John A. Rhodes, P.E.

25 March 2014

New York City Office of Environmental Remediation
City Voluntary Cleanup Program
100 Gold Street, 2nd Floor
New York, NY 10038

ATTN: Shaminder Chawla

RE: 14CVCP201M
300 Lafayette Street
Manhattan, NY
Remedial Action Work Plan (RAWP) Stipulation List

Dear Mr. Chawla:

CEUS Engineering (the consultant) hereby submits a Remedial Action Work Plan (RAWP) Stipulation List for 300 Lafayette Street (the Site) to the New York City Office of Environmental Remediation (OER) on behalf of Paco Lafayette LLC. This letter serves as an addendum to the RAWP to stipulate additional content, requirements, and procedures that will be followed during the Site remediation. The contents of this list are added to the RAWP and will supersede the content in the RAWP where there is a conflict in purpose or intent. The additional requirements/procedures include the following Stipulation List below:

1. The criterion attached in **Appendix 1** will be utilized if additional petroleum containing tanks or vessels are identified during the remedial action or subsequent redevelopment excavation activities. All petroleum spills will be reported to the NYSDEC hotline as required by applicable laws and regulations. This contingency plan is designed for heating oil tanks and other small or moderately sized storage vessels. If larger tanks, such as gasoline storage tanks are identified, OER will be notified before this criterion is utilized.

2. A pre-construction meeting is required prior to the start of remedial excavation work at the Site. A pre-construction meeting will be held at the Site and will be attended by OER, the developer or developer representative, the consultant, excavation/general contractor, and if applicable, the soil broker.

3. A pre-approval letter from all disposal facilities will be provided to OER prior to any soil/fill material removal from the Site. Documentation specified in the RAWP - Appendix D - Section 1.6 “Materials Disposal Off-Site” will be provided to OER. If a different disposal facility for the soil/fill material is selected, OER will be notified immediately.

4. Signage for the project will include a sturdy placard mounted in a publicly accessible right of way to building and other permits signage will consist of the NYC VCP Information Sheet (attached **Appendix 2**) announcing the remedial action. The Information sheet will be laminated and permanently affixed to the placard.

5. This NYC VCP project involving the removal and transportation of hazardous waste may be subject to the New York State Department of Environmental Conservation's Special Assessment Tax (ECL 27-0923) and Hazardous Waste Regulatory Fees (ECL 72-00402). See DEC's website for more information: http://www.dec.ny.gov/chemical/9099.html.

6. Truck route is included in **(Appendix 3**).

7. OER requires parties seeking City Brownfield Incentive Grants to carry insurance. For a cleanup grant, both the excavator and the trucking firm(s) that handle removal of soil must carry or be covered under a commercial general liability (CGL) policy that provides $1 million per claim in coverage. OER recommends that excavators and truckers also carry contractors' pollution liability (CPL) coverage, also providing $1 million per claim in coverage. The CGL policy, and the CPL policy if obtained, must name the City of New York, the NYC Economic Development Corporation, and Brownfield Redevelopment Solutions as additional insured. For an investigation grant, an environmental consultant must be a qualified vendor in the BIG program and carry $1 million of professional liability (PL) coverage. A fact sheet regarding insurance is attached as **Appendix 4**.

8. Daily report will be provided during active excavation work. If no work is performed for extended time period, daily report frequency will be reduced to weekly basis. Daily report template is attached in **Appendix 5**.

Sincerely,

John A. Rhodes, P.E.

CEUS Engineering, P.C.

Attachments:

cc: K. Glass, OER

Appendix 1

Generic Procedures for Management of Underground Storage Tanks Identified under the NYC VCP

Prior to Tank removal, the following procedures should be followed:

- Remove all fluid to its lowest draw-off point.
- Drain and flush piping into the tank.
- Vacuum out the "tank bottom" consisting of water product and sludge.
- Dig down to the top of the tank and expose the upper half.
- Remove the fill tube and disconnect the fill, gauge, product, vent lines and pumps. Cap and plug open ends of lines.
- Temporarily plug all tank openings, complete the excavation, remove the tank and place it in a secure location.
- Render the tank safe and check the tank atmosphere to ensure that petroleum vapors have been satisfactorily purged from the tank.
- Clean tank or remove to storage yard for cleaning.
- If the tank is to be moved, it must be transported by licensed waste transporter. Plug and cap all holes prior to transport leaving a 1/8 inch vent hole located at the top of the tank during transport.
- After cleaning, the tank must be made acceptable for disposal at a scrap yard, cleaning the tanks interior with a high pressure rinse and cutting the tank in several pieces.

During the tank and pipe line removal, the following field observations should be made and recorded:

- A description and photographic documentation of the tank and pipe line condition (pitting, holes, staining, leak points, evidence of repairs, etc.).
- Examination of the excavation floor and sidewalls for physical evidence of contamination (odor, staining, sheen, etc.).
- Periodic field screening (through bucket return) of the floor and sidewalls of the excavation, with a calibrated photoionization detector (PID).

<u>Impacted Soil Excavation Methods</u>

The excavation of the impacted soil will be performed following the removal of the existing tanks. Soil excavation will be performed in accordance with the procedures described under Section 5.5 of Draft DER-10 as follows:

- A description and photographic documentation of the excavation.
- Examination of the excavation floor and sidewalls for physical evidence of contamination (odor, staining, sheen, etc.).
- Periodic field screening (through bucket return) of the floor and sidewalls of the excavation, with calibrated photoionization detector (PID).

Final excavation depth, length, and width will be determined in the field, and will depend on the horizontal and vertical extent of contaminated soils as identified through physical examination (PID response, odor, staining, etc.). Collection of verification samples will be performed to evaluate the success of the removal action as specified in this document.

The following procedure will be used for the excavation of impacted soil (as necessary and appropriate):

- Wear appropriate health and safety equipment as outlined in the Health and Safety Plan.

