removed.

Environmental samples included: 51 soil samples, 20 groundwater samples, four soil vapor samples, and one sample of petroleum liquid floating on the water table. Samples were analyzed for a broad range of constituents, including VOCs as might be present from gasoline and solvent spills, SVOCs as might be present from spills of oil and coal gasification wastes, heavy metals such as lead and cadmium as might be present from gasoline and filling of the site with incinerator or coal ash, PCBs, herbicides, and pesticides.

During the remedial investigation no pesticides, herbicides, or PCBs were detected in the soil and groundwater samples collected and are not considered Substances of Concern (SOCs) for the site.

Metals were detected in the soil samples that were analyzed for this class of chemical; however, the reported concentrations were compliant with Unrestricted, Restricted Residential, and Protection of Groundwater SCOs. Therefore, metals in the soil are not SOCs for the site. There were no exceedances of the groundwater standards for metals such as arsenic, beryllium, cadmium, lead, and mercury. All but one of the monitoring wells yielded groundwater samples with metals concentrations that exceeded standards for iron, manganese, and sodium. Reported concentrations for iron were in the range of 1,900 ug/L to 54,000 ug/L, well in excess of the 300 ug/L standard. Sample turbidity may account for some of the variability; however, one sample had relatively low turbidity. Concentrations of manganese in the groundwater ranged from 1,700 ug/L to 15,000 ug/L, greater than the 300 ug/L standard. All samples contained sodium at concentrations greater than the 20,000 ug/L standard, with the highest concentration of 380,000 ug/L occurring at upgradient well MW09-4. Other than iron, manganese, and sodium, all reported concentrations for metals were compliant with NYSDEC standards.

The sodium source is upgradient, most likely road salt. Historic fill at the site may account for the iron and manganese concentrations in the groundwater samples.

No VOCs were detected in the two up-gradient wells, except one well had 9 ug/L of chloroform, which is not related to the site. The most likely source of the chloroform is chlorinated water in the area, probably from a water main and/or house connection leak. Other than chloroform, no chlorinated VOCs were detected in the groundwater samples. All of the other monitoring wells and piezometers contained petroleum-related VOCs at concentrations over the groundwater standards. The exceedances were marginally over standards for many of the samples; however, several samples had VOC concentrations two to three orders of magnitude above standards and therefore VOC results are discussed in more detail below.

Two groundwater samples were collected in the UST AOC. VOCs detected at concentrations above standard were 1,2,4-trimethylbenzene, benzene, ethylbenzene, isopropylbenzene, and n-propylbenzene. However, the maximum concentration measured for any one of these contaminants was 13 ug/L for n-propylbenzene. The groundwater standard for these contaminants is 5 ug/L, except for benzene, which has a 1 ug/L standard.

Seven gasoline-related VOCs (and chloroform - see above regarding upgradient sources) were detected in the groundwater samples collected in the area of the Garage AOC, with the highest concentration being 50 ug/L ethylbenzene.

The groundwater in the areas of the Loading Rack, Pipe Trench, and Pump House AOCs, exhibited the highest VOC concentrations for the site:

	CONCENTRATION (ug/L)		
	Loading Rack	Pipe Trench	Pump House
1,2,4-trimethylbenzene	990	120	1,800
1,3,5-trimethylbenzene	380	23	520
4-isopropyltoluene	16	4.4	28
Benzene	610	5.5	<5

	CONCENTRATION (ug/L)		
	Loading Rack	Pipe Trench	Pump House
Chloroform	<10	51	<10
Ethylbenzene	1500	230	2000
Isopropylbenzene	100	28	160
m&p-xylenes	4700	200	5300
n-butylbenzene	<10	9.1	18
n-propylbenzene	130	69	250
o-xylene	1900	19	1900
sec-butylbenzene	14	5.9	23
Toluene	1400	30	400
xylenes (total)	6600	219	7200
1,2,4-trimethylbenzene	990	120	1,800
1,3,5-trimethylbenzene	380	23	520

However, at the down-gradient limit of the site, VOC concentrations attenuate. Two wells were constructed along the down gradient limit of the site; the highest VOC concentrations measured in either well was 4 ug/L benzene, 27 ug/L isopropylbenzene, 34 ug/L n-propylbenzene, and 6.2 ug/L sec-butylbenzene. No other VOCs were detected in the down-gradient groundwater.

The above discussion summarizes the RI findings for VOCs in groundwater. With regard to VOCs in soil, no samples contained VOCs at concentrations above the Restricted Residential SCO. Although, the sampling was biased to retain the soil with the greatest degree of apparent contamination (generally the soil near the water table), only five soil samples had VOCs at concentrations above the Groundwater Protection SCOs. Just five individual VOCs were at concentrations above the Groundwater Protection SCOs; the following shows the highest concentrations measured for the five:

	CONCENTRATION (mg/kg)		
	SCO.		Highest
	Rest. Res	GW	Concentration
1,2,4-trimethylbenzene	52	3.6	21
Ethylbenzene	41	1	5.2
m&p-xylenes	100	1.3	1.6

n-propylbenzene	100	3.9	14
xylenes (total)	100	1.3	1.84

The concentrations of VOCs in the soil samples are relatively low in comparison to the results for the groundwater. The likely explanation for the difference is that relatively few soil samples were collected from the central area of the site where soil would be removed in any event for the construction of the new residential development. In addition, groundwater contamination reflects the soil conditions over a wide area, whereas the soil test results represent the material retrieved from a 2-inch borehole at one specific location.

Several phenolic SVOCs (2,4-dimethylphenol, 2-methylphenol, 3&4-methylphenol, and phenol) were detected in the groundwater in the west central portion of the site in the areas of the Loading Rack, Pipe Trench, and Pump House AOCs. All three locations yielded 2,4-dimethylphenol, with the highest concentration being 48 ug/L at the Pump House AOC. The other three were detected only at the Loading Rack AOC, with the highest concentration at 8.1 ug/L. Phenolic compounds were not detected in any other groundwater samples. The phenolics appear to be from historic operations, but the specific source is unknown. Naphthalene, likely from oil, was the only other SVOC detected above the groundwater standard at one location (Pump House AOC) at a concentration of 180 ug/L. No other SVOCs were detected in the groundwater at concentrations over standards.

With regard to SVOCs in the soil, only polycyclic aromatic hydrocarbons (PAHs) were detected at concentrations above SCOs and these elevated concentrations were found in the easternmost portion of the site only. The individual sample results are presented below:

	CONCENTRATION (mg/kg)					
	SCO.		AW-2	AW-3	AW-3	AW-4
	Rest. Res	GW	(12-14)	(7-9)	(13-15)	(8-10)
benzo[a]anthracene	1	1	4.8	1.3	ND	0.41
benzo(a)pyrene	1	22	3.8	1.2	ND	0.39
benzo[b]fluoranthene	1	1.7	4.4	1.2	ND	0.46
benzo[k]fluoranthene	3.9	1.7	2.0	0.45	ND	0.21

	CONCENTRATION (mg/kg)					
	SCO.		AW-2	AW-3	AW-3	AW-4
	Rest. Res	GW	(12-14)	(7-9)	(13-15)	(8-10)
Chrysene	3.9	1	4.0	1.1	ND	0.37
dibenzo[a,h]anthracene	0.33	1000	0.84	0.20	ND	0.099
indeno[1,2,3-cd]pyrene	0.5	8.2	1.7	0.53	ND	0.23

These PAHs also are present in the soil in the area immediately adjacent to the site where O&R conducted its remediation of the coal gasification contamination. The chemical fingerprint of the PAHs noted above and the PAHs in the adjacent coal tar contamination area are similar, leading to the conclusion that most, if not all, of the site PAHs above SCOs are from the coal gasification contamination. O&R's off-site remediation of these wastes was limited to soils that had a total PAH concentration greater than 500 mg/kg, which are on the lower tier. The remediation was limited to stabilization with cement to reduce the mobility of the PAHs, rather than remove them.

There was light non-aqueous phase liquid (LNAPL) in one bedrock well (HVMW-41D). Measurements at this well indicate the thickness of the LNAPL varies from 0.01 to 0.06 ft. Whereas gasoline is the primary contaminant to the groundwater elsewhere at the site, testing of the LNAPL shows the material to be primarily weathered diesel oil, and to a lesser extent gasoline and coal gasification tar. Additional wells were installed around HVMW-41D, but no more LNAPL was found, so its occurrence appears to be localized.

Soil vapor samples were collected within and around the site. Except for chloroform, none of the samples contained chemicals at concentrations above federal or state guidelines. The chloroform guidance level, relatively low (1.1 ug/m^3) compared to other chemicals, was exceeded only for the samples collected along Main Street. The chemical is not a site-related contaminant and its presence in the soil vapor is probably from leaks of publically supplied chlorinated water from the water main or house connections in the street.

In summary, analytical data collected from the 2009 Remedial Investigation show that site soils are contaminated at concentrations above the restricted residential and protection of groundwater SCOs. As indicated in The Remedial Action Work Plan (HDR 2016), there are three areas of contamination.

The largest area covers much of the upper tier and is contaminated with gasoline-related constituents.

There is a small, isolated area in the southern portion of the middle tier near the former horizontal gasoline tanks. Concentrations of contaminants in soil samples collected from the RI borings in this area were compliant with the SCOs. However, one previous soil boring that was installed in 1992 yielded soil that contained 2 mg/kg of ethylbenzene. This concentration was higher than the 1.0 mg/kg protection of groundwater SCO. For the purposes this SMP, this degradation is assumed not to have occurred.

The third area with soil at concentrations above SCOs is the eastern most portion (the middle tier and the sloped area to the east of it) of the site. This area is primarily contaminated by coal tar-related PAHs.

The following narrative provides a remedial history timeline and a brief summary of the available project records to document key investigative and remedial milestones for the site. Full titles for each of the reports referenced below are provided in Section 8.0 - References.

Prior assessments and investigations were summarized above and copies of these reports have been previously provided and can be found at the public repository located at the Nyack Library. Below is a list of the reports that detail the extent of the contamination on and off site:

Dames & Moore (D&M). Phase IIA Environmental Assessment, Clermont Condominiums – Parcel III. 1992.

Dames & Moore (D&M). Phase IIC Environmental Assessment. Groundwater and Surface Water Sampling, Clermont Condominiums – Parcel III. 1992.

Clough, Harbour & Associates (CHA). Environmental Investigation Report for the Proposed Ferry Site, Main and Gedney Streets, Nyack, New York. 1995.

Lawler, Matusky & Skelly Engineers LLP (LMS). Letter to James O'Mara, NYS Dept. of Environmental Conservation. 1995.

RETEC. Remedial Investigation Report, Former Manufactured Gas Plant Site, Nyack, NY. 2002.

RETEC. Feasibility Study, Former Manufactured Gas Plant Site, Nyack, NY. 2004

RETEC. Pre-Design Investigation Report, Nyack MGP Site, Nyack, NY. 2005.

HDR. Remedial Investigation Report, Former Tidewater Terminal, Nyack, NY 2010.

HDR. Remedial Action Work Plan, Former Tidewater Terminal, Nyack, NY 2016.

As detailed above, analytical data collected from the 2009 Remedial Investigation and other investigations show that site soils are contaminated at concentrations above the restricted residential and protection of groundwater SCOs. As indicated in The Remedial Action Work Plan (HDR 2016), there are three areas of contamination.

The largest area covers much of the upper tier and is contaminated with gasoline-related constituents. These contaminants include volatile organic compounds (VOCs), such as ethylbenzene, and xylenes. The highest contaminant concentration of VOCs was for 1,2,4-trimethylbenzene, found at a level of 21 mg/kg. Overburden soils and highly weathered bedrock in this area were excavated during remedial efforts from July through August 2016. Additionally 2 to 3 feet of the underlying competent bedrock was also removed. End point samples collected as part of this remedial effort meet the objectives of the Decision Document by achieving Restricted Residential Use SCOs.

The area at the easternmost portion of the site (sloped areas between the middle and lower tiers) was determined in 2009 to have elevated concentrations of semi-volatile organic compounds (SVOCs) such as benzo(a)anthracene and chrysene in subsurface soils at several locations. The highest level of SVOC contamination was benzo(a)anthracene at 4.8 mg/kg. In November 2016, soils from this area were excavated; only enough soil to facilitate building foundation construction was removed. Residual contamination above applicable Unrestricted and Restricted Residential Use standards remains. The remedial excavation of this area did not achieve end point samples that were 100% compliant with Restricted Residential Use SCOs as indicated in the Decision Document. Therefore, this area will be provided with an engineered cap to meet the remedial objectives for the site.

Additionally there is a small, isolated area in the southern portion of the middle tier near the former horizontal gasoline tanks where historic concentration of gasoline related contaminates was identified in a soil boring that was installed in 1992. This sample yielded soil that contained 2 mg/kg of ethylbenzene. This concentration is higher than the 1.0 mg/kg protection of groundwater SCO. However, soil samples collected from the RI borings in this same vicinity were compliant with the SCOs. For the purposes this SMP, the apparent degradation observed between the 1992 and 2009 sampling events has been ignored and residual ethybenzene contamination is assumed to remain at a concentration above protection of groundwater SCO. During the 2016 remedial efforts this area was not excavated due to the proximity of subsurface utilities and the depth of the contamination. In compliance with the Decision Document this material was left in place and will be capped in accordance with the approved RAWP and the Decision Document.

According to the 2009 RI results, groundwater across the western (upper) tier of the site was impacted by VOCs. Concentrations as high as 7,200 ug/l for total xylenes were found in the groundwater in the old pump house area of the western tier, sec-butylbenzene was also found in that area with concentrations as high as ug/L. Groundwater in the eastern portion of the site is much less contaminated with no xylenes detected and only 6.2 ug/L of sec-butylbenzene.

The highest concentrations of dissolved phase contaminates identified in the 2009 investigation were in samples collected in wells installed in the area of the upper tier. These wells were set in the contaminated overburden soils (source area for contaminated groundwater). During the 2016 remedial efforts these wells were permanently closed in accordance with NYSDEC CP-43: Groundwater Monitoring Well Decommissioning Policy and Article II of the Rockland County Sanitary Code. All overburden soils (source area for 2009 groundwater contamination) in this area was completely removed during the 2016 remedial action and no overburden water table was encountered.

LNAPL was also detected in one bedrock monitoring well (HVMW-41D) at a thickness between 0.01 ft. and 0.06 ft. over the course of several monitoring events. The RI report theorized that the LNAPL may have originated from a depression in the bedrock just up hill from this well, since no similar material was found in any other boring/wells that was installed around this area. To address this situation, the Decision Document specified that should LNAPL be found where it cannot be removed by excavation, a passive collection system would have to be installed. During the remedial excavation overburden soils were removed to bedrock, which was identified during excavation at approximately four feet below the ground surface (bgs). Additionally, two to three feet of bedrock was also removed from the area around the HVMW-41D well location. During the excavation no LNAPL, including the area of the bedrock depression just up hill from the well which was a suspected collection area. Prior to and during excavation, the well was monitored for the presence of LNAPL (none detected). Therefore, the requirements of the Decision Document concerning LNAPL remediation are considered to have been successfully addressed. Accordingly, HVMW-41D was closed in accordance with NYSDEC CP-43: Groundwater Monitoring Well Decommissioning Policy and Article II of the Rockland County Sanitary Code.

2.4 Remedial Action Objectives

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to

restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The Remedial Action Objectives (RAOs) for the site as listed in the Decision Document dated April 2012 are as follows:

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 ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable.
- Remove the source of ground or surface water contamination.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of or exposure from contaminants volatilizing from contaminants in soil.

RAOs for Environmental Protection

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

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 a site.

2.5 Remaining Contamination

Since Track 1 (Unrestricted SCOs) was not the selected remedy and residual contaminated soil and ground water/soil vapor remain at the site. Engineering and Institutional Controls (EC and IC) are required for long term management to protect human health and the environment. Long-term management of the EC/ICs and of residual contamination would be executed under this site-specific SMP.

As identified in the RI, historic operations at the Former Tidewater Terminal have impacted subsurface soil, ground water and soil vapor across the Site. While the remedial action has achieved a BCP Track 2 Restricted Residential cleanup for most of the site, some areas of residual contamination remain. The following sections provide a summary of the contamination remaining at the site.

2.5.1 Soil

As discussed in section 2.3 the site is broken up into three separate remedial areas upper tier, the middle tier and the sloped area east of it, and the isolated pocket to the south under the access gate to the lower lot. Below is a summary of residual contamination that remains at the site after the completion of the remedial excavation.

Table 2 and Figures 6A and 6B summarize the results of all soil samples collected that exceed the Unrestricted Use SCOs and the restricted residential Use SCOs at the site after completion of remedial action.

Upper Tier

Petroleum impacted soils located in the upper tier have been completely excavated. Approximately 14,484.45 tons of petroleum contaminated soils were sent offsite for disposal at Clean Earth North Jersey - Carteret. As required by the RAWP, end point samples (EP) were collected at approximate 30 foot intervals around the outside wall of the excavation (EP-1 through EP-8, EP-12 through EP-22). Additionally three side wall samples (EP-9 – EP-11) were collected around the tank closure excavation. No bottom samples were collected during this excavation because sandstone bed rock was encountered. End Point samples meet Unrestricted Use SCO as shown on Table 375-6.8(a) for almost all compounds with the exception of total chromium (EP-3, 30.1 mg/kg), manganese (EP-14, 1810 mg/kg), nickle (EP-6, 37.3 mg/kg), and methylene chloride (EP-4, .43 JD mg/kg). The end point sample concentrations are within an order of magnitude as their respective Unrestricted Use SCO, and all of these compounds meet Residential Use SCOs (Table 375-6.8(b)).

Where SCO's were not identified in either Table 375-6.8(a) or (b) for specific compounds, NYSDEC Soil Clean Up Guidance (CP-51) was used. End point results for these compounds were compared to the lowest standard listed in Table 1 – Supplemental Soil Cleanup Objectives (SSCO). The concentrations for three compounds exceed the CP-51 SSCO: aluminum (EP-3, EP-4, EP-10, EP-11, and EP13), calcium (EP-8), and iron (EP-1 through EP-22). With the exception of iron, all compounds are on the same order of magnitude as its respective SSCO.

In accordance with the Decision Document the remedial efforts for this excavation meet the objectives by achieving end point sample results that meet Restricted Residential Use SCOs.

Sloped Area

Approximately 589.29 tons of polycyclic aromatic hydrocarbons (PAH) contaminated soil were excavated and sent offsite for disposal at the Clean Earth North Jersey – Carteret facility. End point samples were collected at approximate 30 foot intervals around the outside wall of the excavation (EP-23, EP-24, EP-26, EP-28, EP-30, EP-32 and EP-33). Sample EP-33 was collected about 15-feet north of the property line

on the Presidential Life site. For the purposes of describing the residual contamination that will be left on the Former Tidewater Terminal site sample EP-33 will be omitted from this discussion. Four bottom samples (EP-25, EP-27, EP-29 and EP-31) were also collected. These samples were collected at an approximate rate of one sample per 900 square feet of exposed bottom. End Point and Bottom samples were compared against Unrestricted Use SCO as shown on Table 375-6.8(a) and Restricted Residential Use SCOs as shown on Table 375-6.8(b). Twelve constituents (5 metals, 7 PAH's) were identified at concentrations above Unrestricted Use SCOs.

Metals

Copper was detected at a concentration above the unrestricted use SCO in eight (EP-23, EP-25, EP-26, EP-28, EP-29, EP-30, EP-31, and EP-32) out of the 10 samples collected. Copper was also detected in the one duplicate sample (EP-23D). Concentrations above the Unrestricted Use SCO ranged from 53.9 mg/kg in sample EP-23 to 150 mg/kg in EP-30. Concentrations are within an order of magnitude of the SCO (three samples) or one order of magnitude above (five samples) the Unrestricted Use SCO of 50 mg/kg. All samples meet the Restricted Residential Use SCO of 270 mg/kg.

Lead was detected at concentrations that exceed the Unrestricted Use SCO in all 10 (EP-23 through EP-32) samples collected. Lead was also detected in the one duplicate sample (EP-23D). Lead concentrations ranged from 92.6 mg/kg in EP23 to 494 mg/kg in sample EP-31 which is located in the vicinity of the northeastern boundary of the BCP site. Lead concentrations when compared to the Unrestricted Use SCO of 63 mg/kg are within an order of magnitude (two samples) or one order of magnitude above (9 samples). All samples meet the Restricted Residential SCO of 400 mg/kg with the exception of bottom sample EP-31.

Nickel was not detected at concentrations that exceed Unrestricted Use SCO of 30 mg/kg in any of the 10 normal samples collected. However nickel was detected in the duplicate sample at a concentration 30.6 mg/kg. The parent sample had a concentration of

21.3 mg/kg. This duplicate nickel concentration is slightly over the Unrestricted Use SCO but meets Residential Use SCOs of 140 mg/kg.

Zinc was detected at concentration above the Unrestricted Use SCO of 109 mg/kg in seven (EP-24, EP-26, EP-28, EP-29, EP-30, EP-31, and EP-32) out of the 10 samples collected, as well as the one duplicate sample (EP-23D). Concentrations above this SCO ranged from 112 mg/kg at EP-23D (duplicate sample – the parent sample contained 86.9 mg/kg) to 259 mg/kg at EP-32. Zinc concentrations are within the same order of magnitude of the Unrestricted Use SCO of 109 mg/kg. All samples meet the Residential Use SCO of 2,200 mg/kg.

Mercury was detected at concentrations above the Unrestricted Use SCO of 0.18 mg/kg at nine (EP-23 through EP-26 and EP-28 through EP-32) of the 10 samples collected, as well as the one duplicate sample (EP-23D). Concentrations ranged from 0.218 mg/kg at EP-23D (duplicate sample: detected in the parent sample at 0.244 mg/kg) to 2.23 mg/kg in EP-30. Concentrations of mercury are within the same order of magnitude (seven samples) or one order of magnitude above (two samples) the Unrestricted Use SCO of 0.18 mg/kg. All samples meet the Restricted Residential Use SCO of 0.81 mg/kg with the exception of EP-28 and EP-30 through EP-32.

PAH's

Benzo(a)anthracene and benzo(b)floranthene were detected at concentrations above the Unrestricted Use SCO of 1 mg/kg (both compounds) at sample EP-25. Concentrations were detected at 1.85 mg/kg for benzo(a)anthracene and 1.5 mg/kg for benzo(b)floranthene. Concentrations are within the same order of magnitude as the Unrestricted Use and Restricted Residential SCOs. All other samples meet Unrestricted Use SCO for benzo(a)anthracene and benzo(b)floranthene.

Benzo(a)pyrene was detected at concentrations above Unrestricted Use SCO of 1 mg/kg at two (EP-25 and EP26) out of the 10 samples collected. Concentrations ranged from 1.21 mg/kg in EP-26 to 1.94 mg/kg in EP-25. Although concentrations were detected

over the Unrestricted (1 mg/kg) and Restricted Residential (1 mg/kg) Use SCOs, they are within an order of magnitude of those standards. All other samples meet the Unrestricted Use SCO for this compound.

Benzo(k)floranthene was detected at concentrations above the Unrestricted Use SCO of 0.8mg/kg at three (EP-25, EP26, and EP-28) out of the 10 samples collected. Concentrations ranged from 0.966 mg/kg in EP-28 to 1.58 mg/kg in EP-25. Concentrations are within an order of magnitude (one sample) or one order of magnitude above (two samples) of the Unrestricted Use SCO of 0.8 mg/kg. All samples meet Restricted Residential Use SCOs of 3.9 mg/kg.

Chrysene was detected at concentrations above Unrestricted Use SCOs at 2 (EP-25 and EP-26) out of the 10 samples collected. Concentrations ranged from 1 mg/kg in EP-26 to 1.83 mg/kg in EP-25. Concentrations are all the same order of magnitude as the Unrestricted Use SCO of 1mg/kg. All samples meet the Restricted Residential Use SCO of 3.9 mg/kg.

Dibenz(a,h)anthracene and indeno(1,2,3-c,d)pyrene were detected at concentrations above their Unrestricted Use SCOs of 0.33 and 0.5 mg/kg, respectively, at two out of the 10 samples. Concentrations for dibenz(a,h)anthracene ranged from 0.335 mg/kg in EP-26 to 0.607 mg/kg in EP-25. Concentrations of indeno(1,2,3-c,d)pyrene ranged from 0.558 mg/kg in EP-26 to 0.845 mg/kg in EP-25. Although concentrations were detected over the Unrestricted (0.33 mg/kg and 0.5 mg/kg, respectively) and Restricted Residential (0.33 mg/kg and 0.5 mg/kg, respectively) Use SCOs, they are on within an order of magnitude of those standards. All other samples meet Unrestricted Use SCOs for dibenz(a,h)anthracene and indeno(1,2,3-c,d)pyrene.

The remedial excavation of this area did not achieve end point samples that were 100% compliant with Restricted Residential Use SCOs as indicated in the Decision Document. Therefore, an engineered cap will be installed over the area to meet the remedial objectives listed in the Decision Document and is protective of human health and the environment.

Isolated Pocket

There is a small, isolated area in the southern portion of the middle tier near the gated access for the Claremont Condominium parking lot. Concentrations of contaminants in soil samples collected from the RI borings in this area were compliant with the Unrestricted Use SCOs. However, one previous boring (year 1992) in the area yielded soil that contained 2 mg/kg of ethylbenzene, higher than the 1.0 mg/kg Unrestricted Use SCOs. It is possible that natural degradation over 18 years has lowered the ethylbenzene concentration to below 1.0 mg/kg; however, for the purposes of this SMP, this degradation is assumed not to have occurred. During the 2016 remedial efforts, this area was not excavated due to the proximity of subsurface utilities and the depth of the contamination. In compliance with the Decision Document this material was left in place and will be capped in accordance with the approved RAWP and the Decision Document.

2.5.2 Groundwater

As identified in the 2009 RI Report and detailed above in Section 2.3, groundwater contamination was identified across the western portion of the site in the vicinity of the old pump house, concentrations were noted to decrease in the direction of the eastern portion of the site. Fifteen wells were sampled and 15 VOCs and four SVOCs were detected at concentrations in exceedance of their standards.

Benzene, ethyl benzene, isopropyl benzene, m&p xylene, and n-propylbenzene were the most frequently detected VOCs. Concentrations for these compounds ranged from non-detect (ND) to 5,300 ug/L. The highest concentration detected was for total xylenes at 7,200 ug/L. Groundwater in the eastern portion of the site was much less contaminated with only sec-butyl benzene being detected above standard at a concentration of 6.2 ppb.

Five SVOCs (2,4 dimethyl phenol, 2 methyl phenol, 3,4 methyl phenol, naphthalene and phenol) were detected above applicable standards during the 2009 groundwater sampling event. Concentrations for these compounds ranged from 3.8 ug/L (2,4 dimethyl phenol) to 180 ug/L (naphthalene). 2,4 Dimethyl phenol was the most

frequently detected SVOC, being found in three of the 15 well samples. SVOC contaminated groundwater was limited to the western portion of the site in the area of the former loading rack, pipe trench and the former pumps house.

The wells that exhibited the highest concentration of VOC and SVOC contamination during the 2009 RI were set with in the overburden soils (source area) of the western portions of the property, just above the bedrock/overburden interface. During the remedial action (July/August 2016) site overburden soils and two to three feet of weathered bedrock in these source areas was removed and sent off site to Clean Earth of New Jersey for disposal. During this remedial action the overburden aquifer, identified in the remedial investigation conducted in 2009, was not encountered (possibly as a result of low precipitation during this period). However, for the purposes of this SMP it is assumed that restoration of site groundwater might not have been achieved. To address this potential, an Environmental Easement (Appendix A) to prohibit future use of groundwater was filed with the County of Rockland and the NYSDEC. This environmental easement will restrict the use of ground water as a source of potable or process water, without the necessary water quality treatment as determined by the New York State Department of Health (NYSDOH) and/or the Rockland County DOH. These efforts meet the requirements of the Decision Document.

Additionally, a five story building with a two-story subterranean parking garage will be erected over most of the site with the exception of a small area along the southern boundary. This construction will limit surface infiltration through residual contamination. Precipitation will be managed using green infrastructure technologies (rain gardens, bio swales, etc.) to collect and distribute this water to gardens, retention vessels and other areas of the property.

Table 3 and Figure 8 summarize the results of all samples of groundwater that exceed the SCGs after completion of the remedial action.

2.5.3 Soil Vapor

As noted in the 2009 RI Report SV-1 and SV-4 are sub-slab (points installed beneath side walk and parking lot) samples and SV-2 and SV-3 were collected from soil probes in grass areas. Analytical results from this sampling were compared against guidance values (GV) for soil vapor data from *Guidance for Evaluating Soil Vapor Intrusion in the State of New York* (NYSDOH 2006). The NYSDOH guidance is for sub-slab concentrations. For those compounds without a New York guidance, the USEPA guidance is shown. The USEPA guidance is from *Table 2C Question 4 Generic Screening Levels and Summary Sheet of Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils* (USEPA 2002). Table 4 lists six compounds that have neither New York nor USEPA guidance concentrations.

As indicated in Table 4, chloroform is the only chemical detected in the samples at concentrations above a guidance level. The exceedances are for samples SV-3 and SV-4, collected along Main Street. Chloroform is not a site-related contaminant and its presence in the soil vapor is most likely from leaks of publically supplied chlorinated water from the water main or house connections in the street.

Chemical concentrations in the SV-2 sample are relatively low for the most part, typically less than 10 ug/m^3, with the exception of Cyclohexane and 2,2,4-trimethylpentane (synonym name: isooctane) which were detected at concentrations of 157 and 17,057 ug/m^3, respectively. These two chemicals do not have guidance levels; however cyclohexane and 2,2,4-trimethylpentane are gasoline-related contaminates.

During the remedial action which took place, between July/August 2016, site overburden soils and one to two feet of weathered bedrock was removed across most of the site, including the soils located at SV-2. Excavation or site contaminates did not extend to SV-3 and SV-4. This SMP assumes no chloroform degradation has taken place and that the 2009 RI concentrations remain unchanged. In accordance with the Decision Document an evaluation of soil vapor intrusion will be conducted.

Table 4 and Figure 9 summarize the results of all samples of soil vapor that exceed the SCGs after completion of the remedial action.

3 INSTITUTIONAL AND ENGINEERING CONTROL PLAN

3.1 General

Since remaining contamination at concentrations above applicable SCOs will remain at the site, Institutional Controls (ICs) and Engineering Controls (ECs) are required to protect human health and the environment. This IC/EC Plan describes the procedures for the implementation and management of all IC/ECs at the site. The IC/EC Plan is one component of the SMP and is subject to revision by the NYSDEC.

This plan provides:

- A description of all IC/ECs on the site;
- The basic implementation and intended role of each IC/EC;
- A description of the key components of the ICs set forth in the Environmental Easement;
- A description of the controls to be evaluated during each required inspection and periodic review;
- A description of plans and procedures to be followed for implementation of IC/ECs, such as the implementation of the Excavation Work Plan (EWP) (as provided in Appendix D) for the proper handling of remaining contamination that may be disturbed during maintenance or redevelopment work on the site; and
- Any other provisions necessary to identify or establish methods for implementing the IC/ECs required by the site remedy, as determined by the NYSDEC.

3.2 Institutional Controls

A series of ICs is required by the Decision Document to: (1) implement, maintain and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination; and, (3) limit the use and development of the site to Restricted Residential uses only. Adherence to these ICs on the site is required by the Environmental Easement and will be implemented under this SMP. ICs identified in the Environmental Easement may not be discontinued without an amendment to or extinguishment of the Environmental Easement. The IC boundaries are shown on Figure 10. These ICs are:

- The property may be used for: restricted residential use (which allows for commercial and industrial use);
- All ECs must be operated and maintained as specified in this SMP;
- All ECs must be inspected at a frequency and in a manner defined in the SMP.
- The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Rockland County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department.
- Groundwater and other environmental or public health monitoring must be performed as defined in this SMP;
- Data and information pertinent to site management must be reported at the frequency and in a manner as defined in this SMP;
- All future activities that will disturb remaining contaminated material must be conducted in accordance with this SMP;
- Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this SMP;
- Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this SMP;
- Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the

property owner to assure compliance with the restrictions identified by the Environmental Easement; and

- Vegetable gardens and farming on the site are prohibited;

3.3 Engineering Controls

3.3.1 Cover (or Cap)

Exposure to remaining contamination at the site is prevented by a cover system placed over the site. This cover system is comprised of either structures that will be constructed during site development, such as buildings, pavement, and sidewalks or soil cover with a minimum of 24 inches of clean soil meeting restricted residential SCOs placed over a demarcation barrier. Figure 11 presents the location of the cover system and applicable demarcation layers. The Excavation Work Plan (EWP) provided in Appendix D outlines the procedures required to be implemented in the event the cover system is breached, penetrated or temporarily removed, and any underlying remaining contamination is disturbed. Procedures for the inspection of this cover are provided in the Monitoring and Sampling Plan included in Section 4.0 of this SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) and associated Community Air Monitoring Plan (CAMP) prepared for the site and provided in Appendix E.

3.3.2 Soil Vapor Intrusion Evaluation

As discussed in section 2.5.3, chloroform is the only chemical detected in the samples at concentrations above a guidance level. Exceedances are from samples SV-3 and SV-4 which were collected along Main Street during the 2009 RI. Chloroform is not a site-related contaminant and its presence in the soil vapor is most likely from leaks of publically supplied chlorinated water from the water main or house connections in the street. However, prior to the construction of any enclosed structure on the site a SVI evaluation will be performed to determine whether any mitigation measures are necessary to eliminate potential exposure to vapors. Alternatively, an SVI mitigation system may be installed as an element of the building foundation without first conducting an investigation.

This mitigation system will include a vapor barrier and passive sub-slab depressurization system that is capable of being converted to an active system.

Prior to conducting an SVI investigation or installing a mitigation system, a work plan will be developed and submitted to the NYSDEC for approval. This work plan will be developed in accordance with the most recent NYSDOH "Guidance for Evaluating Vapor Intrusion in the State of New York." Measures to be employed to mitigate potential vapor intrusion will be evaluated, selected, designed, installed, and maintained based on the SVI evaluation, the NYSDOH guidance, and construction details of the proposed structure.

All SVI sample data will be forwarded to the NYSDEC, along with a recommendation for follow-up action, such as mitigation. SVI data will also be transmitted to the Site owner within 30 days of validation.

SVI sampling results, evaluations, and follow-up actions will also be summarized in the next Periodic Review Report.

3.3.3 Contingency for Foundation Drains/Groundwater Management

The foundations of the proposed buildings will be completed to a depth below the historic overburden water table identified during the RI. During the remedial action the overburden ground water table was not encountered. Although not encountered, DCAK|MSA's design includes footing drains around the periphery of the foundations that will discharge any collected groundwater back into the ground. Based on the absence of groundwater during the remedial excavation and the installation of building across much of the site and the proposed use of green infrastructure technology (rain gardens) which will control the infiltration of precipitation into the subsurface, DCAK|MSA and the Volunteer do not believe that these foundation drains will collect contaminated groundwater.

However if the discharge from the foundation drains is found to be contaminated, discharge water will have to be managed accordingly. The water would discharged to either the Hudson River as authorized by a future SPDES permit or to the local sanitary

sewer as authorized by a future sewer use permit from the Town of Orangetown. High levels of contamination may require pretreatment in order for the drainage to be discharged to the Hudson River or sanitary sewers. In this case, the water would have to be collected to a point of treatment, where a treatment system would have to be constructed, including a housing or utility closet for that system

3.3.4 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial processes are considered completed when monitoring indicates that the remedy has achieved the remedial action objectives identified by the decision document. The framework for determining when remedial processes are complete is provided in Section 6.4 of NYSDEC DER-10.

3.3.4.1 Cover (or Cap)

The composite cover system is a permanent control and the quality and integrity of this system will be inspected at defined, regular intervals in accordance with this SMP in perpetuity.

3.3.4.2 Contingency for Foundation Drains/Groundwater Management

In the unlikely event that a Foundation Drain/Groundwater management system has to be installed to control contaminated discharge, this system would be a permanent control and will not be discontinued unless prior written approval is granted by the NYSDEC and the NYSDOH.

4 SITE MONITORING PLAN

4.1 General

This site monitoring plan describes the measures for evaluating the overall performance and effectiveness of the remedy. This site monitoring plan may only be revised with the approval of the NYSDEC.

This site monitoring plan describes the methods to be used for:

- Evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment;

To adequately address these issues, this site monitoring plan provides information on:

- Footing drain infiltration basins on a monthly; and
- Annual inspection and periodic certification of engineered and institutional controls.

Reporting requirements are provided in Section 7.0 of this SMP.

4.2 Site–wide Inspection

Site-wide inspections will be performed annually. Modification to the frequency or duration of the inspections will require approval from the NYSDEC. Site-wide inspections will also be performed after all severe weather conditions that may affect ECs or monitoring devices. During these inspections, an inspection form will be completed as provided in Appendix F – Site Management Forms. The form will compile sufficient information to assess the following:

- Compliance with all ICs, including site usage;
- An evaluation of the condition and continued effectiveness of ECs;

- General site conditions at the time of the inspection;
- The site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection; and
- Confirm that site records are up to date.

Inspections of ECs installed at the site will be conducted. A comprehensive site-wide inspection will be conducted and documented according to the SMP schedule, regardless of the frequency of the Periodic Review Report. The inspections will determine and document the following:

- Whether ECs continue to perform as designed;
- If these controls continue to be protective of human health and the environment;
- Compliance with requirements of this SMP and the Environmental Easement;
- Achievement of remedial performance criteria; and
- If site records are complete and up to date.

Reporting requirements are outlined in Section 7.0 of this plan.

Inspections will also be performed in the event of an emergency. If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs that reduces or has the potential to reduce the effectiveness of ECs in place at the site, verbal notice to the NYSDEC must be given by noon of the following day. In addition, an inspection of the site will be conducted within 5 days of the event to verify the effectiveness of the IC/ECs implemented at the site by a qualified environmental professional, as determined by the NYSDEC. Written confirmation must be provided to the NYSDEC within 7 days of the event that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.

4.3 Foundation Drain Monitoring and Sampling

Monitoring of the foundation drains will be performed on a monthly basis, as identified in Table 5: Foundation Drain Monitoring Requirements and Schedule (see below). Modification to the frequency of monitoring requirements will require approval from the NYSDEC. Monitoring will be conducted during each yearly monitoring event and will include a visual inspection of the foundation drain outfalls for the presences of flowing water. In the unlikely event that discharge is noted coming from the foundation drains the discharge will be sampled as described in Section 4.3.1 below.

Table 5 – Foundation Drain Monitoring Requirements and Schedule

Foundation Drain Component	Monitoring Parameter	Operating Range	Monitoring Schedule
Infiltration Basins	Visual Inspection for Flow and collection of analytical sample	None	Monthly

4.3.1 Foundation Drain Infiltration Basin Sampling

Foundation drain infiltration basins will be inspected and sampled on a monthly basis for the period of one year. After one year if the footing drains and infiltration basins are found to be contamination free, Foot of Main, LLC will request (in writing) a modification to the sampling frequency. Sampling locations, required analytical parameters and schedule are provided in Table 6 – Foundation Sampling Requirements and Schedule below. Modification to the frequency or sampling requirements will require approval from the NYSDEC.

Table 6 – Foundation Drain Sampling Requirements and Schedule

Sampling Location	Analytical Parameters			Schedule
	TCL VOCs (EPA Method 8260B)	TCL SVOCs (EPA Method 8270C)	TAL Metals (EPA Method 6010B/7470A	
South Foundation Drain Infiltration Basin Effluent	X	X	X	Monthly

During monthly inspections of the southern most infiltration basin, a water quality sample will be collected and submitted to a New York State Certified Laboratory for analysis. Samples will be collected directly into certified pre-cleaned laboratory provided glassware and stored at 4º Celsius. Once complete, samples will be shipped under chain of custody (COC) protocol to the laboratory for VOCs analysis via EPA Method 8260B, SVOCs analysis via EPA Method 8270C, and TAL Metal analysis via EPA Method 6010B/7470A.

All sampling and analysis will be preformed in accordance with the requirements of the Quality Assurance Project Plan (QAPP) prepared for the site (Appendix G). Main Components of the QAPP include:

- QAPP Organization and Responsibilities;
- QAPP Objectives;
- Field Equipment Calibration and Maintenance Procedures;
- Sample Custody;
- Analytical Procedures;

- Data Reduction, Review and Reporting;
- Internal Quality Control;
- Performance and System Audits;
- Analytical Corrective Action;
- Report Management

4.4 Soil Vapor Intrusion (indoor air) Evaluation and Sampling

Soil vapor intrusion sampling will be performed on an annual basis to assess the indoor air quality. If, after two years, indoor air samples are found to be contamination free, Foot of Main, LLC will request (in writing) a modification to the sampling frequency. Modification to the frequency or sampling requirements will require approval from the NYSDEC.

The on-site soil vapor intrusion samples will be collected at the condominiums along the southeast portion of the building, since the majority of the building foot print consists of a two-story subterranean parking garage.

Table 7 – Soil Vapor Intrusion (indoor air) Sampling Requirements and Schedule

Sampling Location	Analytical Parameters	Schedule
	VOCs in Air (EPA Method TO-15)	
Condominiums along eastern portion of building (5 residences)	X	Yearly (as recommended during the heating season)

The sampling frequency may only be modified with the approval of the NYSDEC. This SMP will be modified to reflect changes in sampling plans approved by the NYSDEC.

4.4.1 Soil Vapor Intrusion (indoor air) Sampling

During the yearly periodic review inspection indoor air samples will be collected from the condominiums located with in the footprint of the building along the eastern portion of the site. Sample will be collected in accordance with NYSDOH Guidance for the Evaluating Soil Vapor Intrusion. Samples will be submitted to a New York State Certified Laboratory for analysis. Samples will be collected directly into certified pre-cleaned laboratory provided Summa Canisters. Once sample collection is complete, samples will be shipped under chain of custody (COC) protocol to the laboratory for VOCs in Air analysis via EPA Method TO-15. Results of the vapor intrusion sampling will be recorded in the Yearly Periodic Review Report discussed in Section 7.0 below.

All sampling and analysis will be preformed in accordance with the requirements of the Quality Assurance Project Plan (QAPP) prepared for the site (Appendix G). Main Components of the QAPP include:

- QAPP Organization and Responsibilities;
- QAPP Objectives;
- Field Equipment Calibration and Maintenance Procedures;
- Sample Custody;
- Analytical Procedures;
- Data Reduction, Review and Reporting;
- Internal Quality Control;
- Performance and System Audits;
- Analytical Corrective Action;
- Report Management

5 OPERATION AND MAINTENANCE PLAN

5.1 General

The site remedy does not rely on any mechanical systems, such as groundwater treatment systems, sub-slab depressurization systems or air sparge/soil vapor extraction systems to protect public health and the environment. Therefore, the operation and maintenance of such components is not included in this SMP. Over burden ground water table was not encountered during the remedial action. Based on the information obtained from the remedial action (lack of overburden groundwater table) and the removal of contaminated material during the remedial action, DCAK|MSA and the Volunteer do not believe that these drains will collect contaminated groundwater. Nevertheless, based on historic water table measurements and the depths of the proposed buildings foundations, footing drains around the periphery of the foundations have been included as part of the DCAK|MSA's design. Groundwater, if collected in these footing drains, will be directed to subterranean infiltration basins and allowed to percolate back into the ground. Monthly inspections and sampling of the southern most infiltration basin will be conducted. If foundations drains are found to be contaminated and water treatment will be required, this SMP will be updated to include an O&M Plan.

6 PERIODIC ASSESSMENTS/EVALUATIONS

6.1 Climate Change Vulnerability Assessment

Increases in both the severity and frequency of storms/weather events, an increase in sea level elevations along with accompanying flooding impacts, shifting precipitation patterns and wide temperature fluctuation, resulting from global climactic change and instability, have the potential to significantly impact the performance, effectiveness and protectiveness of a given site and associated remedial systems. Vulnerability assessments provide information so that the site and associated remedial systems are prepared for the impacts of the increasing frequency and intensity of severe storms/weather events and associated flooding.