- Prior to excavation, ensure that the area is clear of utility lines or other obstructions. Lay plastic sheeting on the ground next to the area to be excavated.

- Using a rubber-tired backhoe or track mounted excavator, remove overburden soils and stockpile, or dispose of, separate from the impacted soil.

- If additional UST's are discovered, the NYSDEC will be notified and the best course of action to remove the structure should be determined in the field. This may involve the continued trenching around the perimeter to minimize its disturbance.

- If physically contaminated soil is present (e.g., staining, odors, sheen, PID response, etc.) an attempt will be made to remove it, to the extent not limited by the site boundaries or the bedrock surface. If possible, physically impacted soil will be removed using the backhoe or excavator, segregated from clean soils and overburden, and staged on separated dedicated plastic sheeting or live loaded into trucks from the disposal facility. Removal of the impacted soils will continue until visibly clean material is encountered and monitoring instruments indicate that no contaminants are present.

- Excavated soils which are temporarily stockpiled on-site will be covered with tarp material while disposal options are determined. Tarp will be checked on a daily basis and replaced, repaired or adjusted as needed to provide full coverage. The sheeting will be shaped and secured in such a manner as to drain runoff and direct it toward the interior of the property.

Once the site representative and regulatory personnel are satisfied with the removal effort, verification of confirmatory samples will be collected from the excavation in accordance with DER-10.

Appendix 2

Signage

NYC Voluntary Cleanup Program

This property is enrolled in the New York City Voluntary Cleanup Program for environmental remediation. This is a voluntary program administered by the NYC Office of Environmental Remediation.

For more information, log on to:

www.nyc.gov/oer

If you have questions or would like more information, please contact:

Shaminder Chawla at (212) 788-8841

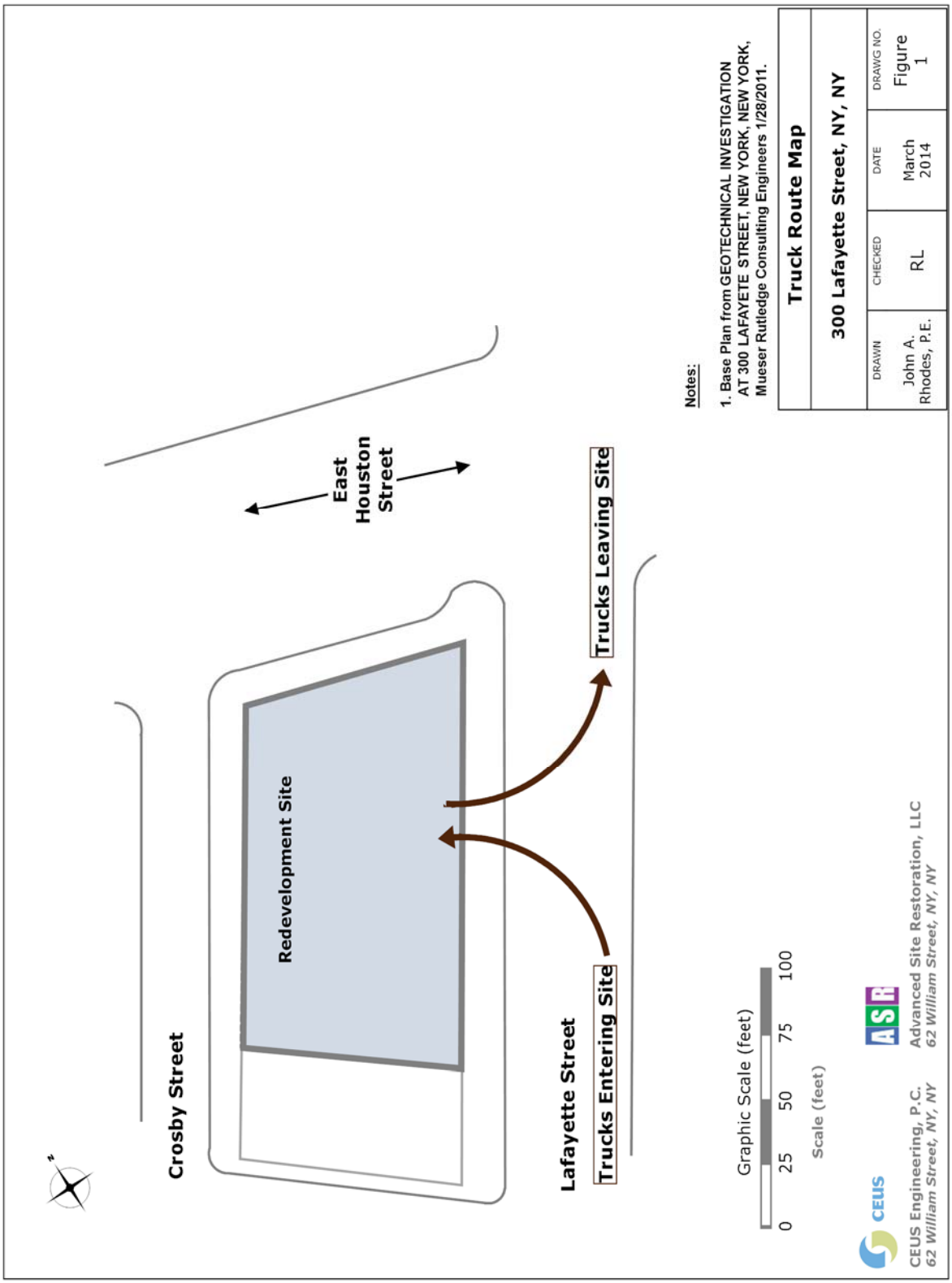
or email us at brownfields@cityhall.nyc.gov