This section provides a summary of vulnerability assessments that will be conducted for the site during periodic assessments, and briefly summarizes the vulnerability of the site and/or engineering controls to severe storms/weather events and associated flooding.

Due to the elevated and sloped nature of the site no potential vulnerabilities have been identified.

6.2 Green Remediation Evaluation

NYSDEC's DER-31 Green Remediation requires that green remediation concepts and techniques be considered during all stages of the remedial program including site management, with the goal of improving the sustainability of the cleanup and summarizing the net environmental benefit of any implemented green technology. This section of the SMP provides a summary of any green remediation evaluations to be completed for the site during site management, and as reported in the Periodic Review Report (PRR).

The selected remedy for this site, as detailed in the Decision Document, was excavation with off-site disposal. During the remedial action the following green remediation alternatives were implemented:

- Both on and off road vehicles (including construction equipment) were shut off if not used for more than 5 minutes in accordance with 6 NYCRR Part 217 Motor Vehicle Emissions, Subpart 217-3 Idling Prohibition for Heavy Duty Vehicles;
- All construction equipment was powered with Ultra Low Sulfur Diesel (ULSD); and
- Uncontaminated concrete and demolition debris (C&D), generally concrete slabs and building footers from historic on site structures, generated during the remedial efforts was sent for crushing at a NYSDEC approved recycling facility.

During redevelopment of the site a publically accessible water front park will be constructed. This park will use green infrastructure technologies, which will include the use of porous concrete and pavement for the hardscape, bio-swale and rain gardens for water collection and dispersion, as well as resilient shore line planting techniques for a better protected shore line.

6.2.1 Timing of Green Remediation Evaluations

For major remedial system components, green remediation evaluations and corresponding modifications will be undertaken as part of a formal Remedial System Optimization (RSO), or at any time that the Project Manager feels appropriate, e.g. during significant maintenance events or in conjunction with storm recovery activities.

Modifications resulting from green remediation evaluations will be routinely implemented and scheduled to occur during planned/routine operation and maintenance activities. Reporting of these modifications will be presented in the PRR.

7 REPORTING REQUIREMENTS

7.1 Site Management Reports

All site management inspection, maintenance and monitoring events will be recorded on the appropriate site management forms provided in Appendix F. These forms are subject to NYSDEC revision.

All applicable inspection forms and other records, including media sampling data and system maintenance reports, generated for the site during the reporting period will be provided in electronic format to the NYSDEC in accordance with the requirements of Table 7 and summarized in the Periodic Review Report.

Table 8: Schedule of Interim Monitoring/Inspection Reports

Task/Report	Reporting Frequency*
Periodic Review Report	Annually, or as otherwise determined by the Department
Monthly Infiltration Basin Inspection and Sampling Reports	Monthly
Soil Vapor Intrusion Sampling	Annually (results will be reported in the Periodic Review Report)

* The frequency of events will be conducted as specified until otherwise approved by the NYSDEC.

All interim monitoring/inspections reports will include, at a minimum:

- Date of event or reporting period;
- Name, company, and position of person(s) conducting monitoring/inspection activities;
- Description of the activities performed;

- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet);
- Type of samples collected (e.g., sub-slab vapor, indoor air, outdoor air, etc.);
- Copies of all field forms completed (e.g., well sampling logs, chain-of-custody documentation, etc.);
- Sampling results in comparison to appropriate standards/criteria;
- A figure illustrating sample type and sampling locations;
- Copies of all laboratory data sheets and the required laboratory data deliverables required for all points sampled (to be submitted electronically in the NYSDEC-identified format);
- Any observations, conclusions, or recommendations; and
- A determination as to whether contaminant conditions have changed since the last reporting event.

Routine maintenance event reporting forms will include, at a minimum:

- Date of event;
- Name, company, and position of person(s) conducting maintenance activities;
- Description of maintenance activities performed;
- Any modifications to the system;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet); and,
- Other documentation such as copies of invoices for maintenance work, receipts for replacement equipment, etc., (attached to the checklist/form).

Non-routine maintenance event reporting forms will include, at a minimum:

- Date of event;
- Name, company, and position of person(s) conducting non-routine maintenance/repair activities;

- Description of non-routine activities performed;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents (included either on the form or on an attached sheet); and
- Other documentation such as copies of invoices for repair work, receipts for replacement equipment, etc. (attached to the checklist/form).

Data will be reported in digital format as determined by the NYSDEC. Currently, data is to be supplied electronically and submitted to the NYSDEC EQuIS™ database in accordance with the requirements found at this link http://www.dec.ny.gov/chemical/62440.html.

7.2 Periodic Review Report

A Periodic Review Report (PRR) will be submitted to the Department beginning sixteen (16) months after the Certificate of Completion is issued. After submittal of the initial Periodic Review Report, the next PRR shall be submitted annually to the Department or at another frequency as may be required by the Department. In the event that the site is subdivided into separate parcels with different ownership, a single Periodic Review Report will be prepared that addresses the site described in Appendix A -Environmental Easement. The report will be prepared in accordance with NYSDEC's DER-10 and submitted within 30 days of the end of each certification period. Media sampling results will also be incorporated into the Periodic Review Report. The report will include:

- Identification, assessment and certification of all ECs/ICs required by the remedy for the site.
- Results of the required annual site inspections and severe condition inspections, if applicable.
- All applicable site management forms and other records generated for the site during the reporting period in the NYSDEC-approved electronic format, if not previously submitted.

- A summary of any discharge monitoring data and/or information generated during the reporting period, with comments and conclusions, if applicable.
- Data summary tables and graphical representations of contaminants of concern by media (groundwater, soil vapor, etc.), which include a listing of all compounds analyzed, along with the applicable standards, with all exceedances highlighted. These will include a presentation of past data as part of an evaluation of contaminant concentration trends, if applicable.
- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted in digital format as determined by the NYSDEC. Currently, data is supplied electronically and submitted to the NYSDEC EQuIS™ database in accordance with the requirements found at this link: http://www.dec.ny.gov/chemical/62440.html, if applicable.

7.2.1 Certification of Institutional and Engineering Controls

Following the last inspection of the reporting period, a qualified environmental professional will prepare, and include in the Periodic Review Report, the following certification as per the requirements of NYSDEC DER-10:

"*For each institutional or engineering control identified for the site, I certify that all of the following statements are true:*

- *The inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;*
- *The institutional control and/or engineering control employed at this site is unchanged from the date the control was put in place, or last approved by the Department;*
- *Nothing has occurred that would impair the ability of the control to protect the public health and environment;*

- *Nothing has occurred that would constitute a violation or failure to comply with any site management plan for this control;*
- *Access to the site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;*
- *If a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for the intended purpose under the document;*
- *Use of the site is compliant with the environmental easement;*
- *The engineering control systems are performing as designed and are effective;*
- *To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program;*
- *No new information has come to my attention, including groundwater monitoring data from wells located at the site boundary, if any, to indicate that the assumptions made in the qualitative exposure assessment of off-site contamination are no longer valid;*
- *The information presented in this report is accurate and complete; and*
- *The assumptions made in the qualitative exposure assessment remain valid (every 5th year).*

I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [name], of [business address], am certifying as [Owner/Remedial Party or Owner's/Remedial Party's Designated Site Representative] for the site."

The signed certification will be included in the Periodic Review Report.

The Periodic Review Report will be submitted, in electronic format, to the NYSDEC Central Office, Regional Office in which the site is located and the NYSDOH

Bureau of Environmental Exposure Investigation. The Periodic Review Report may need to be submitted in hard-copy format, as requested by the NYSDEC project manager.

7.3 Corrective Measures Work Plan

If any component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control, a Corrective Measures Work Plan will be submitted to the NYSDEC for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the Corrective Measures Work Plan until it has been approved by the NYSDEC.

8 REFERENCES

A listing of all site-specific reports utilized for preparation of this SMP have been included in this section.

6NYCRR Part 375, Environmental Remediation Programs. December 14, 2006.

NYSDEC DER-10 – "Technical Guidance for Site Investigation and Remediation". May 03, 2010

NYSDEC, 1998. Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1. June 1998 (April 2000 addendum).

NYSDOH, Guidance for Evaluating Soil Vapor Intrusion in the State of New York. October 2006

Dames & Moore (D&M). Phase IIA Environmental Assessment, Clermont Condominiums – Parcel III. 1992.

Dames & Moore (D&M). Phase IIC Environmental Assessment. Groundwater and Surface Water Sampling, Clermont Condominiums – Parcel III. 1992.

Clough, Harbour & Associates (CHA). Environmental Investigation Report for the Proposed Ferry Site, Main and Gedney Streets, Nyack, New York. 1995.

Lawler, Matusky & Skelly Engineers LLP (LMS). Letter to James O'Mara, NYS Dept. of Environmental Conservation. 1995.

RETEC. Remedial Investigation Report, Former Manufactured Gas Plant Site, Nyack, NY. 2002.

RETEC. Feasibility Study, Former Manufactured Gas Plant Site, Nyack, NY. 2004.

RETEC. Pre-Design Investigation Report, Nyack MGP Site, Nyack, NY. 2005.

HDR. Remedial Investigation Report, Former Tidewater Terminal, Nyack, NY 2010.

HDR. Remedial Action Work Plan, Former Tidewater Terminal, Nyack, NY 2016.

HDR. Final Engineering Report, Former Tidewater Terminal, Nyack, NY 2017.

FIGURES

0 1000 2000 4000

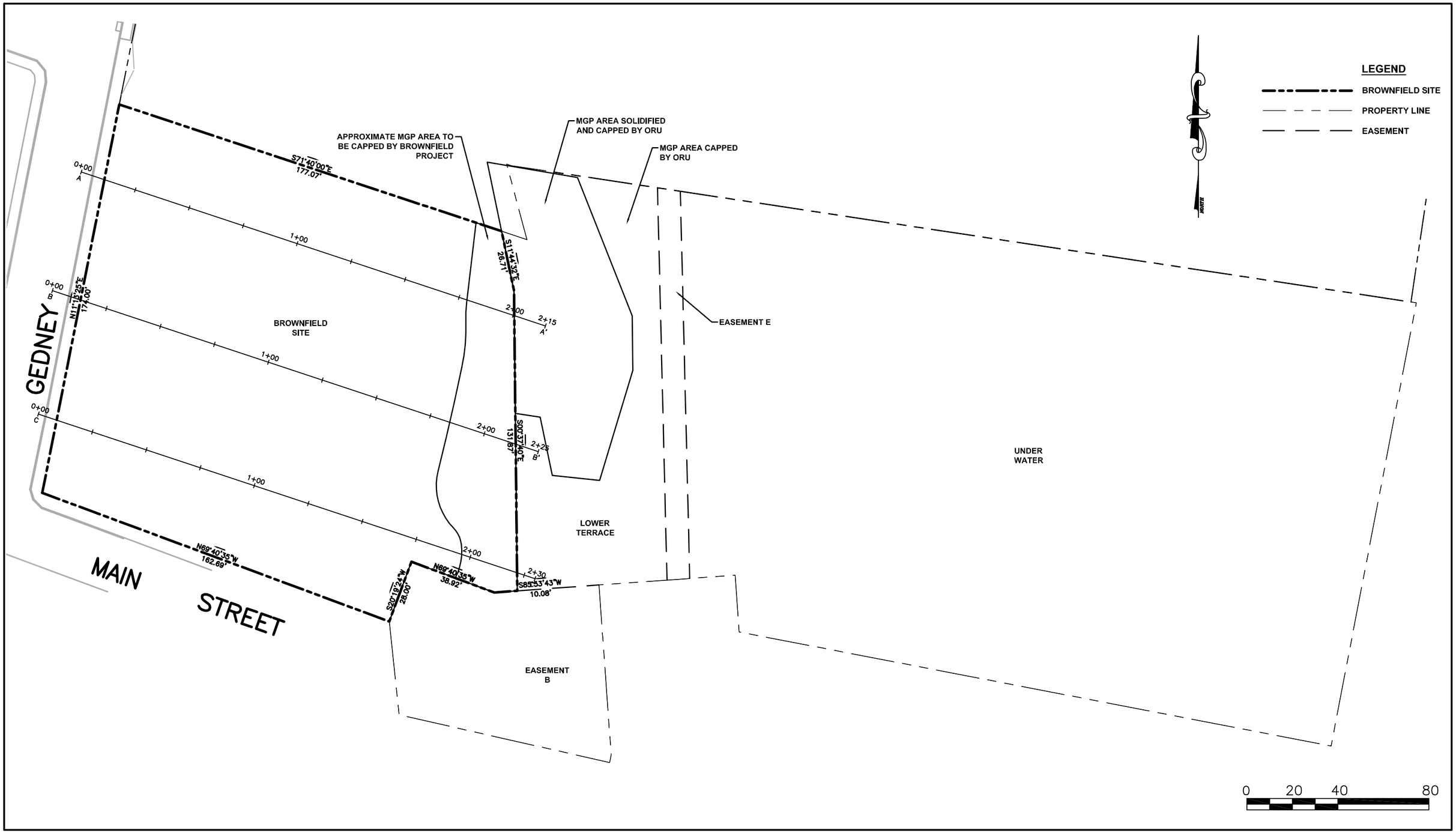
HDR

Foot of Main, LLC
Former Tidewater Terminal
Brownfield Site C344067
Gedney Street
Rockland County, Nyack, New York

SITE LOCATION MAP

DATE
04–09–15

FIGURE
1



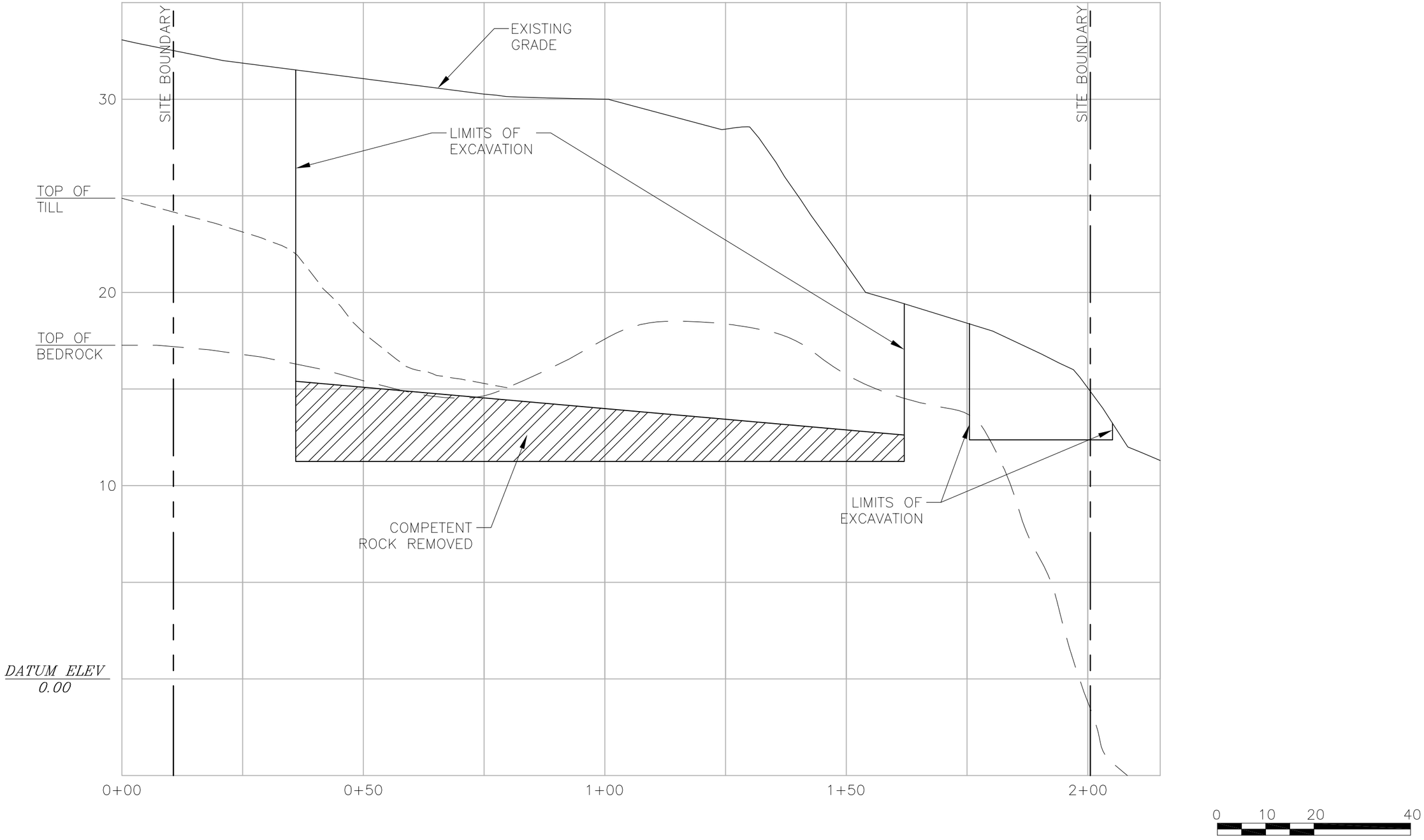
HDR

Foot of Main, LLC
Former Tidewater Terminal
Brownfield Site C344067
Gedney Street
Rockland County, Nyack, New York

BROWNFIELD SITE BOUNDARY MAP

DATE
04–20–17

FIGURE
2



0 10 20 40

HORIZONTAL SCALE
1" = 20'

0 2.5 5 10

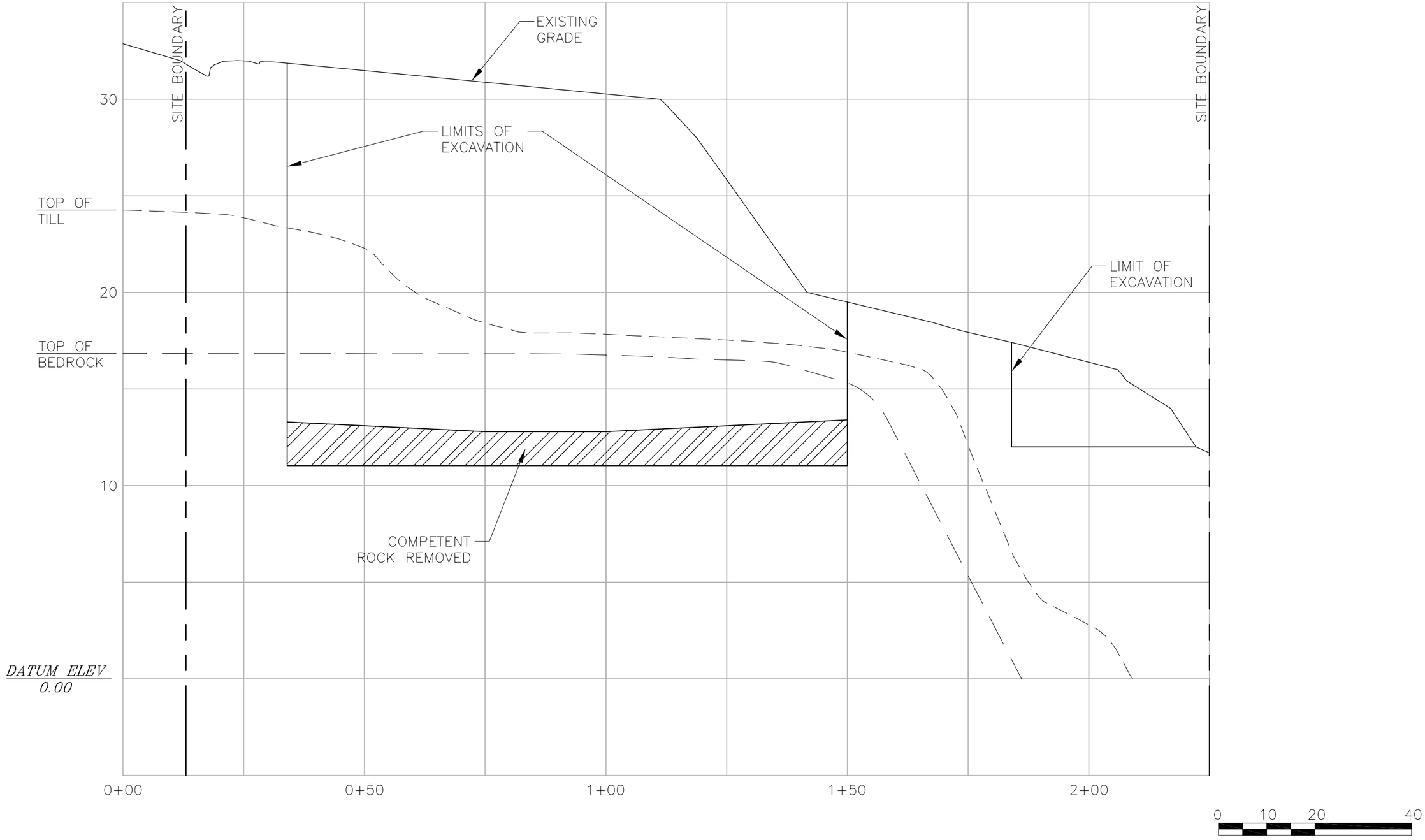
VERTICAL SCALE
1" = 5'

Foot of Main, LLC
Former Tidewater Terminal
Brownfield Site C344067
Gedney Street
Rockland County, Nyack, New York

GEOLOGIC CROSS-SECTIONS (A - A')

DATE
02–01–17

FIGURE
3A



0 10 20 40

HORIZONTAL SCALE
1" = 20'

0 2.5 5 10

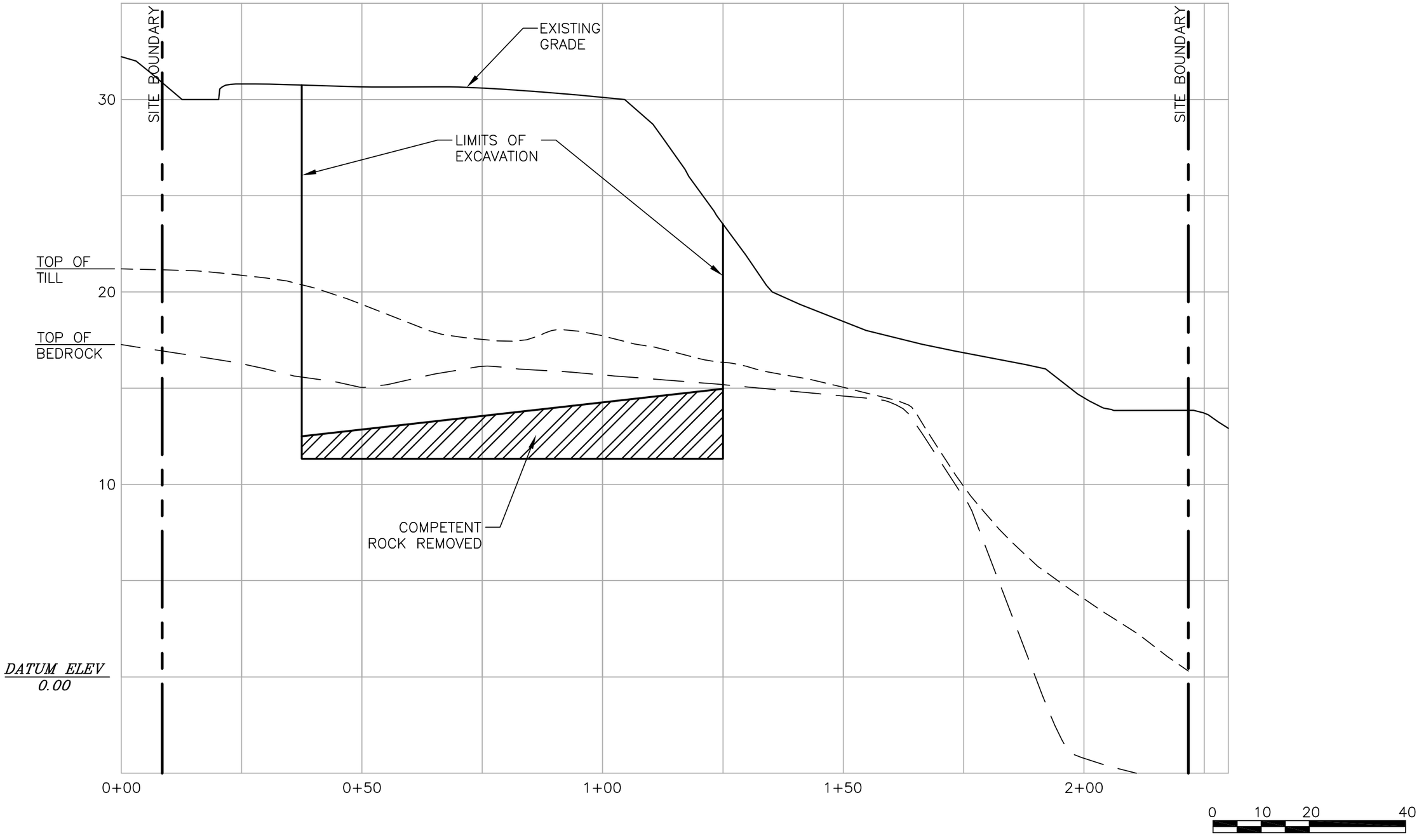
VERTICAL SCALE
1" = 5'

Foot of Main, LLC
Former Tidewater Terminal
Brownfield Site C344067
Gedney Street
Rockland County, Nyack, New York

GEOLOGIC CROSS-SECTIONS (B - B')

DATE
02–01–17

FIGURE
3B



0 10 20 40

HORIZONTAL SCALE
1" = 20'

0 2.5 5 10

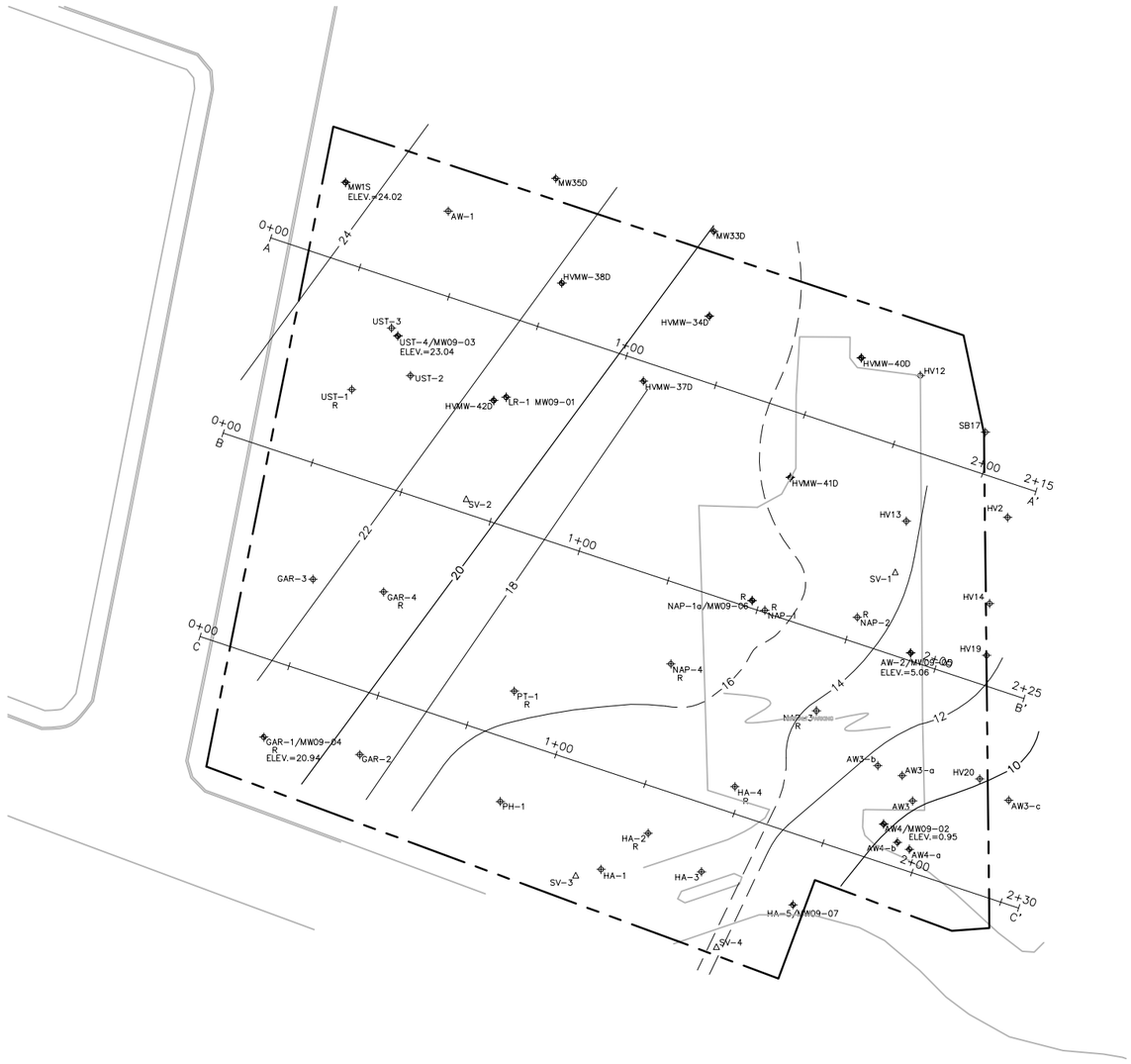
VERTICAL SCALE
1" = 5'

Foot of Main, LLC
Former Tidewater Terminal
Brownfield Site C344067
Gedney Street
Rockland County, Nyack, New York

GEOLOGIC CROSS-SECTIONS (C - C')

DATE
02–01–17

FIGURE
3C



LEGEND

- SITE
- 10 — WATER TABLE - OVERBURDEN MAJOR TOPO
- 8 — WATER TABLE - OVERBURDEN MINOR TOPO
- WATER TABLE TOPO INTERPRETED FROM BEDROCK
- BORING
- MONITORING WELL
- SOIL VAPOR SAMPLE

NORTH

0 20' 40' 80'

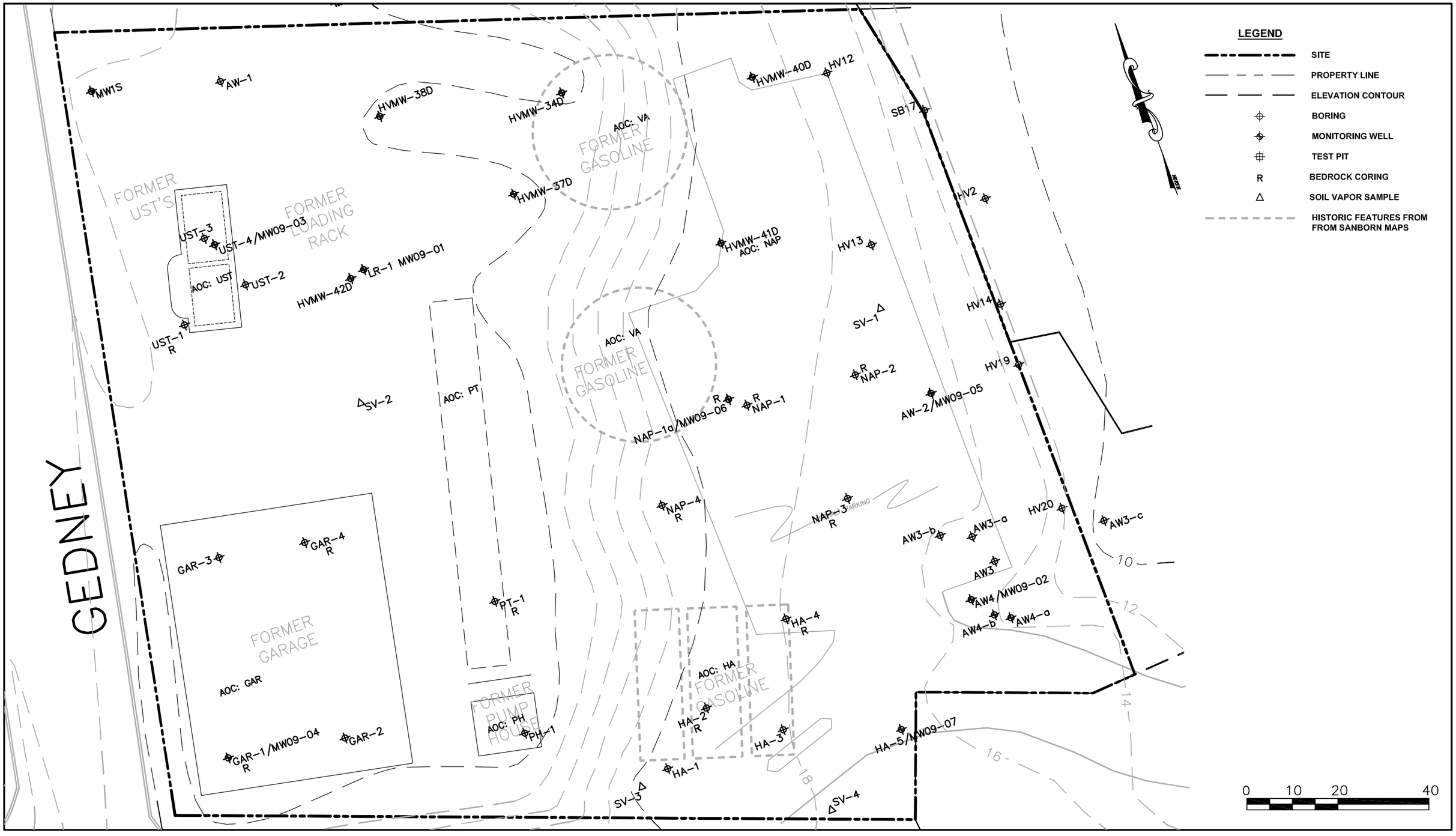
HDR

Foot of Main, LLC
Former Tidewater Terminal
Brownfield Site C344067
Gedney Street
Rockland County, Nyack, New York

WATER TABLE - OVERBURDEN CONTOUR MAP

DATE
01-03-17

FIGURE
4



HDR	**Foot of Main, LLC** **Former Tidewater Terminal** **Brownfield Site C344067** **Gedney Street** **Rockland County, Nyack, New York**	**HISTORIC FEATURES AND SAMPLE LOCATIONS**	DATE 01-03-17 FIGURE 5

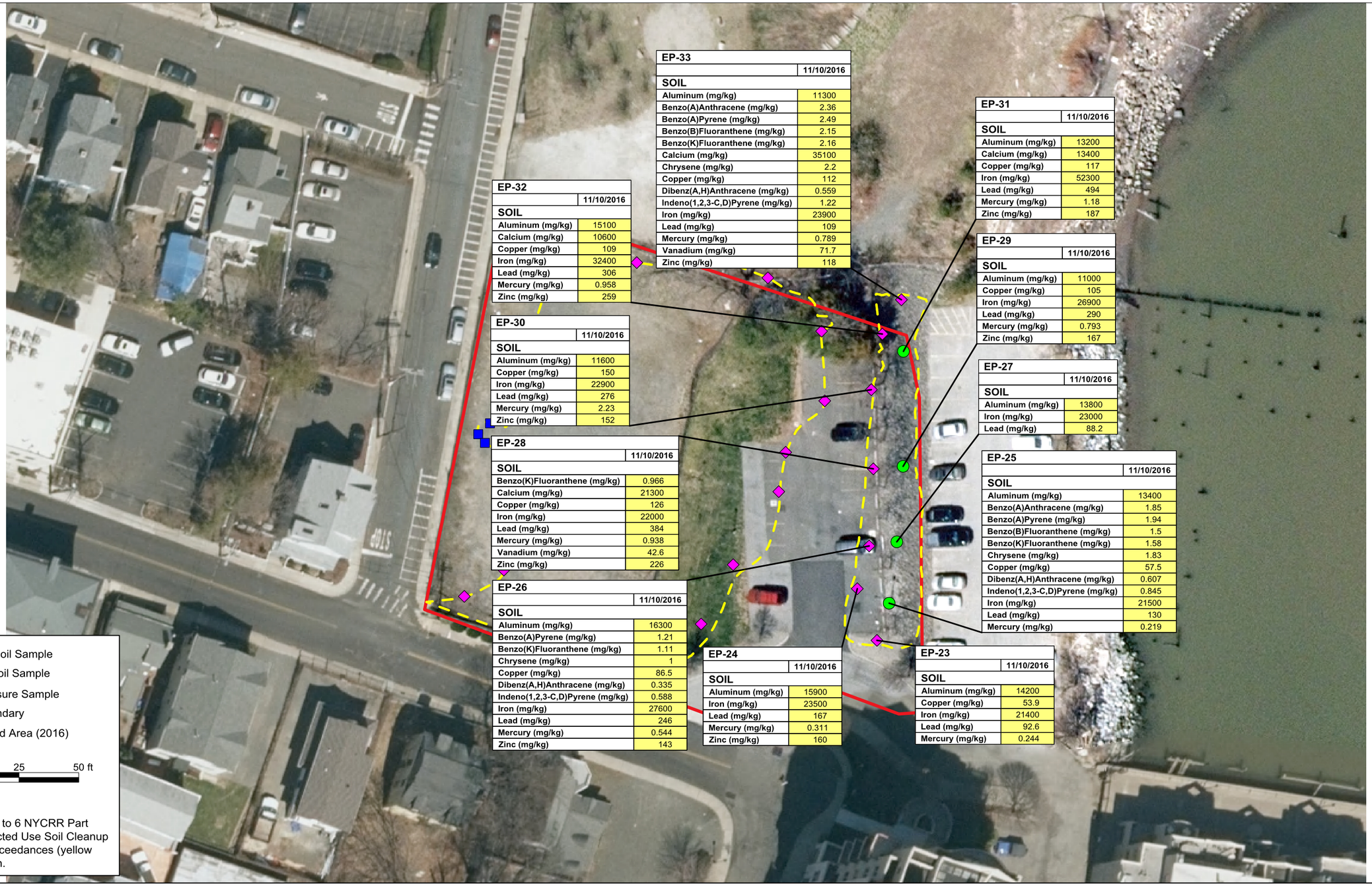
HDR

Foot of Main, LLC
Former Tidewater Terminal
Brownfield Site C344067
Gedney Street
Rockland County, Nyack, New York

EXCAVATION END POINT SOIL SAMPLING RESULTS (2016)

DATE
01-04-2016

FIGURE
6A



EP-33	
	11/10/2016
SOIL	
Aluminum (mg/kg)	11300
Benzo(A)Anthracene (mg/kg)	2.36
Benzo(A)Pyrene (mg/kg)	2.49
Benzo(B)Fluoranthene (mg/kg)	2.15
Benzo(K)Fluoranthene (mg/kg)	2.16
Calcium (mg/kg)	35100
Chrysene (mg/kg)	2.2
Copper (mg/kg)	112
Dibenz(A,H)Anthracene (mg/kg)	0.559
Indeno(1,2,3-C,D)Pyrene (mg/kg)	1.22
Iron (mg/kg)	23900
Lead (mg/kg)	109
Mercury (mg/kg)	0.789
Vanadium (mg/kg)	71.7
Zinc (mg/kg)	118

EP-32	
	11/10/2016
SOIL	
Aluminum (mg/kg)	15100
Calcium (mg/kg)	10600
Copper (mg/kg)	109
Iron (mg/kg)	32400
Lead (mg/kg)	306
Mercury (mg/kg)	0.958
Zinc (mg/kg)	259

EP-31	
	11/10/2016
SOIL	
Aluminum (mg/kg)	13200
Calcium (mg/kg)	13400
Copper (mg/kg)	117
Iron (mg/kg)	52300
Lead (mg/kg)	494
Mercury (mg/kg)	1.18
Zinc (mg/kg)	187

EP-30	
	11/10/2016
SOIL	
Aluminum (mg/kg)	11600
Copper (mg/kg)	150
Iron (mg/kg)	22900
Lead (mg/kg)	276
Mercury (mg/kg)	2.23
Zinc (mg/kg)	152

EP-29	
	11/10/2016
SOIL	
Aluminum (mg/kg)	11000
Copper (mg/kg)	105
Iron (mg/kg)	26900
Lead (mg/kg)	290
Mercury (mg/kg)	0.793
Zinc (mg/kg)	167

EP-28	
	11/10/2016
SOIL	
Benzo(K)Fluoranthene (mg/kg)	0.966
Calcium (mg/kg)	21300
Copper (mg/kg)	126
Iron (mg/kg)	22000
Lead (mg/kg)	384
Mercury (mg/kg)	0.938
Vanadium (mg/kg)	42.6
Zinc (mg/kg)	226

EP-27	
	11/10/2016
SOIL	
Aluminum (mg/kg)	13800
Iron (mg/kg)	23000
Lead (mg/kg)	88.2

EP-25	
	11/10/2016
SOIL	
Aluminum (mg/kg)	13400
Benzo(A)Anthracene (mg/kg)	1.85
Benzo(A)Pyrene (mg/kg)	1.94
Benzo(B)Fluoranthene (mg/kg)	1.5
Benzo(K)Fluoranthene (mg/kg)	1.58
Chrysene (mg/kg)	1.83
Copper (mg/kg)	57.5
Dibenz(A,H)Anthracene (mg/kg)	0.607
Indeno(1,2,3-C,D)Pyrene (mg/kg)	0.845
Iron (mg/kg)	21500
Lead (mg/kg)	130
Mercury (mg/kg)	0.219

EP-26	
	11/10/2016
SOIL	
Aluminum (mg/kg)	16300
Benzo(A)Pyrene (mg/kg)	1.21
Benzo(K)Fluoranthene (mg/kg)	1.11
Chrysene (mg/kg)	1
Copper (mg/kg)	86.5
Dibenz(A,H)Anthracene (mg/kg)	0.335
Indeno(1,2,3-C,D)Pyrene (mg/kg)	0.588
Iron (mg/kg)	27600
Lead (mg/kg)	246
Mercury (mg/kg)	0.544
Zinc (mg/kg)	143

EP-24	
	11/10/2016
SOIL	
Aluminum (mg/kg)	15900
Iron (mg/kg)	23500
Lead (mg/kg)	167
Mercury (mg/kg)	0.311
Zinc (mg/kg)	160

EP-23	
	11/10/2016
SOIL	
Aluminum (mg/kg)	14200
Copper (mg/kg)	53.9
Iron (mg/kg)	21400
Lead (mg/kg)	92.6
Mercury (mg/kg)	0.244

- Sidewal Soil Sample
- Bottom Soil Sample
- Tank Closure Sample
- Site Boundary
- Excavated Area (2016)

N

0 25 50 ft

Note:
Soil data compared to 6 NYCRR Part 376-6.8(a) Unrestricted Use Soil Cleanup Objectives. Only exceedances (yellow highlight) are shown.