534 W. 29th Street

Site #: 14CVCP201M

Appendix 3

Truck Route


Crosby Street
Redevelopment Site
East Houston Street
Lafayette Street
Trucks Entering Site
Trucks Leaving Site
Graphic Scale (feet)
0 25 50 75 100
Scale (feet)
CEUS Engineering, P.C.
62 William Street, NY, NY
Advanced Site Restoration, LLC
62 William Street, NY, NY
Notes:
1. Base Plan from GEOTECHNICAL INVESTIGATION AT 300 LAFAYETE STREET, NEW YORK, NEW YORK, Mueser Rutledge Consulting Engineers 1/28/2011.
Truck Route Map
300 Lafayette Street, NY, NY
DRAWN
John A. Rhodes, P.E.
CHECKED
RL
DATE
March 2014
DRAWG NO.
Figure 1

Appendix 4

BIG Program Insurance Requirements

FACT SHEET – BIG PROGRAM INSURANCE REQUIREMENTS

Investigation Grants – for a developer or site owner to be eligible for a BIG investigation grant, its environmental consultant(s) must be:

- a Qualified Vendor in the BIG Program; and
- maintain Professional Liability (PL) insurance of $1M per claim and annual aggregate.

Cleanup Grants – for a developer or site owner to be eligible for a BIG cleanup grant:

- Its general contractor or excavation/foundation contractor hired to perform remedial work must maintain Commercial General Liability (CGL) insurance of at least $1M per occurrence and $2M in the general aggregate. It is recommended that the general contractor or excavation/foundation contractor also maintain a Contractors Pollution Liability policy (CPL) of at least $1M per occurrence.

- Its subcontractors who are hired by the general contractor etc. to perform remedial work at a site, including soil brokers and truckers, must also maintain a CGL policy in the amount and with the terms set forth above. It is recommended that subcontractors also maintain a CPL policy in the amount and with the terms set forth above.

  The CGL policy, and the CPL policy if in force, must list the city, EDC and BRS as additional insureds, include completed operations coverage and be primary and non-contributory to any other insurance the additional insureds may have.

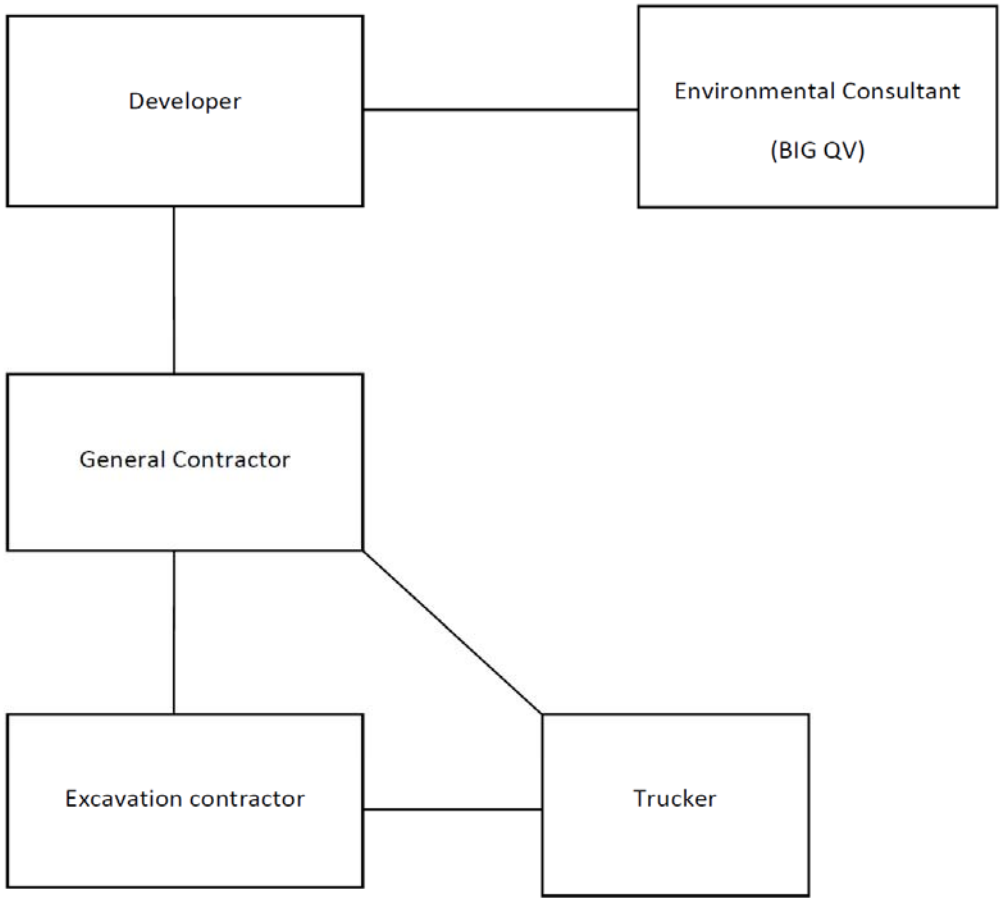
- Its environmental consultant(s) hired to oversee the cleanup must be:
  a. a BIG Qualifed Vendor; and
  b. maintain Professional Liability (PL) insurance of $1M per claim and annual aggregate.

If, in the alternative, the developer hires its environmental consultant to perform the cleanup, the environmental consultant must maintain CGL insurance in the amount and with the terms set forth above. It is recommended that the environmental consultant also maintain CPL coverage in the amount and with the terms set forth in the first two bulleted items listed above.

A schematic presenting the contractual relationships described above appears on page 2. Parties who must be named as Additional Insureds on Cleanup Grant insurance policies (CGL and CPL) are presented on page 3.

Example of Contractual Relationships for Cleanup Work

The Office of Environmental Remediation's Voluntary Cleanup Plan program requires applicants to identify the parties who are engaged in active remediation of their sites including: the General Contractor hired to remediate and/or the excavation contractor hired to excavate soil from the site and the trucking firm(s) that remove soil from the site for disposal at approved facilit(ies).