HDR

Foot of Main, LLC
Former Tidewater Terminal
Brownfield Site C344067

Gedney Street
Rockland County, Nyack, New York

EXCAVATION END POINT SOIL SAMPLING RESULTS (2016)

DATE
01-04-2016

FIGURE
6B

RESIDUAL CONTAMINATION RELOCATION

FOOT OF MAIN, LLC - FORMER TIDEWATER TERMINAL BROWNFIELD SITE C344067 GEDNEY STREET ROCKLAND COUNTY NY

FIGURE 7

PATH: \\MAHPI-FILE01\PROJECTS\5068_HUDSON VISTA ASSOCIATES INC\10017063_NYACK_REMEDIAL_INVESTIG\GRAPHICS\GIS\MXD\FIG7_ONSITEMATERIALREUSEPLAN.MXD - USER: CMILLS - DATE: 6/5/2017

SITE MANAGEMENT PLAN

UST-3	08/20/2009
Benzene (ugL)	1.2
Ethylbenzene (ugL)	12
Isopropylbenzene (ugL)	9.3
n-Propylbenzene (ugL)	13

MW1S	09/15/2009
Iron (ugL)	1,900
Manganese (ugL)	1,700

LR-1 / MW09-01	09/14/2009
Benzene (ugL)	610
Ethylbenzene (ugL)	1,500
Isopropylbenzene (ugL)	100
m&p-Xylenes (ugL)	4,700
n-Propylbenzene (ugL)	130
o-Xylene (ugL)	1,900
sec-Butylbenzene (ugL)	14
Toluene (ugL)	1,400
2,4-Dimethylphenol (ugL)	26
Naphthalene (ugL)	95
Phenol (ugL)	7
Iron (ugL)	11,000
Manganese (ugL)	15,000

HVMW-37D	09/15/2009
Benzene (ugL)	19
Isopropylbenzene (ugL)	18
n-Propylbenzene (ugL)	24
sec-Butylbenzene (ugL)	5.2

UST-4 / MW09-03	09/15/2009
Ethylbenzene (ugL)	9.6
n-Propylbenzene (ugL)	5.4
Manganese (ugL)	6,600

HVMW-42D	09/15/2009
Benzene (ugL)	240
Ethylbenzene (ugL)	390
Isopropylbenzene (ugL)	59
m&p-Xylenes (ugL)	310
n-Propylbenzene (ugL)	63
o-Xylene (ugL)	70
sec-Butylbenzene (ugL)	8.1
Toluene (ugL)	63
Naphthalene (ugL)	20

HVMW-40D	09/16/2009
Benzene (ugL)	3
Isopropylbenzene (ugL)	19
n-Propylbenzene (ugL)	14

GAR-4	08/27/2009
Chloroform (ugL)	34
Ethylbenzene (ugL)	50
Isopropylbenzene (ugL)	21
m&p-Xylenes (ugL)	5.5
n-Propylbenzene (ugL)	23

NAP-1 / MW09-06	09/15/2009
Benzene (ugL)	16
Ethylbenzene (ugL)	19
Isopropylbenzene (ugL)	67
m&p-Xylenes (ugL)	7.4
n-Butylbenzene (ugL)	5.7
n-Propylbenzene (ugL)	70
sec-Butylbenzene (ugL)	11
Iron (ugL)	6,800
Manganese (ugL)	15,000

PT-1	08/27/2009
Benzene (ugL)	5.5
Chloroform (ugL)	51
Ethylbenzene (ugL)	230
Isopropylbenzene (ugL)	28
m&p-Xylenes (ugL)	200
n-Butylbenzene (ugL)	9.1
n-Propylbenzene (ugL)	69
o-Xylene (ugL)	19
sec-Butylbenzene (ugL)	5.9
Toluene (ugL)	30
2,4-Dimethylphenol (ugL)	3.8
Naphthalene (ugL)	34

AW-2 / MW09-05	09/15/2009
Benzene (ugL)	4
Isopropylbenzene (ugL)	8
n-Propylbenzene (ugL)	6.3
Iron (ugL)	16,000
Manganese (ugL)	11,000

GAR-1 / MW09-04	09/16/2009
Chloroform (ugL)	9
Aluminum (ugL)	4,200
Iron (ugL)	4,000
Manganese (ugL)	2,600

PH-1	08/20/2009
Ethylbenzene (ugL)	2,000
Isopropylbenzene (ugL)	160
m&p-Xylenes (ugL)	5,300
n-Butylbenzene (ugL)	18
n-Propylbenzene (ugL)	250
o-Xylene (ugL)	1,900
sec-Butylbenzene (ugL)	23
Toluene (ugL)	400
2,4-Dimethylphenol (ugL)	48
Naphthalene (ugL)	180

HA-5 / MW09-07	09/16/2009
Benzene (ugL)	2.1
Isopropylbenzene (ugL)	33
n-Propylbenzene (ugL)	15
sec-Butylbenzene (ugL)	5.9
Iron (ugL)	3,200
Manganese (ugL)	7,100

AW4 / MW09-02	09/16/2009
Isopropylbenzene (ugL)	27
n-Propylbenzene (ugL)	34
sec-Butylbenzene (ugL)	6.2
Iron (ugL)	54,000
Manganese (ugL)	12,000

Monitoring Well

Site Boundary

Excavated Area (2016)

N

0 25 50 ft

Note:
Only exceedances of NYSDEC TOGS Groundwater Quality Standards (yellow highlight) are shown.

HDR

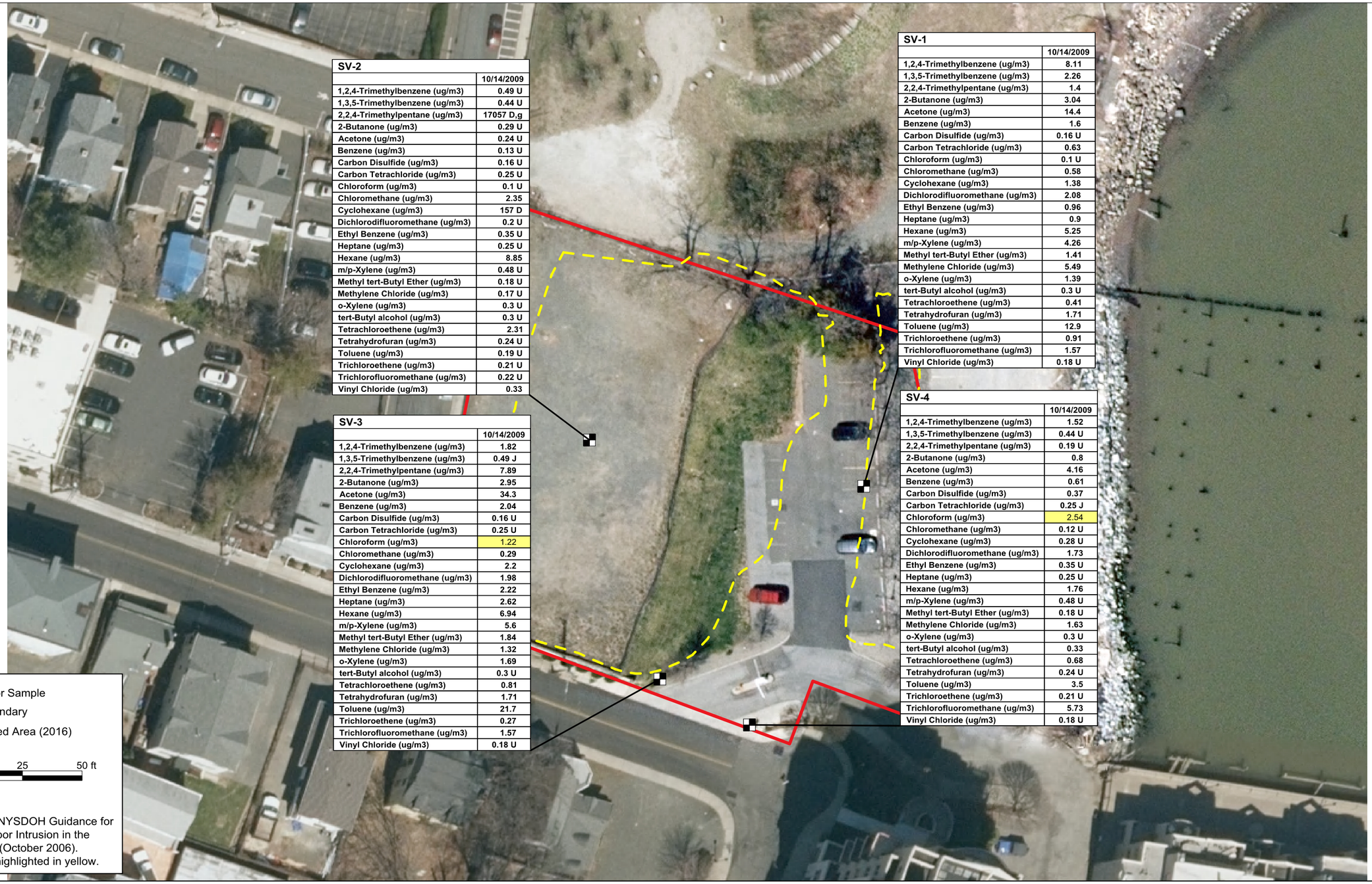
Foot of Main, LLC
Former Tidewater Terminal
Brownfield Site C344067

Gedney Street
Rockland County, Nyack, New York

GROUNDWATER SAMPLE RESULTS (2009)

DATE
01-04-2016

FIGURE
8



SV-2

	10/14/2009
1,2,4-Trimethylbenzene (ug/m3)	0.49 U
1,3,5-Trimethylbenzene (ug/m3)	0.44 U
2,2,4-Trimethylpentane (ug/m3)	17057 D,g
2-Butanone (ug/m3)	0.29 U
Acetone (ug/m3)	0.24 U
Benzene (ug/m3)	0.13 U
Carbon Disulfide (ug/m3)	0.16 U
Carbon Tetrachloride (ug/m3)	0.25 U
Chloroform (ug/m3)	0.1 U
Chloromethane (ug/m3)	2.35
Cyclohexane (ug/m3)	157 D
Dichlorodifluoromethane (ug/m3)	0.2 U
Ethyl Benzene (ug/m3)	0.35 U
Heptane (ug/m3)	0.25 U
Hexane (ug/m3)	8.85
m/p-Xylene (ug/m3)	0.48 U
Methyl tert-Butyl Ether (ug/m3)	0.18 U
Methylene Chloride (ug/m3)	0.17 U
o-Xylene (ug/m3)	0.3 U
tert-Butyl alcohol (ug/m3)	0.3 U
Tetrachloroethene (ug/m3)	2.31
Tetrahydrofuran (ug/m3)	0.24 U
Toluene (ug/m3)	0.19 U
Trichloroethene (ug/m3)	0.21 U
Trichlorofluoromethane (ug/m3)	0.22 U
Vinyl Chloride (ug/m3)	0.33

SV-3

	10/14/2009
1,2,4-Trimethylbenzene (ug/m3)	1.82
1,3,5-Trimethylbenzene (ug/m3)	0.49 J
2,2,4-Trimethylpentane (ug/m3)	7.89
2-Butanone (ug/m3)	2.95
Acetone (ug/m3)	34.3
Benzene (ug/m3)	2.04
Carbon Disulfide (ug/m3)	0.16 U
Carbon Tetrachloride (ug/m3)	0.25 U
Chloroform (ug/m3)	1.22
Chloromethane (ug/m3)	0.29
Cyclohexane (ug/m3)	2.2
Dichlorodifluoromethane (ug/m3)	1.98
Ethyl Benzene (ug/m3)	2.22
Heptane (ug/m3)	2.62
Hexane (ug/m3)	6.94
m/p-Xylene (ug/m3)	5.6
Methyl tert-Butyl Ether (ug/m3)	1.84
Methylene Chloride (ug/m3)	1.32
o-Xylene (ug/m3)	1.69
tert-Butyl alcohol (ug/m3)	0.3 U
Tetrachloroethene (ug/m3)	0.81
Tetrahydrofuran (ug/m3)	1.71
Toluene (ug/m3)	21.7
Trichloroethene (ug/m3)	0.27
Trichlorofluoromethane (ug/m3)	1.57
Vinyl Chloride (ug/m3)	0.18 U

SV-1

	10/14/2009
1,2,4-Trimethylbenzene (ug/m3)	8.11
1,3,5-Trimethylbenzene (ug/m3)	2.26
2,2,4-Trimethylpentane (ug/m3)	1.4
2-Butanone (ug/m3)	3.04
Acetone (ug/m3)	14.4
Benzene (ug/m3)	1.6
Carbon Disulfide (ug/m3)	0.16 U
Carbon Tetrachloride (ug/m3)	0.63
Chloroform (ug/m3)	0.1 U
Chloromethane (ug/m3)	0.58
Cyclohexane (ug/m3)	1.38
Dichlorodifluoromethane (ug/m3)	2.08
Ethyl Benzene (ug/m3)	0.96
Heptane (ug/m3)	0.9
Hexane (ug/m3)	5.25
m/p-Xylene (ug/m3)	4.26
Methyl tert-Butyl Ether (ug/m3)	1.41
Methylene Chloride (ug/m3)	5.49
o-Xylene (ug/m3)	1.39
tert-Butyl alcohol (ug/m3)	0.3 U
Tetrachloroethene (ug/m3)	0.41
Tetrahydrofuran (ug/m3)	1.71
Toluene (ug/m3)	12.9
Trichloroethene (ug/m3)	0.91
Trichlorofluoromethane (ug/m3)	1.57
Vinyl Chloride (ug/m3)	0.18 U

SV-4

	10/14/2009
1,2,4-Trimethylbenzene (ug/m3)	1.52
1,3,5-Trimethylbenzene (ug/m3)	0.44 U
2,2,4-Trimethylpentane (ug/m3)	0.19 U
2-Butanone (ug/m3)	0.8
Acetone (ug/m3)	4.16
Benzene (ug/m3)	0.61
Carbon Disulfide (ug/m3)	0.37
Carbon Tetrachloride (ug/m3)	0.25 J
Chloroform (ug/m3)	2.54
Chloromethane (ug/m3)	0.12 U
Cyclohexane (ug/m3)	0.28 U
Dichlorodifluoromethane (ug/m3)	1.73
Ethyl Benzene (ug/m3)	0.35 U
Heptane (ug/m3)	0.25 U
Hexane (ug/m3)	1.76
m/p-Xylene (ug/m3)	0.48 U
Methyl tert-Butyl Ether (ug/m3)	0.18 U
Methylene Chloride (ug/m3)	1.63
o-Xylene (ug/m3)	0.3 U
tert-Butyl alcohol (ug/m3)	0.33
Tetrachloroethene (ug/m3)	0.68
Tetrahydrofuran (ug/m3)	0.24 U
Toluene (ug/m3)	3.5
Trichloroethene (ug/m3)	0.21 U
Trichlorofluoromethane (ug/m3)	5.73
Vinyl Chloride (ug/m3)	0.18 U

Soil Vapor Sample

Site Boundary

Excavated Area (2016)

N

0 25 50 ft

Note:
Data compared to NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York (October 2006). Exceedances are highlighted in yellow.

HDR

Foot of Main, LLC
Former Tidewater Terminal
Brownfield Site C344067

Gedney Street
Rockland County, Nyack, New York

SOIL VAPOR SAMPLE RESULTS (2009)

DATE
01-04-2016

FIGURE
9

HDR

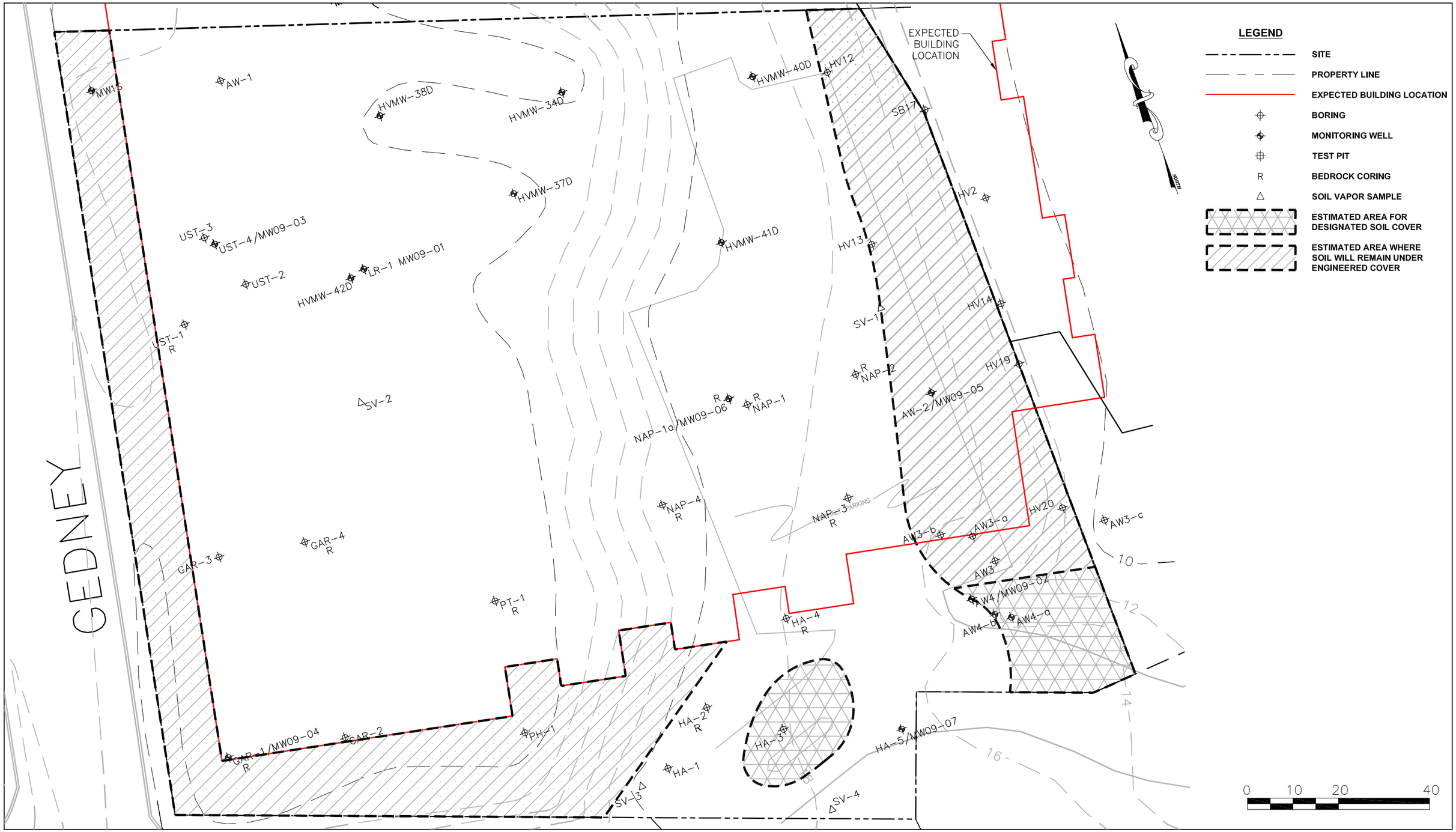
Foot of Main, LLC
Former Tidewater Terminal
Brownfield Site C344067

Gedney Street
Rockland County, Nyack, New York

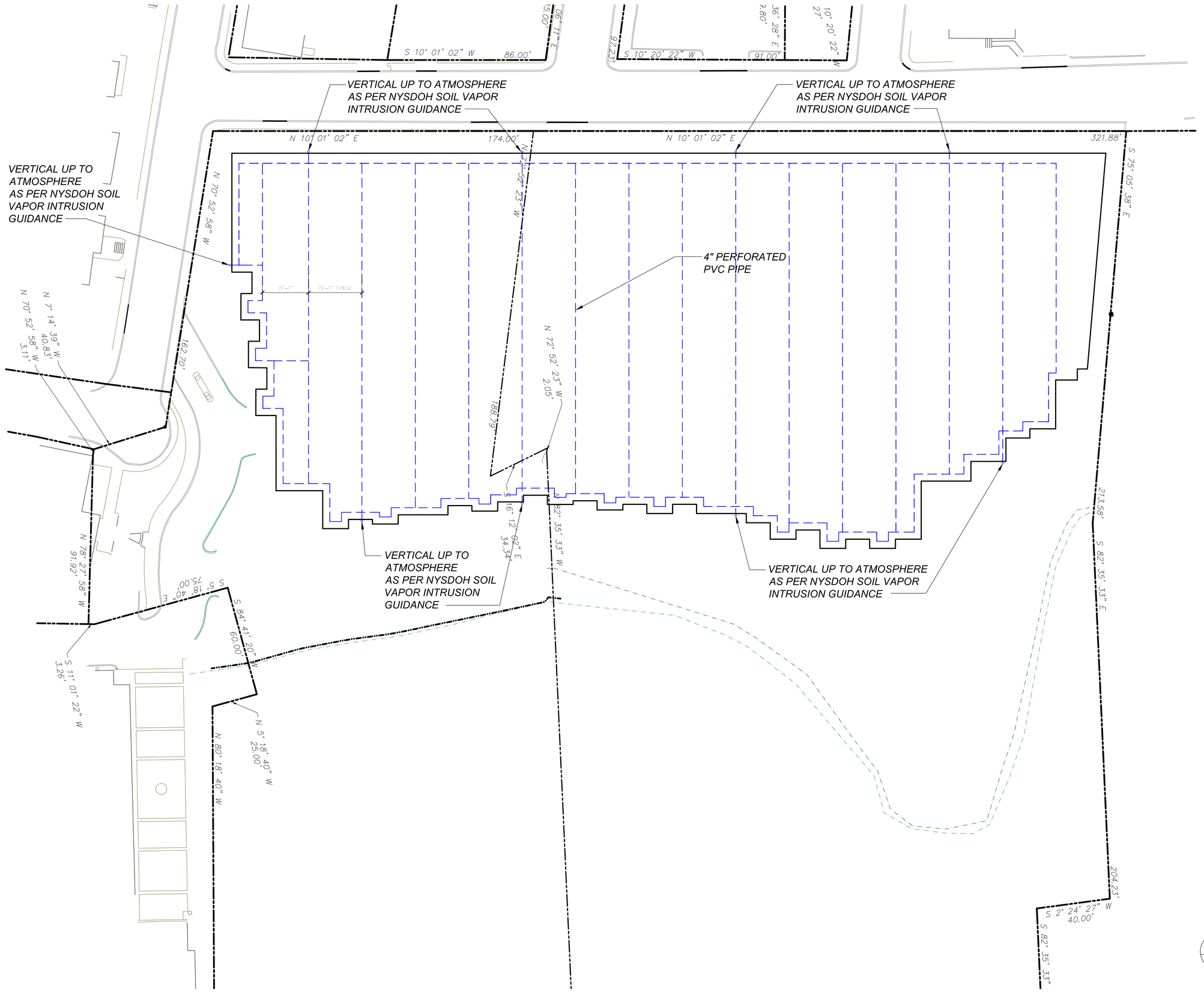
INSTITUTIONAL CONTROL BOUNDARY

DATE
01-04-2016

FIGURE
10



HDR	**Foot of Main, LLC** **Former Tidewater Terminal** **Brownfield Site C344067** **Gedney Street** **Rockland County, Nyack, New York**	**PORTIONS OF THE SITE REQUIRING COVER**	DATE 06–05–17 FIGURE 11



1/11 SUB SLAB PASSIVE VENTING SYSTEM LAYOUT

SCALE: 1" = 20'-0"

DCAK · MSA
ARCHITECTURE AND ENGINEERING

53 HUDSON AVENUE
NYACK, NEW YORK 10960
www.DCAK-MSA.com
Email: info@DCAK-MSA.com
Tel 845-353-1300 Fax 845-353-1614

Project Name:
Foot of Main, LLC
Former Tidewater Terminal
Brownfield Site C344067

Project Address:
GEDNEY STREET
NYACK, NY 10960

Consultants

Seal:

REVISIONS

No:	Date:	Description:	Responsible Party:
-	12/22/16	SMP Submission	SAB

Drawing:
SUB SLAB PASSIVE VENTING SYSTEM

Project Number:	Responsible Party:	Reviewed By:
13057	SF	DC

Scale:
1" = 20'

Drawing Number:
12

TABLES

Table 2
Summary of Residual Contamination (Endpoint Samples)
Former Tidewater Terminal Site
Village of Nyack, New York

							SAMPLE ID:	FOM-EP-1-160810	FOM-EP-2-160810	FOM-EP-3-160810	FOM-EP-4-160810	FOM-EP-5-160810	FOM-EP-6-160810	FOM-EP-7-160810	FOM-EP-8-160810	FOM-EP-9-160810	FOM-EP-10-160810	FOM-EP-11-160810	FOM-EP-12-160810	FOM-EP-13-160810	FOM-EP-14-160810	FOM-EP-15-160817	FOM-EP-15D-160817	FOM-EP-16-160817	FOM-EP-17-160817	FOM-EP-18-160817	FOM-EP-19-160825	FOM-EP-19D-160825	FOM-EP-20-160825	FOM-EP-21-160825	FOM-EP-22-160825
							MATRIX:	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
							DATE:	8/10/16	8/10/16	8/10/16	8/10/16	8/10/16	8/10/16	8/10/16	8/10/16	8/10/16	8/10/16	8/10/16	8/10/16	8/10/16	8/10/16	8/17/16	8/17/16	8/17/16	8/17/16	8/17/16	8/25/16	8/25/16	8/25/16	8/25/16	8/25/16
							SAMPLE TYPE:	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	DUP	N	N	N	N	DUP	N	N	N
METHOD	**CAS RN**	**CONSTITUENT**	**UNIT**	**NYSDEC UNRESTRICTED USE SCO + CP51**	**NYSDEC Residential USE SCO + CP51**	**NYSDEC Restricted Residential USE SCO + CP51**	**NYSDEC Commercial USE SCO + CP51**	**SOURCE NOTE**																							
SW6010B	7429-90-5	Aluminum	mg/kg	10000	10000	10000	10000	CP-51	6810 B	9580 B	**15900 B**	**11300 B**	7590 B	8940 B	7210 B	6810 B	9250 B	**11500 B**	**10600 B**	5270 B	**15900 B**	6220 B	7760	5540	6830	9710	7720	7000	7650	5840 B	9380 B	6000B
SW6010B	7440-70-2	Calcium	mg/kg	10000	10000	10000	10000	CP-51	2520	2260	2320	1690	2230	2090	1750	**10000**	1340	2160	1350	1070	2110	1960	1770	1440	1920	2370	1730	1750	1540	1440	1340	1800
SW6010B	7440-47-3	Chromium, Total	mg/kg	30	36	180	1500	375-6.8(a)	13.7	17	**30.1**	17.3	15	15.1	14	12.7	12	18.4	16.3	8.31	27	9.17	13.6	9.06	12.3	24.3	13.6	12	12.1	9.12	16.5	10.1
SW6010B	7440-50-8	Copper	mg/kg	50	270	270	270	375-6.8(a)	17.3	7.29	10.2	10.1	6.97	18.9	7.7	6.66	25.7	17.1	16.1	5.61	11.6	7.64	6.55	4.4	3.36	7.36	10.8	6.14	5.63	5.9	6.78	4.84
SW6010B	7439-89-6	Iron	mg/kg	2000	2000	2000	2000	CP-51	**11200 B**	**16500 B**	**30500 B**	**15900 B**	**12300 B**	**13200 B**	**12100 B**	**10500 B**	**11100 B**	**16100 B**	**12300 B**	**7550 B**	**29300 B**	**8350 B**	**12500**	**9150**	**13100**	**16300**	**12800**	**10600**	**11000**	**7880**	**15300**	**5370**
SW6010B	7439-92-1	Lead	mg/kg	63	400	400	1000	375-6.8(a)	14.8	14.9	31	12.4	12.1	8.19	10.4	8.5	5.42	6.14	6.21	6.18	13.4	5.99	11.3	7.68	8.69	16.4	8.27	7.32	8.37	6.62	13.2	7.58
SW6010B	7439-96-5	Manganese	mg/kg	1600	2000	2000	10000	375-6.8(a)	289	256	427	768	290	628	296	365	104	741	415	330	391	**1810 D**	460	330	266	322	115	370	816	350	209	38.1
SW6010B	7440-02-0	Nickel	mg/kg	30	140	310	310	375-6.8(a)	8.48	13.4	24.9	13.7	8	**37.3**	9.94	8.48	11.1	14.1	14	6.48	26.4	7.52	8.09	6.14	7.77	11.7	11.6	8.4	10.1	7.08	14.9	5.87
SW6010B	7440-62-2	Vanadium	mg/kg	39	39	39	39	CP-51	17.4	18.7	27.7	22	19.4	21.1	18.3	15.9	22	38.1	24.6	12	30.2	13.3	20.3	14.7	15.6	20.1	27.2	14.3	15.4	11.3	20.1	8.69
SW6010B	7440-66-6	Zinc	mg/kg	109	2200	10000	10000	375-6.8(a)	21.8	29.5	53.5	31.6	20.3	23.3	23.6	22.5	20.8	28	23.6	13.6	55.3	18.1	21.7	14.2	17.6	25.2	23	17.3	21.1	16	30.9	12.1
SW7473	7439-97-6	Mercury	mg/kg	0.18	0.81	0.81	2.8	375-6.8(a)	ND	ND	ND	ND	ND	ND	0.0492	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SW8260B	75-09-2	Methylene Chloride	mg/kg	0.05	51	100	500	375-6.8(a)	ND	0.0026 JB	ND	**0.43 JD**	ND	0.0027 J	ND	0.0021 J	0.0026 J	0.0022 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SW8270C	56-55-3	Benzo(A)Anthracene	mg/kg	1	1	1	5.6	375-6.8(a)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SW8270C	50-32-8	Benzo(A)Pyrene	mg/kg	1	1	1	1	375-6.8(a)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SW8270C	205-99-2	Benzo(B)Fluoranthene	mg/kg	1	1	1	5.6	375-6.8(a)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SW8270C	207-08-9	Benzo(K)Fluoranthene	mg/kg	0.8	1	3.9	56	375-6.8(a)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SW8270C	218-01-9	Chrysene	mg/kg	1	1	3.9	56	375-6.8(a)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SW8270C	53-70-3	Dibenz(A,H)Anthracene	mg/kg	0.33	0.33	0.33	0.56	375-6.8(a)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SW8270C	193-39-5	Indeno(1,2,3-C,D)Pyrene	mg/kg	0.5	0.5	0.5	5.6	375-6.8(a)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

CRITERIA:

6 NYCRR Part 375-6.8(a) Unrestricted Use Soil Cleanup Objectives (14 December, 2006)

Commissioner Policy 51 (CP-51) Soil Cleanup Guidance - Lowest criteria for any particular constituent used for Unrestricted Use SCO. (21 October, 2010)

NOTES:

55 J	Yellow highlighting with bold font indicates exceedance of Unrestricted Use value shown.
55J	Orange highlighting with bold font indicates exceedance of Residential Use value shown.
55 J	Blue highlighting with bold font indicates exceedance of Restricted Residential Use value shown.
55 J	Purple highlighting with bold font indicates exceedance of Commercial Use value shown.
ND	Indicates analyte was not tested for in the particular sample.

QUALIFIERS:

B	Analyte is found in the associated analysis batch blank.
CCV-E	The value reported is estimated due to its behavior during continuing calibration verification.
J	Detected below the RL, but greater than or equal to the MDL, or in the case of a TIC, result is an estimated concentration.
U	Value was non-detect.

Table 2
Summary of Residual Contamination (Endpoint Samples)
Former Tidewater Terminal Site
Village of Nyack, New York

									SAMPLE ID:	FOM-EP-23-161110	FOM-EP-23D-161110	FOM-EP-24-161110	FOM-EP-25-161110	FOM-EP-26-161110	FOM-EP-27-161110	FOM-EP-28-161110	FOM-EP-29-161110	FOM-EP-30-161110	FOM-EP-31-161110	FOM-EP-32-161110	FOM-EP-33-161110
									MATRIX:	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
									DATE:	11/10/16	11/10/16	11/10/16	11/10/16	11/10/16	11/10/16	11/10/16	11/10/16	11/10/16	11/10/16	11/10/16	11/10/16
									SAMPLE TYPE:	N	N	N	N	N	N	N	N	N	N	N	N
METHOD	**CAS RN**	**CONSTITUENT**	**UNIT**	**NYSDEC UNRESTRICTED USE SCO + CP51**	**NYSDEC Residential USE SCO + CP51**	**NYSDEC Restricted Residential USE SCO + CP51**	**NYSDEC Commercial USE SCO + CP51**	**SOURCE NOTE**													
SW6010B	7429-90-5	Aluminum	mg/kg	10000	10000	10000	10000	CP-51	**14200**	**18500**	**15900**	**13400**	**16300**	**13800**	8400	**11000**	**11600**	**13200**	**15100**	**11300**
SW6010B	7440-70-2	Calcium	mg/kg	10000	10000	10000	10000	CP-51	2320	3480	5330	4030	4090	7720	**21300**	9550	9520	**13400**	**10600**	**35100**
SW6010B	7440-47-3	Chromium, Total	mg/kg	30	36	180	1500	375-6.8(a)	22.2	28.3	24.3	22.6	25.9	22.8	16.3	19.4	18	21.1	24.6	17.1
SW6010B	7440-50-8	Copper	mg/kg	50	270	270	270	375-6.8(a)	**53.9**	**54.6**	37.7	**57.5**	**86.5**	45.7	**126**	**105**	**150**	**117**	**109**	**112**
SW6010B	7439-89-6	Iron	mg/kg	2000	2000	2000	2000	CP-51	**21400**	**30400**	**23500**	**21500**	**27600**	**23000**	**22000**	**26900**	**22900**	**52300**	**32400**	**23900**
SW6010B	7439-92-1	Lead	mg/kg	63	400	400	1000	375-6.8(a)	**92.6**	**123**	**167**	**130**	**246**	**88.2**	**384**	**290**	**276**	**494**	**306**	**109**
SW6010B	7439-96-5	Manganese	mg/kg	1600	2000	2000	10000	375-6.8(a)	499	653	550	665	516	664	387	828	547	605	588	384
SW6010B	7440-02-0	Nickel	mg/kg	30	140	310	310	375-6.8(a)	21.3	**30.6**	24.6	29.7	27.3	22.3	16.9	17.6	17.9	22.3	25.7	16.4
SW6010B	7440-62-2	Vanadium	mg/kg	39	39	39	39	CP-51	31	38.4	31.4	31.8	38	34.8	**42.6**	38.3	37.6	36.8	33.3	**71.7**
SW6010B	7440-66-6	Zinc	mg/kg	109	2200	10000	10000	375-6.8(a)	86.9	**112**	**160**	102	**143**	80.7	**226**	**167**	**152**	**187**	**259**	**118**
SW7473	7439-97-6	Mercury	mg/kg	0.18	0.81	0.81	2.8	375-6.8(a)	**0.244**	**0.218**	**0.311**	**0.219**	**0.544**	0.172	**0.938**	**0.793**	**2.23**	**1.18**	**0.958**	**0.789**
SW8260B	75-09-2	Methylene Chloride	mg/kg	0.05	51	100	500	375-6.8(a)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SW8270C	56-55-3	Benzo(A)Anthracene	mg/kg	1	1	1	5.6	375-6.8(a)	0.3	0.188	0.2	**1.85**	0.908	0.32	0.829	0.263	0.187	0.17	0.296	**2.36**
SW8270C	50-32-8	Benzo(A)Pyrene	mg/kg	1	1	1	1	375-6.8(a)	0.463	0.314	0.36	**1.94**	**1.21**	0.414	0.939	0.332	0.255	0.248	0.388	**2.49**
SW8270C	205-99-2	Benzo(B)Fluoranthene	mg/kg	1	1	1	5.6	375-6.8(a)	0.325	0.222	0.265	**1.5**	0.902	0.336	0.807	0.255	0.216	0.214	0.33	**2.15**
SW8270C	207-08-9	Benzo(K)Fluoranthene	mg/kg	0.8	1	3.9	56	375-6.8(a)	0.371	0.26	0.305	**1.58**	**1.11**	0.383	**0.966**	0.323	0.262	0.246	0.37	**2.16**
SW8270C	218-01-9	Chrysene	mg/kg	1	1	3.9	56	375-6.8(a)	0.34	0.208	0.23	**1.83**	**1**	0.344	0.909	0.29	0.21	0.214	0.33	**2.2**
SW8270C	53-70-3	Dibenz(A,H)Anthracene	mg/kg	0.33	0.33	0.33	0.56	375-6.8(a)	0.153	0.112	.0711 J	**0.607**	**0.335**	0.107	0.213	0.0996	0.0783	.0784 J	.0807 J	**0.559**
SW8270C	193-39-5	Indeno(1,2,3-C,D)Pyrene	mg/kg	0.5	0.5	0.5	5.6	375-6.8(a)	0.273	0.194	0.206	**0.845**	**0.588**	0.2	0.452	0.185	0.143	0.145	0.202	**1.22**

CRITERIA:

6 NYCRR Part 375-6.8(a) Unrestricted Use Soil Cleanup Objectives (14 December, 2006)

Commissioner Policy 51 (CP-51) Soil Cleanup Guidance - Lowest criteria for any particular constituent used for Unrestricted Use SCO. (21 October, 2010)

NOTES:

55 J	Yellow highlighting with bold font indicates exceedance of Unrestricted Use value shown.
55J	Orange highlighting with bold font indicates exceedance of Residential Use value shown.
55 J	Blue highlighting with bold font indicates exceedance of Restricted Residential Use value shown.
55 J	Purple highlighting with bold font indicates exceedance of Commercial Use value shown.
ND	Indicates analyte was not tested for in the particular sample.

QUALIFIERS:

B	Analyte is found in the associated analysis batch blank.
CCV-E	The value reported is estimated due to its behavior during continuing calibration verification.
J	Detected below the RL, but greater than or equal to the MDL, or in the case of a TIC, result is an estimated concentration.
U	Value was non-detect.

Table 3
Summary of Groundwater Data (2009)
Former Tidewater Terminal
Village of Nyack, New York

		SAMPLE ID:	MW09-03	HVMW-1S	MW09-01	HVMW-42D	HVMW-37D	MW09-06	MW-A	MW09-05
		LAB SAMPLE ID:	AC47076-001	AC47076-002	AC47076-003	AC47076-004	AC47076-005	AC47076-006	AC47076-007	AC47076-012
		MATRIX:	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
		DATE:	9/15/2009	9/15/2009	9/14/2009	9/15/2009	9/15/2009	9/15/2009	9/15/2009	9/15/2009
		SAMPLE TYPE:	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Constituent	**NYSDEC TOGS 1.1.1 Class GA**	**Unit**								
Volatile Organics										
1,1,1-Trichloroethane	5	ug/L	**55**	*< 1.0 U*	*< 10 U*	*< 5.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*
1,1,2,2-Tetrachloroethane	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*
1,1,2-Trichloro-1,2,2-trifluoroethane	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*
1,1,2-Trichloroethane	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*
1,1-Dichloroethane	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*
1,1-Dichloroethene	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*
1,2,3-Trichloropropane	--	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*
1,2,4-Trimethylbenzene	--	ug/L	*< 1.0 U*	*< 1.0 U*	990	88	*< 1.0 U*	*< 1.0 U*	1.6	*< 1.0 U*
1,2-Dichlorobenzene	3	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*
1,2-Dichloroethane	0.6	ug/L	*< 0.50 U*	*< 0.50 U*	*< 5.0 U*	*< 2.5 U*	*< 0.50 U*	*< 0.50 U*	*< 0.50 U*	*< 0.50 U*
1,2-Dichloropropane	1	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*
1,3,5-Trimethylbenzene	--	ug/L	*< 1.0 U*	*< 1.0 U*	380	32	*< 1.0 U*	*< 1.0 U*	1.1	*< 1.0 U*
1,3-Dichlorobenzene	3	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*
1,3-Dichloropropane	--	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*
1,4-Dichlorobenzene	3	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*
1,4-Dioxane	--	ug/L	*< 50 U*	*< 50 U*	*< 50 U0*	*< 25 U0*	*< 50 U*	*< 50 U*	*< 50 U*	*< 50 U*
2-Butanone	--	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*
2-Chloroethylvinylether	--	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*
2-Hexanone	50	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*
4-Isopropyltoluene	--	ug/L	*< 1.0 U*	*< 1.0 U*	16	*< 5.0 U*	*< 1.0 U*	1.9	2.1	*< 1.0 U*
4-Methyl-2-pentanone	--	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*
Acetone	50	ug/L	*< 5.0 U*	*< 5.0 U*	*< 50 U*	*< 25 U*	*< 5.0 U*	*< 5.0 U*	*< 5.0 U*	16
Acrolein	5	ug/L	*< 5.0 U*	*< 5.0 U*	*< 50 U*	*< 25 U*	*< 5.0 U*	*< 5.0 U*	*< 5.0 U*	*< 5.0 U*
Acrylonitrile	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*
Benzene	1	ug/L	*< 0.50 U*	*< 0.50 U*	**610**	**240**	**19**	**16**	**17**	**4.0**
Bromodichloromethane	50	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*
Bromoform	50	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*
Bromomethane	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*
Carbon disulfide	60	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*
Carbon tetrachloride	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*
Chlorobenzene	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*
Chloroethane	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*
Chloroform	7	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*
Chloromethane	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*
cis-1,2-Dichloroethene	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*
cis-1,3-Dichloropropene	Sum of cis+trans	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*
Dibromochloromethane	50	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*
Dichlorodifluoromethane	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*
Ethylbenzene	5	ug/L	**9.6**	*< 1.0 U*	**1,500**	**390**	*< 1.0 U*	**19**	**21**	*< 1.0 U*

Table 3
Summary of Groundwater Data (2009)
Former Tidewater Terminal
Village of Nyack, New York

		SAMPLE ID:	MW09-03	HVMW-1S	MW09-01	HVMW-42D	HVMW-37D	MW09-06	MW-A	MW09-05
		LAB SAMPLE ID:	AC47076-001	AC47076-002	AC47076-003	AC47076-004	AC47076-005	AC47076-006	AC47076-007	AC47076-012
		MATRIX:	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
		DATE:	9/15/2009	9/15/2009	9/14/2009	9/15/2009	9/15/2009	9/15/2009	9/15/2009	9/15/2009
		SAMPLE TYPE:	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Constituent	**NYSDEC TOGS 1.1.1 Class GA**	**Unit**								
Isopropylbenzene	5	ug/L	4.6	*< 1.0 U*	**100**	**59**	**18**	**67**	**65**	**8.0**
m&p-Xylenes	5	ug/L	*< 1.0 U*	*< 1.0 U*	**4,700**	**310**	1.6	**7.4**	**9.2**	2.1
Methylene chloride	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*
Methyl-t-butyl ether	10	ug/L	*< 0.50 U*	*< 0.50 U*	*< 5.0 U*	*< 2.5 U*	*< 0.50 U*	*< 0.50 U*	*< 0.50 U*	*< 0.50 U*
n-Butylbenzene	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	1.1	**5.7**	**5.4**	*< 1.0 U*
n-Propylbenzene	5	ug/L	**5.4**	*< 1.0 U*	**130**	**63**	**24**	**70**	**68**	**6.3**
o-Xylene	5	ug/L	*< 1.0 U*	*< 1.0 U*	**1,900**	**70**	*< 1.0 U*	1.5	1.7	*< 1.0 U*
sec-Butylbenzene	5	ug/L	*< 1.0 U*	*< 1.0 U*	**14**	**8.1**	**5.2**	**11**	**12**	1.0
Styrene	930	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*
t-Butyl Alcohol	--	ug/L	*< 5.0 U*	*< 5.0 U*	*< 50 U*	*< 25 U*	*< 5.0 U*	*< 5.0 U*	*< 5.0 U*	*< 5.0 U*
t-Butylbenzene	--	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	1.1	2.3	2.4	*< 1.0 U*
Tetrachloroethene	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*
Toluene	5	ug/L	*< 1.0 U*	*< 1.0 U*	**1,400**	**63**	1.6	3.8	4.3	1.5
trans-1,2-Dichloroethene	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*
trans-1,3-Dichloropropene	Sum of cis+trans	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*
Trichloroethene	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*
Trichlorofluoromethane	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*
Vinyl chloride	2	ug/L	*< 1.0 U*	*< 1.0 U*	*< 10 U*	*< 5.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*
Sum of cis & trans 1,3-Dichloropropene	cis+trans = 0.4	ug/L	--	--	--	--	--	--	--	--
Xylenes (Total)	--	ug/L	*< 1 U*	*< 1 U*	6,600	380	1.6	8.9	10.9	2.1
Base Neutral Organics										
1,2,4-Trichlorobenzene	5	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
1,2-Diphenylhydrazine	ND	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
2,4,5-Trichlorophenol	--	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
2,4,6-Trichlorophenol	--	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
2,4-Dichlorophenol	1	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
2,4-Dimethylphenol	1	ug/L	*< 2.2 U*	*< 2.1 U*	**26**	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
2,4-Dinitrophenol	1	ug/L	*< 11 U*	*< 10 U*	*< 10 U*	*< 11 U*	*< 10 U*	*< 11 U*	*< 10 U*	*< 10 U*
2,4-Dinitrotoluene	5	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
2,6-Dinitrotoluene	5	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
2-Chloronaphthalene	10	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
2-Chlorophenol	--	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
2-Methylnaphthalene	--	ug/L	*< 2.2 U*	*< 2.1 U*	23	9.3	21	34	30	2.9
2-Methylphenol	--	ug/L	*< 2.2 U*	*< 2.1 U*	8.1	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
2-Nitroaniline	5	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
2-Nitrophenol	--	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
3&4-Methylphenol	--	ug/L	*< 2.2 U*	*< 2.1 U*	7.1	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
3,3'-Dichlorobenzidine	5	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
3-Nitroaniline	5	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
4,6-Dinitro-2-methylphenol	--	ug/L	*< 11 U*	*< 10 U*	*< 10 U*	*< 11 U*	*< 10 U*	*< 11 U*	*< 10 U*	*< 10 U*

Table 3
Summary of Groundwater Data (2009)
Former Tidewater Terminal
Village of Nyack, New York

		SAMPLE ID:	MW09-03	HVMW-1S	MW09-01	HVMW-42D	HVMW-37D	MW09-06	MW-A	MW09-05
		LAB SAMPLE ID:	AC47076-001	AC47076-002	AC47076-003	AC47076-004	AC47076-005	AC47076-006	AC47076-007	AC47076-012
		MATRIX:	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
		DATE:	9/15/2009	9/15/2009	9/14/2009	9/15/2009	9/15/2009	9/15/2009	9/15/2009	9/15/2009
		SAMPLE TYPE:	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Constituent	**NYSDEC TOGS 1.1.1 Class GA**	**Unit**								
4-Bromophenyl-phenylether	--	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
4-Chloro-3-methylphenol	--	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
4-Chloroaniline	5	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
4-Chlorophenyl-phenylether	--	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
4-Nitroaniline	5	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
4-Nitrophenol	--	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
Acenaphthene	20	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	3.8	3.6	4.3
Acenaphthylene	--	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
Aniline	5	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
Anthracene	50	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
Benzidine	5	ug/L	*< 11 U*	*< 10 U*	*< 10 U*	*< 11 U*	*< 10 U*	*< 11 U*	*< 10 U*	*< 10 U*
Benzo[a]anthracene	0.002	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
Benzo[a]pyrene	ND	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
Benzo[b]fluoranthene	0.002	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
Benzo[g,h,i]perylene	--	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
Benzo[k]fluoranthene	0.002	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
Benzoic acid	--	ug/L	*< 11 U*	*< 10 U*	*< 10 U*	*< 11 U*	*< 10 U*	*< 11 U*	*< 10 U*	*< 10 U*
bis(2-Chloroethoxy)methane	5	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
bis(2-Chloroethyl)ether	1	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
bis(2-Chloroisopropyl)ether	5	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
bis(2-Ethylhexyl)phthalate	5	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
Butylbenzylphthalate	50	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
Carbazole	--	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
Chrysene	0.002	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
Dibenzo[a,h]anthracene	--	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
Dibenzofuran	--	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	2.7	2.5	3.2
Diethylphthalate	50	ug/L	*< 2.2 U*	*< 2.1 U*	3.1	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
Dimethylphthalate	50	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
Di-n-butylphthalate	50	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
Di-n-octylphthalate	50	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
Fluoranthene	50	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
Fluorene	50	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	2.3	3.9	3.8	5.4
Hexachlorobenzene	0.04	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
Hexachlorobutadiene	0.5	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
Hexachlorocyclopentadiene	5	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
Hexachloroethane	5	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
Indeno[1,2,3-cd]pyrene	0.002	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
Isophorone	50	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
Naphthalene	10	ug/L	*< 2.2 U*	*< 2.1 U*	**95**	**20**	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	3.0
Nitrobenzene	0.4	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*

Table 3
Summary of Groundwater Data (2009)
Former Tidewater Terminal
Village of Nyack, New York

		SAMPLE ID:	MW09-03	HVMW-1S	MW09-01	HVMW-42D	HVMW-37D	MW09-06	MW-A	MW09-05
		LAB SAMPLE ID:	AC47076-001	AC47076-002	AC47076-003	AC47076-004	AC47076-005	AC47076-006	AC47076-007	AC47076-012
		MATRIX:	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
		DATE:	9/15/2009	9/15/2009	9/14/2009	9/15/2009	9/15/2009	9/15/2009	9/15/2009	9/15/2009
		SAMPLE TYPE:	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Constituent	**NYSDEC TOGS 1.1.1 Class GA**	**Unit**								
N-Nitrosodimethylamine	--	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
N-Nitroso-di-n-propylamine	--	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
N-Nitrosodiphenylamine	50	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
Pentachlorophenol	1	ug/L	*< 11 U*	*< 10 U*	*< 10 U*	*< 11 U*	*< 10 U*	*< 11 U*	*< 10 U*	*< 10 U*
Phenanthrene	50	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	4.2	8.5	8.2	6.1
Phenol	1	ug/L	*< 2.2 U*	*< 2.1 U*	**7.0**	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
Pyrene	50	ug/L	*< 2.2 U*	*< 2.1 U*	*< 2.0 U*	*< 2.2 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*
Metals										
Mercury	1.4	ug/L	*< 0.70 U*	*< 0.70 U*	*< 0.70 U*	--	--	*< 0.70 U*	*< 0.70 U*	*< 0.70 U*
Aluminum	2000	ug/L	*< 180 U*	940	*< 180 U*	--	--	220	300	*< 180 U*
Antimony	6	ug/L	*< 12 U*	*< 12 U*	*< 12 U*	--	--	*< 12 U*	*< 12 U*	*< 12 U*
Arsenic	50	ug/L	*< 7.5 U*	*< 7.5 U*	*< 7.5 U*	--	--	*< 7.5 U*	*< 7.5 U*	*< 7.5 U*
Barium	2000	ug/L	270	90	280	--	--	330	330	430
Beryllium	3	ug/L	*< 4.0 U*	*< 4.0 U*	*< 4.0 U*	--	--	*< 4.0 U*	*< 4.0 U*	*< 4.0 U*
Cadmium	10	ug/L	*< 3.5 U*	*< 3.5 U*	*< 3.5 U*	--	--	*< 3.5 U*	*< 3.5 U*	*< 3.5 U*
Calcium	--	ug/L	160,000	50,000	200,000	--	--	130,000	130,000	160,000
Chromium	100	ug/L	*< 50 U*	*< 50 U*	*< 50 U*	--	--	*< 50 U*	*< 50 U*	*< 50 U*
Cobalt	--	ug/L	*< 20 U*	*< 20 U*	*< 20 U*	--	--	*< 20 U*	*< 20 U*	*< 20 U*
Copper	1000	ug/L	*< 50 U*	*< 50 U*	*< 50 U*	--	--	*< 50 U*	*< 50 U*	*< 50 U*
Iron	600	ug/L	*< 280 U*	**1,900**	**11,000**	--	--	**6,800**	**6,800**	**16,000**
Lead	50	ug/L	14	*< 4.0 U*	5.7	--	--	*< 4.0 U*	*< 4.0 U*	*< 4.0 U*
Magnesium	35000	ug/L	29,000	12,000	32,000	--	--	12,000	12,000	13,000
Manganese	600	ug/L	**6,600**	**1,700**	**15,000**	--	--	**15,000**	**15,000**	**11,000**
Nickel	200	ug/L	*< 50 U*	*< 50 U*	*< 50 U*	--	--	*< 50 U*	*< 50 U*	*< 50 U*
Potassium	--	ug/L	5,100	*< 5,000 U*	*< 5,000 U*	--	--	*< 5,000 U*	*< 5,000 U*	*< 5,000 U*
Selenium	20	ug/L	*< 40 U*	*< 40 U*	*< 40 U*	--	--	*< 40 U*	*< 40 U*	*< 40 U*
Silver	100	ug/L	*< 20 U*	*< 20 U*	*< 20 U*	--	--	*< 20 U*	*< 20 U*	*< 20 U*
Sodium	NA	ug/L	65,000	84,000	49,000	--	--	50,000	50,000	38,000
Thallium	0.5	ug/L	*< 10 U*	*< 10 U*	*< 10 U*	--	--	*< 10 U*	*< 10 U*	*< 10 U*
Vanadium	--	ug/L	*< 50 U*	*< 50 U*	*< 50 U*	--	--	*< 50 U*	*< 50 U*	*< 50 U*
Zinc	5000	ug/L	*< 50 U*	*< 50 U*	*< 50 U*	--	--	*< 50 U*	*< 50 U*	140

NOTES
NYSDEC TOGS 1.1.1 Ambient Water Quality Standards Class GA (6 NYCRR Part 703)

Table 3
Summary of Groundwater Data (2009)
Former Tidewater Terminal
Village of Nyack, New York

		SAMPLE ID:	MW09-02	MW09-07	MW09-04	HVMW-40D	GAR-4 PZ	PZ PT-1	PZ-UST-3	PZ-PH-1
		LAB SAMPLE ID:	AC47112-001	AC47112-002	AC47112-003	AC47112-004	AC46749-001	AC46749-002	AC46589-015	AC46589-016
		MATRIX:	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
		DATE:	9/16/2009	9/16/2009	9/16/2009	9/16/2009	8/27/2009	8/27/2009	8/20/2009	8/20/2009
		SAMPLE TYPE:	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Constituent	**NYSDEC TOGS 1.1.1 Class GA**	**Unit**								
Volatile Organics					J TIC					
1,1,1-Trichloroethane	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 10 U*
1,1,2,2-Tetrachloroethane	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 10 U*
1,1,2-Trichloro-1,2,2-trifluoroethane	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 10 U*
1,1,2-Trichloroethane	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 10 U*
1,1-Dichloroethane	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 10 U*
1,1-Dichloroethene	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 10 U*
1,2,3-Trichloropropane	--	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 10 U*
1,2,4-Trimethylbenzene	--	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	23	120	6.6	1,800
1,2-Dichlorobenzene	3	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 10 U*
1,2-Dichloroethane	0.6	ug/L	*< 0.50 U*	*< 0.50 U*	*< 0.50 U*	*< 0.50 U*	*< 0.50 U*	*< 0.50 U*	*< 0.50 U*	*< 5.0 U*
1,2-Dichloropropane	1	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 10 U*
1,3,5-Trimethylbenzene	--	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	27	23	1.9	520
1,3-Dichlorobenzene	3	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 10 U*
1,3-Dichloropropane	--	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 10 U*
1,4-Dichlorobenzene	3	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 10 U*
1,4-Dioxane	--	ug/L	*< 50 U*	*< 50 U*	*< 50 U*	*< 50 U*	*< 50 U*	*< 50 U*	*< 50 U*	*< 50 U0*
2-Butanone	--	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	17	18	*< 1.0 U*	*< 10 U*
2-Chloroethylvinylether	--	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 10 U*
2-Hexanone	50	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 10 U*
4-Isopropyltoluene	--	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	2.3	4.4	1.2	28
4-Methyl-2-pentanone	--	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 10 U*
Acetone	50	ug/L	*< 5.0 U*	*< 5.0 U*	*< 5.0 U*	*< 5.0 U*	46	48	39	*< 50 U*
Acrolein	5	ug/L	*< 5.0 U*	*< 5.0 U*	*< 5.0 U*	*< 5.0 U*	*< 5.0 U*	*< 5.0 U*	*< 5.0 U*	*< 50 U*
Acrylonitrile	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 10 U*
Benzene	1	ug/L	*< 0.50 U*	**2.1**	*< 0.50 U*	**3.0**	0.73	**5.5**	**1.2**	*< 5.0 U*
Bromodichloromethane	50	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 10 U*
Bromoform	50	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 10 U*
Bromomethane	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 10 U*
Carbon disulfide	60	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 10 U*
Carbon tetrachloride	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 10 U*
Chlorobenzene	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 10 U*
Chloroethane	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 10 U*
Chloroform	7	ug/L	*< 1.0 U*	*< 1.0 U*	**9.0**	*< 1.0 U*	**34**	**51**	*< 1.0 U*	*< 10 U*
Chloromethane	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 10 U*
cis-1,2-Dichloroethene	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 10 U*
cis-1,3-Dichloropropene	Sum of cis+trans	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 10 U*
Dibromochloromethane	50	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 10 U*
Dichlorodifluoromethane	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 10 U*
Ethylbenzene	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	**50**	**230**	**12**	**2,000**

Table 3
Summary of Groundwater Data (2009)
Former Tidewater Terminal
Village of Nyack, New York

		SAMPLE ID:	MW09-02	MW09-07	MW09-04	HVMW-40D	GAR-4 PZ	PZ PT-1	PZ-UST-3	PZ-PH-1
		LAB SAMPLE ID:	AC47112-001	AC47112-002	AC47112-003	AC47112-004	AC46749-001	AC46749-002	AC46589-015	AC46589-016
		MATRIX:	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
		DATE:	9/16/2009	9/16/2009	9/16/2009	9/16/2009	8/27/2009	8/27/2009	8/20/2009	8/20/2009
		SAMPLE TYPE:	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Constituent	**NYSDEC TOGS 1.1.1 Class GA**	**Unit**								
Isopropylbenzene	5	ug/L	**27**	**33**	*< 1.0 U*	**19**	**21**	**28**	**9.3**	**160**
m&p-Xylenes	5	ug/L	*< 1.0 U*	1.8	*< 1.0 U*	*< 1.0 U*	**5.5**	**200**	2.4	**5,300**
Methylene chloride	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 10 U*
Methyl-t-butyl ether	10	ug/L	*< 0.50 U*	*< 0.50 U*	*< 0.50 U*	*< 0.50 U*	*< 0.50 U*	*< 0.50 U*	*< 0.50 U*	*< 5.0 U*
n-Butylbenzene	5	ug/L	1.8	2.2	*< 1.0 U*	2.9	1.8	**9.1**	1.7	**18**
n-Propylbenzene	5	ug/L	**34**	**15**	*< 1.0 U*	**14**	**23**	**69**	**13**	**250**
o-Xylene	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	1.3	**19**	*< 1.0 U*	**1,900**
sec-Butylbenzene	5	ug/L	**6.2**	**5.9**	*< 1.0 U*	3.4	3.5	**5.9**	2.9	**23**
Styrene	930	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 10 U*
t-Butyl Alcohol	--	ug/L	*< 5.0 U*	*< 5.0 U*	*< 5.0 U*	*< 5.0 U*	*< 5.0 U*	*< 5.0 U*	*< 5.0 U*	*< 50 U*
t-Butylbenzene	--	ug/L	1.2	1.5	*< 1.0 U*	*< 1.0 U*	1.2	*< 1.0 U*	*< 1.0 U*	*< 10 U*
Tetrachloroethene	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 10 U*
Toluene	5	ug/L	1.4	1.0	*< 1.0 U*	*< 1.0 U*	2.2	**30**	*< 1.0 U*	**400**
trans-1,2-Dichloroethene	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 10 U*
trans-1,3-Dichloropropene	Sum of cis+trans	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 10 U*
Trichloroethene	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 10 U*
Trichlorofluoromethane	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 10 U*
Vinyl chloride	2	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	*< 10 U*
Sum of cis & trans 1,3-Dichloropropene	cis+trans = 0.4	ug/L	--	--	--	--	--	--	--	--
Xylenes (Total)	--	ug/L	*< 1 U*	1.8	*< 1 U*	*< 1 U*	6.8	219	2.4	7,200
Base Neutral Organics										
1,2,4-Trichlorobenzene	5	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
1,2-Diphenylhydrazine	ND	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
2,4,5-Trichlorophenol	--	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
2,4,6-Trichlorophenol	--	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
2,4-Dichlorophenol	1	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
2,4-Dimethylphenol	1	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	**3.8**	*< 2.0 U*	**48**
2,4-Dinitrophenol	1	ug/L	*< 11 U*	*< 10 U*	*< 10 U*	*< 11 U*	*< 10 U*	*< 10 U*	*< 20 U*	*< 21 U*
2,4-Dinitrotoluene	5	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
2,6-Dinitrotoluene	5	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
2-Chloronaphthalene	10	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
2-Chlorophenol	--	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
2-Methylnaphthalene	--	ug/L	32	2.4	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	19	*< 2.0 U*	49
2-Methylphenol	--	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
2-Nitroaniline	5	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
2-Nitrophenol	--	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
3&4-Methylphenol	--	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
3,3'-Dichlorobenzidine	5	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
3-Nitroaniline	5	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
4,6-Dinitro-2-methylphenol	--	ug/L	*< 11 U*	*< 10 U*	*< 10 U*	*< 11 U*	*< 10 U*	*< 10 U*	*< 10 U*	*< 10 U*

Table 3
Summary of Groundwater Data (2009)
Former Tidewater Terminal
Village of Nyack, New York

		SAMPLE ID:	MW09-02	MW09-07	MW09-04	HVMW-40D	GAR-4 PZ	PZ PT-1	PZ-UST-3	PZ-PH-1
		LAB SAMPLE ID:	AC47112-001	AC47112-002	AC47112-003	AC47112-004	AC46749-001	AC46749-002	AC46589-015	AC46589-016
		MATRIX:	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
		DATE:	9/16/2009	9/16/2009	9/16/2009	9/16/2009	8/27/2009	8/27/2009	8/20/2009	8/20/2009
		SAMPLE TYPE:	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Constituent	**NYSDEC TOGS 1.1.1 Class GA**	**Unit**								
4-Bromophenyl-phenylether	--	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
4-Chloro-3-methylphenol	--	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
4-Chloroaniline	5	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
4-Chlorophenyl-phenylether	--	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
4-Nitroaniline	5	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
4-Nitrophenol	--	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
Acenaphthene	20	ug/L	4.0	*< 2.0 U*	*< 2.1 U*	9.4	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
Acenaphthylene	--	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
Aniline	5	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
Anthracene	50	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	2.1	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
Benzidine	5	ug/L	*< 11 U*	*< 10 U*	*< 10 U*	*< 11 U*	*< 10 U*	*< 10 U*	*< 10 U*	*< 10 U*
Benzo[a]anthracene	0.002	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
Benzo[a]pyrene	ND	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
Benzo[b]fluoranthene	0.002	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
Benzo[g,h,i]perylene	--	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
Benzo[k]fluoranthene	0.002	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
Benzoic acid	--	ug/L	*< 11 U*	*< 10 U*	*< 10 U*	*< 11 U*	*< 10 U*	*< 10 U*	*< 10 U*	*< 10 U*
bis(2-Chloroethoxy)methane	5	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
bis(2-Chloroethyl)ether	1	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
bis(2-Chloroisopropyl)ether	5	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
bis(2-Ethylhexyl)phthalate	5	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	3.2
Butylbenzylphthalate	50	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
Carbazole	--	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
Chrysene	0.002	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
Dibenzo[a,h]anthracene	--	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
Dibenzofuran	--	ug/L	3.0	*< 2.0 U*	*< 2.1 U*	3.3	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
Diethylphthalate	50	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
Dimethylphthalate	50	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
Di-n-butylphthalate	50	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	2.7	3.2
Di-n-octylphthalate	50	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
Fluoranthene	50	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
Fluorene	50	ug/L	5.7	*< 2.0 U*	*< 2.1 U*	5.7	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
Hexachlorobenzene	0.04	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
Hexachlorobutadiene	0.5	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
Hexachlorocyclopentadiene	5	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
Hexachloroethane	5	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
Indeno[1,2,3-cd]pyrene	0.002	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
Isophorone	50	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
Naphthalene	10	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	2.4	*< 2.0 U*	**34**	*< 2.0 U*	**180**
Nitrobenzene	0.4	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*

Table 3
Summary of Groundwater Data (2009)
Former Tidewater Terminal
Village of Nyack, New York

		SAMPLE ID:	MW09-02	MW09-07	MW09-04	HVMW-40D	GAR-4 PZ	PZ PT-1	PZ-UST-3	PZ-PH-1
		LAB SAMPLE ID:	AC47112-001	AC47112-002	AC47112-003	AC47112-004	AC46749-001	AC46749-002	AC46589-015	AC46589-016
		MATRIX:	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
		DATE:	9/16/2009	9/16/2009	9/16/2009	9/16/2009	8/27/2009	8/27/2009	8/20/2009	8/20/2009
		SAMPLE TYPE:	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Constituent	**NYSDEC TOGS 1.1.1 Class GA**	**Unit**								
N-Nitrosodimethylamine	--	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
N-Nitroso-di-n-propylamine	--	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
N-Nitrosodiphenylamine	50	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
Pentachlorophenol	1	ug/L	*< 11 U*	*< 10 U*	*< 10 U*	*< 11 U*	*< 10 U*	*< 10 U*	*< 20 U*	*< 21 U*
Phenanthrene	50	ug/L	5.9	*< 2.0 U*	*< 2.1 U*	13	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
Phenol	1	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
Pyrene	50	ug/L	*< 2.1 U*	*< 2.0 U*	*< 2.1 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*	*< 2.0 U*	*< 2.1 U*
Metals										
Mercury	1.4	ug/L	*< 0.70 U*	*< 0.70 U*	*< 0.70 U*	--	--	--	--	--
Aluminum	2000	ug/L	*< 180 U*	*< 180 U*	**4,200**	--	--	--	--	--
Antimony	6	ug/L	*< 12 U*	*< 12 U*	*< 12 U*	--	--	--	--	--
Arsenic	50	ug/L	*< 7.5 U*	*< 7.5 U*	*< 7.5 U*	--	--	--	--	--
Barium	2000	ug/L	400	670	140	--	--	--	--	--
Beryllium	3	ug/L	*< 4.0 U*	*< 4.0 U*	*< 4.0 U*	--	--	--	--	--
Cadmium	10	ug/L	*< 3.5 U*	*< 3.5 U*	*< 3.5 U*	--	--	--	--	--
Calcium	--	ug/L	180,000	150,000	170,000	--	--	--	--	--
Chromium	100	ug/L	*< 50 U*	*< 50 U*	*< 50 U*	--	--	--	--	--
Cobalt	--	ug/L	*< 20 U*	*< 20 U*	*< 20 U*	--	--	--	--	--
Copper	1000	ug/L	*< 50 U*	*< 50 U*	*< 50 U*	--	--	--	--	--
Iron	600	ug/L	**54,000**	**3,200**	**4,000**	--	--	--	--	--
Lead	50	ug/L	*< 4.0 U*	*< 4.0 U*	*< 4.0 U*	--	--	--	--	--
Magnesium	35000	ug/L	19,000	13,000	30,000	--	--	--	--	--
Manganese	600	ug/L	**12,000**	**7,100**	**2,600**	--	--	--	--	--
Nickel	200	ug/L	*< 50 U*	*< 50 U*	*< 50 U*	--	--	--	--	--
Potassium	--	ug/L	9,000	*< 5,000 U*	8,100	--	--	--	--	--
Selenium	20	ug/L	*< 40 U*	*< 40 U*	*< 40 U*	--	--	--	--	--
Silver	100	ug/L	*< 20 U*	*< 20 U*	*< 20 U*	--	--	--	--	--
Sodium	NA	ug/L	330,000	44,000	380,000	--	--	--	--	--
Thallium	0.5	ug/L	*< 10 U*	*< 10 U*	*< 10 U*	--	--	--	--	--
Vanadium	--	ug/L	*< 50 U*	*< 50 U*	*< 50 U*	--	--	--	--	--
Zinc	5000	ug/L	*< 50 U*	*< 50 U*	*< 50 U*	--	--	--	--	--

NOTES
NYSDEC TOGS 1.1.1 Ambient Water Quality Standards Class GA (6 NYCRR Part 703)

Table 3
Summary of Groundwater Data (2009)
Former Tidewater Terminal
Village of Nyack, New York

		SAMPLE ID:	FB-MW09-06	TB091609	TB-091709	MS-MW09-06	MSD-MW09-06
		LAB SAMPLE ID:	AC47076-010	AC47076-011	AC47112-005	AC47076-008	AC47076-009
		MATRIX:	Aqueous	Aqueous	Aqueous	Groundwater	Groundwater
		DATE:	9/15/2009	9/15/2009	9/16/2009	9/15/2009	9/15/2009
		SAMPLE TYPE:	Field Blank	Trip Blank	Trip Blank	MS	MSD
Constituent	**NYSDEC TOGS 1.1.1 Class GA**	**Unit**					
Volatile Organics							
1,1,1-Trichloroethane	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	21	20
1,1,2,2-Tetrachloroethane	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	20	19
1,1,2-Trichloro-1,2,2-trifluoroethane	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	24	22
1,1,2-Trichloroethane	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	48	46
1,1-Dichloroethane	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	18	18
1,1-Dichloroethene	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	15	15
1,2,3-Trichloropropane	--	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	18	19
1,2,4-Trimethylbenzene	--	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	20	19
1,2-Dichlorobenzene	3	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	17	17
1,2-Dichloroethane	0.6	ug/L	*< 0.50 U*	*< 0.50 U*	*< 0.50 U*	22	20
1,2-Dichloropropane	1	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	24	24
1,3,5-Trimethylbenzene	--	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	20	18
1,3-Dichlorobenzene	3	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	18	17
1,3-Dichloropropane	--	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	19	19
1,4-Dichlorobenzene	3	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	17	17
1,4-Dioxane	--	ug/L	*< 50 U*	*< 50 U*	*< 50 U*	1,000	1,000
2-Butanone	--	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	24	26
2-Chloroethylvinylether	--	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	19	19
2-Hexanone	50	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	17	18
4-Isopropyltoluene	--	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	22	21
4-Methyl-2-pentanone	--	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	20	19
Acetone	50	ug/L	*< 5.0 U*	*< 5.0 U*	*< 5.0 U*	180	170
Acrolein	5	ug/L	*< 5.0 U*	*< 5.0 U*	*< 5.0 U*	90	77
Acrylonitrile	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	56	55
Benzene	1	ug/L	*< 0.50 U*	*< 0.50 U*	*< 0.50 U*	33	32
Bromodichloromethane	50	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	19	17
Bromoform	50	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	15	15
Bromomethane	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	20	18
Carbon disulfide	60	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	16	16
Carbon tetrachloride	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	20	19
Chlorobenzene	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	17	17
Chloroethane	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	20	18
Chloroform	7	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	23	22
Chloromethane	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	21	21
cis-1,2-Dichloroethene	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	19	19
cis-1,3-Dichloropropene	Sum of cis+trans	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	17	17
Dibromochloromethane	50	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	18	18
Dichlorodifluoromethane	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	23	20
Ethylbenzene	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	36	37

Table 3
Summary of Groundwater Data (2009)
Former Tidewater Terminal
Village of Nyack, New York

		SAMPLE ID:	FB-MW09-06	TB091609	TB-091709	MS-MW09-06	MSD-MW09-06
		LAB SAMPLE ID:	AC47076-010	AC47076-011	AC47112-005	AC47076-008	AC47076-009
		MATRIX:	Aqueous	Aqueous	Aqueous	Groundwater	Groundwater
		DATE:	9/15/2009	9/15/2009	9/16/2009	9/15/2009	9/15/2009
		SAMPLE TYPE:	Field Blank	Trip Blank	Trip Blank	MS	MSD
Constituent	**NYSDEC TOGS 1.1.1 Class GA**	**Unit**					
Isopropylbenzene	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	75	79
m&p-Xylenes	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	41	43
Methylene chloride	5	ug/L	2.6	*< 1.0 U*	*< 1.0 U*	14	14
Methyl-t-butyl ether	10	ug/L	*< 0.50 U*	*< 0.50 U*	*< 0.50 U*	20	19
n-Butylbenzene	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	24	20
n-Propylbenzene	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	82	83
o-Xylene	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	19	20
sec-Butylbenzene	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	29	30
Styrene	930	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	18	19
t-Butyl Alcohol	--	ug/L	*< 5.0 U*	*< 5.0 U*	*< 5.0 U*	90	86
t-Butylbenzene	--	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	21	21
Tetrachloroethene	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	17	15
Toluene	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	23	22
trans-1,2-Dichloroethene	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	19	18
trans-1,3-Dichloropropene	Sum of cis+trans	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	18	18
Trichloroethene	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	16	16
Trichlorofluoromethane	5	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	22	21
Vinyl chloride	2	ug/L	*< 1.0 U*	*< 1.0 U*	*< 1.0 U*	18	16
Sum of cis & trans 1,3-Dichloropropene	cis+trans = 0.4	ug/L	--	--	--	N/A	N/A
Xylenes (Total)	--	ug/L	*< 1 U*	*< 1 U*	*< 1 U*	60	63
Base Neutral Organics							
1,2,4-Trichlorobenzene	5	ug/L	*< 2.0 U*	--	--	90	91
1,2-Diphenylhydrazine	ND	ug/L	*< 2.0 U*	--	--	99	98
2,4,5-Trichlorophenol	--	ug/L	*< 2.0 U*	--	--	110	110
2,4,6-Trichlorophenol	--	ug/L	*< 2.0 U*	--	--	100	100
2,4-Dichlorophenol	1	ug/L	*< 2.0 U*	--	--	98	98
2,4-Dimethylphenol	1	ug/L	*< 2.0 U*	--	--	97	96
2,4-Dinitrophenol	1	ug/L	*< 10 U*	--	--	100	100
2,4-Dinitrotoluene	5	ug/L	*< 2.0 U*	--	--	100	100
2,6-Dinitrotoluene	5	ug/L	*< 2.0 U*	--	--	100	100
2-Chloronaphthalene	10	ug/L	*< 2.0 U*	--	--	100	100
2-Chlorophenol	--	ug/L	*< 2.0 U*	--	--	93	86
2-Methylnaphthalene	--	ug/L	*< 2.0 U*	--	--	36	36
2-Methylphenol	--	ug/L	*< 2.0 U*	--	--	85	78
2-Nitroaniline	5	ug/L	*< 2.0 U*	--	--	*< 2.1 U*	*< 2.1 U*
2-Nitrophenol	--	ug/L	*< 2.0 U*	--	--	100	100
3&4-Methylphenol	--	ug/L	*< 2.0 U*	--	--	83	76
3,3'-Dichlorobenzidine	5	ug/L	*< 2.0 U*	--	--	100	91
3-Nitroaniline	5	ug/L	*< 2.0 U*	--	--	*< 2.1 U*	*< 2.1 U*
4,6-Dinitro-2-methylphenol	--	ug/L	*< 10 U*	--	--	110	120

Table 3
Summary of Groundwater Data (2009)
Former Tidewater Terminal
Village of Nyack, New York

		SAMPLE ID:	FB-MW09-06	TB091609	TB-091709	MS-MW09-06	MSD-MW09-06
		LAB SAMPLE ID:	AC47076-010	AC47076-011	AC47112-005	AC47076-008	AC47076-009
		MATRIX:	Aqueous	Aqueous	Aqueous	Groundwater	Groundwater
		DATE:	9/15/2009	9/15/2009	9/16/2009	9/15/2009	9/15/2009
		SAMPLE TYPE:	Field Blank	Trip Blank	Trip Blank	MS	MSD
Constituent	**NYSDEC TOGS 1.1.1 Class GA**	**Unit**					
4-Bromophenyl-phenylether	--	ug/L	*< 2.0 U*	--	--	100	100
4-Chloro-3-methylphenol	--	ug/L	*< 2.0 U*	--	--	100	100
4-Chloroaniline	5	ug/L	*< 2.0 U*	--	--	*< 2.1 U*	*< 2.1 U*
4-Chlorophenyl-phenylether	--	ug/L	*< 2.0 U*	--	--	95	98
4-Nitroaniline	5	ug/L	*< 2.0 U*	--	--	*< 2.1 U*	*< 2.1 U*
4-Nitrophenol	--	ug/L	*< 2.0 U*	--	--	52	49
Acenaphthene	20	ug/L	*< 2.0 U*	--	--	96	99
Acenaphthylene	--	ug/L	*< 2.0 U*	--	--	92	96
Aniline	5	ug/L	*< 2.0 U*	--	--	*< 2.1 U*	*< 2.1 U*
Anthracene	50	ug/L	*< 2.0 U*	--	--	96	97
Benzidine	5	ug/L	*< 10 U*	--	--	14	*< 11 U*
Benzo[a]anthracene	0.002	ug/L	*< 2.0 U*	--	--	99	99
Benzo[a]pyrene	ND	ug/L	*< 2.0 U*	--	--	100	100
Benzo[b]fluoranthene	0.002	ug/L	*< 2.0 U*	--	--	100	96
Benzo[g,h,i]perylene	--	ug/L	*< 2.0 U*	--	--	100	100
Benzo[k]fluoranthene	0.002	ug/L	*< 2.0 U*	--	--	100	99
Benzoic acid	--	ug/L	*< 10 U*	--	--	52	50
bis(2-Chloroethoxy)methane	5	ug/L	*< 2.0 U*	--	--	95	92
bis(2-Chloroethyl)ether	1	ug/L	*< 2.0 U*	--	--	96	95
bis(2-Chloroisopropyl)ether	5	ug/L	*< 2.0 U*	--	--	97	95
bis(2-Ethylhexyl)phthalate	5	ug/L	*< 2.0 U*	--	--	100	110
Butylbenzylphthalate	50	ug/L	*< 2.0 U*	--	--	110	110
Carbazole	--	ug/L	*< 2.0 U*	--	--	*< 2.1 U*	*< 2.1 U*
Chrysene	0.002	ug/L	*< 2.0 U*	--	--	99	100
Dibenzo[a,h]anthracene	--	ug/L	*< 2.0 U*	--	--	110	100
Dibenzofuran	--	ug/L	*< 2.0 U*	--	--	2.8	2.7
Diethylphthalate	50	ug/L	*< 2.0 U*	--	--	96	99
Dimethylphthalate	50	ug/L	*< 2.0 U*	--	--	98	97
Di-n-butylphthalate	50	ug/L	*< 2.0 U*	--	--	100	100
Di-n-octylphthalate	50	ug/L	*< 2.0 U*	--	--	110	110
Fluoranthene	50	ug/L	*< 2.0 U*	--	--	100	100
Fluorene	50	ug/L	*< 2.0 U*	--	--	93	97
Hexachlorobenzene	0.04	ug/L	*< 2.0 U*	--	--	99	98
Hexachlorobutadiene	0.5	ug/L	*< 2.0 U*	--	--	89	90
Hexachlorocyclopentadiene	5	ug/L	*< 2.0 U*	--	--	88	90
Hexachloroethane	5	ug/L	*< 2.0 U*	--	--	140	130
Indeno[1,2,3-cd]pyrene	0.002	ug/L	*< 2.0 U*	--	--	100	100
Isophorone	50	ug/L	*< 2.0 U*	--	--	90	90
Naphthalene	10	ug/L	*< 2.0 U*	--	--	93	96
Nitrobenzene	0.4	ug/L	*< 2.0 U*	--	--	100	100

Table 3
Summary of Groundwater Data (2009)
Former Tidewater Terminal
Village of Nyack, New York

		SAMPLE ID:	FB-MW09-06	TB091609	TB-091709	MS-MW09-06	MSD-MW09-06
		LAB SAMPLE ID:	AC47076-010	AC47076-011	AC47112-005	AC47076-008	AC47076-009
		MATRIX:	Aqueous	Aqueous	Aqueous	Groundwater	Groundwater
		DATE:	9/15/2009	9/15/2009	9/16/2009	9/15/2009	9/15/2009
		SAMPLE TYPE:	Field Blank	Trip Blank	Trip Blank	MS	MSD
Constituent	**NYSDEC TOGS 1.1.1 Class GA**	**Unit**					
N-Nitrosodimethylamine	--	ug/L	*< 2.0 U*	--	--	85	76
N-Nitroso-di-n-propylamine	--	ug/L	*< 2.0 U*	--	--	100	100
N-Nitrosodiphenylamine	50	ug/L	*< 2.0 U*	--	--	82	84
Pentachlorophenol	1	ug/L	*< 10 U*	--	--	130	130
Phenanthrene	50	ug/L	*< 2.0 U*	--	--	110	110
Phenol	1	ug/L	*< 2.0 U*	--	--	41	37
Pyrene	50	ug/L	*< 2.0 U*	--	--	96	97
Metals							
Mercury	1.4	ug/L	*< 0.70 U*	--	--	10	10
Aluminum	2000	ug/L	*< 180 U*	--	--	5,100	4,900
Antimony	6	ug/L	*< 12 U*	--	--	460	460
Arsenic	50	ug/L	*< 7.5 U*	--	--	470	470
Barium	2000	ug/L	*< 50 U*	--	--	800	790
Beryllium	3	ug/L	*< 4.0 U*	--	--	470	470
Cadmium	10	ug/L	*< 3.5 U*	--	--	460	460
Calcium	--	ug/L	*< 2,000 U*	--	--	170,000	170,000
Chromium	100	ug/L	*< 50 U*	--	--	460	460
Cobalt	--	ug/L	*< 20 U*	--	--	460	470
Copper	1000	ug/L	*< 50 U*	--	--	480	480
Iron	600	ug/L	*< 280 U*	--	--	11,000	11,000
Lead	50	ug/L	*< 4.0 U*	--	--	460	460
Magnesium	35000	ug/L	*< 2,000 U*	--	--	58,000	58,000
Manganese	600	ug/L	*< 40 U*	--	--	14,000	15,000
Nickel	200	ug/L	*< 50 U*	--	--	460	460
Potassium	--	ug/L	*< 5,000 U*	--	--	50,000	50,000
Selenium	20	ug/L	*< 40 U*	--	--	450	460
Silver	100	ug/L	*< 20 U*	--	--	91	90
Sodium	NA	ug/L	*< 5,000 U*	--	--	96,000	96,000
Thallium	0.5	ug/L	*< 10 U*	--	--	470	480
Vanadium	--	ug/L	*< 50 U*	--	--	470	470
Zinc	5000	ug/L	*< 50 U*	--	--	480	480

NOTES
NYSDEC TOGS 1.1.1 Ambient Water Quality Standards Class GA (6 NYCRR Part 703)

Table 4
Summary of Soil Vapor Data (2009)
Former Tidewater Terminal
Village of Nyack, New York

	SAMPLE ID:	SV-1	SV-2	SV-3	SV-4
	LAB ID:	A4731-01	A4731-02	A4731-03	A4731-04
	SAMPLE DATE:	10/14/2009	10/14/2009	10/14/2009	10/14/2009
	SAMPLE TYPE:	(sub-slab)	(soil probe)	(soil probe)	(sub-slab)
CONSTITUENT	GUIDANCE[a] VALUES				
1,2,4-Trimethylbenzene	60	8.11	*< 0.49 U*	1.82	1.52
1,3,5-Trimethylbenzene	60	2.26	*< 0.44 U*	0.49 J	*< 0.44 U*
2,2,4-Trimethylpentane	-	1.4	17057 D,g	7.89	*< 0.19 U*
2-Butanone	10,000	3.04	*< 0.29 U*	2.95	0.8
Acetone	3,500	14.4	*< 0.24 U*	34.3	4.16
Benzene	3.1	1.6	*< 0.13 U*	2.04	0.61
Carbon Disulfide	7,000	*< 0.16 U*	*< 0.16 U*	*< 0.16 U*	0.37
Carbon Tetrachloride	5[b]	0.63	*< 0.25 U*	*< 0.25 U*	0.25 J
Chloroform	1.1	*< 0.1 U*	*< 0.1 U*	**1.22**	**2.54**
Chloromethane	-	0.58	2.35	0.29	*< 0.12 U*
Cyclohexane	-	1.38	157 D	2.2	*< 0.28 U*
Dichlorodifluoromethane	2,000	2.08	*< 0.2 U*	1.98	1.73
Ethyl Benzene	22	0.96	*< 0.35 U*	2.22	*< 0.35 U*
Heptane	-	0.9	*< 0.25 U*	2.62	*< 0.25 U*
Hexane	2,000	5.25	8.85	6.94	1.76
m/p-Xylene	70,000	4.26	*< 0.48 U*	5.6	*< 0.48 U*
Methyl tert-Butyl Ether	30,000	1.41	*< 0.18 U*	1.84	*< 0.18 U*
Methylene Chloride	52	5.49	*< 0.17 U*	1.32	1.63
o-Xylene	70,000	1.39	*< 0.3 U*	1.69	*< 0.3 U*
tert-Butyl alcohol	-	*< 0.3 U*	*< 0.3 U*	*< 0.3 U*	0.33
Tetrachloroethene	100[b]	0.41	2.31	0.81	0.68
Tetrahydrofuran	-	1.71	*< 0.24 U*	1.71	*< 0.24 U*
Toluene	4,000	12.9	*< 0.19 U*	21.7	3.5
Trichloroethene	5[b]	0.91	*< 0.21 U*	0.27	*< 0.21 U*
Trichlorofluoromethane	7,000	1.57	*< 0.22 U*	1.57	5.73
Vinyl Chloride	2.8	*< 0.18 U*	0.33	*< 0.18 U*	*< 0.18 U*

Flags

U - The compound was not detected at the indicated concentration.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

D - The reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than MDL. The concentration given is an approximate value.

g - Estimated value, based on quality assurance review. Refer to Data Usability Summary Report (Appendix D).

[a]Unless otherwise noted, guidance is from USEPA November 2002 Table 2c (10^{-6} risk).

[b]NYSDOH sub-slab vapor concentration at which mitigation is not required.

highlighted - exceeds guidance

APPENDIX A – ENVIRONMENTAL EASEMENT

Rockland County, NY
Paul Piperato County Clerk

1 South Main St., Ste. 100
New City, NY 10956
Phone Number : (845) 638-5070

Official Receipt : 2016-00041808

Printed On : 09/13/2016 **at** 2:55:21 PM **By :** 98 **on** COUNTER1

Customer :
NYS DEPT OF ENVIRONMENTAL CONSERVATION
625 BROADWAY
ALBANY, NY 12233

Date Recorded : September 13, 2016

Instrument ID	Amount
File Number : 2016-00026950	$0.00

Transaction : EASE, R-WAY, ASMT RENT-LEASE
Name(s) : FOOT OF MAIN LLC
To : NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Total Due : $0.00
Change Tendered : $0.00

TP-584 (4/13)

New York State Department of Taxation and Finance

Combined Real Estate Transfer Tax Return, Credit Line Mortgage Certificate, and Certification of Exemption from the Payment of Estimated Personal Income Tax

Recording office time stamp

See Form TP-584-I, Instructions for Form TP-584, *before completing this form. Print or type.*

Schedule A — Information relating to conveyance

Grantor/Transferor	Name *(if individual, last, first, middle initial)* (☐ *check if more than one grantor*)			Social security number
☐ Individual ☒ Corporation ☐ Partnership ☐ Estate/Trust ☐ Single member LLC ☐ Other	FOOT OF MAIN LLC			
	Mailing address 27 Route 210			Social security number
	City Stony Point	State NY	ZIP code 10980	Federal EIN 56-2548542
	Single member's name if grantor is a single member LLC *(see instructions)*			Single member EIN or SSN

Grantee/Transferee	Name *(if individual, last, first, middle initial)* (☐ *check if more than one grantee*)			Social security number
☐ Individual ☐ Corporation ☐ Partnership ☐ Estate/Trust ☐ Single member LLC ☐ Other	NEW YORK STATE DEPT. OF ENV. CONSERVATION			
	Mailing address 625 Broadway, 14th floor			Social security number
	City Albany	State NY	ZIP code 12233	Federal EIN 14-6013200
	Single member's name if grantee is a single member LLC *(see instructions)*			Single member EIN or SSN

Location and description of property conveyed

Tax map designation – Section, block & lot *(include dots and dashes)*	SWIS code (six digits)	Street address	City, town, or village	County
66.39-1-2	392005	41 Gedney Street (portion)	Nyack	Rockland

Type of property conveyed *(check applicable box)*

1 ☐ One- to three-family house
2 ☐ Residential cooperative
3 ☐ Residential condominium
4 ☐ Vacant land
5 ☐ Commercial/Industrial
6 ☐ Apartment building
7 ☐ Office building
8 ☒ Other Easement

Date of conveyance: 07 (month) | 22 (day) | 2016 (year)

Percentage of real property conveyed which is residential real property _____ % *(see instructions)*

Condition of conveyance *(check all that apply)*

a. ☐ Conveyance of fee interest
b. ☐ Acquisition of a controlling interest (state percentage acquired _____ %)
c. ☐ Transfer of a controlling interest (state percentage transferred _____ %)
d. ☐ Conveyance to cooperative housing corporation
e. ☐ Conveyance pursuant to or in lieu of foreclosure or enforcement of security interest *(attach Form TP-584.1, Schedule E)*
f. ☐ Conveyance which consists of a mere change of identity or form of ownership or organization *(attach Form TP-584.1, Schedule F)*
g. ☐ Conveyance for which credit for tax previously paid will be claimed *(attach Form TP-584.1, Schedule G)*
h. ☐ Conveyance of cooperative apartment(s)
i. ☐ Syndication
j. ☐ Conveyance of air rights or development rights
k. ☐ Contract assignment
l. ☐ Option assignment or surrender
m. ☐ Leasehold assignment or surrender
n. ☐ Leasehold grant
o. ☒ Conveyance of an easement
p. ☐ Conveyance for which exemption from transfer tax claimed *(complete Schedule B, Part III)*
q. ☐ Conveyance of property partly within and partly outside the state
r. ☐ Conveyance pursuant to divorce or separation
s. ☐ Other *(describe)* _____

For recording officer's use	Amount received Schedule B., Part I $ Schedule B., Part II $	Date received	Transaction number

Schedule B — Real estate transfer tax return (Tax Law, Article 31)

Part I – Computation of tax due

1	Enter amount of consideration for the conveyance *(if you are claiming a total exemption from tax, check the exemption claimed box, enter consideration and proceed to Part III)* ☐ **Exemption claimed**	1.	
2	Continuing lien deduction *(see instructions if property is taken subject to mortgage or lien)*	2.	
3	Taxable consideration *(subtract line 2 from line 1)*	3.	
4	Tax: $2 for each $500, or fractional part thereof, of consideration on line 3	4.	
5	Amount of credit claimed for tax previously paid *(see instructions and attach Form TP-584.1,* Schedule G*)*	5.	
6	Total tax due* *(subtract line 5 from line 4)*	6.	