The chart above shows contractual relationships that typically exist for projects that are enrolled in the Voluntary Cleanup Program.

BIG Program Additional Insureds

The full names and addresses of the additional insureds required under the Required CGL Policy and recommended CPL Policy are as follows:

"City and its officials and employees"
New York City Mayor's Office of Environmental Remediation
253 Broadway, 14th Floor
New York, NY 10007

"NYC EDC and its officials and employees"
New York City Economic Development Corporation
110 William Street
New York, NY 10038

"BIG Grant Administrator and its officials and employees"
Brownfield Redevelopment Solutions, Inc.
739 Stokes Road, Units A & B
Medford, NJ 08055

Appendix 5

Daily Report Template

planYC NYC Office of Environmental Remediation

Daily Status Report Template
Version 1.3

Generic Template for Daily Status Report

Instructions

The Daily Status Report submitted to OER should adhere to the following conventions:

- Remove this cover sheet prior to editing.
- Remove all the red text and replace with site-specific information.
- Submit the final version as a Word or PDF file.

Daily Status Reports

Daily status reports providing a general summary of activities for each day of *active remedial work* will be emailed to the OER Project Manager by the end of the following day. Those reports will include:

- Project number and statement of the activities and an update of progress made and locations of work performed;
- Quantities of material imported and exported from the Site;
- Status of on-Site soil/fill stockpiles;
- A summary of all citizen complaints, with relevant details (basis of complaint; actions taken; etc.);
- A summary of CAMP excursions, if any;
- Photograph of notable Site conditions and activities.

The frequency of the reporting period may be revised in consultation with OER project manager based on planned project tasks. Daily email reports are not intended to be the primary mode of communication for notification to OER of emergencies (accidents, spills), requests for changes to the RAWP or other sensitive or time critical information. However, such information will be included in the daily reports. Emergency conditions and changes to the RAWP will be communicated directly to the OER project manager by personal communication. Daily reports will be included as an Appendix in the Remedial Action Report.

DAILY STATUS REPORT

WEATHER	Snow		Rain		Overcast		Partly Cloudy	X	Bright Sun	
TEMP.	< 32		32-50		50-70	X	70-85		>85	

Prepared By:

Enter Your Name Here _____

VCP Project No.:	13CVCP000M	E-Number:	13EHAN000M	Date:	01/01/2013
Project Name:	Name or Address				

Consultant: Person(s) Name and Company Name	Safety Officer: Person(s) Name and Company Name
General Contractor: Person(s) Name and Company Name	Site Manager/ Supervisor: Person(s) Name and Company Name
Work Activities Performed (Since Last Report): Provide details about the work activities performed.	
Working In Grid #: A1, B1, C1	

Samples Collected (Since Last Report): No samples collected or provide details
Air Monitoring (Since Last Report): No air monitoring performed or provide details
Problems Encountered: No problems encountered or provide details
Planned Activities for the Next Day/ Week: Provide details about the work activities planned for the next day/ week.

Example:

Facility # Name/ Location Type of Waste Solid Or Liquid	Facility # Name Location Type of Waste Solid *Or* Liquid		Facility # Name Location Type of Waste Solid *Or* Liquid		Facility # Name Location Type of Waste Solid *Or* Liquid		Facility # Name Location Type of Waste Solid *Or* Liquid		# # # # # # # Clean Earth Carteret, NJ petroleum soils Solid	
(Trucks, Cu.Yds. Or Gallons)	Trucks	Cu. Yds. *Or* Gallons	Trucks	Cu. Yds. *Or* Gallons	Trucks	Cu. Yds. *Or* Gallons	Trucks	Cu. Yds. *Or* Gallons	Trucks	Cu. Yds.
Today									5	120
Total									25	600

NYC Clean Soil Bank		Receiving Facility: Name/ Address (Approved by OER)			
Tracking No.:	13CCSB000				
Today	Trucks 5	Cu. Yds. 25	Total	Trucks 120	Cu. Yds. 600

Site Grid Map

Insert the site grid map here

Photo Log

Photo 1 – provide a caption	Insert Photo Here – Photo of the entire site
Photo 2 – provide a caption	Insert Photo Here – Photo of the work activities performed

Photo 3 – provide a caption	Insert Photo Here – Photo of the work activities performed

Remedial Action Plan

For

300 Lafayette Street

298, 300, 302-308 Lafayette Street

Block 510, Lot(s) 38, 39, and 40

VCP Project Number: 14CVCP201M

E-Designation number 14EHAZ344M

CEQR Number 77DCP091M

CPC Zoning Numbers: 140093 ZSM, 140095 ZSM

140096 ZSM

Prepared for:

Paco Lafayette, LLC

364 Maspeth Avenue

Brooklyn, NY 11211

Prepared by:

Advanced Site Restoration, LLC *and by*

CEUS Engineering, P.C.

62 William Street, 3rd Floor, New York, NY 10005

RLevato@askasr.com/jarhodes1@verizon.net

(212) 809.1111 / (646) 465-2494

NOVEMBER 5, 2013

REMEDIAL ACTION PLAN

TABLE OF CONTENTS

FIGURES

List of Figures

TABLES

List of Tables

APPENDICES

List of Appendices

- Appendix 1 Soil/Materials Management Plan
- Appendix 2 Construction Health and Safety Plan
- Appendix 3 RCR Deliverable Requirements
- Appendix 4 Proposed Development Plans
- Appendix 5 Remedial Investigation Report
- Appendix 6 Previous Regulatory Correspondence
- Appendix 7 Specifications for Vapor Barrier Membrane

LIST OF ACRONYMS

Acronym	Definition
AST	Aboveground Storage Tank
CAMP	Community Air Monitoring Plan
C&D	Construction & Demolition
CEQR	City Environmental Quality Review
CFR	Code of Federal Regulations
CHASP	Construction Health and Safety Plan
CO	Certificate of Occupancy
CPC	City Planning Commission
DSNY	Department of Sanitation
"E"	E-Designation
EAS	Environmental Assessment Statement
EIS	Environmental Impact Statement
ESA	Environmental Site Assessment
EC/IC	Engineering Control and Institutional Control
ELAP	Environmental Laboratory Accreditation Program
FDNY	New York City Fire Department
GPR	Ground Penetrating Radar
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations Emergency Response
IDW	Investigation Derived Waste
Notice - NNO	Notice of No Objection
Notice - NTP	Notice To Proceed
Notice - NOS	Notice Of Satisfaction
Notice - FNOS	Final Notice of Satisfaction
NYC BSA	New York City Board of Standards and Appeals
NYC DCP	New York City Department of City Planning
NYC DEP	New York City Department of Environmental Protection
NYC DOB	New York City Department of Buildings
NYC DOF	New York City Department of Finance
NYC HPD	New York City Housing Preservation and Development
NYCRR	New York Codes Rules and Regulations

NYC OER	New York City Office of Environmental Remediation
NYS DEC	New York State Department of Environmental Conservation
NYS DEC DER	New York State Department of Environmental Conservation Division of Environmental Remediation
NYS DEC PBS	New York State Department of Environmental Conservation Petroleum Bulk Storage
NYS DOH	New York State Department of Health
NYS DOT	New York State Department of Transportation
OSHA	United States Occupational Health and Safety Administration
PAHs	Polycyclic Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
PE	Professional Engineer
PID	Photo Ionization Detector
PM	Particulate Matter
QEP	Qualified Environmental Professional
RA	Register Architect
RAP	Remedial Action Plan
RCA	Recycled Concrete Aggregate
RCR	Remedial Closure Report
RD	Restrictive Declaration
RI	Remedial Investigation
SCOs	Soil Cleanup Objectives
SCG	Standards, Criteria and Guidance
SMP	Site Management Plan
SPDES	State Pollutant Discharge Elimination System
SSDS	Sub-Slab Depressurization System
SVOCs	Semi-Volatile Organic Compounds
USCS	Unified Soil Classification System
USGS	United States Geological Survey
UST	Underground Storage Tank
TAL	Target Analyte List
TCL	Target Compound List
TCO	Temporary Certificate of Occupancy
VB	Vapor Barrier
VOCs	Volatile Organic Compounds

CERTIFICATION

I, John A. Rhodes, P.E., am a Professional Engineer licensed in the State of New York. I have primary direct responsibility for implementation of the remedial action for the 300 Lafayette Site, VCP #14CVCP201M, DCP Project ID # P2013M0115, CEQR # 77DCP091.

I certify that this Remedial Action Work Plan (RAWP) has a plan for handling, transport and disposal of soil, fill, fluids and other materials removed from the property in accordance with applicable City, State and Federal laws and regulations. Importation of all soil, fill and other material from off-Site will be in accordance with all applicable City, State and Federal laws and requirements. This RAP has provisions to control nuisances during the remediation and all invasive work, including dust and odor suppression.

Name:
John A. Rhodes, P.E.

NYSPE Number:
84423

Signature: _____

Date: 1/8/2014

EXECUTIVE SUMMARY

Paco Lafayette, LLC has established this plan to remediate a 13,000-square foot site located at 298, 300, 302-308 Lafayette Street in Manhattan, New York. A Phase II Subsurface Investigation (Phase II) was performed to compile and evaluate data and information necessary to develop this Remedial Action Plan (RAP). The remedial action described in this document achieves the remedial objectives, complies with applicable environmental standards, criteria and guidance and conforms to applicable laws and regulations.

Site Location and Current Usage

The Site is located at 298, 300, 302-308 Lafayette Street at the corner of East Houston Street and Lafayette Street in Manhattan, New York and is identified as Block 510 and Lot(s) 38, 39, and 40 on the New York City Tax Map. Figure 1 is a Site location map. The Site is 13,000-square feet and is bounded by East Houston Street to the north, Lafayette Street to the east, and Crosby Street to the west. Currently, the Lot 40 is used as a gasoline service station and contains underground storage tanks, dispensers, a canopy, and a small convenience kiosk. Lots 38 and 39 contain single-story brick buildings; Lot 38 is currently a bar and restaurant and Lot 39 is currently being used as a real estate sales office.

Summary of Proposed Redevelopment Plan

The proposed use of the Site will consist of a new 7-story commercial development at 298 - 308 Lafayette Street (Block 510, Lots 38, 39, and 40) in the SoHo neighborhood of Manhattan. The proposed project would contain approximately 21,600 gross square feet (gsf) or 32,600 gsf of retail uses and either 49,500 gsf or 38,500 gsf of office uses depending on whether the second floor is occupied by a retail or office use. The proposed development and construction will require a full excavation of the proposed building footprint of approximately thirty five (35) feet bgs to accommodate two (2) cellar levels. It is anticipated that this excavation activity will remove any residual soil contamination encountered.

Layout of the proposed site development is presented in Figure 3. The current zoning designation is M1-5B. The project Site is located in Manhattan Community District 2, within the SoHo-Cast Iron Historic District Extension and an M1-5B zoning district. The proposed use is

consistent with existing zoning for the property. To facilitate the proposed project, two special permits are required, under Zoning Resolution (ZR) Sections 74-712 and 74-922.

Summary of the Remedy

The proposed remedial action achieves all of the remedial action goals established for the project. The proposed remedial action is effective in both the short-term and long-term and reduces mobility, toxicity and volume of contaminants and uses standard methods that are well established in the industry.

The proposed remedial action will consist of the oversight of the closure and removal of the retail gasoline service station facility by the responsible parties.