Part II – Computation of additional tax due on the conveyance of residential real property for $1 million or more

1	Enter amount of consideration for conveyance *(from* Part I*, line 1)*	1.	
2	Taxable consideration *(multiply line 1 by the percentage of the premises which is residential real property, as shown in* Schedule A*)*	2.	
3	Total additional transfer tax due* *(multiply line 2 by 1% (.01))*	3.	

Part III – Explanation of exemption claimed on Part I, line 1 *(check any boxes that apply)*

The conveyance of real property is exempt from the real estate transfer tax for the following reason:

a. Conveyance is to the United States of America, the state of New York, or any of their instrumentalities, agencies, or political subdivisions (or any public corporation, including a public corporation created pursuant to agreement or compact with another state or Canada) ..... a ☒

b. Conveyance is to secure a debt or other obligation ..... b ☐

c. Conveyance is without additional consideration to confirm, correct, modify, or supplement a prior conveyance ..... c ☐

d. Conveyance of real property is without consideration and not in connection with a sale, including conveyances conveying realty as bona fide gifts ..... d ☐

e. Conveyance is given in connection with a tax sale ..... e ☐

f. Conveyance is a mere change of identity or form of ownership or organization where there is no change in beneficial ownership. (This exemption cannot be claimed for a conveyance to a cooperative housing corporation of real property comprising the cooperative dwelling or dwellings.) Attach Form TP-584.1, Schedule F ..... f ☐

g. Conveyance consists of deed of partition ..... g ☐

h. Conveyance is given pursuant to the federal Bankruptcy Act ..... h ☐

i. Conveyance consists of the execution of a contract to sell real property, without the use or occupancy of such property, or the granting of an option to purchase real property, without the use or occupancy of such property ..... i ☐

j. Conveyance of an option or contract to purchase real property with the use or occupancy of such property where the consideration is less than $200,000 and such property was used solely by the grantor as the grantor's personal residence and consists of a one-, two-, or three-family house, an individual residential condominium unit, or the sale of stock in a cooperative housing corporation in connection with the grant or transfer of a proprietary leasehold covering an individual residential cooperative apartment ..... j ☐

k. Conveyance is not a conveyance within the meaning of Tax Law, Article 31, section 1401(e) *(attach documents supporting such claim)* ..... k ☐

*The total tax (from Part I, line 6 and Part II, line 3 above) is due within 15 days from the date conveyance. Please make check(s) payable to the county clerk where the recording is to take place. If the recording is to take place in the New York City boroughs of Manhattan, Bronx, Brooklyn, or Queens, make check(s) payable to the ***NYC Department of Finance.*** If a recording is not required, send this return and your check(s) made payable to the ***NYS Department of Taxation and Finance,*** directly to the NYS Tax Department, RETT Return Processing, PO Box 5045, Albany NY 12205-5045.

Schedule C — Credit Line Mortgage Certificate (Tax Law, Article 11)

Complete the following only if the interest being transferred is a fee simple interest.
I (we) certify that: *(check the appropriate box)*

1. ☐ The real property being sold or transferred is not subject to an outstanding credit line mortgage.

2. ☐ The real property being sold or transferred is subject to an outstanding credit line mortgage. However, an exemption from the tax is claimed for the following reason:
   - ☐ The transfer of real property is a transfer of a fee simple interest to a person or persons who held a fee simple interest in the real property (whether as a joint tenant, a tenant in common or otherwise) immediately before the transfer.
   - ☐ The transfer of real property is (A) to a person or persons related by blood, marriage or adoption to the original obligor or to one or more of the original obligors or (B) to a person or entity where 50% or more of the beneficial interest in such real property after the transfer is held by the transferor or such related person or persons (as in the case of a transfer to a trustee for the benefit of a minor or the transfer to a trust for the benefit of the transferor).
   - ☐ The transfer of real property is a transfer to a trustee in bankruptcy, a receiver, assignee, or other officer of a court.
   - ☐ The maximum principal amount secured by the credit line mortgage is $3,000,000 or more, and the real property being sold or transferred is **not** principally improved nor will it be improved by a one- to six-family owner-occupied residence or dwelling.

     Please note: for purposes of determining whether the maximum principal amount secured is $3,000,000 or more as described above, the amounts secured by two or more credit line mortgages may be aggregated under certain circumstances. See TSB-M-96(6)-R for more information regarding these aggregation requirements.
   - ☐ Other *(attach detailed explanation)*.

3. ☐ The real property being transferred is presently subject to an outstanding credit line mortgage. However, no tax is due for the following reason:
   - ☐ A certificate of discharge of the credit line mortgage is being offered at the time of recording the deed.
   - ☐ A check has been drawn payable for transmission to the credit line mortgagee or his agent for the balance due, and a satisfaction of such mortgage will be recorded as soon as it is available.

4. ☐ The real property being transferred is subject to an outstanding credit line mortgage recorded in _____ (insert liber and page or reel or other identification of the mortgage). The maximum principal amount of debt or obligation secured by the mortgage is _____. No exemption from tax is claimed and the tax of _____ is being paid herewith. *(Make check payable to county clerk where deed will be recorded or, if the recording is to take place in New York City but not in Richmond County, make check payable to the **NYC Department of Finance.**)*

Signature (both the grantor(s) and grantee(s) must sign)

The undersigned certify that the above information contained in schedules A, B, and C, including any return, certification, schedule, or attachment, is to the best of his/her knowledge, true and complete, and authorize the person(s) submitting such form on their behalf to receive a copy for purposes of recording the deed or other instrument effecting the conveyance.

Grantor signature	Title	Grantee signature	Title
X William F Helmer	Member	Andrew Meyfeldt	Attorney
		Andrew Englielmi NYSDOS	

Reminder: Did you complete all of the required information in Schedules A, B, and C? Are you required to complete Schedule D? If you checked *e*, *f*, or *g* in Schedule A, did you complete Form TP-584.1? Have you attached your check(s) made payable to the county clerk where recording will take place or, if the recording is in the New York City boroughs of Manhattan, Bronx, Brooklyn, or Queens, to the ***NYC Department of Finance***? If no recording is required, send your check(s), made payable to the ***Department of Taxation and Finance,*** directly to the NYS Tax Department, RETT Return Processing, PO Box 5045, Albany NY 12205-5045.

Schedule D - Certification of exemption from the payment of estimated personal income tax (Tax Law, Article 22, section 663)

Complete the following only if a fee simple interest or a cooperative unit is being transferred by an individual or estate or trust.

If the property is being conveyed by a referee pursuant to a foreclosure proceeding, proceed to Part II, and check the second box under *Exemptions for nonresident transferor(s)/seller(s)* and sign at bottom.

Part I - New York State residents

If you are a New York State resident transferor(s)/seller(s) listed in Schedule A of Form TP-584 (or an attachment to Form TP-584), you must sign the certification below. If one or more transferors/sellers of the real property or cooperative unit is a resident of New York State, **each** resident transferor/seller must sign in the space provided. If more space is needed, please photocopy this Schedule D and submit as many schedules as necessary to accommodate all resident transferors/sellers.

Certification of resident transferor(s)/seller(s)

This is to certify that at the time of the sale or transfer of the real property or cooperative unit, the transferor(s)/seller(s) as signed below was a resident of New York State, and therefore is not required to pay estimated personal income tax under Tax Law, section 663(a) upon the sale or transfer of this real property or cooperative unit.

Signature	Print full name	Date
William F Helmer	William Helmer	7/22/16
Signature	Print full name	Date
Signature	Print full name	Date
Signature	Print full name	Date

Note: A resident of New York State may still be required to pay estimated tax under Tax Law, section 685(c), but not as a condition of recording a deed.

Part II - Nonresidents of New York State

If you are a nonresident of New York State listed as a transferor/seller in Schedule A of Form TP-584 (or an attachment to Form TP-584) but are not required to pay estimated personal income tax because one of the exemptions below applies under Tax Law, section 663(c), check the box of the appropriate exemption below. If any one of the exemptions below applies to the transferor(s)/seller(s), that transferor(s)/seller(s) is not required to pay estimated personal income tax to New York State under Tax Law, section 663. **Each** nonresident transferor/seller who qualifies under one of the exemptions below must sign in the space provided. If more space is needed, please photocopy this Schedule D and submit as many schedules as necessary to accommodate all nonresident transferors/sellers.

If none of these exemption statements apply, you must complete Form IT-2663, *Nonresident Real Property Estimated Income Tax Payment Form*, or Form IT-2664, *Nonresident Cooperative Unit Estimated Income Tax Payment Form.* For more information, see *Payment of estimated personal income tax,* on page 1 of Form TP-584-I.

Exemption for nonresident transferor(s)/seller(s)

This is to certify that at the time of the sale or transfer of the real property or cooperative unit, the transferor(s)/seller(s) (grantor) of this real property or cooperative unit was a nonresident of New York State, but is not required to pay estimated personal income tax under Tax Law, section 663 due to one of the following exemptions:

☐ The real property or cooperative unit being sold or transferred qualifies in total as the transferor's/seller's principal residence (within the meaning of Internal Revenue Code, section 121) from _____ (Date) to _____ (Date) *(see instructions).*

☐ The transferor/seller is a mortgagor conveying the mortgaged property to a mortgagee in foreclosure, or in lieu of foreclosure with no additional consideration.

☐ The transferor or transferee is an agency or authority of the United States of America, an agency or authority of the state of New York, the Federal National Mortgage Association, the Federal Home Loan Mortgage Corporation, the Government National Mortgage Association, or a private mortgage insurance company.

Signature	Print full name	Date
Signature	Print full name	Date
Signature	Print full name	Date
Signature	Print full name	Date

ENVIRONMENTAL EASEMENT GRANTED PURSUANT TO ARTICLE 71, TITLE 36 OF THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW

THIS INDENTURE made this 22nd day of July, 2016 between Owner(s) Foot of Main, LLC, having an office at 27 Route 210, Stony Point, New York 10980, County of Rockland, State of New York (the "Grantor"), and The People of the State of New York (the "Grantee."), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to encourage the remediation of abandoned and likely contaminated properties ("sites") that threaten the health and vitality of the communities they burden while at the same time ensuring the protection of public health and the environment; and

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to establish within the Department a statutory environmental remediation program that includes the use of Environmental Easements as an enforceable means of ensuring the performance of operation, maintenance, and/or monitoring requirements and the restriction of future uses of the land, when an environmental remediation project leaves residual contamination at levels that have been determined to be safe for a specific use, but not all uses, or which includes engineered structures that must be maintained or protected against damage to perform properly and be effective, or which requires groundwater use or soil management restrictions; and

WHEREAS, the Legislature of the State of New York has declared that Environmental Easement shall mean an interest in real property, created under and subject to the provisions of Article 71, Title 36 of the New York State Environmental Conservation Law ("ECL") which contains a use restriction and/or a prohibition on the use of land in a manner inconsistent with engineering controls which are intended to ensure the long term effectiveness of a site remedial program or eliminate potential exposure pathways to hazardous waste or petroleum; and

WHEREAS, Grantor, is the owner of real property located at the address of 41 Gedney Street in the Town of Orangetown, County of Rockland and State of New York, known and designated on the tax map of the County Clerk of Rockland as tax map parcel number: Section 66.39 Block 1 Lot 2 (p/o), being the same as that property conveyed to Grantor by deed dated October 24, 2006 and recorded in the Rockland County Clerk's Office in Instrument No. 2006-58732. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 0.77 +/- acres, and is hereinafter more fully described in the Land Title Survey dated September 4, 2014 and last revised May 25, 2016 prepared by Mark R. DeLor, L.L.S. of Maser Consulting P.A., which will be attached to the Site Management Plan. The Controlled Property description is set forth in and attached hereto as Schedule A; and

WHEREAS, the Department accepts this Environmental Easement in order to ensure the protection of public health and the environment and to achieve the requirements for remediation established for the Controlled Property until such time as this Environmental Easement is

extinguished pursuant to ECL Article 71, Title 36; and

NOW THEREFORE, in consideration of the mutual covenants contained herein and the terms and conditions of Brownfield Cleanup Agreement Index Number: A3-0568-1006, Grantor conveys to Grantee a permanent Environmental Easement pursuant to ECL Article 71, Title 36 in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement").

1. Purposes. Grantor and Grantee acknowledge that the Purposes of this Environmental Easement are: to convey to Grantee real property rights and interests that will run with the land in perpetuity in order to provide an effective and enforceable means of encouraging the reuse and redevelopment of this Controlled Property at a level that has been determined to be safe for a specific use while ensuring the performance of operation, maintenance, and/or monitoring requirements; and to ensure the restriction of future uses of the land that are inconsistent with the above-stated purpose.

2. Institutional and Engineering Controls. The controls and requirements listed in the Department approved Site Management Plan ("SMP") including any and all Department approved amendments to the SMP are incorporated into and made part of this Environmental Easement. These controls and requirements apply to the use of the Controlled Property, run with the land, are binding on the Grantor and the Grantor's successors and assigns, and are enforceable in law or equity against any owner of the Controlled Property, any lessees and any person using the Controlled Property.

A. (1) The Controlled Property may be used for:

Restricted Residential as described in 6 NYCRR Part 375-1.8(g)(2)(ii), Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv)

(2) All Engineering Controls must be operated and maintained as specified in the Site Management Plan (SMP);

(3) All Engineering Controls must be inspected at a frequency and in a manner defined in the SMP;

(4) The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Rockland County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;

(5) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;

(6) Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP;

(7) All future activities on the property that will disturb remaining

contaminated material must be conducted in accordance with the SMP;

(8) Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP;

(9) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall be performed as defined in the SMP;

(10) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by this Environmental Easement.

B. The Controlled Property shall not be used for Residential purposes as defined in 6NYCRR 375-1.8(g)(2)(i), and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.

C. The SMP describes obligations that the Grantor assumes on behalf of Grantor, its successors and assigns. The Grantor's assumption of the obligations contained in the SMP which may include sampling, monitoring, and/or operating a treatment system, and providing certified reports to the NYSDEC, is and remains a fundamental element of the Department's determination that the Controlled Property is safe for a specific use, but not all uses. The SMP may be modified in accordance with the Department's statutory and regulatory authority. The Grantor and all successors and assigns, assume the burden of complying with the SMP and obtaining an up-to-date version of the SMP from:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, New York 12233
Phone: (518) 402-9553

D. Grantor must provide all persons who acquire any interest in the Controlled Property a true and complete copy of the SMP that the Department approves for the Controlled Property and all Department-approved amendments to that SMP.

E. Grantor covenants and agrees that until such time as the Environmental Easement is extinguished in accordance with the requirements of ECL Article 71, Title 36 of the ECL, the property deed and all subsequent instruments of conveyance relating to the Controlled Property shall state in at least fifteen-point bold-faced type:

This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the Environmental Conservation

Law.

F. Grantor covenants and agrees that this Environmental Easement shall be incorporated in full or by reference in any leases, licenses, or other instruments granting a right to use the Controlled Property.

G. Grantor covenants and agrees that it shall, at such time as NYSDEC may require, submit to NYSDEC a written statement by an expert the NYSDEC may find acceptable certifying under penalty of perjury, in such form and manner as the Department may require, that:

(1) the inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under the direction of the individual set forth at 6 NYCRR Part 375-1.8(h)(3).

(2) the institutional controls and/or engineering controls employed at such site:

(i) are in-place;

(ii) are unchanged from the previous certification, or that any identified changes to the controls employed were approved by the NYSDEC and that all controls are in the Department-approved format; and

(iii) that nothing has occurred that would impair the ability of such control to protect the public health and environment;

(3) the owner will continue to allow access to such real property to evaluate the continued maintenance of such controls;

(4) nothing has occurred that would constitute a violation or failure to comply with any site management plan for such controls;

(5) the report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

(6) to the best of his/her knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and

(7) the information presented is accurate and complete.

3. Right to Enter and Inspect. Grantee, its agents, employees, or other representatives of the State may enter and inspect the Controlled Property in a reasonable manner and at reasonable times to assure compliance with the above-stated restrictions.

4. Reserved Grantor's Rights. Grantor reserves for itself, its assigns, representatives, and successors in interest with respect to the Property, all rights as fee owner of the Property, including:

A. Use of the Controlled Property for all purposes not inconsistent with, or limited by the terms of this Environmental Easement;

B. The right to give, sell, assign, or otherwise transfer part or all of the underlying fee interest to the Controlled Property, subject and subordinate to this Environmental Easement;

5. Enforcement

A. This Environmental Easement is enforceable in law or equity in perpetuity by Grantor, Grantee, or any affected local government, as defined in ECL Section 71-3603, against

the owner of the Property, any lessees, and any person using the land. Enforcement shall not be defeated because of any subsequent adverse possession, laches, estoppel, or waiver. It is not a defense in any action to enforce this Environmental Easement that: it is not appurtenant to an interest in real property; it is not of a character that has been recognized traditionally at common law; it imposes a negative burden; it imposes affirmative obligations upon the owner of any interest in the burdened property; the benefit does not touch or concern real property; there is no privity of estate or of contract; or it imposes an unreasonable restraint on alienation.

B. If any person violates this Environmental Easement, the Grantee may revoke the Certificate of Completion with respect to the Controlled Property.

C. Grantee shall notify Grantor of a breach or suspected breach of any of the terms of this Environmental Easement. Such notice shall set forth how Grantor can cure such breach or suspected breach and give Grantor a reasonable amount of time from the date of receipt of notice in which to cure. At the expiration of such period of time to cure, or any extensions granted by Grantee, the Grantee shall notify Grantor of any failure to adequately cure the breach or suspected breach, and Grantee may take any other appropriate action reasonably necessary to remedy any breach of this Environmental Easement, including the commencement of any proceedings in accordance with applicable law.

D. The failure of Grantee to enforce any of the terms contained herein shall not be deemed a waiver of any such term nor bar any enforcement rights.

6. Notice. Whenever notice to the Grantee (other than the annual certification) or approval from the Grantee is required, the Party providing such notice or seeking such approval shall identify the Controlled Property by referencing the following information:

County, NYSDEC Site Number, NYSDEC Brownfield Cleanup Agreement, State Assistance Contract or Order Number, and the County tax map number or the Liber and Page or computerized system identification number.

Parties shall address correspondence to:

Site Number: C344067
Office of General Counsel
NYSDEC
625 Broadway
Albany New York 12233-5500

With a copy to:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, NY 12233

All notices and correspondence shall be delivered by hand, by registered mail or by Certified mail and return receipt requested. The Parties may provide for other means of receiving and communicating notices and responses to requests for approval.

7. Recordation. Grantor shall record this instrument, within thirty (30) days of execution of this instrument by the Commissioner or her/his authorized representative in the office of the

recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

8. Amendment. Any amendment to this Environmental Easement may only be executed by the Commissioner of the New York State Department of Environmental Conservation or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

9. Extinguishment. This Environmental Easement may be extinguished only by a release by the Commissioner of the New York State Department of Environmental Conservation, or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

10. Joint Obligation. If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

Remainder of Page Intentionally Left Blank

IN WITNESS WHEREOF, Grantor has caused this instrument to be signed in its name.

Foot of Main, LLC:

By: William F Helmer

Print Name: WILLIAM F. HELMER

Title: MANAGING PARTNER Date: 6/30/16

Grantor's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF Rockland)

On the 30th day of June, in the year 2016, before me, the undersigned, personally appeared William Helmer personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Amy Mele
Notary Public - State of New York

AMY B. WAGNER-MELE
Notary Public, State of New York
Rockland County
No. 02WA6246608
Commission Expires August 15, 2019

THIS ENVIRONMENTAL EASEMENT IS HEREBY ACCEPTED BY THE PEOPLE OF THE STATE OF NEW YORK, Acting By and Through the Department of Environmental Conservation as Designee of the Commissioner,

By: _____
Robert W. Schick, Director
Division of Environmental Remediation

Grantee's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

On the 22nd day of July, in the year 2016 before me, the undersigned, personally appeared Robert W. Schick, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public - State of New York

David J. Chiusano
Notary Public, State of New York
No. 01CH5032146
Qualified in Schenectady County
Commission Expires August 22, 2018

SCHEDULE "A" PROPERTY DESCRIPTION

LEGAL DESCRIPTION

BROWNFIELD SITE
ENVIRONMENTAL EASEMENT AREA
PORTION OF TAX ID# 66.39-1-2

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND SITUATE, LYING AND BEING IN THE VILLAGE OF NYACK, TOWN OF ORANGETOWN, COUNTY OF ROCKLAND, SATE OF NEW YORK, AS SHOWN AS BROWNFIELD SITE ENVIRONMENTAL EASMENT AREA PORTION OF TAX ID# 66.39-1-2 ON A MAP ENTITLED "BOUNDARY SURVEY FOR TZ VISTA LLC" BY MASER CONSULTING P.A., DATED 9/4/14 AND LAST REVISED 6/25/16, AND BEING MORE PARTICULAR DESCRIBED AS FOLLOWS:

BEGINNING AT THE POINT OF INTERSECTION OF LANDS NOW OR FORMERLY OF FOOT OF MAIN, LLC (FILE #2006-00058732) TO THE SOUTH, LANDS NOW OR FORMERLY OF PRESIDENTIAL LIFE INSURANCE COMPANY (LIBER 1043, PAGE 405, AND LIBER 59, PAGE 2214) TO THE NORTH, AND THE EASTERLY ROAD BOUNDARY OF GEDNEY STREET TO THE WEST; THENCE FROM SAID POINT OF BEGINNING, WITH SAID DIVISION LINE SOUTH 72°52'23" EAST 180.90 FEET TO A POINT; THENCE THROUGH THE LANDS NOW OR FORMERLY OF FOOT OF MAIN, LLC (FILE #2006-00058732) THE FOLLOWING FIVE (5) COURSES AND DISTANCES:

1. SOUTH 11°44'32" EAST 26.59 FEET TO A POINT;
2. SOUTH 00°37'40" EAST 131.87 FEET TO A POINT;
3. SOUTH 85°53'43" WEST 10.08 FEET TO A POINT;
4. NORTH 69°40'35" WEST 38.92 FEET TO A POINT;
5. SOUTH 20°19'24" WEST 28.00 FEET TO A NAIL FOUND;

THENCE WITH THE NORTHERLY ROAD BOUNDARY OF MAIN STREET NORTH 70°52'58" WEST 162.70 FEET TO A POINT;

THENCE WITH THE EASTERLY ROAD BOUNDARY OF GEDNEY RD. NORTH 10°01'02" EAST 174.00 FEET TO THE POINT OF BEGINNING, CONTAINING 0.77± ACRES OR 33,340± SQUARE FEET.

APPENDIX B – LIST OF SITE CONTACTS

Name	Phone/Email Address
Site Owner William Helmer	(845) 942-1330 wfhelmer@helmercronin.com
Remedial Party Foot of Main, LLC	(845) 942-1330 wfhelmer@helmercronin.com
Qualified Environmental Professional Brian Montroy, CPG	(201) 335-9405 brian.montroy@hdrinc.com
NYSDEC DER Project Manager Douglas MacNeal	(518) 402-9662 douglas.macneal@dec.ny.gov
NYSDEC Regional HW Engineer Edward Moore	(845) 255 2987 edward.moore@dec.ny.gov
NYSDEC Site Control Kelly Lewandowski	(518) 402-9595 kelly.lewandowski@dec.ny.gov
Condominium Association NAME [TBD]	[phone]TBD [email address]TBD
Remedial Party Attorney's Amy Mele, Esq. Lawrence Schnapf, Esq.	(845) 596-8260 amy@amymelelaw.com (212)-876-3189 larry@schnapflaw.com

APPENDIX C – SIT SPECIFIC BORING LOGS and MONITORING WELL CONSTRUCTION LOGS

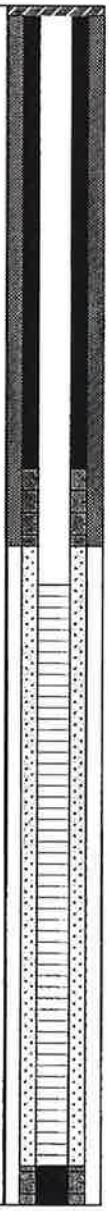
RETEC 2004 (OBR)

RETEC
1001 W Seneca St, Suite 204
Ithaca, NY 14850

Bedrock Well: HVMW-34D

Project Name:	Nyack MGP Site	**Drilling Method:**	6" Roller Bit
Project Number:	ORAN2-18380	**Sampling Method:**	2" NX Core Barrel
Date Started:	10/4/04	**Ground Elevation (ft/msl):**	30.22
Date Finished:	10/4/04	**Total Depth (ft):**	31.0 ft bgs
Drilling Company:	North Star Drilling	**Logged By:**	Jesse Lloyd

Depth (Feet)	Run Number	Interval (ft bgs)	Recovery (Feet)	RQD	Lithology	Geologic Description	Remarks
0 to -12						Augered to 14.0 ft bgs, overburden samples not collected.	Flush mount well head. 2" steel riser pipe from 0-15 ft bgs. 6" steel casing from 0-14 ft bgs. Grout from 1-12 ft bgs.
-12 to -15						Driller reports bedrock at 12.0 ft bgs. Rock socket set from 12.0-14.0 ft bgs. Reamed to 15.0 ft bgs.	Bentonite seal from 12-14 ft bgs.
-15 to -20	#1	15-20	5.0	38%		Reddish-brown and gray mottled pattern, fine-medium grained SANDSTONE; thin bedding, broken-slightly broken fracturing. Trace black NAPL and hydrocarbon-like sheen in fractures at 18.93 and 19.29 ft bgs.	0.040 Slot steel screened well from 15-30 ft bgs.
-20 to -25	#2	20-25	3.7	48%		Reddish-brown and white mottled pattern, fine-medium grained SANDSTONE; thin-medium bedding, slightly broken fracturing. Black NAPL in fractures at 20.90, 21.83, 22.50, 22.70, 23.04 and 23.34 ft bgs. Hydrocarbon-like sheen in a fracture at 23.70 ft bgs.	#4 Sand from 14-30 ft bgs.
-25 to -31	#3	25-30	4.5	42%		Reddish-brown and white mottled pattern, fine-medium grained SANDSTONE; thin-medium bedding, broken-slightly broken fracturing. Reamed from 30-31 ft bgs.	Well sump with bentonite seal from 30-31 ft bgs.

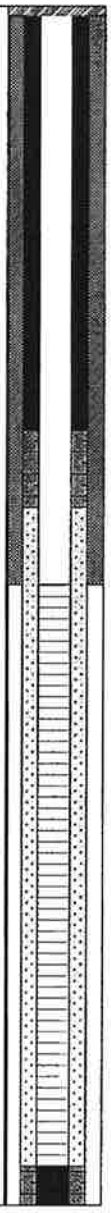


RETEC
1001 W Seneca St, Suite 204
Ithaca, NY 14850

Bedrock Well: HVMW-37D

Project Name:	Nyack MGP Site	**Drilling Method:**	6" Roller Bit
Project Number:	ORAN2-18380	**Sampling Method:**	2" NX Core Barrel
Date Started:	10/7/04	**Ground Elevation (ft/msl):**	30.33
Date Finished:	10/8/04	**Total Depth (ft):**	31.0 ft bgs
Drilling Company:	North Star Drilling	**Logged By:**	Jesse Lloyd

Depth (Feet)	Run Number	Interval (ft bgs)	Recovery (Feet)	RQD	Lithology	Geologic Description	Remarks
0						Augered to 15.0 ft bgs, overburden samples not collected.	Flush mount well head. 2" steel riser pipe from 0-15 ft bgs. 6" steel casing from 0-15 ft bgs. Grout from 1-11 ft bgs.
-12						Driller reports bedrock at 12.0 ft bgs. Rock socket set from 12.0-15.0 ft bgs.	Bentonite seal from 11-13 ft bgs.
-15	#1	15-20	3.5	24%		Reddish-brown, fine grained SANDSTONE; thin bedding, broken-slightly broken fracturing.	0.040 Slot steel screened well from 15-30 ft bgs.
-20	#2	20-25	4.5	62%		Reddish-brown, fine grained SANDSTONE; medium-thin bedding, slightly broken-massive fracturing.	#4 Sand from 13-30 ft bgs.
-25	#3	25-30	5.0	76%		Reddish-brown, fine grained SANDSTONE; medium-thin bedding, slightly broken-massive fracturing. Becomes reddish-brown and gray mottled pattern, medium-fine SANDSTONE. Reamed from 30.0-31.0 ft bgs.	Well sump with bentonite seal from 30-31 ft bgs.
-31							

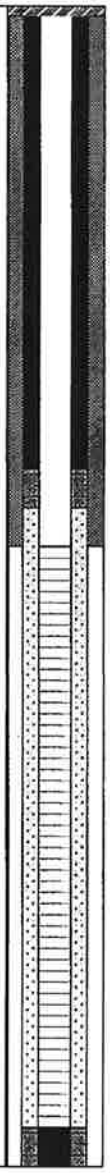


RETEC
1001 W Seneca St, Suite 204
Ithaca, NY 14850

Bedrock Well: HVMW-38D

Project Name:	Nyack MGP Site	**Drilling Method:**	6" Roller Bit
Project Number:	ORAN2-18380	**Sampling Method:**	2" NX Core Barrel
Date Started:	10/6/04	**Ground Elevation (ft/msl):**	30.06
Date Finished:	10/6/04	**Total Depth (ft):**	30.0 ft bgs
Drilling Company:	North Star Drilling	**Logged By:**	Jesse Lloyd

Depth (Feet)	Run Number	Interval (ft bgs)	Recovery (Feet)	RQD	Lithology	Geologic Description	Remarks
0						Augered to 14.0 ft bgs, overburden samples not collected.	Flush mount well head.
-1							2" steel riser pipe from 0-14 ft bgs.
-2							
-3							6" steel casing from 0-14 ft bgs.
-4							
-5							Grout from 1-12 ft bgs.
-6							
-7							
-8							
-9							
-10							
-11							
-12						Driller reports bedrock at 12.0 ft bgs. Rock socket set from 12.0-14.0 ft bgs.	Bentonite seal from 12-13 ft bgs.
-13							
-14						Reddish-brown and gray mottled pattern, fine-medium grained SANDSTONE; thin bedding, broken-slightly broken fracturing.	
-15							
-16							
-17	#1	14-19	3.5	20%			0.040 Slot steel screened well from 14-29 ft bgs.
-18							
-19						Reddish-brown and white mottled pattern, fine-medium grained SANDSTONE; medium-thin bedding, massive-slightly broken fracturing.	
-20							
-21							#4 Sand from 13-29 ft bgs.
-22	#2	19-24	4.5	70%			
-23							
-24						Reddish-brown, fine grained SANDSTONE; medium-thin bedding, slightly broken-massive fracturing.	
-25							
-26							
-27	#3	24-29	5.0	65%			Well sump with bentonite seal from 29-30 ft bgs.
-28							
-29						Reamed from 29.0-30.0 ft bgs.	
-30							

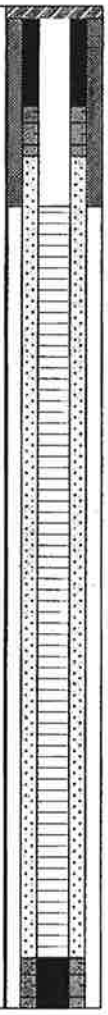


RETEC
1001 W Seneca St, Suite 204
Ithaca, NY 14850

Bedrock Well: HVMW-40D

Project Name:	Nyack MGP Site	**Drilling Method:**	6" Roller Bit
Project Number:	ORAN2-18380	**Sampling Method:**	2" NX Core Barrel
Date Started:	10/8/04	**Ground Elevation (ft/msl):**	18.58
Date Finished:	10/8/04	**Total Depth (ft):**	20.0 ft bgs
Drilling Company:	North Star Drilling	**Logged By:**	Jesse Lloyd

Depth (Feet)	Run Number	Interval (ft bgs)	Recovery (Feet)	RQD	Lithology	Geologic Description	Remarks
0						Augered to 4.0 ft bgs, overburden samples not collected.	Flush mount well head.
-1							
-2							2" steel riser pipe from 0-4 ft bgs.
-3						Driller reports bedrock at 2.5 ft bgs. Rock socket set from 2.5-4.0 ft bgs.	
-4						Reddish-brown, fine grained SANDSTONE; thin-very thin bedding, broken-very broken fracturing.	6" steel casing from 0-4 ft bgs.
-5							
-6	#1	4-9	4.6	0%		Becomes reddish-brown and gray mottled, fine-medium grained SANDSTONE.	Grout from 1-2 ft bgs.
-7							
-8							Bentonite seal from 2-3 ft bgs.
-9							
-10						Reddish-brown and gray mottled, fine-medium grained SANDSTONE; medium-thin bedding, slightly broken-broken fracturing.	
-11	#2	9-14	5.0	61%		Trace hydrocarbon-like sheen in a fracture at 11.0 ft bgs.	0.040 Slot steel screened well from 4-19 ft bgs.
-12							
-13							#4 Sand from 3-19 ft bgs.
-14							
-15						Reddish-brown and gray mottled, fine-medium grained SANDSTONE; medium-thin bedding, massive-slightly broken fracturing.	
-16	#3	14-19	5.0	82%			
-17							
-18							Well sump with bentonite seal from 19-20 ft bgs.
-19							
-20						Reamed from 19-20 ft bgs.	

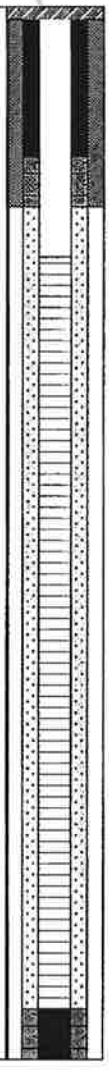


RETEC
1001 W Seneca St, Suite 204
Ithaca, NY 14850

Bedrock Well: HVMW-41D

Project Name:	Nyack MGP Site	**Drilling Method:**	6" Roller Bit
Project Number:	ORAN2-18380	**Sampling Method:**	2" NX Core Barrel
Date Started:	10/13/04	**Ground Elevation (ft/msl):**	19.11
Date Finished:	10/15/04	**Total Depth (ft):**	21.0 ft bgs
Drilling Company:	North Star Drilling	**Logged By:**	James Edwards

Depth (Feet)	Run Number	Interval (ft bgs)	Recovery (Feet)	RQD	Lithology	Geologic Description	Remarks
0						Augered to 4.0 ft bgs, overburden samples not collected.	Flush mount well head.
-1							
-2							2" steel riser pipe from 0-5 ft bgs.
-3							
-4						Driller reports bedrock at 3.2 ft bgs. Rock socket set from 3.2-4.0 ft bgs.	6" steel casing from 0-4 ft bgs.
-5							
-6						Reddish-brown and gray mottled pattern, fine-medium grained SANDSTONE; very thin bedding, broken-very broken fracturing.	Grout from 1-3 ft bgs.
-7	#1	4-9	4.6	0%			Bentonite seal from 3-4 ft bgs.
-8							
-9							
-10						Reddish-brown and gray mottled, fine-medium grained SANDSTONE; medium-thin bedding, slightly broken-broken fracturing.	0.040 Slot steel screened well from 5-20 ft bgs.
-11							
-12	#2	9-14	4.9	50%			#4 Sand from 4-20 ft bgs.
-13							
-14							
-15						Reddish-brown and gray mottled, fine-medium grained SANDSTONE; medium bedding, slightly broken-massive fracturing.	
-16							
-17	#3	14-19	4.1	76%			Well sump with bentonite seal from 20-21 ft bgs.
-18							
-19							
-20							
-21						Reamed from 20-21 ft bgs.	

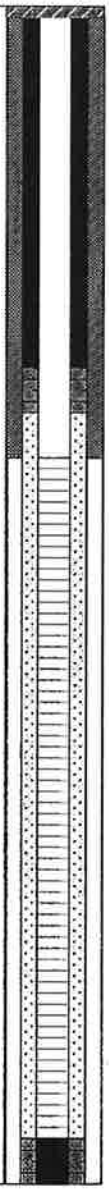


RETEC
1001 W Seneca St, Suite 204
Ithaca, NY 14850

Bedrock Well: HVMW-42D

Project Name:	Nyack MGP Site	**Drilling Method:**	6" Roller Bit
Project Number:	ORAN2-18380	**Sampling Method:**	2" NX Core Barrel
Date Started:	10/11/04	**Ground Elevation (ft/msl):**	30.13
Date Finished:	10/13/04	**Total Depth (ft):**	26.0 ft bgs
Drilling Company:	North Star Drilling	**Logged By:**	James Edwards

Depth (Feet)	Run Number	Interval (ft bgs)	Recovery (Feet)	RQD	Lithology	Geologic Description	Remarks
0						Augered to 10.0 ft bgs, overburden samples not collected.	Flush mount well head.
-1							2" steel riser pipe from 0-10 ft bgs.
-2							6" steel casing from 0-10 ft bgs.
-3							Grout from 1-8 ft bgs.
-4							Bentonite seal from 8-9 ft bgs.
-5							
-6							
-7							
-8							
-9						Driller reports bedrock at 8.8 ft bgs. Rock socket set from 8.8-10.0 ft bgs.	
-10							
-11						Reddish-brown, fine-medium grained SANDSTONE; thin bedding, broken fracturing, poor recovery.	0.040 Slot steel screened well from 10-25 ft bgs.
-12	#1	10-15	0.9	0%			
-13							#4 Sand from 9-25 ft bgs.
-14							
-15							
-16						Reddish-brown and gray mottled pattern, medium-coarse grained SANDSTONE; thin bedding, broken fracturing.	
-17							
-18	#2	15-20	2.9	0%			
-19							
-20							
-21						Reddish-brown and gray mottled pattern, medium-coarse grained SANDSTONE; thin bedding, broken-slightly broken fracturing.	
-22							
-23	#3	20-25	3.4	32%			
-24							Well sump with bentonite seal from 25-26 ft bgs.
-25						Reamed from 25-26 ft bgs.	
-26							



HDR - 2009 (Foot of Main, LLC)

HDR | ONE COMPANY *Many Solutions*®

ENGINEERS FIELD BORING LOG

Boring LR-1 / MW09-01
SURFACE ELEV
DATUM
SHEET 1 OF 1

PROJECT NAME: Foot of Main, LLC. 41 Gedney Street

SITE LOCATION: Nyack, NY
DATE: 19-Aug-2009
DRILLER NAME / COMPANY: Mickey / Parratt Wolff
MONITORING INSTRUMENTATION: MiniRAE 2000
HDR FIELD INSPECTOR: E. Brandt

Depth (ft.)	Sample No.	Sample Depth (ft)	Geoprobe Sample: Recov. (ft.)	PID (ppm)	FID (ppm)	FID (with Charcoal Filter) (ppm)	Sample Description	Remarks
0	S1	0 - 4	0	n/a	n/a	n/a	0' - 4' No Recovery	Augered through slab. No Recovery Fill
4	S2	4 - 8	3	1807	n/a	n/a	4' - 7' D. Gray SILT; some black staining. 7' - 8' Reddish Brown SILT; Tr. Black Staining.	Damp at 4ft Dry at 4.5ft. Petro Odor. Fill
8	S3	8 - 12	3.5	1777	n/a	n/a	8' - 9' Reddish Brown SILT; Tr. Black Staining. 9' - 12' Reddish brown F. SAND; tr. Silt and black staining and tr. Tan F. Sand.	Dry, No Odor. Fill
12	S4	12 - 16	2	1429	n/a		12' - 13' Reddish Brown F. SAND; tr. Silt	Dry, Petro Odor. Geoprobe refusal at 13ft. rock in Shoe. Split Spoon Sample Till
	S5	14 -16	5	104	n/a	n/a	14' - 15.5' Reddish Borwn F. SAND. 15.5' - 16' L. Gray F. SAND; tr. Reddish Brown Sand.	
16	S6	16 - 17	1	500	n/a	n/a	16' - 17' Reddish Brown F. SAND; tr. Tan F. Sand and Sandstone at 16.5ft	Wet, Slight Petro Odor at 16ft. Till
	S7	18 - 19	1	236	n/a		18' - 19' Reddish Brown F. SAND; some decomposed Gray Sandstone.	Wet, No Odor. Refusal at 19ft.
18							EOB	

Soil Sample: Sample Time : 1025
VOC: LR-1 (17)
SVOC: LR-1 (16-18)

GW Monitoring Well: MW 09-01
Set at 20' with 10' Riser and 10' Riser

NOTES:
WOR - Weight of Rods
WOH - Weight of Hammer
BOH - Bottom of Hole
NS - No Split Spoon Sample
S___ - Split Spoon Sample
U___ - Undisturbed Sample

Proportions
And - Equal
Sandy - 31 - 49%
Some - 13 - 30%
Trace - 1 - 12%

Blows per 1' Compaction
0 - 10 - Loose
11 - 29 - Med Compact
30 - 50 - Compact
> 50 - V Compact
50/6" - Refusal

Pocket Pen. (Clays only)
< 0.5 - Soft
0.5 - 1.0 - Medium
1.0 - 4.0 - Stiff
> 4.0 - Hard

Strata Descriptions
F - Fill
O - Organic Deposits
S - Predominantly Sand
M - Predominantly Silt
C - Predominantly Clay

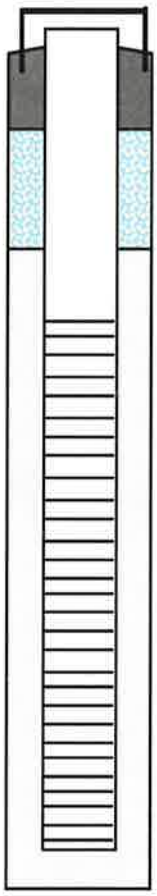
Strata Descriptions (con't)
V - Varved Silt and Clay Deposits
T - Glacial Till Deposits
D - Decomposed Rock
R - Rock

HDR ONE COMPANY *Many Solutions®*

Monitoring Well Construction Log

Project Name:	41 Gedney Ave.		
Client:	Foot of Main, LLC.	Project Number:	114363
Driller:	Parratt Wolff	Drill Method:	4.25 Auger
Inspector:	E. Brandt	Well ID:	MW09-01 LB-1

Well Construction



Note: Figure Not to Scale

Well Construction Data

Drill Start Date:	19-Aug-09
Drill Completion Date:	August 19, 2009
Well Type:	Overburden
Total Depth of Boring:	20 feet
Depth of Well:	20
Boring Diameter	8 inches
Screen Material:	2 inch PVC
Slot Size:	0.01 inch
Screen Diamter:	2 inch PVC
Screen Interval:	10 - 20 feet bgs
Riser Material:	2 inch PVC
Riser Interval:	0.5 - 10 feet bgs
Joint Type(s):	Flush Thread
Filter Pack Interval:	8 - 20 feet bgs
Filter Pack Material:	#0 Quartz Sand
Amount:	
Seal Interval:	6 - 8 feet bgs
Seal Material:	Bentonite Chips
Amount:	
Protective Outer Casing:	Flush Mount
Cement Amount:	
Locked (Y or N):	N
Key Number:	
Date Developed:	September 2, 2009
Development Method:	Whale Pump
Static Water Level:	8.71
Final Turbidity:	8
Volume Removed:	19.5 gallons

Sampling Method:	Survey Date:
Diameter:	Well Elevation:
Weight:	Based On:
Fall:	Reference Point:
Interval:	Surveyor

Comments:

HDR | ONE COMPANY *Many Solutions®*

ENGINEERS FIELD BORING LOG

Boring AW-4 / MW09-02
SURFACE ELEV
DATUM
SHEET 1 OF 1

PROJECT NAME Foot of Main, LLC. 41 Gedney Street

SITE LOCATION Nyack, NY DATE 21-Aug-2009 DRILLER NAME / COMPANY Mickey / Parratt Wolff
MONITORING INSTRUMENTATION MiniRAE 2000 HDR FIELD INSPECTOR E. Brandt

Depth (ft.)	Sample No.	Sample Depth (ft)	Geoprobe Sample: Recov. (ft.)	PID (ppm)	FID (ppm)	FID (with Charcoal Filter) (ppm)	Sample Description	Remarks
0	S1	0-4	3	347	n/a	n/a	0' - 1' Reddish Brown Silty SAND; Tr. Angular Gravel and Brick. 1' - 4' L. Brown SILT; some Reddish Brown Silt, Tr. Coal and Brick.	Dry, Slight Petro Odor. Fill
4	S2	4 - 8	3	0	n/a	n/a	4' - 6' L. Gray SILT and Sand; some Concrete. 6' - 8' Greenish Gray SILT, some F. Gray Sand.	Dry, Slight Petro Odor. Fill
8	S3	8 - 12	3	997	n/a	n/a	8' - 9' D. Greenish Gray F-C SAND, some Silt. 9' - 12' D. Gray SILT; Tr. Wood, Reddish Brown F. Sand and Black Staining.	Wet @ 9 ft. Petro Odor. Fill
12	S4	12 - 16	2.5	998	n/a	n/a	12' - 16' D. Gray SAND and Silt; Tr. Angular Gravel and Black Staining.	Strong Petro Odor. Wet Fill
16	S5	16 - 20	3	1232	n/a	n/a	16' - 17.8' D. Reddish F. SAND and Silt; Tr. Black Staining.	Wet, Petro Odor. Sheen on Saturate. Refusal at 17.8 ft.
20							EOB	

Soil Sample: Sample Time : 0920
VOC: AW-4 (9)
SVOC: AW-4 (8-10)

GW Monitoring Well Installed. MW09-02
Set 15' well wit 10' screen and 5' riser

NOTES:

WOR - Weight of Rods
WOH - Weight of Hammer
BOH - Bottom of Hole
NS - No Split Spoon Sample
S___ - Split Spoon Sample
U___ - Undisturbed Sample

Proportions
And - Equal
Sandy - 31 - 49%
Some - 13 - 30%
Trace - 1 - 12%

Blows per 1' Compaction
0 - 10 - Loose
11 - 29 - Med Compact
30 - 50 - Compact
> 50 - V Compact
50/6" - Refusal

Pocket Pen. (Clays only)
< 0.5 - Soft
0.5 - 1.0 - Medium
1.0 - 4.0 - Stiff
> 4.0 - Hard

Strata Descriptions
F - Fill
O - Organic Deposits
S - Predominantly Sand
M - Predominantly Silt
C - Predominantly Clay

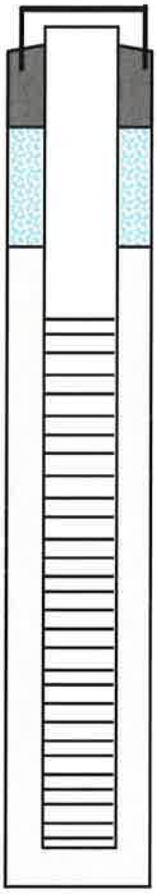
Strata Descriptions (cont'd)
V - Varved Silt and Clay Deposits
T - Glacial Till Deposits
D - Decomposed Rock
R - Rock

HDR | ONE COMPANY *Many Solutions®*

Monitoring Well Construction Log

Project Name:	41 Gedney Ave.		
Client:	Foot of Main, LLC.	Project Number:	114363
Driller:	Parratt Wolff	Drill Method:	4.25 Auger
Inspector:	E. Brandt	Well ID:	MW09-02 /AW-4/

Well Construction



Note: Figure Not to Scale

Well Construction Data

Drill Start Date:	21-Aug-09
Drill Completion Date:	August 21, 2009
Well Type:	Overburden
Total Depth of Boring:	17.8 feet
Depth of Well:	15 feet
Boring Diameter	8 inches
Screen Material:	2 inch PVC
Slot Size:	0.01 inch
Screen Diamter:	2 inch PVC
Screen Interval:	5 - 15 feet bgs
Riser Material:	2 inch PVC
Riser Interval:	0.5 - 5 feet bgs
Joint Type(s):	Flush Thread
Filter Pack Interval:	3 - 15 feet bgs
Filter Pack Material:	#0 Quartz Sand
Amount:	
Seal Interval:	1 - 3 feet bgs
Seal Material:	Bentonite Chips
Amount:	
Protective Outer Casing:	Flush Mount
Cement Amount:	
Locked (Y or N):	N
Key Number:	
Date Developed:	September 2, 2009
Development Method:	Whale Pump
Static Water Level:	12.27
Final Turbidity:	197
Volume Removed:	9 gallons

Sampling Method:	Survey Date:
Diameter:	Well Elevation:
Weight:	Based On:
Fall:	Reference Point:
Interval:	Surveyor

Comments:

HDR | ONE COMPANY *Many Solutions*®

ENGINEERS FIELD BORING LOG

Boring UST-4 / MW 09-03
SURFACE ELEV
DATUM
SHEET 1 OF 1

PROJECT NAME Foot of Main, LLC. 41 Gedney Street

SITE LOCATION Nyack, NY **DATE** 18-Aug-2009 **DRILLER NAME / COMPANY** Mickey / Parratt Wolff
MONITORING INSTRUMENTATION MiniRAE 2000 **HDR FIELD INSPECTOR** E. Brandt

Depth (ft.)	Sample No.	Sample Depth (ft)	Geoprobe Sample: Recov. (ft.)	PID (ppm)	FID (ppm)	FID (with Charcoal Filter) (ppm)	Sample Description	Remarks
0							Refer to boring UST-3 for soil descriptions. GW Monitoring Well: MW 09-03 Set 15' Well with 10' screen and 5' Riser	

NOTES:

WOR - Weight of Rods
WOH - Weight of Hammer
BOH - Bottom of Hole
NS - No Split Spoon Sample
S___ - Split Spoon Sample
U___ - Undisturbed Sample

Proportions
And - Equal
Sandy - 31 - 49%
Some - 13 - 30%
Trace - 1 - 12%

Blows per 1' Compaction
0 - 10 - Loose
11 - 29 - Med. Compact
30 - 50 - Compact
> 50 - V. Compact
50/6" - Refusal

Pocket Pen. (Clays only)
< 0.5 - Soft
0.5 - 1.0 - Medium
1.0 - 4.0 - Stiff
> 4.0 - Hard

Strata Descriptions
F - Fill
O - Organic Deposits
S - Predominantly Sand
M - Predominantly Silt
C - Predominantly Clay

Strata Descriptions (cont'd)
V - Varved Silt and Clay Deposits
T - Glacial Till Deposits
D - Decomposed Rock
R - Rock

HDR | ONE COMPANY *Many Solutions*®

ENGINEERS FIELD BORING LOG

Boring	UST-3
SURFACE ELEV	
DATUM	
SHEET	1 OF 1

PROJECT NAME Foot of Main, LLC. 41 Gedney Street

SITE LOCATION Nyack, NY **DATE** 18-Aug-2009 **DRILLER NAME / COMPANY** Mickey / Parratt Wolff

MONITORING INSTRUMENTATION MiniRAE 2000 **HDR FIELD INSPECTOR** E. Brandt

Depth (ft.)	Sample No.	Sample Depth (ft)	Geoprobe Sample: Recov. (ft.)	PID (ppm)	FID (ppm)	FID (with Charcoal Filter) (ppm)	Sample Description	Remarks
0	S1	0 - 4	3.5	0.0	n/a	n/a	0' - 1' Greenish Gray F-M SAND; Angular C. Gravel and some C. Sand. 1' - 2' Greenish Gray F. SAND; some Silt and tr. C. Sand. 2' - 2.5' Dark Brown M-C SAND; some F. Sand and tr. Angular F. Gravel. 2.5' - 3' Greenish Gray F. SAND; some Silt. 3' - 4' Reddish Brown F. Silty SAND; some greenish Silty SAND.	Dry, No Odor. Fill
4	S2	4 - 8	4	0.0	n/a	n/a	4' - 4.5' D. Greenish Gray Silty SAND; some F. Angular Gravel. 4.5' - 7' Reddish Brown Sandy SILT; tr. Sub-Angular F. Gravel. 7' - 8' Decomposed Red Sandstone.	Dry, No Odor. Fill at Top, Till at 4.5ft.
8	S3	8 - 12	4	17.8	n/a	n/a	8' - 9' D. Greenish Gray Silty F. SAND; some Reddish Brown Silty SAND. 9' - 10' D.Gray and Green F. SAND; Tr. Angular F. Gravel 10' - 12' Reddish Brown F. Sandy SILT; tr. Greenish Gray F. Sand. 12' - 13' Reddish Brown F. SADN; tr. Silt and some Greenish Gray F. Sand. 13' - 14' D. Red F. SAND; some Silt.	Dry, Fill Petro Odor at 10ft.
12	S4	12 - 16	4	0.0	n/a	n/a	14' - 14.5' Greenish Gray F. SAND; Angular F. Gravel. 14.5' - 15' Red Sandstone Refusal at 15 ft. possible bed rock switch to 2-in splitspoon	Wet at 12.5 - 13ft. Till Refusal at 14.5ft. Drove Split Spoon to 15ft.
16	S5	15 - 17	NR	n/a	n/a	n/a	No Recovery	Refusal in Decomposed Sandstone. Split Spoon 15 - 17ft; Rock in Shoe Water at 13ft.
17							EOB	

Soil Sample: Sample Time: 0850
VOC: UST-3 (10)
SVOC: UST-3 (9-11.5)

NOTES:

WOR - Weight of Rods
WOH - Weight of Hammer
BOH - Bottom of Hole
NS - No Split Spoon Sample
S___ - Split Spoon Sample
U___ - Undisturbed Sample

Proportions
And - Equal
Sandy - 31 - 49%
Some - 13 - 30%
Trace - 1 - 12%

Blows per 1' Compaction
0 - 10 - Loose
11 - 29 - Med Compact
30 - 50 - Compact
> 50 - V Compact
50/6" - Refusal

Pocket Pen. (Clays only)
< 0.5 - Soft
0.5 - 1.0 - Medium
1.0 - 4.0 - Stiff
> 4.0 - Hard

Strata Descriptions
F - Fill
O - Organic Deposits
S - Predominantly Sand
M - Predominantly Silt
C - Predominantly Clay

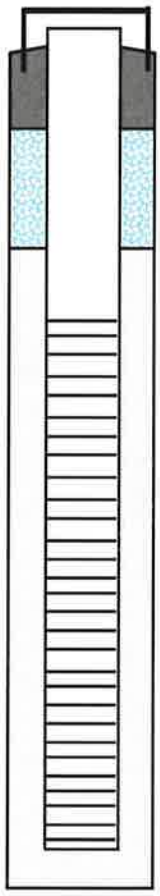
Strata Descriptions (cont'd)
V - Varved Silt and Clay Deposits
T - Glacial Till Deposits
D - Decomposed Rock
R - Rock

HDR | ONE COMPANY *Many Solutions®*

Monitoring Well Construction Log

Project Name:	41 Gedney Ave.		
Client:	Foot of Main, LLC.	Project Number:	114363
Driller:	Parratt Wolff	Drill Method:	4.25 Auger
Inspector:	E. Brandt	Well ID:	MW09-03 /UST-4

Well Construction



Note: Figure Not to Scale

Well Construction Data

Drill Start Date:	25-Aug-09
Drill Completion Date:	August 25, 2009
Well Type:	Overburden
Total Depth of Boring:	15 feet
Depth of Well:	15 feet
Boring Diameter	8 inches
Screen Material:	2 inch PVC
Slot Size:	0.01 inch
Screen Diamter:	2 inch PVC
Screen Interval:	5 - 15 feet bgs
Riser Material:	2 inch PVC
Riser Interval:	0.5 - 5 feet bgs
Joint Type(s):	Flush Thread
Filter Pack Interval:	3 - 15 feet bgs
Filter Pack Material:	#0 Quartz Sand
Amount:	
Seal Interval:	1 - 3 feet bgs
Seal Material:	Bentonite Chips
Amount:	
Protective Outer Casing:	Flush Mount
Cement Amount:	
Locked (Y or N):	N
Key Number:	
Date Developed:	September 2, 2009
Development Method:	Whale Pump
Static Water Level:	7.35
Final Turbidity:	29
Volume Removed:	10 gallons

Sampling Method:	Survey Date:
Diameter:	Well Elevation:
Weight:	Based On:
Fall:	Reference Point:
Interval:	Surveyor

Comments:

HDR | ONE COMPANY *Many Solutions*®

ENGINEERS FIELD BORING LOG

Boring GAR-1 / MW09-04
SURFACE ELEV
DATUM
SHEET 1 OF 1

PROJECT NAME: Foot of Main, LLC. 41 Gedney Street

SITE LOCATION: Nyack, NY DATE: 19-Aug-2009 DRILLER NAME / COMPANY: Mickey / Parratt Wolff
MONITORING INSTRUMENTATION: MiniRAE 2000 HDR FIELD INSPECTOR: E. Brandt

Depth (ft.)	Sample No.	Sample Depth (ft)	Geoprobe Sample: Recov. (ft.)	PID (ppm)	FID (ppm)	FID (with Charcoal Filter) (ppm)	Sample Description	Remarks
0	S1	0 - 4	3	15.7	n/a	n/a	0' - 1' No Recovery - Slab Removed. 1' - 2.5' D. Gray F. SAND and Silt; tr. Coal and F. Angular Gravel. 2.5' - 4' L. Brown SILT; tr. Reddish Brown F. Sand.	Dry, No Odor. Fill
4	S2	4 - 8	3.5	0.0	n/a	n/a	4' - 8' L. Brown Clay/Silt; tr. Gray Silt.	Dry, No Odor. Till Damp at 7.5 ft bgs.
8	S3	8 - 12	3	0.0	n/a	n/a	8' - 12' Reddish Brown Silty F. SAND; Tr. Angular Gravel, tr. Gray F. Sand.	No Odor. Till Wet at 11 ft bgs
12	S4	12 - 16	2	0.0	n/a	n/a	12' - 13' Bands of Tan, Red, and Greenish Gray F. Sand. 13' - 14' Reddish Brown Silty F. SAND.	Wet, No Odor. Sampler stopped at 14ft Split Spoon Refusal at 15.2 ft in Sandstone.
16							EOB No Soil Sample Collected GW Monitor Well: MW09-04 Set 14.5' well wit 10' screen and 4.5' riser	

NOTES:

WOR = Weight of Rods
WOH = Weight of Hammer
BOH = Bottom of Hole
NS = No Split Spoon Sample
S___ = Split Spoon Sample
U___ = Undisturbed Sample

Proportions: And - Equal; Sandy - 31 - 49%; Some - 13 - 30%; Trace - 1 - 12%

Blows per 1' Compaction: 0 - 10 - Loose; 11 - 29 - Med. Compact; 30 - 50 - Compact; > 50 - V. Compact; 50/5" - Refusal

Pocket Pen. (Clays only): < 0.5 - Soft; 0.5 - 1.0 - Medium; 1.0 - 4.0 - Stiff; > 4.0 - Hard

Strata Descriptions: F - Fill; O - Organic Deposits; S - Predominantly Sand; M - Predominantly Silt; C - Predominantly Clay

Strata Descriptions (cont'd): V - Varved Silt and Clay Deposits; T - Glacial Till Deposits; D - Decomposed Rock; R - Rock

HDR | ONE COMPANY *Many Solutions®*

ENGINEERS FIELD BORING LOG

BAR-1

SURFACE ELEV

DATUM

SHEET 1 OF 1

PROJECT NAME Foot of Main

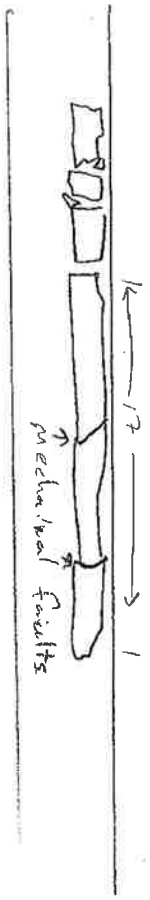
BORING LOCATION Nyack, NY DATE 8/25/09

MONITORING INSTRUMENTATION

DRILLER NAME / COMPANY

HDR FIELD INSPECTOR Brandt

Depth (ft.)	Sample No.	Sample Depth (ft)	Geoprobe Sample: Recov. (ft.)	PID	FID	FID (with Charcoal Filter)	Sample Description	Remarks	CGI
							Rock Core		
0		14.5-19.5	25 inches	28					HC = O2 = LEL = CO =
5		RQD = 28						Red Sandstone w/ Grey Sandstone. Mottling.	HC = O2 = LEL = CO =
10								F.S. Moderate Tuff Fine to Med Grained.	HC = O2 = LEL = CO =
15								Structure Mod to Lt Bedding.	HC = O2 = LEL = CO =
20								Fracture Dens. Slightly.	HC = O2 = LEL = CO =
25								Infilling: Silt w/ Fine Sand.	HC = O2 = LEL = CO =
30									HC = O2 = LEL = CO =
35									HC = O2 = LEL = CO =
40									HC = O2 = LEL = CO =
45									HC = O2 = LEL = CO =
50									



NOTES:

WOR - Weight of Rods
WOH - Weight of Hammer
BOH - Bottom of Hole
NS - No Split Spoon Sample
S___ - Split Spoon Sample
U___ - Undisturbed Sample

Proportions: And - Equal; Sandy - 31 - 49%; Some - 13 - 30%; Trace - 1 - 12%

Blows per 1' Compaction: 0 - 10 - Loose; 11 - 29 - Mod. Compact; 30 - 50 - Compact; > 50 - V. Compact; 50/5" - Refusal

Pocket Pen. (Cohes only): < 0.5 - Soft; 0.5 - 1.0 - Medium; 1.0 - 4.0 - Stiff; > 4.0 - Hard

Strata Descriptions: F - Fill; O - Organic Deposits; S - Predominantly Sand; M - Predominantly Silt; C - Predominantly Clay

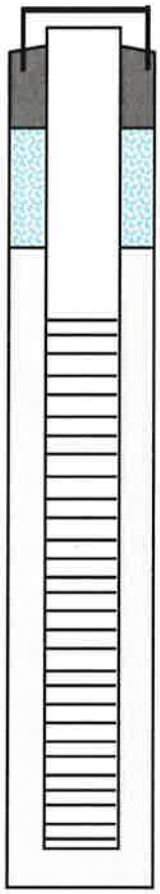
Strata Description (cont'): V; T; B; R

HDR | ONE COMPANY *Many Solutions*®

Monitoring Well Construction Log

Project Name:	41 Gedney Ave.		
Client:	Foot of Main, LLC.	Project Number:	114363
Driller:	Parratt Wolff	Drill Method:	4.25 Auger
Inspector:	E. Brandt	Well ID:	MW09-04 /GAE-1

Well Construction



Note: Figure Not to Scale

Well Construction Data

Drill Start Date:	25-Aug-09
Drill Completion Date:	August 25, 2009
Well Type:	Overburden
Total Depth of Boring:	14.5
Depth of Well:	14.5
Boring Diameter	8 inches
Screen Material:	2 inch PVC
Slot Size:	0.01 inch
Screen Diamter:	2 inch PVC
Screen Interval:	4.5 - 14.5 feet bgs
Riser Material:	2 inch PVC
Riser Interval:	0.5 - 4.5 feet bgs
Joint Type(s):	Flush Thread
Filter Pack Interval:	2.5 - 14.5 feet bgs
Filter Pack Material:	#0 Quartz Sand
Amount:	
Seal Interval:	0.5 - 2.5 feet bgs
Seal Material:	Bentonite Chips
Amount:	
Protective Outer Casing:	Flush Mount
Cement Amount:	
Locked (Y or N):	N
Key Number:	
Date Developed:	September 2, 2009
Development Method:	Whale Pump
Static Water Level:	8.78
Final Turbidity:	65
Volume Removed:	7.5 gallons

Sampling Method:	Survey Date:
Diameter:	Well Elevation:
Weight:	Based On:
Fall:	Reference Point:
Interval:	Surveyor

Comments:

HDR | ONE COMPANY *Many Solutions*

ENGINEERS FIELD BORING LOG

Boring AW-2 / MW09-05
SURFACE ELEV
DATUM
SHEET 1 OF 1

PROJECT NAME: Foot of Main, LLC. 41 Gedney Street

SITE LOCATION: Nyack, NY DATE: 20-Aug-2009 DRILLER NAME / COMPANY: Mickey / Parratt Wolff
MONITORING INSTRUMENTATION: MiniRAE 2000 HDR FIELD INSPECTOR: E. Brandt

Depth (ft.)	Sample No.	Sample Depth (ft)	Geoprobe Sample: Recov. (ft.)	PID (ppm)	FID (ppm)	FID (with Charcoal Filter) (ppm)	Sample Description	Remarks
0	S1	0 - 4	2	0.0	n/a	n/a	0' - 0.5' Ashpalt 0.5' - 3.5' D. Reddish Brown SILTand Sand; Tr. Gray F. Sand and Silt. 3.5' - 4' D. Gray SILT; Tr. C. Gravel.	Dry, No Odor Fill
4	S2	4 - 8	3	10.4	n/a	n/a	4' - 6' D. Gray SILT; some C. Sand, F. Gravel. 6' - 6.5' D. Gray F. SAND; some Angular Gravel and Tan F. Sand. 6.5' - 8' D. Reddish Brown F. SAND and Silt.	Damp, Faint Petro Odor Fill Wet at 5 ft.
8	S3	8 - 12	2.5	0.0	n/a	n/a	8' - 10' D. Reddish Brown F. SAND and Silt. 10' - 12' D. Brown and Red F. SAND and Silt; some C. Gravel and brown C. Sand.	Damp, Faint Petro Odor. Fill
12	S4	12 - 16	1	1563	n/a	n/a	12' - 13' F. Angular GRAVEL; Greenish Gray Silt and Tr. F. Sand. 13' -14.2' Reddish Brown SILT and Sand; D. Gray F. Sand.	Wet, Petro Odor Fill Refusal at 14.2 ft bgs
16							EOB	

Soil Sample: Sample Time : 1050
VOC: AW-2 (12)
SVOC: AW-2 (12-14)

GW Monitoring Well: MW09-05
Set 14' well wit 10' screen and 4' riser

NOTES:

WOR - Weight of Rods
WOH - Weight of Hammer
BOH - Bottom of Hole
NS - No Split Spoon Sample
S___ - Split Spoon Sample
U___ - Undisturbed Sample

Proportions
And = Equal
Sandy = 31 - 49%
Some = 13 - 30%
Trace - 1 = 12%

Blows per 1' Compaction
0 - 10 = Loose
11 - 29 - Med Compact
30 - 50 = Compact
> 50 - V Compact
50/5" - Refusal

Pocket Pen. (Clays only)
< 0.5 - Soft
0.5 = 1.0 = Medium
1.0 - 4.0 - Stiff
> 4.0 - Hard

Strata Descriptions
F - Fill
O = Organic Deposits
S = Predominantly Sand
M = Predominantly Silt
C - Predominantly Clay

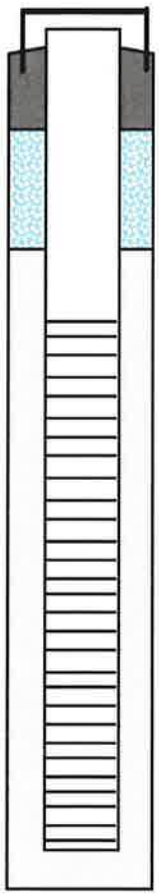
Strata Descriptions (cont'd)
V = Varved Silt and Clay Deposits
T - Glacial Till Deposits
D - Decomposed Rock
R = Rock

HDR | ONE COMPANY *Many Solutions*®

Monitoring Well Construction Log

Project Name:	41 Gedney Ave.		
Client:	Foot of Main, LLC.	Project Number:	114363
Driller:	Parratt Wolff	Drill Method:	4.25 Auger
Inspector:	E. Brandt	Well ID:	MW09-05 / AW-2

Well Construction



Note: Figure Not to Scale

Well Construction Data

Drill Start Date:	27-Aug-09
Drill Completion Date:	August 27, 2009
Well Type:	Overburden
Total Depth of Boring:	14.2 feet bgs
Depth of Well:	14.0 feet bgs
Boring Diameter	8 inches
Screen Material:	2 inch PVC
Slot Size: 0.01 inch	
Screen Diamter:	2 inch PVC
Screen Interval:	4 - 14 feet bgs
Riser Material:	2 inch PVC
Riser Interval:	0.5 - 4 feet bgs
Joint Type(s):	Flush Thread
Filter Pack Interval:	2 - 14 feet bgs
Filter Pack Material:	#0 Quartz Sand
Amount:	
Seal Interval:	0.5 - 2 feet bgs
Seal Material:	Bentonite Chips
Amount:	
Protective Outer Casing:	Flush Mount
Cement Amount:	
Locked (Y or N):	N
Key Number:	
Date Developed:	September 2, 2009
Development Method:	Whale Pump
Static Water Level:	10.97
Final Turbidity:	26
Volume Removed:	3 gallons

Sampling Method:	Survey Date:
Diameter:	Well Elevation:
Weight:	Based On:
Fall:	Reference Point:
Interval:	Surveyor

Comments:

HDR | ONE COMPANY *Many Solutions®*

ENGINEERS FIELD BORING LOG

Boring	NAP-1a / MW 09-06
SURFACE ELEV	
DATUM	
SHEET	1 OF 1

PROJECT NAME Foot of Main, LLC. 41 Gedney Street

SITE LOCATION Nyack, NY **DATE** 20-Aug-2009 **DRILLER NAME / COMPANY** Mickey / Parratt Wolff

MONITORING INSTRUMENTATION MiniRAE 2000 **HDR FIELD INSPECTOR** E. Brandt

Depth (ft.)	Sample No.	Sample Depth (ft)	Geoprobe Sample: Recov. (ft.)	PID (ppm)	FID (ppm)	FID (with Charcoal Filter) (ppm)	Sample Description	Remarks
0	S1	0 - 2	2	15.4	n/a	n/a	0' - 0.5' Asphalt 0.5' - 1' Reddish Brown F. SAND; Tr. Tan F. Sand. 1' - 1.5' Reddish Brown F. SAND and Tan F. Sand. 1.5' - 2' Tan F. Sand. 2' - 2.8' Reddish Brown F. SAND and Reddish Brown Sandstone.	Dry, No Odor. Slight Petro Odor @ 2' Refusal At 2.8 ft bgs.
4							EOB No Soil Sample Collected GW Monitoring Well: MW 09-06 Set 15.5' Well with 10' screen and 5.5' Riser	

NOTES:

WOR - Weight of Rods
WOH - Weight of Hammer
BOH - Bottom of Hole
NS - No Split Spoon Sample
S___ - Split Spoon Sample
U___ - Undisturbed Sample

Proportions
And - Equal
Sandy - 31 - 49%
Some - 13 - 30%
Trace - 1 - 12%

Blows per 1' Compaction
0 - 10 - Loose
11 - 29 - Med Compact
30 - 50 - Compact
> 50 - V Compact
50/6" - Refusal

Pocket Pen (Clays only)
< 0.5 - Soft
0.5 - 1.0 - Medium
1.0 - 4.0 - Stiff
> 4.0 - Hard

Strata Descriptions
F - Fill
O - Organic Deposits
S - Predominantly Sand
M - Predominantly Silt
C - Predominantly Clay

Strata Descriptions (cont'd)
V - Varved Silt and Clay Deposits
T - Glacial Till Deposits
D - Decomposed Rock
R - Rock

HDR | ONE COMPANY *Many Solutions®*

ENGINEERS FIELD BORING LOG

SURFACE ELEV NAP-1a
DATUM
SHEET 1 OF 1

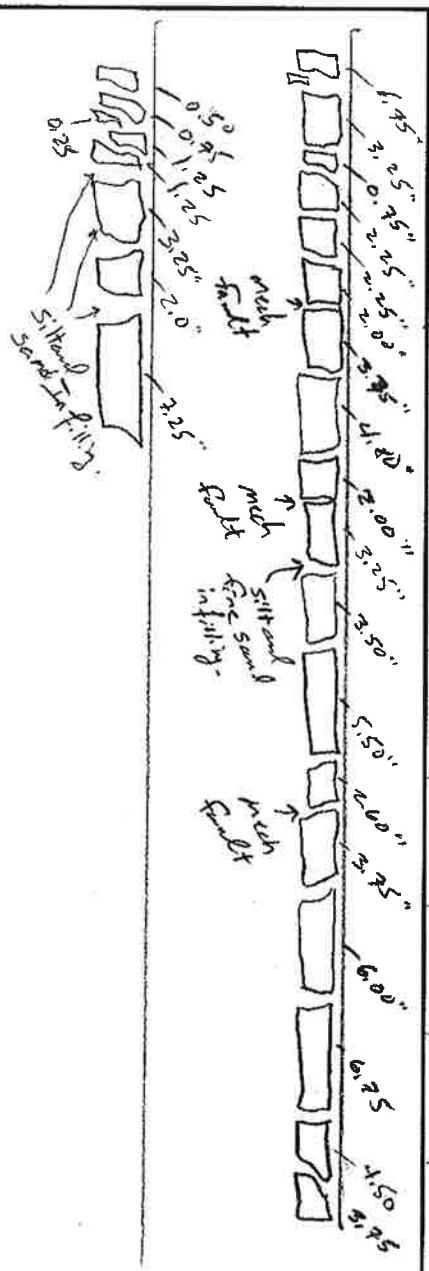
PROJECT NAME Foot of Main

BORING LOCATION Nyack, NY DATE 8/31/09

MONITORING INSTRUMENTATION

DRILLER NAME / COMPANY

HDR FIELD INSPECTOR

Depth (ft.)	Sample No.	Sample Depth (ft)	Geoprobe Sample: Recov. (ft.)	PID	FID	FID (with Charcoal Filter)	Sample Description	Remarks	CGI
	Run			KAD			Rock Core		
0	1	8.5-13.5	5.0	75				45.11 Red and Gray Molted Sandstone FS. Moderate Textur: Fine to Med Grained. Structure: Medium to Thickly Bedded Fracture D. Moderate to Intesly. Infilling: Cohesive Sediment.	HC = O2 = LEL = CO =
5	2	13.5-15.5	17"	44					
10									
15									
20									
25									
30									
35									
40									
45									
50									

NOTES:

WOR - Weight of Rods
WOH - Weight of Hammer
BOH - Bottom of Hole
NS - No Split Spoon Sample
S___ - Split Spoon Sample
U___ - Undisturbed Sample

Proportions: And - Equal; Sandy - 31 - 49%; Some - 13 - 30%; Trace - 1 - 12%

Blows per 1" Compaction: 0 - 10 - Loose; 11 - 29 - Med. Compact; 30 - 50 - Compact; > 50 - V. Compact; 50/6" - Refusal

Pocket Pen. (tons/sq ft): < 0.5 - Soft; 0.5 - 1.0 - Medium; 1.0 - 4.0 - Stiff; > 4.0 - Hard

Strata Descriptions: F - Fill; O - Organic Deposits; S - Predominantly Sand; M - Predominantly Silt; C - Predominantly Clay

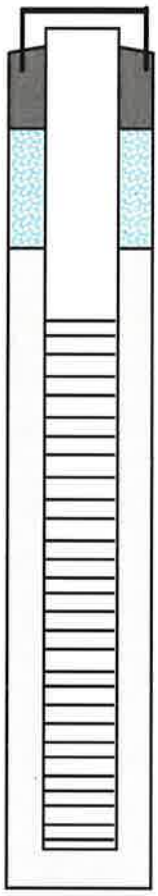
Strata Descriptions (cont'd): V; T; D; R

HDR ONE COMPANY *Many Solutions*®

Monitoring Well Construction Log

Project Name:	41 Gedney Ave.		
Client:	Foot of Main, LLC.	Project Number:	114363
Driller:	Parratt Wolff	Drill Method:	4.25 Auger
Inspector:	E. Brandt	Well ID:	MW09-06 /Map 1a

Well Construction



Note: Figure Not to Scale

Well Construction Data

Drill Start Date:	1-Sep-09
Drill Completion Date:	September 1, 2009
Well Type:	Rock
Total Depth of Boring:	15.5 feet bgs
Depth of Well:	15.5 feet bgs
Boring Diameter	4 inches
Screen Material:	2 inch PVC
Slot Size:	0.01 inch
Screen Diamter:	2 inch PVC
Screen Interval:	5.5 - 15.5 feet bgs
Riser Material:	2 inch PVC
Riser Interval:	0.5 - 5.5 feet bgs
Joint Type(s):	Flush Thread
Filter Pack Interval:	4 - 15.5 feet bgs
Filter Pack Material:	#0 Quartz Sand
Amount:	
Seal Interval:	2 - 4 feet bgs
Seal Material:	Bentonite Chips
Amount:	
Protective Outer Casing:	Flush Mount
Cement Amount:	
Locked (Y or N):	N
Key Number:	
Date Developed:	September 2, 2009
Development Method:	Whale Pump
Static Water Level:	4.36
Final Turbidity:	185
Volume Removed:	22.5 gallons

Sampling Method:	Survey Date:
Diameter:	Well Elevation:
Weight:	Based On:
Fall:	Reference Point:
Interval:	Surveyor

Comments:

APPENDIX D – EXCAVATION WORK PLAN (EWP)

Any future intrusive work on the Former Tidewater Terminal site located in the Village of Nyack, New York (the "site") that will; penetrate the required engineered capping system for the site or encounter or disturb the remaining contamination including any modifications or repairs will be performed in accordance with this Excavation Work Plan (EWP) pursuant to the Site Management Plan (SMP).

D-1 NOTIFICATION

At least 15 days prior to the start of any activity that is anticipated to encounter remaining contamination, the site owner or their representative will notify the NYSDEC. Table 1 includes contact information for the above notification. The information on this table will be updated as necessary to provide accurate contact information. A full listing of site-related contact information is provided in Appendix B.

Table 1: Notifications*

Douglas MacNeal	(518)-402-9662 douglas.macneal@dec.ny.gov
Edward Moore	(845) 255 2987 edward.moore@dec.ny.gov
Kelly Lewandowski	(518) 402-9595 kelly.lewandowski@dec.ny.gov

* Note: Notifications are subject to change and will be updated as necessary.

This notification will include:

- A detailed description of the work to be performed, including the location and areal extent of excavation, plans/drawings for site re-grading, intrusive elements or utilities to be installed below the soil cover, estimated volumes of contaminated soil to be excavated and any work that may impact an engineering control;
- A summary of environmental conditions anticipated to be encountered in the work areas, including the nature and concentration levels of contaminants of concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling;
- A schedule for the work, detailing the start and completion of all intrusive work;
- A summary of the applicable components of this EWP;
- A statement that the work will be performed in compliance with this EWP and 29 CFR 1910.120;
- A copy of the contractor's health and safety plan (HASP), in electronic format, if it differs from the HASP provided in Appendix E of this SMP;
- Identification of disposal facilities for potential waste streams; and
- Identification of sources of any anticipated backfill, along with all required chemical testing results.

D-2 SOIL SCREENING METHODS

Visual, olfactory and instrument-based (e.g. photoionization detector) soil screening will be performed by a qualified environmental professional during all excavations into known or potentially contaminated material (remaining contamination). Soil screening will be performed when invasive work is done and will include all excavation and invasive work performed during development, such as excavations for foundations and utility work, after issuance of the COC.

Soils will be segregated based on previous environmental data and screening results into material that requires off-site disposal and material that requires testing to determine if the material can be reused on-site as soil beneath a cover or if the material can be used

as cover soil. Further discussion of off-site disposal of materials and on-site reuse is provided in Section D-6 and D-7 of this Appendix.

D-3 SOIL STAGING METHODS

Soil stockpiles will be continuously encircled with a berm and/or silt fence. Hay bales will be used as needed near catch basins, surface waters and other discharge points.

Stockpiles will be kept covered at all times with appropriately anchored tarps. Stockpiles will be routinely inspected and damaged tarp covers will be promptly replaced.

Stockpiles will be inspected at a minimum once each week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by the NYSDEC.

D-4 MATERIALS EXCAVATION AND LOAD-OUT

A qualified environmental professional or person under their supervision will oversee all invasive work and the excavation and load-out of all excavated material.

The owner of the property and remedial party (if applicable) and its contractors are responsible for safe execution of all invasive and other work performed under this Plan.

The presence of utilities and easements on the site will be investigated by the qualified environmental professional. It will be determined whether a risk or impediment to the planned work under this SMP is posed by utilities or easements on the site.

Loaded vehicles leaving the site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and NYSDOT requirements (and all other applicable transportation requirements).

A truck wash will be operated on-site, as appropriate. The qualified environmental professional will be responsible for ensuring that all outbound trucks will be washed at the truck wash before leaving the site until the activities performed under this section are complete Truck wash waters will be collected and disposed of off-site in an appropriate manner.

Locations where vehicles enter or exit the site shall be inspected daily for evidence of off-site soil tracking.

The qualified environmental professional will be responsible for ensuring that all egress points for truck and equipment transport from the site are clean of dirt and other materials derived from the site during intrusive excavation activities. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to site-derived materials.

D-5 MATERIALS TRANSPORT OFF-SITE

All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded.

Material transported by trucks exiting the site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

When departing, the site truck transport routes are as follows:

- Turn left out of the site onto Gedney Street and follow approximately 200 feet.
- Turn right onto Main Street (Rockland County Route 59) and follow for approximately 0.8 miles.
- Turn right of Pothemus Street and follow for approximately 500 feet.

- Turn left on to Governor Thomas E. Dewey Thruway (Route 287).

When returning, the site truck transportation routes are as follows:

- Take Governor Thomas E. Dewey Thruway (Route 287) to Exit 11.
- Turn left on to Rockland County Route 59 (Main Street) and follow approximately 1 mile.
- Turn Left onto Gedney Street and follow for approximately 200 feet.
- Construction Entrance is on the right.

All trucks loaded with site materials will exit the vicinity of the site using only these approved truck routes. This is the most appropriate route and takes into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off-site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; (f) overall safety in transport; and (g) community input where necessary.

Trucks will be prohibited from stopping and idling in the neighborhood outside the project site.

Egress points for truck and equipment transport from the site will be kept clean of dirt and other materials during site remediation and development.

Queuing of trucks will be performed on-site in order to minimize off-site disturbance. Off-site queuing will be prohibited.

D-6 MATERIALS DISPOSAL OFF-SITE

The site remediation resulted in achieving Unrestricted Use SCOs at most areas of the Upper Terrance. All potentially contaminated material excavated and removed from the site will be treated as contaminated and regulated material and will be transported and

disposed in accordance with all local, State (including 6NYCRR Part 360) and Federal regulations. Soils along the eastern edge of the BCP site are considered to be potentially contaminated. If disposal of material from this site is proposed for unregulated off-site disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to the NYSDEC. Unregulated off-site management of materials from this site will not occur without formal NYSDEC approval.

Off-site disposal locations for excavated soils will be identified in the pre-excavation notification. This will include estimated quantities and a breakdown by class of disposal facility if appropriate, i.e. hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, C/D recycling facility, etc. Actual disposal quantities and associated documentation will be reported to the NYSDEC in the Periodic Review Report. This documentation will include: waste profiles, test results, facility acceptance letters, manifests, bills of lading and facility receipts.

Non-hazardous historic fill and contaminated soils taken off-site will be handled, at minimum, as a Municipal Solid Waste per 6NYCRR Part 360-1.2. Material that does not meet Unrestricted SCOs is prohibited from being taken to a New York State recycling facility (6NYCRR Part 360-16 Registration Facility).

D-7 MATERIALS REUSE ON-SITE

A significant amount of soil was generated from the western portion of the upper terrace, approximately 2930 in-situ cubic yards (cy), and stockpiled for reuse on-site or the adjacent property. Based on end point samples collected during the remedial action, stockpiled soils meets the Residential Use SCOs listed in Table 375-6.8(b) of NYCRR Part 375 and meet the criteria set forth in the Decision Document (Restricted Residential Use SCOs) for reuse as site cover material.

The qualified environmental professional will ensure that procedures defined for materials reuse in this SMP are followed and that unacceptable material does not remain on-site. Contaminated on-site material, including historic fill and contaminated soil, that is

acceptable for reuse on-site will be placed below the demarcation layer or impervious surface, and will not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines.

Any demolition material proposed for reuse on-site will be sampled for asbestos and the results will be reported to the NYSDEC for acceptance. Concrete crushing or processing on-site will not be performed without prior NYSDEC approval. Organic matter (wood, roots, stumps, etc.) or other solid waste derived from clearing and grubbing of the site will not be reused on-site.

D-8 FLUIDS MANAGEMENT

All liquids to be removed from the site, including but not limited to, excavation dewatering, decontamination waters and groundwater monitoring well purge and development waters, will be handled, transported and disposed in accordance with applicable local, State, and Federal regulations. Dewatering, purge and development fluids will not be recharged back to the land surface or subsurface of the site, and will be managed off-site, unless prior approval is obtained from NYSDEC.

Discharge of water generated during large-scale construction activities to surface waters (i.e., a local pond, stream or river) will be performed under a SPDES permit.

D-9 COVER SYSTEM RESTORATION

After the completion of soil removal and any other invasive activities the cover system will be restored in a manner that complies with this SMP and the decision document. The existing cover system is comprised of either structures that will be constructed during site development, such as buildings, pavement, and sidewalks or soil cover with a minimum of 24 inches of clean soil meeting restricted residential SCOs. The demarcation layer, consisting of orange snow fencing material, Mirafi® geotextile or equivalent material will be replaced to provide a visual reference to the top of the remaining

contamination zone, the zone that requires adherence to special conditions for disturbance of remaining contaminated soils defined in this SMP. If the type of cover system changes from that which exists prior to the excavation (i.e., a soil cover is replaced by asphalt), this will constitute a modification of the cover element of the remedy and the upper surface of the remaining contamination. A figure showing the modified surface will be included in the subsequent Periodic Review Report and in an updated SMP.

D-10 BACKFILL FROM OFF-SITE SOURCES

All materials proposed for import onto the site will be approved by the qualified environmental professional and will be in compliance with provisions in this SMP prior to receipt at the site. A Request to Import/Reuse Fill or Soil form, which can be found at http://www.dec.ny.gov/regulations/67386.html, will be prepared and submitted to the NYSDEC project manager allowing a minimum of 5 business days for review.

Material from industrial sites, spill sites, or other environmental remediation sites or potentially contaminated sites will not be imported to the site.

All imported soils will meet the backfill and cover soil quality standards established in 6NYCRR 375-6.7(d). Based on an evaluation of the land use, protection of groundwater and protection of ecological resources criteria, the resulting soil quality standards are Restricted Residential Use SCOs listed in Table 375-6.8(b) of 6 NYCRR Part 375. Soils that meet 'exempt' fill requirements under 6 NYCRR Part 360, but do not meet backfill or cover soil objectives for this site, will not be imported onto the site without prior approval by NYSDEC. Solid waste will not be imported onto the site.

Trucks entering the site with imported soils will be securely covered with tight fitting covers. Imported soils will be stockpiled separately from excavated materials and covered to prevent dust releases.

D-11 STORMWATER POLLUTION PREVENTION

A detailed stormwater pollution control plan (SPCP) will be prepare in accordance with applicable state regulation if excavations exceeding 1-acre are planned. Below are the minimum SWPPP requirements. Additional considerations are presented in Appendix I – Stormwater Pollution Control Plan.