The proposed remedial action will consist of the following:

1. Preparation of a Community Protection Statement and performance of all required NYC VCP Citizen Participation activities according to an approved Citizen Participation Plan.
2. Performance of a Community Air Monitoring Program for particulates and volatile organic carbon compounds.
3. Establish Track 1 Unrestricted Use Soil Cleanup Objectives (SCOs).
4. Site mobilization involving Site security setup, equipment mobilization, utility mark outs and permitting marking & staking excavation areas with MTA.
5. Closure of gasoline station and removal of tanks and associated pipes. The gasoline service station facility will be decommissioned and all UST's will be removed including all associated piping, dispensers, and fill-ports in accordance with the NYSDEC regulations and applicable regulations of the Fire Department of the City of New York. A PBS Facilities Modification form will be furnished to the NYSDEC.
6. Excavation and removal of soil/fill exceeding SCOs. Excavation and removal of soil/fill exceeding Track 1 Unrestricted Use SCOs. Entire property will be excavated to a depth of approximately 35 feet below grade for development purposes. Approximately 18,200 tons of soils will be excavated from this Site.
7. Screening of excavated soil/fill during intrusive work for indications of contamination by visual means, odor, and monitoring with a PID. Appropriate segregation of

excavated media on-Site.

8. Transportation and off-Site disposal of all soil/fill material at permitted facilities in accordance with applicable laws and regulations for handling, transport, and disposal, and this plan. Sampling and analysis of excavated media as required by disposal facilities. Appropriate segregation of excavated media on-Site.
9. Collection and analysis of end-point samples to determine the performance of the remedy with respect to attainment of SCOs.
10. Import of materials to be used for backfill and cover in compliance with this plan and in accordance with applicable laws and regulations.
11. Performance of all activities required for the remedial action, including permitting requirements and pretreatment requirements, in compliance with applicable laws and regulations. Since groundwater is at a depth of 40 feet below ground surface, dewatering is not required.
12. Implementation of storm-water pollution prevention measures in compliance with applicable laws and regulations.
13. Submission of a Remedial Action Report (RAR) that describes the remedial activities, certifies that the remedial requirements have been achieved, defines the Site boundaries, and, if Track 1 SCO's are not achieved, describes all Engineering and Institutional Controls to be implemented at the Site, and lists any changes from this RAWP.

If Track 1 Unrestricted Use SCOs are not achieved, the following elements will constitute Engineering and Institutional Controls:

14. As part of development, installation of a vapor barrier/waterproofing system below the concrete slab underneath the building, as well as behind foundation walls of the proposed building. The vapor barrier will consist of Raven Industries' VaporBlock Plus 20, manufactured by Raven Industries, or its equivalent or superior. VaporBlock Plus 20 is a 20 mil thickness, seven layer co-extruded barrier made from polyethylene and EVOH resins, with minimum permeance of 0.0098 Perms [grains/(ft^2 *hr * in.Hg)]. Additional specifications are provided in Appendix 7.

15. The building architect or structural engineer is fully responsible for the design of barriers to control moisture migration to prevent the growth of mold and mildew. The minimum specifications in this RAP are to provide the additional function of retarding vapor infiltration only, are not intended to control the migration of moisture or growth of mold or mildew.
16. As part of development, construction and maintenance of an engineered composite cover consisting of a minimum six (6) inch thick concrete slab across the footprint of the new building.
17. Submission of an approved Site Management Plan (SMP) in the RAR for long-term management of residual contamination, including plans for maintenance, inspection and reporting at a specified frequency.
18. The property will continue to be registered with an E-Designation at the NYC Buildings Department. Establishment of Engineering Controls and Institutional Controls; a requirement that management of these controls must be in compliance with an approved SMP. Institutional Controls will include prohibition of the following: (1) vegetable gardening and farming; (2) use of groundwater without treatment rendering it safe for the intended use; (3) disturbance of residual contaminated material unless it is conducted in accordance with the SMP; and (4) higher level of land usage without OER-approval.

COMMUNITY PROTECTION STATEMENT

The Office of Environmental Remediation created the New York City Voluntary Cleanup Program (NYC VCP) to provide governmental oversight for the cleanup of contaminated property in NYC. This Remedial Action Work Plan ("cleanup plan") describes the findings of prior environmental studies that show the location of contamination at the Site, and describes the plans to clean up the Site to protect public health and the environment.

This cleanup plan provides a very high level of protection for neighboring communities and also includes many other elements that address common community concerns, such as community air monitoring, odor, dust and noise controls, hours of operation, good housekeeping and cleanliness, truck management and routing, and opportunities for community participation. The purpose of this Community Protection Statement is to explain these community protection measures in non-technical language to simplify community review.

Remedial Investigation and Cleanup Plan. Under the NYC VCP, a thorough cleanup study of this property (called a remedial investigation) has been performed to identify past property usage, t o sample and test soils, groundwater and soil vapor, and identify contaminant sources present on the property. The cleanup plan has been designed to address all contaminant sources that have been identified during the study of this property.

Identification of Sensitive Land Uses. Prior to selecting a cleanup, the neighborhood was evaluated to identify sensitive land uses nearby, such as schools, day care facilities, hospitals and residential areas. The cleanup program was then tailored to address the special conditions of this community.

Qualitative Human Health Exposure Assessment. An important part of the cleanup planning for the Site is the performance of a study to find all of the ways that people might come in contact with contaminants at the Site now or in the future. This study is called a Qualitative Human Health Exposure Assessment (QHHEA). A QHHEA was performed for this project. This assessment has considered all known contamination at the Site and evaluated the potential for people to come in contact with this contamination. All identified public exposures will be addressed under this

cleanup plan.

Health and Safety Plan. This cleanup plan includes a Construction Health and Safety Plan (CHASP) that is designed to protect community residents and on-Site workers. The elements of this plan are in compliance with safety requirements of the United States Occupational Safety and Health Administration (OSHA). This plan includes many protective elements including those discussed below.

Site Safety Coordinator. This project has a designated Site Safety Coordinator to implement the Health and Safety Plan. The Site Safety Coordinator maintains an emergency contact sheet and protocol for management of emergencies. The Site Safety Coordinator is Mr. Richard Levato of Advanced Site Restoration, P.C. Mr. Levato can be reached at (212) 809 1110.

Worker Training. Workers participating in cleanup of contaminated material on this project are required to be trained in a 40-hour hazardous waste operators training course and to take annual refresher training. This pertains only to workers performing specific tasks including removing hazardous material and installing cleanup systems in contaminated areas.

Community Air Monitoring Plan. Community air monitoring will be performed during this cleanup project to ensure that the community is properly protected from contaminants, dust and odors. Air samples will be tested in accordance with a detailed plan called the Community Air Monitoring Plan (CAMP). Results will be regularly reported to the NYC Office of Environmental Remediation. This cleanup plan also has a plan to address any unforeseen problems that might occur during the cleanup (called a 'Contingency Plan').

Odor, Dust and Noise Control. This cleanup plan includes actions for odor and dust control. These actions are designed to prevent off-Site odor and dust nuisances and includes steps to be taken if nuisances are detected. Generally, dust is managed by application of physical covers and by water sprays. Odors are controlled by limiting the area of open excavations, physical covers, spray foams and by a series of other actions (called operational measures). The project is also required to comply with NYC noise control standards. If you observe problems in these areas, please contact the on-Site Project Manager, Richard Levato, who can be reached at (212) 809 1110

or NYC Office of Environmental Remediation Project Manager, Katherine Glass (212) 788-8349.

Quality Assurance. This cleanup plan requires that evidence be provided to illustrate that all cleanup work required under the plan has been completed properly. This evidence will be summarized in the final report, called the Remedial Action Report. This report will be submitted to the NYC Office of Environmental Remediation and will be thoroughly reviewed.

Storm-Water Management. To limit the potential for soil erosion and discharge, this cleanup plan has provisions for storm-water management. The main elements of the storm water management include physical barriers such as tarp covers and erosion fencing, and a program for frequent inspection.

Hours of Operation. The hours for operation of cleanup will comply with the NYC Department of Buildings construction code requirements or according to specific variances issued by that agency. For this cleanup project, the hours of operation are 7:00 a.m to 6:00 p.m Monday through Friday.

Signage. While the cleanup is in progress, a placard will be prominently posted at the main entrance of the property with a laminated project Fact Sheet that states that the project is in the NYC Voluntary Cleanup Program, provides project contact names and numbers, and locations of project documents can be viewed.

Complaint Management. The contractor performing this cleanup is required to address all complaints. If you have any complaints, you can call the facility Project Manager, Richard Levato, who can be reached at (212) 809 1110, the NYC Office of Environmental Remediation Project Manager, Katherine Glass at (212) 788-8348, or call 311 and mention the Site is in the NYC Voluntary Cleanup Program.

Utility Mark-outs. To promote safety during excavation in this cleanup, the contractor is required to first identify all utilities and must perform all excavation and construction work in compliance with NYC Department of Buildings regulations.

Soil and Liquid Disposal. All soil and liquid material removed from the Site as part of the cleanup

will be transported and disposed of in accordance with all applicable City, State and Federal regulations and required permits will be obtained.

Soil Chemical Testing and Screening. All excavations will be supervised by a trained and properly qualified environmental professional. In addition to extensive sampling and chemical testing of soils on the Site, excavated soil will be screened continuously using hand-held instruments, by sight, and by smell to ensure proper material handling and management, and community protection.

Stockpile Management. Soil stockpiles will be kept covered with tarps to prevent dust, odors and erosion. Stockpiles will be frequently inspected. Damaged tarp covers will be promptly replaced. Stockpiles will be protected with silt fences. Hay bales will be used, as needed to protect storm water catch basins and other discharge points.

Trucks and Covers. Loaded trucks leaving the Site will be covered in compliance with applicable laws and regulations to prevent dust and odor. Trucks will be properly recorded in logs and records and placarded in compliance with applicable City, State and Federal laws, including those of the New York State Department of Transportation. If loads contain wet material that can leak, truck liners will be used. All transport of materials will be performed by licensed truckers and in compliance with all laws and regulations.

Imported Material. All fill materials proposed to be brought onto the Site will comply with rules outlined in this cleanup plan and will be inspected and approved by a qualified worker located on-Site. Waste materials will not be brought onto the Site. Trucks entering the Site with imported clean materials will be covered in compliance with applicable laws and regulations.

Equipment Decontamination. All equipment used for cleanup work will be inspected and washed, if needed, before it leaves the Site. Trucks will be cleaned at a truck inspection station on the property before leaving the Site.

Housekeeping. Locations where trucks enter or leave the Site will be inspected every day and cleaned regularly to ensure that they are free of dirt and other materials from the Site.

Truck Routing. Truck routes have been selected to: (a) limit transport through residential areas and past sensitive nearby properties; (b) maximize use of city-mapped truck routes; (c) limit total distance to major highways; (d) promote safety in entry to highways; (e) promote overall safety in trucking; and (f) minimize off-Site line-ups (queuing) of trucks entering the property. Operators of loaded trucks leaving the Site will be instructed not to stop or idle in the local neighborhood.

Final Report. The results of all cleanup work will be fully documented in a final report (called a Remedial Action Report) that will be available for you to review in the public document repositories located at New York Public Library, Mulberry Street Branch, 10 Jersey Street, New York, NY, 10012.

Long-Term Site Management. If long-term protection is required after the cleanup is complete, the property owner will be required to comply with an ongoing Site Management Plan that calls for continued inspection of protective controls, such as Site covers. The Site Management Plan is evaluated and approved by the NYC Office of Environmental Remediation. Requirements that the property owner must comply with are defined in the property's deed. A certification of continued protectiveness of the cleanup will be required from time to time to show that the approved cleanup is still effective.