Barriers and hay bale checks will be installed and inspected once a week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by the NYSDEC. All necessary repairs shall be made immediately.

Accumulated sediments will be removed as required to keep the barrier and hay bale check functional.

All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials.

Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

Erosion and sediment control measures identified in the SMP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters.

Silt fencing or hay bales will be installed around the entire perimeter of the construction area.

D-12 EXCAVATION CONTINGENCY PLAN

If underground tanks or other previously unidentified contaminant sources are found during post-remedial subsurface excavations or development related construction, excavation activities will be suspended until sufficient equipment is mobilized to address the condition.

Sampling will be performed on product, sediment and surrounding soils, etc. as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed for a full list of analytes (TAL metals; TCL volatiles and semi-volatiles, TCL pesticides and PCBs), unless the site history and previous sampling results provide a sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC for approval prior to sampling.

Identification of unknown or unexpected contaminated media identified by screening during invasive site work will be promptly communicated by phone to NYSDEC's Project Manager. Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline. These findings will be also included in the Periodic Review Report.

D-13 COMMUNITY AIR MONITORING PLAN

A site-specific Community Air Monitoring Plan ("CAMP") was prepared for the site as part of the Remedial Action. The CAMP is included in Appendix E of the SMP for reference purposes. The CAMP is in compliance with DER-10 and all other applicable Federal, State, and local regulations. Based on future changes to State and Federal health and safety requirements, and specific methods employed by future contractors, the CAMP will be updated and re-submitted for NYSDEC approval prior to intrusive work at the site.

The CAMP will be designed to provide monitoring procedures, Alert Limits, Action Limits, and contingency measures if Action Limits are approached. An Alert Limit

is a contaminant concentration or odor intensity that triggers contingent measures. An Alert Limit does not suggest the existence of a health hazard, but serves instead as a screening tool to trigger contingent measures if necessary, to assist in minimizing off-site transport of contaminants and odors during intrusive activities. An Action Limit is a contaminant concentration or odor intensity that triggers work stoppage.

During times of ground intrusive activities in areas with remaining contamination, work area perimeter air monitoring will be conducted using a combination of real-time (continuous and almost instantaneous) air monitoring at upwind and downwind perimeter of the work area and walk-around supplemental monitoring using hand-held instruments on an as-needed basis. Contaminants commonly found at The Former Tidewater Terminal site will be monitored, including VOCs and dust. The CAMP will include a plan that defines Alert Levels, Action Levels, and specific response activities to be implemented during working hours if an exceedance of an Alert Limit or Action Limit for a measured compound occurs. The response actions potentially including work stoppage, are intended to prevent or significantly reduce the migration of airborne contaminants from the site.

Air Monitoring Stations will be placed at up and down wind perimeter of the work area based on generally prevailing wind conditions. These locations will be adjusted on a daily or more frequent basis based changing conditions.

Exceedances of action levels listed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers.

D-14 ODOR CONTROL PLAN

This odor control plan is capable of controlling emissions of nuisance odors off-site. Specific odor control methods to be used on a routine basis will include odor suppressing foam. If nuisance odors are identified at the site boundary, or if odor complaints are received, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and

NYSDOH will be notified of all odor events and of any other complaints about the project. Implementation of all odor controls, including the halt of work, is the responsibility of the remedial party's Remediation Engineer, and any measures that are implemented will be discussed in the Periodic Review Report.

All necessary means will be employed to prevent on- and off-site nuisances. At a minimum, these measures will include: (a) limiting the area of open excavations and size of soil stockpiles; (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-site disposal; (e) use of chemical odorants in spray or misting systems; and, (f) use of staff to monitor odors in surrounding.

If nuisance odors develop during intrusive work that cannot be corrected, or where the control of nuisance odors cannot otherwise be achieved due to on-site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering the excavation and handling areas in a temporary containment structure equipped with appropriate air venting/filtering systems.

D-15 DUST CONTROL PLAN

A dust suppression plan that addresses dust management during invasive on-site work will include, at a minimum, the items listed below:

- Dust suppression will be achieved through the use of a dedicated on-site water supply/truck for road wetting. The truck will be equipped with a water cannon capable of spraying water directly onto off-road areas including excavations and stockpiles.
- Clearing and grubbing of larger sites will be done in stages to limit the area of exposed, un-vegetated soils vulnerable to dust production.
- Gravel will be used on roadways to provide a clean and dust-free road surface.

- On-site roads will be limited in total area to minimize the area required for water truck sprinkling.

APPENDIX E – HEALTH AND SAFETY PLAN AND COMMUNITY AIR MONITORING PLAN

A Health and Safety plan (HASP) and associated Community Air Monitoring Plan (CAMP) were prepared, submitted, and ultimately approved by the NYSDEC in April 2016 as part of the RAWP. Copies of these approved plans have been included with this SMP for reference purposes. In the event that future excavation and maintenance work is warranted a HASP and CAMP will be required by the contractor who will be performing those activities at the site.

HEALTH AND SAFETY PLAN

For

FORMER TIDEWATER TERMINAL
43 GEDNEY STREET
Nyack, New York

Prepared For:

Foot of Main, LLC
23 Route 210
Stony Point, New York 10980

Prepared By:

Henningson, Durham and Richardson Architecture and Engineering, PC
1 International Boulevard
10th Floor, Suite 1000
Mahwah, New Jersey 07495

March 18, 2015
Revised January 2016
147-114363

TABLE OF CONTENTS

Table of Contents Page

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

1.0 HEALTH AND SAFETY PLAN (HASP) SUMMARY

Emergency Contacts

Emergency contacts are listed on Table 1.

Emergency Procedures

Emergency procedures are described in Section 6.

Site Specific Hazards and Training

Site Specific Hazards are described in Section 2.

The Field Safety Officer (FSO) will be responsible for providing site-specific training to all personnel that work at the site. This training will cover the following topics:

- Names of personnel responsible for site safety and health.
- Hazards potentially present at the site.
- Proper use of personal protective equipment.
- Work practices by which the employee can minimize risk from hazards.
- Acute effects of compounds at the site.
- Decontamination procedures.

Personnel will be required to sign and date the Site-Specific Training Form provided in Attachment B prior to working on-site.

General Health and Safety Requirements

Personnel will be required to sign and date the Health and Safety Plan and Work Plan Acceptance Form provided in Attachment B prior to working on-site.

Personnel Protective Equipment

Level D protection will be worn for initial entry on-site and for all activities except as noted in Section 3. Level D protection will consist of:

- Standard work clothes
- Safety-toe boots
- Safety glasses or goggles
- Nitrile outer gloves and PVC or nitrile inner gloves must be worn during all sampling activities
- Hard hat (must be worn during all sampling activities)

Modified Level D protection may be required under conditions where potential contact of the skin or clothes with significant contamination occurs. Modified Level D is the same as Level D but includes disposable coveralls and disposable polyethylene over boots.

Level C protection, unless otherwise specified in Section 3, will consist of Level D equipment and the following additional equipment:

- Full-face or half-mask air-purifying respirator (APR)
- Combination dust/organic vapor cartridges
- Disposable coverall coveralls if particulate hazard present
- PE-Coated disposable coverall if liquid contamination present
- PVC or nitrile inner and nitrile outer gloves5-minute escape SCBA

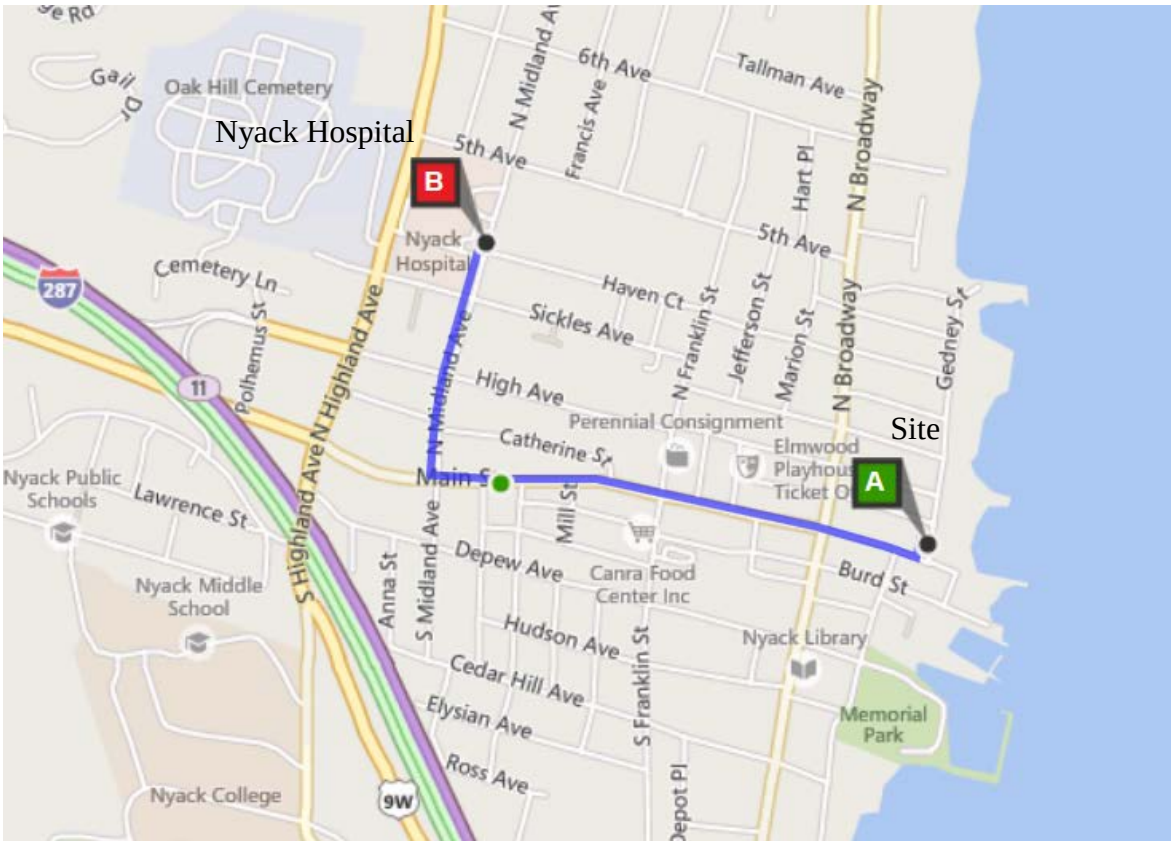
Level B protection, unless otherwise specified in Section 3, will consist of Level D equipment and the following additional equipment:

- Hard hat
- Positive Pressure SCBA or positive pressure air line and respirator with escape SCBA
- PE-Coated disposable coverall
- Nitrile outer and PVC or nitrile inner gloves
- Nitrile boot covers

Air Monitoring

A summary of the action levels and restrictions is presented on Table 2.

FIGURE 1: HOSPITAL ROUTE PLAN (Nyack Hospital)
Site Location: **23 Gedney Street,**
Nyack, New York 10960
Hospital Location: **160 North Midland Avenue, Nyack, New York 10960**
Emergency Room (845)-348-2000



Route to Hospital

From 23 Gedney Street Nyack, New York to Nyack Hospital, located at 160 North Midland Avenue, Nyack, New York.

1: Head **northeast** on **Third Ave** toward **East 94th Street.**
2: Turn left onto **East 94th Street.**
3: Turn left onto **Lexington Avenue.**
4: Turn right onto **East 77th Street.**
5: Destination will be on left

Total Est. Time: 4 minutes
Total Est. Distance: 0.8 miles

TABLE 1

EMERGENCY CONTACTS

In the event of any situation or unplanned occurrence requiring assistance, the appropriate contact(s) should be made from the list below. For emergency situations, contact should first be made with the Field Team Leader (or designee) and the Site Safety Officer, who will notify emergency personnel who will then contact the appropriate response teams. This emergency contacts list must be in an easily accessible location at the site.

Emergency Contacts	**Phone Number**
Fire Department:	911
Police:	911
Poison Control Center:	(800) 222-1222
Pollution Toxic Chemical Oil Spills:	(800) 424-8812
National Response Center	(800) 424-8802
NYS Department of Environmental Conservation	(800) 457-7362
Rockland County Department of Health	(845) 364-2608
Dig Safe New York One Call Center: (3 day notice required for utility mark outs)	(800) 962-7962

Medical Emergency

Ambulance Service:	911
Hospital Name:	Nyack Hospital
Hospital Phone Number:	(845) 348-2000
Hospital Address:	160 North Midland Avenue Nyack, New York 10960
Route to Hospital:	See Page 3 and 4
Travel Time From Site:	4 minutes

HDR Contacts

Principal/Contract Manager:	Stuart Bassel, P.E.	(201) 335-9335
		(cell) (617) 894-0679

Project Manager:	Brian Montroy, CPG		(201) 335-9405
		(cell)	(845)642-8681
HDR Health & Safety Officer:	John Guzewich		(201) 335-9371
		(cell)	(845) 548-5493
Field Lead/Field Safety Officer:	TBD		
		(cell)	
Quality Assurance Officer:	Edward Schwetz		(201) 335-9429

Non-HDR Personnel

Land Owner/Site Contact:	William Helmer	(845) 942-1330
DEC Case Manager:	Douglas MacNeal	(518) 402-9684

TABLE 2
SUMMARY OF ACTION LEVELS AND RESTRICTIONS

Instrument	Hazard Monitored	Level	Action Requested
PID	Organic Vapors	Continuously 5 ppm or greater above background for 10 minutes in the breathing zone	Stop work. Evacuate exclusion zone and allow area to vent for 15 minutes. If levels remain, call HDR.
FID	Organic Vapors	Continuously 5 ppm or greater above background for 10 minutes in the breathing zone.	Stop work. Evacuate exclusion zone and allow area to vent for 15 minutes. If levels remain, call HDR.
Portable Gas Monitor (PGM)	Explosive Vapors	20% LEL or greater for 10 minutes in the breathing zone.	Potential Explosion Hazard. Withdraw from the area immediately until LEL <20%. If levels remain, call HDR.
PGM	% Oxygen	< 19.5% O_2 for 10 minutes in the breathing zone.	Stop work and withdraw from area until oxygen levels increase. If levels remain, call HDR.
PGM	Hydrogen Sulfide	10 ppm or greater H_2S for 10 minutes in the breathing zone.	Stop work and withdraw from area until H_2S levels decrease. If levels remain, call HDR.
Particulate Monitor (e.g. DataRAM)	Particulates	150ug/m^3 or greater or 100 ug/m^3 over background concentrations for 15 minutes downwind or in the breathing zone.	Stop work and implement dust suppression measures prior to resuming work.

2.0 INTRODUCTION

2.1 PURPOSE AND POLICY

The purpose of this Health and Safety Plan (HASP) is to establish personnel protection standards and mandatory safety practices and procedures for the implementation of a Remedial Action Work Plan (RAWP) at Former Tidewater Terminal, 23 Gedney Street, Nyack New York (the "Site"). The RAWP includes contaminated soil excavation and off site disposal, community air monitoring, installation of a passive soil vapor intrusion system-slab depressurization (SSD) system and the redevelopment of the Site with a subgrade parking garage and condominium/townhome style housing. This plan assigns responsibilities, establishes standard operating procedures, and provides for contingencies that may arise while operations are being conducted during sampling and boring and well installation at the site.

The provisions of the plan are mandatory for all on-site HDR personnel. Contractors shall prepare their own HASP that adheres to federal, state and local regulations as applicable. All personnel who engage in project activities must be familiar with this plan, comply with its requirements, and sign the Plan Acceptance Form (Attachment B), prior to working on the Site. The Plan Acceptance Form must be submitted to the HDR Field Safety Officer (FSO). In addition to this plan, all work shall be performed in accordance with all applicable federal, state and local regulations.

2.2 SITE DESCRIPTION

The Site is located at 41 Gedney Street, Nyack, New York, 10960, at the northeast corner of the intersection of Gedney Street and Main Street. Nyack is an incorporated village in the Town of Orangetown, Rockland County. . The position of the property lines relative to the photograph is approximate.

The Site encompasses the western 0.8-acre portion of the 2.6-acre property identified on the Rockland County tax map as Section 66.39, Block 1 and Lot 2. This lot is composed of the following (Numbers 4 and 5, below, constitutes the Site):

1. Underwater land beneath the Hudson River. The area is approximately 1.4 acres.

2. Lower terrace (approximately 0.3 acres). This section is used for controlled access parking (through a gate) for the Clermont Condominium complex to the south. There is a public access easement along the waterfront. Orange & Rockland Utilities (O&R) recently completed a project to remediate coal tar-contaminated soil over the northern two-thirds of the lower terrace. This remediation was completed through in-situ soil stabilization techniques and the area will be subject to future use restrictions that will be put in place by the property owner, O&R, and the NYSDEC.
3. Main Street extension (approximately 0.1 acres). . The easement is extensively developed with subsurface utilities, including recently installed water supply, storm water, electric power, and telephone lines.
4. Middle terrace (approximately 0.3 acres). This section, used for controlled access parking (through the same gate noted for the lower terrace), is part of the Site.
5. Upper terrace (approximately 0.5 acres). This section is currently being used for staging trailers and equipment for the remediation of the former O&R coal gasification site to the north, is part of the Site.

The Village's zoning map shows that the Site is in a Waterfront Development C-3 zone. The proposed use is consistent with this zone and land use plans, subject to a special permit approved by the Village Board.

2.3 SCOPE OF WORK

The remedy for the Site will include the following elements:

- Abandonment of groundwater monitoring wells
- Excavation of contaminated soils
- LNAPL control (if encountered)
- Protection against vapor intrusion
- Site Cover
- Easement
- Site Management Plan

2.4 HDR PROJECT TEAM ORGANIZATION

Table 2.1 describes the responsibilities of HDR's on-site personnel associated with this project. The names of principal personnel associated with this project are:

Project Manager:	Brian Montroy, CPG		(201) 335-9405
		(cell)	(845)642-8681
HDR Health & Safety Officer:	John Guzewich		(201) 335-9371

		(cell)	(845) 548-5493
Field Lead/Field Safety Officer:	TBD		
		(cell)	
Quality Assurance Officer:	Edward Schwetz		(201) 335-9429

HDR personnel have been appropriately trained in first aid and hazardous waste safety procedures, including the operating and fitting of personal protective equipment, and are experienced with the field operations planned for the Site.

TABLE 2.1
ON-SITE PERSONNEL AND RESPONSIBILITIES

PROJECT MANAGER – Assumes control over site activities. Reports to upper-level management. Has authority to direct response operations.

Responsibilities:

- Prepares and organizes the background review of the situation, the Work Plan, the Site Health and Safety Plan, and the field team.
- Obtains permission for site access and coordinates activities with appropriate officials.
- Ensures that the Work Plan is executed and on schedule.
- Briefs the field team on their specific assignments.
- Coordinates with the site Health and Safety Officer (HSO) to ensure that health and safety requirements are met.
- Prepares the final report and support files on the response activities.
- Serves as the liaison with public officials.

FIELD SAFETY OFFICER (FSO) – Advises the HSO and Project Manager on aspects of health and safety on site. Stops work if operations threaten worker or public health or safety.

Responsibilities:

- Ensures that all necessary Health and Safety Equipment is available on-site. Ensures that all equipment is functional.
- Periodically inspects protective clothing and equipment.
- Ensures that protective clothing and equipment are properly stored and maintained.
- Controls entry and exit at the Access Control Points.
- Coordinates health and safety program activities with the Project HSO.
- Confirms each team member's suitability for work based on a physician's recommendation.
- Monitors the work parties for signs of stress, such as cold exposure, heat stress, and fatigue.
- Implements the Site Health and Safety Plan.
- Conducts periodic inspections to determine if the Site Health and Safety Plan is being followed.
- Enforces the "buddy" system.
- Knows emergency procedures, evacuation routes, and the telephone numbers of the ambulance, local hospital, poison control center, fire department, and police department.

- Notifies, when necessary, local public emergency officials.
- Coordinates emergency medical care.
- Sets up decontamination lines and the decontamination solutions appropriate for the type of chemical contamination on the site.
- Controls the decontamination of all equipment, personnel, and samples from the contaminated areas.
- Assures proper disposal of contaminated clothing and materials.
- Ensures that all required equipment is available.
- Advises medical personnel of potential exposures and consequences.
- Notifies emergency response personnel by telephone or radio in the event of an emergency.

FIELD TEAM LEADER – Advises on all aspects of health and safety on site. Stops work if any operation threatens worker or public health or safety. Is directly responsible for the field team and the safety of site operations.

Responsibilities:

- Manages field operations.
- Executes the Work Plan and schedule.
- Enforces safety procedures.
- Coordinates with the Site Safety Officer in determining protection level.
- Enforces site control.
- Documents field activities and sample collection.
- Serves as a liaison with public officials.

WORK TEAM – Operators, laborers, samplers. The work party must consist of at least two people.

Responsibilities:

- Safely completes the on-site tasks required to fulfill the Work Plan.
- Complies with Site Safety Plan.
- Notifies Site Safety Officer or supervisor of suspected unsafe condition.

3.0 HAZARD ANALYSIS

3.1 CHEMICAL HAZARDS

The primary potential chemical hazard is exposure to volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs), particularly naphthalene. Other compounds that may be encountered are site equipment fuels required to conduct the RAWP activities (gasoline, diesel, etc.) that also contain volatile components.

Dust potentially containing chemical constituents of concern at the site may be generated during RAWP implementation; air quality will be monitored for particulates and organic vapors to prevent fugitive dust generation.

3.2 RADIATION HAZARDS

No radiation hazards are known or expected at the site.

3.3 BIOLOGICAL HAZARDS

3.3.1 Animals

During site operations, animals such as dogs, cats, pigeons, sea gulls, mice, and/or rats may be encountered. Workers will use discretion and avoid all contact with animals. Bites and scratches from dogs can be painful and if the animal is rabid, the potential for contracting rabies exists. Contact with rat and mice droppings may lead to contracting hantavirus. Inhalation of dried pigeon droppings may lead to psittacosis; crytococcosis and histoplasmosis are also diseases associated with exposure to dried bird droppings but these are less likely to occur in this occupational setting.

3.3.2 Insects

Insects, including bees, wasps, hornets, mosquitoes, and spiders, may be present at this site. Some individuals may have a severe allergic reaction to an insect bite or sting that can result in a life threatening condition. In addition, mosquito bites may lead to St. Louis encephalitis or West Nile encephalitis. Personnel that have been bitten or stung by an insect at the Site should notify the HSO or FSO of such immediately. The following is a list of preventive measures:

- Apply insect repellent prior to fieldwork and or as often as needed throughout the shift.
- Wear proper protective clothing (work boots, socks and light colored pants).
- When walking in wooded areas, to the extent possible avoid contact with bushes, tall grass, or brush.
- Field personnel who may have insect allergies (e.g., bee sting) should provide this information to the HSO or FSO prior to commencing work, and will have allergy medication on Site.

The HSO or FSO will instruct the project personnel in the recognition and procedures for encountering potentially hazardous insects at the Site.

3.4 PHYSICAL HAZARDS

3.4.1 Explosion

No explosion hazards are expected for the scope of work at this site.

3.4.2 Heat Stress

Activities frequently performed in high temperature/humidity areas, with extended exposure could result in heat-related disorders. This section describes the hazards associated with exposure to elevated thermal temperatures, and the proper responses that will prevent or minimize adverse health effects. Heat stress monitoring should be performed by the FSO, who will be able to recognize symptoms related to heat stress. To monitor the workers, be familiar with the following heat-related disorders and their symptoms:

Heat Rash (Prickly Heat)

Heat rash is a painful temporary condition caused by clogged sweat pores, typically from hot sleeping quarters. Commonly observed in tropical climates, heat rash is caused by the plugging of sweat ducts due to the swelling of the moist keratin layer of the skin which leads to inflammation of the sweat glands. Heat rash appears as tiny red bumps on the skin, and can impair sweating, resulting in diminished heat tolerance. It is not a common concern in North American employment. Heat rash can usually be cured by providing cool sleeping quarters; body powder may also help absorb moisture.

Heat Cramps

Heat cramps are characterized by painful intermittent spasms of the voluntary muscles following hard physical work in a hot environment. Heat cramps usually occur after heavy sweating, and often begin at the end of the workday. The cramps are caused by a loss of electrolytes,

principally salt. This results in fluids leaving the blood and collecting in muscle tissue, resulting in painful spasms. Treatment consists of increased ingestion of commercially available electrolytic "sports" drinks (because of individual sensitivity, it is best to double the amount of water required by package directions, or add water to the liquid form).

Heat Exhaustion

This condition is characterized by profuse sweating, **weakness**, low blood pressure, rapid pulse, dizziness, and frequently nausea and/or headache. The skin is cool and clammy, and appears pale. The body core temperature is normal or depressed. Victim may faint and/or vomit. First aid consists of placing the victim in a cool area, loosen clothing, place in a head-low (shock prevention) position, and provide rest and plenty of fluids. This is the most common form of serious heat illness encountered during employment activities. **Any worker who is a victim of heat exhaustion may not be exposed to a hot working environment for an absolute minimum of 24 hours, and if fainting has occurred, the victim should not return to work until authorized by a physician.**

Heat Stroke

This is the most serious heat disorder, and is life-threatening. Heat stroke is a true medical emergency. This results when the body's heat dissipating system is overwhelmed and shuts down (thermoregulatory failure). Heat stroke results in a continual rise in the victim's deep core body temperature, which is fatal if not checked. The symptoms are hot, dry, flushed skin, elevated body core temperature, convulsions, delirium, unconsciousness, and possibly, death. First aid consists of **immediately obtaining medical assistance,** moving victim to a cool area if possible; cool the body rapidly by immersion in cool (not cold) water or sponging the body with cool water; treat for shock. **Treatment response time is critical when assisting a victim of heat stroke!** Do not give coffee, tea or alcoholic beverages.

Prevention of Heat Stress

Proper training and preventative measures will aid in averting loss of worker productivity and serious illness. Heat stress prevention is particularly important because once a person suffers from heat stroke or heat exhaustion, that person may be predisposed to additional heat related illness. To avoid heat stress the following steps should be taken:

- Adjust work schedules.
- Mandate work slowdowns as needed.

- Perform work during cooler hours of the day if possible or at night if adequate lighting can be provided.
- Provide shelter (air-conditioned, if possible) or shaded areas to protect personnel during rest periods.
- Maintain worker's body fluids at normal levels. This is necessary to ensure that the cardiovascular system functions adequately. Daily fluid intake must approximately equal the amount of water lost in sweat, id., eight fluid ounces (0.23 liters) of water must be ingested for approximately every eight ounces (0.23 kg) of weight lost. The normal thirst mechanism is not sensitive enough to ensure that enough water will be drunk to replace lost sweat. When heavy sweating occurs, encourage the worker to drink more. The following strategies may be useful:
    - Maintain water temperature 50° to 60°F (10° to 16.6°C).
    - Provide small disposal cups that hold about four ounces (0.1 liter).
    - Have workers drink 16 ounces (0.5 liters) of fluid (preferably water or dilute drinks) before beginning work.
    - Urge workers to drink a cup or two every 15 to 20 minutes, or at each monitoring break. A total of 1 to 1.6 gallons (4 to 6 liters) of fluid per day are recommended, but more may be necessary to maintain body weight.
    - Train workers to recognize the symptoms of heat related illness.
    - During elevated heat conditions remind workers to begin hydrating prior to their work shift.

3.4.3 Cold-Related Illness

If work on this project begins in the winter months, thermal injury due to cold exposure can become a problem for field personnel. Systemic cold exposure is referred to as hypothermia. Local cold exposure is generally called frostbite.

Hypothermia

Hypothermia is defined as a decrease in the patient core temperature below 96°F. The body temperature is normally maintained by a combination of central (brain and spinal cord) and peripheral (skin and muscle) activity. Interference with any of these mechanisms can result in hypothermia, even in the absence of what normally is considered a "cold" ambient temperature. Symptoms of hypothermia include: shivering, apathy, listlessness, sleepiness, and unconsciousness.

Frostbite

Frostbite is both a general and medical term given to areas of local cold injury. Unlike systemic hypothermia, frostbite rarely occurs unless the ambient temperatures are less than freezing and

usually less than 20°F. Symptoms of frostbite are: a sudden blanching or whitening of the skin; the skin has a waxy or white appearance and is firm to the touch; tissues are cold, pale, and solid.

Prevention of Cold-Related Illness

To prevent cold-related illness:

- Educate workers to recognize the symptoms of frostbite and hypothermia.
- Identify and limit known risk factors
- Assure the availability of enclosed, heated environment on or adjacent to the site.
- Assure the availability of dry changes of clothing.
- Assure the availability of warm drinks.
- Start (oral) temperature recording at the job site:
    - At the FSO or Field Team Leader's discretion when suspicion is based on changes in a worker's performance or mental status.
    - At a worker's request.
    - As a screening measure, two times per shift, under unusually hazardous conditions (e.g., wind-chill less than 20°F, or wind-chill less than 30°F with precipitation).
    - As a screening measure whenever any one worker on the site develops hypothermia.

Any person developing moderate hypothermia (a core temperature of 92°F) cannot return to work for 48 hours.

3.4.4 Noise

The operation of heavy machinery may result in momentary high noise levels during advancement of soil borings. Hearing protection (e.g., ear plugs, headphones) will be used as necessary.

3.4.6 Slips, Trips and Fall Hazards

Care should be exercised when walking at the site, especially when carrying equipment. The presence of surface debris, uneven surfaces, pits, facility equipment, and soil piles contribute to tripping hazards and fall hazards. To the extent possible, all hazards should be identified and marked on the Site, with hazards communicated to all workers in the area.

3.4.7 Utilities (Electrocution and Fire Hazards)

The possibility of encountering underground utilities poses fire, explosion, and electrocution hazards. All intrusive work will be preceded by notification of the subsurface work to the N.Y. One Call Center. Potential adverse effects of electrical hazards include burns and electrocution, which could result in death.

3.5 TASK HAZARD ANALYSIS

3.5.1 Soil Excavation/Disposal

The excavation of contaminated soil exposes site personnel to a number of hazards including trip and fall hazards, vapors in trench, trench collapses and potential collision with excavation equipment. Chemical exposure may occur as workers encounter soil and groundwater across the site, or are exposed to products used at the site including gasoline, diesel and motor oil. Activities will be conducted initially in Level D but may be upgraded to Modified Level D if required. If evidence of historic or unknown contamination, such as oily materials, high PID readings, etc., is encountered during intrusive work, the FSO will determine the appropriate level of personnel protection.

4.0 PERSONNEL PROTECTION AND MONITORING

4.1 OSHA TRAINING

On-site personnel directly involved in handling, characterization of hazardous waste or petroleum-contaminated soil must have completed hazardous waste operations related training, as required by OSHA Regulations 29 CFR 1910.120. Personnel who completed this training more than 12 months prior to the start of the project must have completed an 8-hour refresher course within the past 12 months. Documentation of OSHA training for project personnel must be provided to HDR prior to starting work.

4.2 SITE-SPECIFIC TRAINING

The Field Safety Officer will be responsible for developing a site-specific occupational hazard training program and providing training to all personnel that are to work at the site. This training will be conducted prior to starting field work and will consist of the following topics:

- Names of personnel responsible for site safety and health.
- Hazards potentially present at the site.
- Proper use of personal protective equipment.
- Requirements of this HASP.
- Work practices by which the employee can minimize risk from hazards. This may include a specific review of heavy equipment safety, safety during inclement weather, changes in common escape rendezvous point, site security measures, or other site-specific issues that need to be addressed before work begins.
- Safe use of engineering controls and equipment on the site.
- Acute effects of compounds present at the site.
- Decontamination procedures.

Upon completion of site-specific training, workers will sign the Site-Specific-Training Form provided in Attachment B. A copy of the completed Site-Specific Training Form will be included in the project files for future reference.

4.3 ODOR, VAPOR AND DUST MONITORING AND RESPONSE

4.3.1 Work Zone Area Monitoring

This HASP only cover HDR employees, the contractor is responsible for completing their own health and safety plan. General contractor and sub-contractor site worker monitoring will be the responsibility of the respective contractor.

VOC

Continuous monitoring for VOCs will be conducted during all ground intrusive activities. The following actions will be taken based on organic vapor levels measured:

- If total organic vapor levels exceed 5 ppm above background for the 15-minute average in the breathing zone at the perimeter of the work area, work activities will be temporarily halted and monitoring continued. If levels readily decrease (per instantaneous readings) below 5 ppm above background, work activities will resume with continued monitoring.
- If total organic vapor levels in the breathing zone at the perimeter of the work area persist at levels in excess of 5 ppm above background but less than 25 ppm, work activities will be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps work activities will resume provided that the total organic vapor outside the hot zone is below 5 ppm above background for the 15-minute average.
- If the total organic vapor level is above 25 ppm in the breathing zone at the perimeter of work area, activities will be shutdown.

Dust

Particulate or dust will be monitoring continuously with real-time field instrumentation during earthwork operations. NYSDEC issued a 1989 memorandum on controlling fugitive dust emissions during “ground intrusive activities”. The National Ambient Air Quality Standard for Respirable Particulates, which are defined as particles 10ug in diameter or less (PM10), is 150 ug/m3. This is actually over a 24-hr period, and data will be collected in 15-min increments. This allows the contractor to react quickly to elevated particulate levels. Based on this standard, dust exposure from remediation activities should not exceed 150 μg/m3 above background and monitoring should be within the work area if exceedances of this standard are anticipated.

The NYSDEC defines fugitive dust as particulate matter that is not from a specific source and could include discrete particles, droplets, and solids over a wide range of sizes. Most continuous dust monitors are designed to provide maximum response to PM10 particulate, since these particles are considered respirable. Based on the air monitoring results, dust suppression may need to be implemented. This could include the following:

- Wetting equipment

- Spraying work area
- Utilizing alternate work methods
- Implementing site speed restrictions

Background dust monitoring shall be performed prior to the start of the workday. Sampling shall be performed outside of the work zone continuously during intrusive activities. Meters should be capable of recording data and logging on 15 minute averages. Periodic monitoring results shall be kept in a logbook and used to initiate additional dust control measures as necessary.

LEL, 0_2 and H_2S Monitoring

Lower Explosive Limit (LEL), Oxygen (0_2), and Hydrogen Sulfide (H_2S) will be monitored during all intrusive activities. If the Personal Gas Meter (PGM) measures $\geq$20% LEL (unit calibrated according to manufacturers specifications: methane or pentane depending on the manufacturer), <19.5% 0_2, or >10 ppm H_2S, for an extended period of time (15 minutes) in the breathing zone, the work effort will stop and monitoring will be conducted from the upwind side of the work area to document the measurements. If the gases of concern return to ambient conditions or remain below the action levels work can proceed with caution. If the readings remain persistently elevated or elevate above the action levels when the intrusive work resumes, HDR will cease work until the cause of the elevated concentrations measured by the field instrumentation can be determined. An assessment will be made to determine the proper respiratory level of protection and additional safety precautions required to safely continue the RAWP activities. After the proper respiratory protection equipment can be mobilized to the site and the HASP has been revised to document the elevated level of protection and newly established action levels, intrusive work at the site can resume.

4.4 COMMUNITY AIR MONITORING PLAN (CAMP)

Real-time monitoring for VOCs will be conducted at locations upwind and downwind of the designated work area when intrusive activities are in progress. Implementation of this CAMP, including continuous, real time monitoring, will be conducted in accordance with the NYSDOH Generic Community Air Monitoring Plan. The CAMP can be found in Attachment C of this HASP.

5.0 WORK ZONES AND DECONTAMINATION

5.1 SITE WORK ZONES

The work zone will be divided into three areas: a support zone, a contamination reduction zone, and an exclusion zone. To the extent possible, the support and contamination reduction zones will be established upwind of the exclusion zone.

Support Zone

The support zone (SZ) will be located at least 50 feet away from the exclusion zone (predominantly upwind when possible). Personnel allowed in this area include all site personnel, visitors, and representatives of regulatory agencies and observers. No particular training or personnel protection devices will be required in the SZ.

Contamination Reduction Zone (CRZ)

The contaminant reduction zone will be located between the SZ and the designated exclusion zone (EZ) and will be located in an area designated by the on-site HSO at the beginning of the fieldwork. The established work zone areas can be changed by the On-Site Health and Safety Officer (HSO) depending on the work task being conducted. In the CRZ authorized personnel will don protective equipment, as necessary, required in the EZ to perform intrusive investigative tasks. Also when exiting the restricted area, personnel will remove contaminated coveralls, boots, gloves, etc. as required and perform any necessary decontamination.

Exclusion Zone (EZ)

The EZ shall be the immediate area where the remedial excavation tasks are to be performed. For example, the EZ for the remedial excavation will be the area within 15 feet of the sweep of the excavator bucket at a minimum. Only authorized personnel necessary to perform the required tasks will be allowed in this area. When necessary, the boundaries of the work zones will be established and clearly marked using caution tape, traffic cones, or other physical means to mark the boundaries of the work zones.

5.2 DECONTAMINATION

Generally, any water used in decontamination procedures will be placed in containers, temporarily stored on-site, and properly characterized and disposed.

5.2.1 Decontamination of Personnel

Decontamination will not be necessary if only Level D protection is used. However, disposable gloves used during sampling activities should be removed and bagged for proper disposal. All personnel will wash hands and face prior to eating and before and after using the restroom.

5.2.2 Decontamination of Equipment

To prevent cross-contamination to surrounding areas, field equipment and vehicles (excavators, truck tires, etc.) that come in contact with contaminated material will be decontaminated.
Decontamination of field equipment will be necessary for all reusable equipment in contact with potentially contaminated groundwater or soil. Decontamination of field sampling equipment will be conducted on the decontamination pad and will consist of a potable water/liquinox mix wash followed by a de-ionized water rinse and air-drying. Vehicles (excavators, truck tires, etc.) will be decontaminated with a high pressure wash in the appropriate area (decontamination pad) prior to leaving the Site. All decontamination fluids would be contained with-in the decontamination pad and transferred to on-site storage for waste classification sampling and off site disposal at an NYSDEC approved facility. Additionally, truck tires will be rinsed of any residual soils before leaving the site. In the event that site material is carried out past the construction entrance and on to public streets, this material will be swept/cleaned up immediately and corrective measure will be put into place to stop future occurrences.

6.0 ACCIDENT PREVENTION AND CONTINGENCY PLAN

6.1 ACCIDENT PREVENTION

6.1.1 Site-Specific Training

All field personnel will receive health and safety training prior to the initiation of any site activities. The site-specific training form provided in Attachment B must be signed, dated, and returned to the HDR Field Safety Officer. On a day-to-day basis, individual personnel should be constantly alert for indicators of potentially hazardous situations and for signs and symptoms in themselves and others that warn of hazardous conditions and exposures. Rapid recognition of dangerous situations can avert an emergency. Before daily work assignments, a regular meeting should be held. Discussion should include:

- Tasks to be performed;
- Time constraints (e.g., rest breaks, cartridge changes);
- Hazards that may be encountered, including their effects, how to recognize symptoms or monitor them, concentration limits, or other danger signals; and
- Emergency procedures.

6.1.2 Vehicles and Heavy Equipment

Working with large motor vehicles and heavy equipment could be a major hazard at this site. Injuries can result from equipment hitting or running over personnel, impacts from flying objects, or overturning of vehicles. Vehicle and heavy equipment design and operation will be in accordance with 29 CFR, Subpart O, 1926.600 through 1926.602. In particular, the following precautions will be utilized to help prevent injuries/accidents:

- Brakes, hydraulic lines, light signals, fire extinguishers, fluid levels, steering, tires, horn, and other safety devices will be checked at the beginning of each shift.
- Large construction motor vehicles will not be backed up unless:
    - The vehicle has a reverse signal alarm audible above the surrounding noise level; or
    - The vehicle is backed up only when an observer signals that it is safe to do so.
- Heavy equipment or motor vehicle cable will be kept free of all nonessential items, and all loose items will be secured.

- Large construction motor vehicles and heavy equipment will be provided with necessary safety equipment (such as seat belts, roll-over protection, emergency shut-off in case of roll-over, backup warning lights and audible alarms).
- Blades and buckets will be lowered to the ground and parking brakes will be set before shutting off any heavy equipment or vehicles.

6.2 SPILL CONTROL PLAN

All personnel must take every precaution to minimize the potential for spills during site operations. Any spill shall be reported immediately to the FSO. Spill control apparatus (sorbent materials) will be located on-site. All materials used for the clean up of spills will be containerized and labeled separately from other wastes.

6.3 CONTINGENCY PLAN

6.3.1 Emergency Procedures

In the event that an emergency develops on site, the procedures delineated herein are to be immediately followed. Emergency conditions are considered to exist if:

- Any member of the field crew is involved in an accident or experiences any adverse effects or symptoms of exposure while on site.
- A condition is discovered that suggests the existence of a situation more hazardous than anticipated.

General emergency procedures, and specific procedures for personal injury, chemical exposure and radiation exposure, are described below.

6.3.2 Chemical Exposure

If a member of the field crew demonstrates symptoms of chemical exposure the procedures outlined below should be followed:

- Another team member (buddy) should remove the individual from the immediate area of contamination. The buddy should communicate to the Field Team Leader (via voice and hand signals) of the chemical exposure. The Field Team Leader should contact the appropriate emergency response agency.
- Precautions should be taken to avoid exposure of other individuals to the chemical.
- If the chemical is on the individual's clothing, the chemical should be neutralized or removed if it is safe to do so.
- If the chemical has contacted the skin, the skin should be washed with copious amounts of water.

- In case of eye contact, an emergency eye wash should be used. Eyes should be washed for at least 15 minutes.
- All chemical exposure incidents must be reported in writing to the HDR Health and Safety Officer. The Field Safety Officer or Field Team Leader is responsible for completing the accident report.

6.3.3 Personal Injury

In case of personal injury at the site, the following procedures should be followed:

- Another team member (buddy) should signal the Field Team Leader that an injury has occurred.
- A field team member trained in first aid can administer treatment to an injured worker.
- The victim should then be transported to the nearest hospital or medical center. If necessary, an ambulance should be called to transport the victim.
- For less severe cases, the individual can be taken to the field office.
- The Field Team Leader or Field Safety Officer is responsible for making certain that an Accident Report Form is completed. This form is to be submitted to the HDR Health and Safety Officer. Follow-up action should be taken to correct the situation that caused the accident.
- Any incident (near miss, property damage, first aid, medical treatment, etc.) must be reported.

A first-aid kit and blood-born pathogens kit will be kept on-site during the field activities.

6.3.4 Evacuation Procedures

- The Field Team Leader will initiate evacuation procedures by signaling to leave the site.
- All personnel in the work area should evacuate the area and meet in the common designated area as directed by the general contractor.
- All personnel suspected to be in or near the contract work area should be accounted for and the whereabouts or missing persons determined immediately.
- The Field Team Leader will then give further instruction.

6.3.5 Procedures Implemented in the Event of a Major Fire, Explosion, or Emergency

- Notify the paramedics and/or fire department, as necessary;
- Signal the evacuation procedure previously outlined and implement the entire procedure;
- Isolate the area;
- Stay upwind of any fire;

- Keep the area surrounding the problem source clear after the incident occurs;

Complete accident report for and distribute to appropriate personnel.

ATTACHMENT A
Air Monitoring Equipment Calibration and Maintenance

All monitoring instruments must be calibrated and maintained periodically. Calibration and on-site maintenance records will be kept in the field log book. The operator must understand the limitations and possible sources of errors for each instrument. It is important that the operator checks that the instrument responds properly to the substances it was designed to monitor. Air quality monitoring equipment, including photoionization detectors (PIDs) must be calibrated at least once each day. The specific instructions for calibration and maintenance provided for each instrument should be followed.

Foot of Main, LLC

DAILY EQUIPMENT CALIBRATION RECORD SHEET

EMPLOYEE: _____ **LOCATION:** _____

DATE: _____ **PROJECT NO.:** _____

WEATHER: _____

Air Monitoring Instrument

INSTRUMENT MODEL: _____

RENTAL CO.: _____

MODEL NO.: _____

SERIAL NO.: _____

LAMP TYPE: _____

RF: _____

ALARM: _____

CALIBRATION GAS: _____ **CONCENTRATION:** _____ **LOT NO.:** _____ **EXP. / Mfg. DATE:** _____

REGULATOR: _____ **SLPM**

TUBING CONNECTION: _____ **Calibration Gas Manufacturer:** _____

ZERO READING: _____ **PPM**

CALIBRATION READING: _____ **PPM**

SOURCE CHECK: _____ **PPM**

COMMENTS: _____

Calibration Gas:		**Calibration Results**	
OXYGEN Conc:	_____ %	**OXYGEN READING:**	_____ %
LEL Conc:	_____ %	**LEL READING:**	_____ %
CO Conc:	_____ %	**CO READING:**	_____ %
H2S Conc:	_____ %	**H2S READING:**	_____ %

Appendix B

Forms for Health and Safety Related Activities

All accidents, injuries and illnesses which occur from performing project activities in this HASP require that the injured person and the Site Health and Safety Officer complete an INCIDENT REPORT and forward it to the Corporate Director of Safety, Mr. Ed Armendariz, in Omaha, Nebraska.

Incident Report

HDR Engineering, Inc.
8404 Indian Hills Drive
Omaha, NE 68114-4049
(402) 399-1000

Project Name:	Incident Location:
Project No.:	Date/Time of Incident:
Project Manager/ employee supervisor:	Reported to Omaha, Date/Time/to Whom:

Person(s) affected:

Name:	Phone:

Witnesses:

Name:	Phone:

Health Care Treatment Facility Used:

Name:	Address:	Phone:

Treating Physician/Health Care Provider:

Name:	Phone:

Person(s) Treated:

Name:	Extent of Injuries:

Describe the Incident, the project activity being performed, and just how the incident occured (please be descriptive, use proper names, etc.):

Continued on Reverse

Specific recommendations, to prevent this incident from reoccuring:

Comments:

Reported by | Date of Report | Phone

For Use by Health and Safety Manager:

Number of Sheets Attached:

Forwarded:

Project Health and Safety Plan and Work Plan Acceptance Form
(For HDR employees only)

I have read and agree to abide by the contents of the Work Plan and Health and Safety Plan for the following project:

_____ _____

(Project Title) (Project Number)

Furthermore, I have read and am familiar with the work plan or proposal that describes the field work to be conducted and the procedures to be utilized in the conduct of this work.

Name (print)	Signature	Date
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Place in project Health and Safety File as soon as possible

Site-Specific Health and Safety Training
(For all HDR and subcontract employees on site)

I hereby confirm that site-specific health and safety training has been conducted by the site health and safety officer that included:

- Names of personnel responsible for site safety and health
- Safety, health, and other hazards at the site
- Proper use of personal protective equipment
- Work practices by which the employee can minimize risk from hazards
- Safe use of engineering controls and equipment on the site
- Acute effects of compounds at the site
- Decontamination procedures

For the following project:

_____ _____

(Project Title) (Project Number)

Name (print)	Signature	Date
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Place in project Health and Safety File as soon as possible

Foot of Main, LLC.

Community Air Monitoring Plan (CAMP) for: Former Tidewater Terminal Brownfield Site

Nyack, New York

March 2015

Revised January 2016

Prepared for:
Foot of Main, LLC
27 Route 210
Stony Point, New York 10980

Prepared by:

Henningson, Durham & Richardson Architecture and Engineering, P.C.
One International Boulevard, 10th Floor, Suite 1000
Mahwah, New Jersey 07495

Table of Contents

Figures

Tables

1.0 INTRODUCTION

On behalf of Foot of Main, LLC, Henningson, Durham & Richardson Architecture and Engineering, P.C. (HDR) has prepared this Community Air Monitoring Plan (CAMP) for the remediation of Former Tidewater Terminal Brownfield Site (Site) located in Nyack, New York (Figure 1). Under the provisions and requirements of the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP), Foot of Main, LLC is implementing the final remedy for redevelopment of the Site restricted residential community.

In accordance with the NYSDEC BCP, HDR on behalf of Foot of Main, LLC is submitting this CAMP for review. It is the intent of this CAMP to monitor air quality as a result of this construction and provide a framework for protective measures for community.

1.1 Site Location and Boundaries

The Site encompasses the western 0.8-acre portion of the 2.6-acre property identified on the Rockland County tax map as Section 66.39, Block 1, Lot 2. This lot is composed of the following (Numbers 4 and 5, below, constitute the Site):

1. Underwater land beneath the Hudson River. The area is approximately 1.4 acres.
2. Lower terrace (approximately 0.3 acres). This section is used for controlled access parking (through a gate) for the Clermont Condominium complex to the south. There is a public access easement along the waterfront. Orange & Rockland Utilities (O&R) recently completed a project to remediate coal tar-contaminated soil over the northern two-thirds of the lower terrace. The area of remediation is indicated in Figures 2 and 3. This remediation was completed through in-situ soil stabilization techniques and the area will be subject to future use restrictions that will be put in place by the property owner, O&R, and the NYSDEC.
3. Main Street extension (approximately 0.1 acres). This section, identified as Easement B in Figures 2 and 3, effectively functions as a public street. The easement is extensively developed with subsurface utilities, including recently installed water supply, storm water, electric power, and telephone lines.
4. Middle terrace (approximately 0.3 acres). This section, used for controlled access parking (through the same gate noted for the lower terrace), is part of the Site (Figure 3).
5. Upper terrace (approximately 0.5 acres). This section is currently being used for staging trailers and equipment for the remediation of the former O&R coal gasification site to the north, is part of the Site (Figure 3).

The Village's zoning map shows that the Site is in a Waterfront Development C-3 zone.

The proposed use is consistent with this zone and land use plans, subject to a special permit approved by the Village Board.

1.2 Soil Contaminants of Concerns

Site soils are contaminated at concentrations above the restricted residential and protection of groundwater SCOs. As indicated, there are three areas of contamination. The largest area covers much of the upper tier and is contaminated with gasoline-related constituents.

There is a small, isolated area in the southern portion of the middle tier near the former horizontal gasoline tanks. Concentrations of contaminants in soil samples collected from the RI borings in this area were compliant with the SCOs. However, one previous boring (year 1992) in the area yielded soil that contained 2 mg/kg of ethylbenzene, higher than the 1.0 mg/kg protection of groundwater SCO. It is possible that natural degradation over 18 years has lowered the ethylbenzene concentration to below 1.0 mg/kg; however, for the purposes of Figure 6, this degradation is assumed not to have occurred.

The third area with soil at concentrations above SCOs is the easternmost portion of the Site contaminated primarily by coal tar-related PAHs. Figure 2 shows the estimated area of the site where soil contamination have been identified.

2.0 PROPOSED REMEDY

The remedy for the Site will include the following elements:

- Abandonment of groundwater monitoring wells
- Excavation of contaminated soils
- LNAPL control (if encountered)
- Protection against vapor intrusion
- Site Cover
- Environmental Easement
- Site Management Plan

The proposed remedy will consist of the excavation and off site disposal of an approximate .8 acre area. Based on the Contaminates of Concern (COCs) identified during the Remedial Investigation (RI) and the requirements of the BCP VOCs, and particulates (i.e., dust) will be monitored during the implementation of the final remedy. This CAMP outlines the air quality monitoring procedures to be followed for both the upwind and down wind monitoring locations.

3.0 COMMUNITY AIR MONITORING PLAN

Real-time monitoring for VOCs and particulates (i.e., dust) will be conducted at locations upwind and downwind of the designated work area when intrusive activities are in progress. In addition to this CAMP, workers at the Site will be subject to the Site Specific Health and Safety Plan (HASP) that establishes worker respiratory protection levels and PPE requirements. This plan will be prepared under separate cover. Implementation of this CAMP, including continuous, real time monitoring, will be performed during all ground intrusive activities.

In addition to the activities described in this CAMP, good housekeeping measures as used in any construction project will be followed to keep VOCs, dust, and odors at a minimum around the work areas.

3.1 Air Monitoring

As listed in Table 1, air monitoring equipment will be set up, tested, and calibrated in accordance with the manufacturers specifications prior to excavation activities and set up at the upwind and downwind locations as dictated by the daily wind direction. The designated field personnel will oversee the air measurements during the day. The initial measurement for the day will be performed before the start of work and will establish the background level for that day. The final measurement for the day will be performed after the end of work activities. Air emissions during the excavation will be controlled through the implementation of this CAMP, similar to what was followed during the RI. The CAMP for the RI required continuous monitoring for organic vapors and dust and set action levels for corrective actions if needed during the investigation. The action levels and required responses are described in detail below:

Table 1 – Air Monitoring Equipment

Air Monitoring	Instrument (make/model)
VOCs Monitoring	Photo ionization Detector (PID) (MiniRAE 2000 w/ an 10.6 eV lamp or equivalent)
Particulates (i.e. dust) Monitoring	Particulate Monitor (Thermo pDR-1000 Personal DataRAM or equivalent)

3.1.1 Volatile Organic Compounds Monitoring, Response, and Actions

VOCs will be monitored at the upwind and downwind perimeter of the Site on a continuous basis at the three monitoring stations. The monitoring work will be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment will be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment will be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below. The maximum allowable concentration limit for total VOCs is listed in Table 2.

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. The equipment will be equipped with an audible alarm to indicate exceedance of the action level. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

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

- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown. If necessary the contractor will have spray foam available to spray on the work area to suppress the vapors and odors.

All 15-minute readings will be recorded and available for NYSDEC and New York State Department of Health (NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

3.1.2 Respirable Particulate Matter (PM-10)

Particulates will be monitored at the downwind perimeter of the Site on a continuous basis at the three monitoring stations. Background concentrations of particulates (upwind or prior to any work activities) will be measured at the start of each workday and periodically thereafter to establish background conditions. The particulate monitoring

will be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment will be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration will be visually assessed during all work activities. The maximum allowable concentration limit for particulates is provided in Table 2.

- If the downwind PM-10 level is 100 micrograms per cubic meter (mcg/m^3) greater than background for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

- If, after implementation of dust suppression techniques, downwind PM-10 levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

All readings will be recorded and available for State NYSDEC and NYSDOH personnel to review.

Table 2 – Action Levels and Maximum Allowable Limits

Air Monitoring	Action Levels	Maximum Allowable Limits
VOCs Monitoring	Total VOCs > 5 ppm above the background for the 15-minute average	If Total VOCs > 25 ppm at the perimeter of the work area, activities must be shutdown.
Particulates (i.e. dust) Monitoring	Downwind PM-10 level > 100 micrograms per cubic meter (mcg/m3) above background (upwind perimeter) for a 15-minute period	Downwind PM-10 levels > 150 mcg/m3 above the upwind level, work must be stopped.

3.2 Work Zone Air Monitoring

In addition to the CAMP conducted at the perimeter of the Site, work zone monitoring during all intrusive activities will conducted and will be the responsibility of the selected general contractor.

In the event that HDR personnel are required to enter the exclusion zone, monitoring will be performed with a PID, the PGM(s) to monitor total VOCs, O_2, LEL H_2S, and CO. Measurements will be recorded prior to commencement of work and continuously during the work. Measurements will be recorded as close to the workers as practical and in the breathing zone at a height of approximately 5 ft.

FIGURES

0 1000 2000 4000

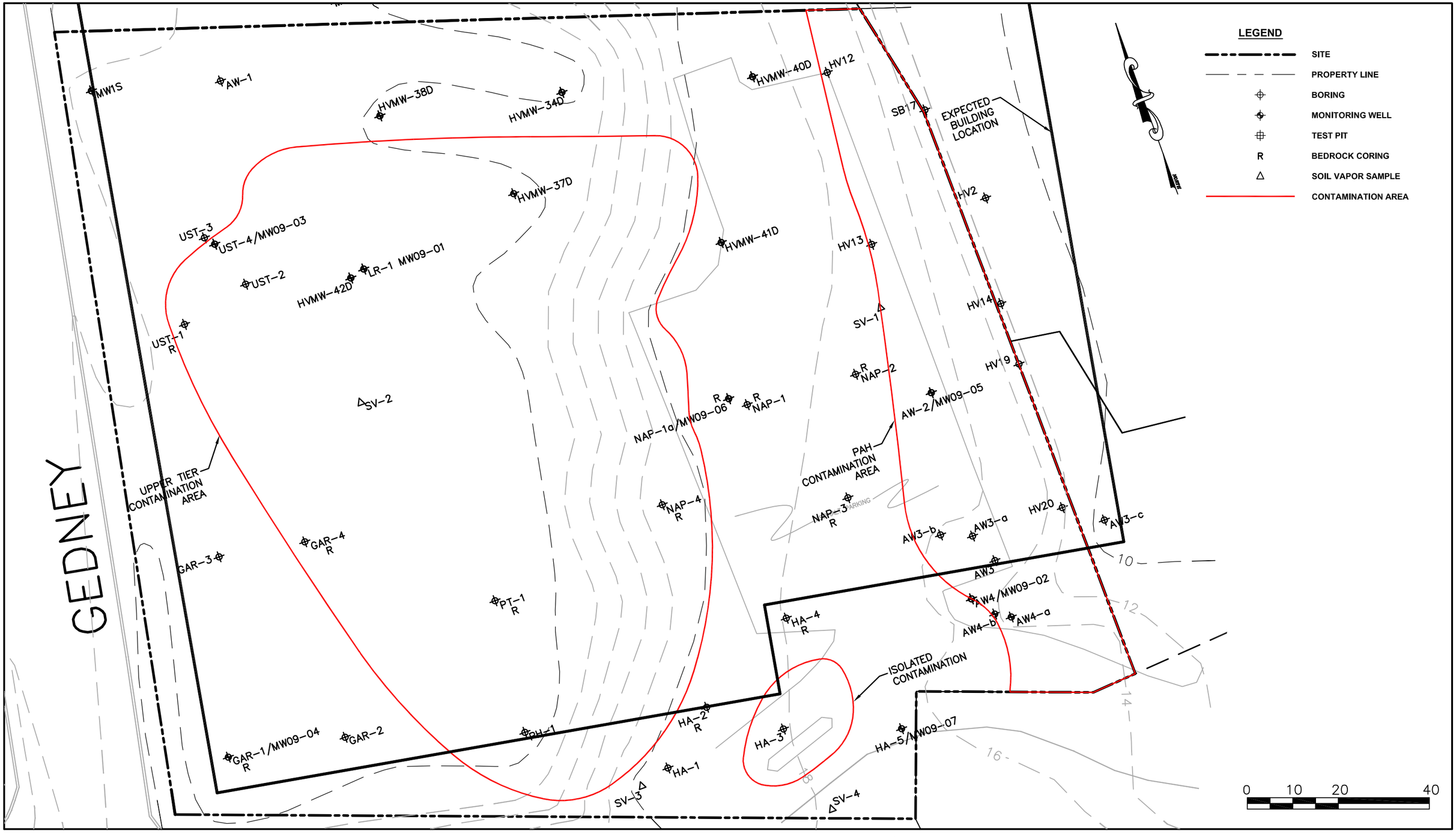
HDR

Foot of Main, LLC
Former Tidewater Terminal
Brownfield Site C344067
Gedney Street
Rockland County, Nyack, New York

SITE LOCATION MAP

DATE
04–09–15

FIGURE
1



HDR	Foot of Main, LLC Former Tidewater Terminal Brownfield Site C344067 Gedney Street Rockland County, Nyack, New York	**PORTIONS OF THE SITE WITH SOIL AT CONCENTRATIONS ABOVE SCOs**	DATE 04–09–15 FIGURE 2

APPENDIX F - SITE MANAGEMENT FORMS

This Appendix should include all site specific site management forms including site inspection form, routine operation and maintenance forms and non-routine operations and maintenance forms for the site. The forms should be completed during site maintenance activities and provided to the NYSDEC in electronic format in accordance with the reporting requirements specified in Section 7.0 of the SMP. All forms presented are subject to approval of the NYSDEC and should include the minimum reporting requirements as described in Section 7.0.

Summary of Green Remediation Metrics for Site Management

Site Name: _____ Site Code: _____
Address: _____ City: _____
State: _____ Zip Code: _____ County: _____

Initial Report Period (Start Date of period covered by the Initial Report submittal)
Start Date: _____

Current Reporting Period
Reporting Period From: _____ To: _____

Contact Information
Preparer's Name: _____ Phone No.: _____
Preparer's Affiliation: _____

I. Energy Usage: Quantify the amount of energy used directly on-site and the portion of that derived from renewable energy sources.

	Current Reporting Period	**Total to Date**
Fuel Type 1 (e.g. natural gas (cf))		
Fuel Type 2 (e.g. fuel oil, propane (gals))		
Electricity (kWh)		
Of that Electric usage, provide quantity:		
Derived from renewable sources (e.g. solar, wind)		
Other energy sources (e.g. geothermal, solar thermal (Btu))		

Provide a description of all energy usage reduction programs for the site in the space provided on Page 3.

II. Solid Waste Generation: Quantify the management of solid waste generated on-site.

	Current Reporting Period (tons)	**Total to Date (tons)**
Total waste generated on-site		
OM&M generated waste		
Of that total amount, provide quantity:		
Transported off-site to landfills		
Transported off-site to other disposal facilities		
Transported off-site for recycling/reuse		
Reused on-site		

Provide a description of any implemented waste reduction programs for the site in the space provided on Page 3.

III. Transportation/Shipping: Quantify the distances travelled for delivery of supplies, shipping of laboratory samples, and the removal of waste.

	Current Reporting Period (miles)	**Total to Date (miles)**
Standby Engineer/Contractor		
Laboratory Courier/Delivery Service		
Waste Removal/Hauling		

Provide a description of all mileage reduction programs for the site in the space provided on Page 3. Include specifically any local vendor/services utilized that are within 50 miles of the site.

IV. Water Usage: Quantify the volume of water used on-site from various sources.

	Current Reporting Period (gallons)	**Total to Date (gallons)**
Total quantity of water used on-site		
Of that total amount, provide quantity:		
Public potable water supply usage		
Surface water usage		
On-site groundwater usage		
Collected or diverted storm water usage		

Provide a description of any implemented water consumption reduction programs for the site in the space provided on Page 3.

V. Land Use and Ecosystems: Quantify the amount of land and/or ecosystems disturbed and the area of land and/or ecosystems restored to a pre-development condition (i.e. Green Infrastructure).

	Current Reporting Period (acres)	**Total to Date (acres)**
Land disturbed		
Land restored		

Provide a description of any implemented land restoration/green infrastructure programs for the site in the space provided on Page 3.

Description of green remediation programs reported above (Attach additional sheets if needed)
Energy Usage:
Waste Generation:
Transportation/Shipping:
Water usage:
Land Use and Ecosystems:
Other:

CERTIFICATION BY CONTRACTOR
I, _____ (**Name**) do hereby certify that I am _____ (**Title**) of the Company/Corporation herein referenced and contractor for the work described in the foregoing application for payment. According to my knowledge and belief, all items and amounts shown on the face of this application for payment are correct, all work has been performed and/or materials supplied, the foregoing is a true and correct statement of the contract account up to and including that last day of the period covered by this application. _____ **Date** **Contractor**

APPENDIX G – QUALITY ASSURANCE PROJECT PLAN (QAPP)

G-1 PROJECT ORGANIZATION AND RESPONSIBILITIES

G-1.1 Organization

To ensure the successful completion of the project, each individual responsible for a given component of the project must be aware of the quality assurance objectives of his/her particular work and of the overall project.

The project manager will be directly responsible to the client for the overall project conduct and quality assurance/quality control (QA/QC) for the project. The project manager will be responsible for overseeing all technical and administrative aspects of the project and for directing QA/QC activities through the Quality Assurance Officer (QAO). Reporting directly to the project manager will be the crew chief; laboratory coordinator, and health and safety officer (HSO), and any subcontractors. The HSO will be responsible for preparing a health and safety plan (HASP) and overseeing all health and safety aspects of the project. The QAO will coordinate his efforts directly with the project manager and will be responsible for the supervision of the laboratory subcontractors and data review.

G-1.2 QAO Responsibilities

The QAO reports directly to the project manager and is responsible for ongoing surveillance of project activities, for ensuring conformance to this Quality Assurance Project Plan (QAPP), and for evaluating the effectiveness of its requirements. The QAO has access to any personnel or subcontractors, as necessary, to resolve technical problems and take corrective action as appropriate and has the authority to recommend that work be stopped when that work appears to jeopardize quality. The QAO will be available to respond to immediate QA/QC problems. The primary responsibilities of the QAO are as follows:

- Monitor the correction of QC problems and alert task leaders to where similar problems might occur.
- Develop and maintain project QA files for sampling, monitoring, and field QA records.
- Participate in QA audits.
- Recommend changes to the project manager to improve the effectiveness of the project in attaining its QA objectives for field sampling and monitoring activities.
- Review proposed additions and changes to this QAPP.
- Review deliverables for technical content and quality objectives.

G-1.3 **Organization of QA/QC Tasks**

Project QA will be maintained in accordance with this QAPP. QC for specific tasks will be the responsibility of the individuals and organizations listed below, under the direction of the QAO.

GENERAL RESPONSIBILITY	**SCOPE OF WORK**	**RESPONSIBILITY OF QUALITY CONTROL**
Field Crew Chief	Supervision of all monitoring well decommissioning, environmental end point sampling, and limits of remedial excavation.	To Be Assigned
Field Operations	Supervision of all monitoring well decommissioning,	To Be Assigned

	environmental end point sampling, and limits of remedial excavation.	
Laboratory analyses	Analysis of soil, soil vapor and groundwater samples by NYSDEC ASP methods	NYSDOH ELAP-Certified Laboratory To Be Assigned
Data review	Review for completeness and compliance	To Be Assigned

G-2 **QUALITY ASSURANCE PROJECT PLAN OBJECTIVES**

G-2.1 **Overview**

Overall project goals are defined through the development of Data Quality Objectives (DQOs), which are qualitative and quantitative statements that specify the quality of the data required to support decisions. DQOs, as described in this section, are based on the end uses of the data as described in the work plan. In this plan, "Quality Assurance" and "Quality Control" are defined as follows:

- Quality Assurance - the total integrated program for assuring reliability of monitoring and measurement data.
- Quality Control - the routine application of procedures for obtaining prescribed standards of performance in the monitoring and measurement process.

G-2.2 **QA/QC Requirements for Analytical Laboratory**

Samples will be analyzed by a New York State Department of Health (NYSDOH)-certified laboratory. Data generated from the laboratory will be used primarily to evaluate on-site contaminant levels in soil gas, soil, and groundwater. The QA requirements for all subcontracted analytical laboratory work performed on this project are described below. QA elements to be evaluated include accuracy, precision, sensitivity, representativeness, and completeness. The data generated by the analytical laboratory for this project are required to be sensitive enough to achieve detection levels low enough to meet required quantitation limits as specified in NYSDEC Analytical Services Protocol (NYSDEC ASP, 07/2005). The analytical results meeting the required quantitation limits will provide data sensitive enough to meet the data quality objectives of this remedial program as described in the work plan. Reporting of the data must be clear, concise, and comprehensive. The QC elements that are important to this project are completeness of field data, sample custody, sample holding times, sample preservation, sample storage, instrument calibration and blank contamination.

G-2.2.1 ***Initial Instrument Calibration***. Calibration curves will be developed for each of the compounds to be analyzed. Standard concentrations and a blank will be used to produce the initial curves. The development of calibration curves and initial calibration response factors must be consistent with method requirements presented in the most recent version of NYSDEC ASP (07/2005).

For Target Analyte List (TAL) metals, an atomic absorption calibration curve is obtained with the use of a blank and at least three calibration standards which cover a range of concentrations appropriate for the sample, for each metal analyzed. One atomic absorption standard must be at the contract required quantitation limit (CRQL), with the exception of mercury. For ICP systems, the instrument will be calibrated according to the manufacturer's recommendations; at least two standards must be used. Results for the standards must be within $\pm$5% of the true value.

G-2.2.2 ***Continuing Instrument Calibration***. The initial calibration curve will be verified every 12 hrs by analyzing one calibration standard. The standard concentration will be the midpoint concentration of the initial calibration curve. The calibration check compound

must come within 25% relative percent difference (RPD) of the average response factor obtained during initial calibration. If the RPD is greater than 25%, then corrective action must be taken as provided in the specific methodology.

TAL initial calibration curves will be verified by analyzing a standard at every wavelength used for a given analyte, at a frequency of 10% or every 2 hours during an analysis run, whichever is more frequent. The standard used for continuing calibration purposes will be at or near the mid-point concentration of the calibration curve. Deviations of the continuing calibration standards from the original curve must be within control limits specified by the methodology.

G-2.2.3 ***Method Blanks***. Method blank or preparation blank is prepared from an analyte-free matrix which includes the same reagents, internal standards and surrogate standards as the related samples. It is carried through the entire sample preparation and analytical procedure. A method blank analysis will be performed once for each 12 hr period during the analysis of samples for volatiles. An acceptable method blank will contain less than five (5) times the CRQL of methylene chloride, acetone, and 2-butanone. For all other target compounds, the method blank must contain less than or equal to the CRQL of any single target compound. For non-target peaks in the method blank, the peak area must be less than 10 % of the nearest internal standard. The method blank will be used to demonstrate the level of laboratory background and reagent contamination that might result from the analytical process itself.

G-2.2.4 ***Trip Blanks.*** Trip blanks consist of a single set of sample containers filled at the laboratory with deionized, laboratory-grade water. The water used will be from the same source as that used for the laboratory method blank. The containers will be carried into the field and handled and transported in the same way as the samples collected that day.

Analysis of the trip blank for VOCs is used to identify contamination from the air, shipping containers, or from other items coming in contact with the sample bottles. (The

bottles holding the trip blanks will be not opened during this procedure.) A complete set of trip blanks will be provided with each shipment of samples to the certified laboratory.

G-2.2.5 ***Field Blanks.*** Field blank collection begins with two sets of identical bottles; one set filled with demonstrated analyte free water provided by the laboratory performing the sample analysis, and one empty set of bottles. At the field location, in an area suspected to be contaminated, the water is passed from the full set of bottles through the dedicated or field decontaminated sampling device(s) and into the empty set of bottles. This will constitute identical bottle to bottle transfer. Field blanks will be preserved in the same manner as samples.

Field blanks will be analyzed for VOCs when soil samples are being collected, and will be analyzed for the full set of parameters when water samples are being collected.

G-2.2.6 ***Surrogate Spike Analysis***. For organic analyses, all samples and blanks will be spiked with surrogate compounds before purging or extraction in order to monitor preparation and analyses of samples. Surrogate spike recoveries shall fall within the advisory limits in accordance with the NYSDEC ASP protocols for samples falling within the quantitation limits without dilution.

G-2.3 **Accuracy**

Accuracy is defined as the nearness of a real or the mean (x) of a set of results to the true value. Accuracy is assessed by means of reference samples and percent recoveries. Accuracy includes both precision and recovery and is expressed as percent recovery (% REC). The MS sample is used to determine the percent recovery. The matrix spike percent recovery (% REC) is calculated by the following equation:

$$\%\ REC = \frac{SSR - SR}{SA} x\ 100 \qquad \textbf{2-1}$$

where:

SSR = spike sample results

SR = sample results

SA = spike added from spiking mix

G-2.4 **Precision**

Precision is defined as the measurement of agreement of a set of replicate results among themselves without assumption of any prior information as to the true result. Precision is assessed by means of duplicate/replicate sample analyses.

Analytical precision is expressed in terms of RPD. The RPD is calculated using the following formula:

$$RPD = \frac{D_1 - D_2}{(D_1 + D_2)/2} \times 100 \qquad \textbf{2-2}$$

where:

RPD = relative percent difference

D_1 = first sample value

D_2 = second sample value (duplicate)

G-2.5 **Sensitivity**

The sensitivity objectives for this plan require that data generated by the analytical laboratory achieve quantitation levels low enough to meet the required detection limits specified by NYSDEC ASP and to meet all site-specific standards, criteria and guidance values (SGCs) established for this project. All the appropriate quantitation limits and SGCs are presented in Table 2-1.

G-2.6 **Representativeness**

Representativeness is a measure of the relationship of an individual sample taken from a particular site to the remainder of that site and the relationship of a small aliquot of the sample (i.e., the one used in the actual analysis) to the sample remaining on site. The representativeness of samples is assured by adherence to sampling procedures described in the Investigative Work Plan.

G-2.7 **Completeness**

Completeness is a measure of the quantity of data obtained from a measurement system as compared to the amount of data expected from the measurement system. Completeness is defined as the percentage of all results that are not affected by failing QC qualifiers, and should be between 70 and 100% of all analyses performed. The objective of completeness in laboratory reporting is to provide a thorough data support package. The laboratory data package provides documentation of sample analysis and results in the form of summaries, QC data, and raw analytical data. The laboratory will be required to submit data packages that follow NYSDEC ASP reporting format which, at a minimum, will include the following components:

1. All sample chain-of-custody forms.
2. The case narrative(s) presenting a discussion of any problems and/or procedural changes required during analyses. Also presented in the case narrative are sample summary forms.
3. Documentation demonstrating the laboratory's ability to attain the contract specified detection limits for all target analytes in all required matrices.
4. Tabulated target compound results and tentatively identified compounds.
5. Surrogate spike analysis results (organics).
6. Matrix spike/matrix spike duplicate/matrix spike blank results.
7. QC check sample and standard recovery results.
8. Blank results (field, trip, and method).
9. Internal standard area and RT summary.

G-2.8 **Comparability**

Comparability is the degree to which analytical data generated from an individual laboratory can be compared with those from another laboratory, in terms of use of standardized industry methods and equivalent instrumentation techniques. No split samples are expected to be taken for this project.

G-3 **FIELD EQUIPMENT CALIBRATION AND MAINTENANCE PROCEDURES**

Calibration of all field equipment will follow manufacturer instructions. The calibration of each instrument will be checked prior to each day's use. Date and time of the calibration check, serial and model number, and signature of the calibrating technician will be entered into the field logbook. If the instrument readings are incorrect, the instrument will be either recalibrated by the technician or returned to the rental company warehouse. At the warehouse, the technical equipment coordinator will calibrate and/or repair the instrument as necessary. For major overhauls, the instruments will be returned to the manufacturer.

Preventive maintenance of field equipment is performed routinely before each sampling event; more extensive maintenance is performed based on hours of use. The equipment coordinator under the supervision of the laboratory director has overall responsibility for the preventive maintenance program. Routinely, manually operated sampling equipment is checked to ensure it operates properly and that excessive wear has not occurred. If necessary, equipment is taken out of service for repair or replacement.

G-4 **SAMPLE CUSTODY**

G-4.1 **Overview**

The handling of samples in the field and in the laboratory will conform to the sample custody procedures presented in this section. Field custody procedures involve proper

sample identification, chain-of-custody forms, and packaging and shipping procedures. Laboratory custody begins with the receipt of samples at the laboratory and continues through sample storage, analysis, data reporting, and data archiving. This section provides the procedures that will be followed during the course of the project to ensure proper sample custody.

G-4.2 **Field Custody Procedures for Off-Site Laboratory**

The following elements are important for maintaining the field custody of samples:

- Sample identification
- Sample labels
- Custody records
- Shipping records
- Packaging procedures

Sample labels will be attached to all sampling bottles before field activities begin; each label will contain an identifying number. Each number will have a suffix that identifies the site and where the sample was taken.

Approximate sampling locations will be marked on a map with a description of the sample location. The number, type of sample, and sample identification will be entered into the field logbook.

A chain-of-custody form, initiated at the analytical laboratory, will accompany the sample bottles from the laboratory into the field. Upon receipt of the bottles and cooler, the sampler will sign and date the first "Received" blank space. After each sample is collected and appropriately identified, entries will be made on the chain-of-custody form that will include:

- Site name and address

- Samplers' names and signatures
- Names and signatures of persons involved in chain of possession
- Sample number
- Number of containers
- Sampling station identification
- Date and time of collection
- Type of sample and the analyses requested
- Preservatives used (if any)
- Pertinent field data (PID/FID, etc.)

After sampling has been completed, the sampler will return the samples to the laboratory. The sampler will sign and date the next "Relinquished" blank space. One copy of the custody form will remain in the field and the remaining copies will accompany the samples to the laboratory. All samples will be received by the laboratory within 24 hrs of collection. Samples will be received by laboratory personnel, who will assume custody of the samples and sign and date the next "Received" blank.

G-4.3 **Laboratory Custody Procedures**

Upon receipt by the analytical laboratory, samples will proceed through an orderly processing sequence specifically designed to ensure continuous integrity of both the sample and its documentation.

All samples will be received by the laboratory's sample control group and will be carefully checked for label identification and completed accurate chain-of-custody records. The sample will be tracked from storage through the laboratory system until the analytical process is completed and the sample is returned to the custody of the sample control group for disposal. Generally, access to NYSDOH-certified laboratories is restricted to prevent any unauthorized contact with samples, extracts, or documentation.

G-5 **ANALYTICAL PROCEDURES**

Analytical procedures to be used are presented below. A summary of the analyses to be performed on the environmental and QA/QC samples collected at the site is included in Tables 5-1 and 5-2. Containers, preservatives, and holding times relevant to this project are listed in Table 5-3.

G-5.1 **Laboratory Analyses**

Samples will be analyzed by the NYSDEC ASP laboratory for VOCs by NYSDEC ASP Method 8260B, SVOCs by NYSDEC ASP Method 8270C, and Target Analyte List (TAL) metals by NYSDEC ASP Methods 6010B and 7470A. If any modifications or additions to the standard procedures are anticipated, and if any nonstandard sample preparation or analytical protocol is to be used, the modifications and the nonstandard protocol will be explicitly defined and documented. Prior approval by the QAO is necessary for any nonstandard analytical or sample preparation protocol used by the laboratory, i.e., dilution of samples or extracts by greater than a factor of five (5).

G-6 **DATA REDUCTION, REVIEW, AND REPORTING**

G-6.1 **Overview**

The process of data reduction, review, and reporting ensures that assessments or conclusions based on the final data accurately reflect actual site conditions. This plan presents the specific procedures, methods, and format that will be employed for data reduction, review, and reporting of each measurement parameter determined in the laboratory and field. Also described in this section is the process by which all data, reports, and work plans are proofed and checked for technical and numerical errors prior to final submission.

G-6.2 **Data Reduction**

Data reduction is the process by which raw analytical data generated from the laboratory instrument systems is converted into usable mass concentrations. The raw data, which may take the form of area counts, instrument responses, or observations, is processed by the laboratory and converted into concentrations expressed in µg/kg for soil samples and ug/l for water samples. The analytical laboratory will be required to follow ASP data reduction procedures.

Field data obtained during sampling is summarized on appropriate field forms. This information will be used to assess field conditions at the time of sampling and is summarized and analyzed along with the chemistry data in the final report. Occasionally, the reduction of actual field data requires correcting measurement data for the measurement system's baseline value. The data will be adjusted only after the raw data has been submitted to the' QAO and prior to preparation of the final report.

G-6.3 **Review**

The QAO will review the data prior to use in the reports and will evaluate the analytical laboratory's ability to meet the DQOs.

G-6.3.1 ***Field Data***. Data collected and/or reduced in the field will be reviewed initially for correctness of format, calculation, and completeness by the crew chief. The criteria used to review field data will include the following:

- Checking to see that inventory and station numbers are correct
- Checking to see that specified sampling and preservation methods (if used) were followed
- Verifying that sufficient sample volume is collected to conduct requested analyses
- Noting any anomalies or unusual circumstances in the data sampling and collection
- Verifying that calibration procedures were followed
- Verifying that data are reported in correct units
- Checking 100% of all field calculations

- Verifying that samples were properly shipped with the appropriate chain-of-custody documentation
- Verifying that QC samples were prepared and taken

Further review of such data will be performed by the crew chief prior to data integration and evaluation. All assigned data reduction or analytical procedures will be verified for accuracy and content by at least two professionals qualified and experienced in evaluating the particular technical specialty.

G-6.3.2 ***Laboratory Data***. The QAO or designee, under the QAO's supervision, will review each analytical data package for completeness (i.e., have all the analyses requested been performed?) and general protocol compliance, such as holding times, detection limits, spike recoveries, and surrogate recoveries. The results of this review will be summarized and included in the final report. If information is found to be missing from the data package the analytical laboratory will be contacted and requested to submit any lacking information.

G-6.3.3 ***Usability Report***. Upon completion of data review, the QAO will prepare a data usability summary report (DUSR) consistent with NYSDEC's "Guidance for the Development of Data Usability Summary Reports." The DUSR will determine whether the final results can be used as reported, qualified to indicate limitations, or rejected outright.

G-6.4 **Reporting**

G-6.4.1 ***Field Data Reporting***. All field real-time measurements and observations will be recorded in project logbooks or field data records. Field measurements will include FID and/or PID. All data will be recorded directly and legibly into field logbooks, with all entries signed and dated. If entries are changed, the change will not obscure the original entry. The reason for the change will be stated, and the correction and explanation will be signed and dated at the time the correction is made. Field data records will be organized into standard formats whenever possible, and retained in permanent files.

G-6.4.2 ***Laboratory Data Reporting***. All sample data packages submitted by the analytical laboratory will be required to be reported in conformance to the NYSDEC ASP (06/2000), Category B data deliverable requirements as applicable to the method utilized.

G6.5 **Data Usage**

The data will be used to determine if the effluent from foundation drains have concentrations of petroleum products or metals in media associated with the site.

G-7 **INTERNAL QUALITY CONTROL**

G-7.1 **Overview**

QC checks will be performed to ensure the collection of representative and valid data. Internal QC refers to all data compilation and contaminant measurements. QC checks will be used to monitor project activities to determine whether QA objectives are being met. All specific internal QC checks to be used are identified in this section.

G-7.2 **Laboratory Quality Control**

The analytical laboratory is required to exercise internal control in a manner consistent with the requirements of this plan. Control checks and internal QC audits are required by the NYSDEC ASP methods. These include reference material analysis, blank analysis, MS/MSD analysis, cleanups, instrument adjustments and calibrations, standards, and internal audits.

The laboratory will perform the QC checks with the following frequency:

- Reagent and method blanks will be analyzed at a rate of one per batch.
- One MS, and one MSD will be analyzed per 20 samples.
- Performance evaluation samples will be analyzed at a rate of once per calendar quarter.

G-7.3 **Field Quality Control**

On each day of field sampling, approximately 5% of all field measurements will be checked by duplicate measurement. The crew chief will spot-check sampling procedures and containers to check against possible contamination. The crew chief will double-check that all sample containers are properly sealed and labeled and that all field forms, including the chain-of-custody forms, are properly completed, dated, and signed.

After field work is completed, a comparison of equipment blank data will be used to check on the quality of the field work. Also, the results of duplicate and spiked samples will be used to check on the accuracy of sampling techniques. If the QAO and crew chief find that corrective action is needed, such action will be implemented immediately. If the analysis of equipment rinseate blanks indicates extensive contamination, resampling may be necessary.

G-7.4 **Office Quality Control**

G-7.4.1***Technical Checks.*** One qualified professional will proof and check all final reports for technical errors and/or inconsistencies. Twenty percent of all final reports will be subsequently checked again by a qualified professional. Checks will be made of all references and protocols cited to ensure they are correct. Procedural descriptions will be reviewed to ensure they are accurate with referenced protocol.

G-7.4.2***Numerical Checks***. One qualified professional will proof and check all final reports for transcription and/or calculation errors. Twenty percent of all final reports will be subsequently checked again by a qualified professional. All data tables will be checked to ensure no transcription errors have occurred. Data tables will also be checked to see that any criteria cited for comparison purposes is appropriate and correctly referenced. All calculations will be checked to ensure that they will be properly presented and that resulting

values are achievable. If any results cannot be duplicated the calculations will be independently checked for accuracy.

G-8 PERFORMANCE AND SYSTEMS AUDITS

Performance audits, when performed, will be used to monitor project activities to assure compliance with project DQOs. The following text summarizes the field audits that are conducted periodically.

G-8.1 Field Audits

Internal audits of field activities are periodically conducted by PM. Where subcontractors are used for field activities, the PM will assume overall responsibility for the field procedures used. All field activities will be routinely monitored by the PM and the on-site crew chief to ensure that work is done correctly. Field audits will be periodically conducted by the QAO to ensure that appropriate procedures are being utilized by all crews. All sampling and analyses work will be reviewed routinely by the crew chief in charge of the particular task. All data sheets obtained in the field will be initialed and dated by crew chief after review and acceptance of the services performed.

If a field audit is required, it will include monitoring and evaluation of sample collection, sample holding times, preservation techniques, field QC, and equipment calibration. These audit forms will be kept on file with the QAO for one year after completion of the project, then will be transferred to storage and held for an additional five years.

G-9 ANALYTICAL CORRECTIVE ACTION

G-9.1 Laboratory Corrective Action

Corrective actions will be implemented if unsatisfactory performance and/or system audit results indicate that problems exist. Corrective action may also be implemented if the results of a data assessment or internal QC check warrant such action.

Instances of nonconformance identified in internal audits or by data assessments will be addressed by taking corrective action. Such action(s) will be initiated by the analytical laboratory QA manager who is responsible for assessing the action for its appropriateness and completeness. The QA manager will also be responsible for filing a noncompliance report to laboratory management. QC charts will be used to monitor day-to-day variations in precision and accuracy.

Short-term corrective actions will be initiated as a result of malfunctioning equipment or improper use of analytical methodologies. Long-term actions will be initiated through the laboratory QAO who assigns personnel to investigate the problem. A series of evaluations will then follow to assure the action is appropriate and the results complete.

G-9.2 **Field Corrective Action**

In the event a field audit is conducted by the QAO, instances of nonconformance will be identified and reported to the project manager, who will initiate corrective actions, if necessary. These actions can range from altering solvent washes used in decontamination to changing the sampling strategy to obtain representative samples. The project QAO and the project manager will have the ability to stop all work if audit results warrant such action.

G-10 **REPORTS TO MANAGEMENT**

G-10.1 **Overview**

An important aspect of the QA/QC program is the communication between the QA department and upper management. Regular appraisal by management of the quality aspects related to data gathering efforts will provide the mechanism whereby the established objectives will be met.

Reports to management will include:

- Periodic assessment of measurement data accuracy, precision, and completeness
- Results of performance audits
- Results of system audits
- Significant QA/QC problems and recommended solution
- Resolutions of previously stated problems

G-10.2 **Laboratory**

Laboratory noncompliance reports will be filed with the laboratory project manager. These reports will include a summary of accuracy and precision data, quality problems, and the status of any corrective actions implemented.

Meetings will be held between the laboratory management and the laboratory QA personnel to alert the appropriate staff of problems needing corrective action. The laboratory will submit a case narrative with each set of sample analyses. The narrative will describe any QA/QC problems encountered during sample analysis and any corrective actions taken by the laboratory.

G-10.3 **Field Activities**

The contractor will be responsible for documenting the results of all field audits. Audit results will be documented in the logbook for field audits. Status reports will be periodically submitted to describe the progress of the project. These will include compiled field data sheets, schedule corrective action documentation at appropriate intervals, and progress of the actions.

APPENDIX H – STORMWATER POLLUTION CONTROL PLAN (ALSO IN APPENDIX D-11)

This Stormwater Pollution Control Plan (SPCP) will be implemented during the temporary disturbance of soil and/or rock at the Former Tidewater Terminal site, located in Nyack, New York. A SPCP is required by the New York State Department of Environmental Conservation (NYSDEC). A detailed SPCP will be prepared if an excavation exceeding 1 acre is planned. Below are the minimal SPCP requirements.

Barriers and hay bale checks will be installed and inspected once a week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by NYSDEC. All necessary repairs shall be made immediately.

Accumulated sediments will be removed as required to keep the barrier and hay bale check functional.

All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials.

Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

Erosion and sediment control measures identified in the SMP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters.

Silt fencing or hay bales will be installed around the entire perimeter of the construction area.

Stormwater management was not necessary during the remediation of the site due to an abnormally dry summer 2016.

Stormwater management during the redevelopment of the site will be accomplished by placement of appropriately sized structures and implementation of practices in accordance with Chapter 9 “Redevelopment Activity” of the New York State Stormwater Management Design Manual, January 2015.

Stormwater management during the temporary disturbance of soil and/or rock, as addressed in the Former Tidewater Terminal Site Management Plan, will be accomplished by placement of silt fence and hay bales and implementation of as detailed on Figure 9 of the RAWP.