REMEDIAL ACTION PLAN

1.0 SITE BACKGROUND

This Remedial Action Plan (RAP) and site-specific Construction Health and Safety Plan (CHASP) have been developed for 300 Lafayette Street located at 298, 300, 302-308 Lafayette Street in the SoHo section of Manhattan, New York (the Site). This project has been assigned project number 14CVCP201M by OER. This RAP describes the remediation and/or mitigation activities to be implemented at the Site in coordination with the New York City Office of Environmental Remediation (OER) for the purposes of satisfying the requirements of the Hazardous Materials E-Designation Program and obtaining a Notice To Proceed. An E-Designation for Hazardous Materials is being placed on the Site by the New York City Department of City Planning (DCP) as part of the DCP # P2013M0115, CPC zoning numbers 140093 ZSM, 140095 ZSM, and 140096 ZSM, and (CEQR number 77DCP091M). The site-specific CHASP (Appendix 2) addresses site-specific hazards, identified contaminants of concern and safety requirements associated with remediation and mitigation activities in accordance with ASTM and OSHA guidelines.

1.1 Site Location and Current Usage

The Site is located at 298, 300, 302-308 Lafayette Street at the corner of East Houston Street and Lafayette Street in Manhattan, New York and is identified as Block 510 and Lot(s) 38, 39, and 40 on the New York City Tax Map. Figure 1 is a Site location map. The Site is 13,000-square feet and is bounded by East Houston Street to the north, Lafayette Street to the east, and Crosby Street to the west. Currently, the Lot 40 is used as a gasoline service station and contains underground storage tanks, dispensers, a canopy and a small convenience kiosk. Lots 38 and 39 contain single-story brick buildings; Lot 38 is currently a bar and restaurant and Lot 39 is currently being used as a real estate sales office.

1.2 Proposed Redevelopment Plan

The proposed use of the Site will consist of a new 7-story commercial development at 298 - 308 Lafayette Street (Block 510, Lots 38, 39, and 40) in the SoHo neighborhood of Manhattan.

The proposed project would contain approximately 21,600 gross square feet (gsf) or 32,600 gsf of retail uses and either 49,500 gsf or 38,500 gsf of office uses depending on whether the second floor is occupied by a retail or office use. The proposed development and construction will require a full excavation of the entire site, for the proposed building footprint and approximately thirty five (35) feet bgs to accommodate two (2) cellar levels. It is anticipated that this excavation will not encounter groundwater, and will remove any residual soil contamination encountered during the demo of the BP service station and removal of the associated underground tanks (UST's). The total quantity of soil/fill expected to be excavated for this project is 18,200 tons; of which, approximately 10,400 tons has been identify as native soil.

Layout of the proposed site development is presented in Figure 3. The current zoning designation is M1-5B. The project Site is located in Manhattan Community District 2, within the SoHo-Cast Iron Historic District Extension and an M1-5B zoning district. The proposed use is consistent with existing zoning for the property. To facilitate the proposed project, two special permits are required, under Zoning Resolution (ZR) Sections 74-712 and 74-922.

1.3 Description of Surrounding Property

The Site is bounded by East Houston Street to the north, Lafayette Street to the east, Crosby Street to the west, and by a residential apartment building to the south. New York City subway tunnels run down East Houston Street to the north of the Site. Figure 2 shows the surrounding land usage.

1.4 Environmental Investigation Reports

The following environmental work plans and reports were developed for the Site:

- *Geotechnical Investigation*, February 2011, prepared by Muesser Rutledge Consulting Engineers.
- *Phase I Environmental Site Assessments*, July 2012, prepared by J.C. Broderick & Associates for lots 38, 39, and 40.
- *Remedial Investigation Report*, July 2013, prepared by CEUS Engineer, PC/Advanced Site Restoration, LLC.

The following work has been performed at the site:

1. Conducted a Site inspection to identify AOCs and physical obstructions (i.e. structures, buildings, etc.);
2. Installed 5 soil borings across the entire project Site, and collected 10 soil samples for chemical analysis from the soil borings to evaluate soil quality;
3. Installed 3 groundwater monitoring wells throughout the Site to establish groundwater flow and collected 3 groundwater samples for chemical analysis to evaluate groundwater quality;
4. Installed 3 soil vapor probes around Site perimeter and collected 3soil vapor samples for chemical analysis.

Digital (PDF) copies of the above referenced environmental work plans and reports are included as Appendix 5.

1.5 Summary of Regulatory Correspondence

The following is a summary of pertinent regulatory correspondence related to the Site:

- Letter dated March 13, 2013 from the NYCDEP to Robert Dobruskin, Director of Environmental Assessment and Review Division of NYCDCP, approving the Phase II IWP
- Email, April 5, 2013, from OER to Richard Levato at Advanced Site Remediation (ASR) approving the RIWP
- Email Correspondences between OER, CEUS Engineering and ASR regarding the finalization of the RIR and development of the RAP.

Digital (PDF) copies of the above referenced regulatory correspondence are included as Appendix 6.

1.6 Findings of Environmental Investigation

The prior environmental results indicated that there is limited soil contamination that has not made a significant impact on groundwater. Furthermore, that the gasoline service station and

former industrial operations appear to have had limited impact on subsurface soil and groundwater conditions.

1. Elevation of the property above mean sea level ranges from 39 to 40 feet.
2. Depth to groundwater ranges from 40 to 41 feet below grade at the Site.
3. Groundwater flow is generally from Northwest to Southeast beneath the Site.
4. Depth to bedrock is approximately 109 feet at the Site.
5. The stratigraphy of the site, from the surface down, consists of 15 feet of soil/fill materials underlain by 20 feet of native soil.
6. Soil/fill samples collected during the RI showed volatile organic compounds (VOCs), SVOCs, polychlorinated biphenyls (PCBs) or pesticides were not detected above Unrestricted Use Track 1 or Track 2 Commercial Soil Clean-up Objectives (SCOs). Several metals including arsenic (max. of 21.5 ppm), copper (max. of 305 ppm), chromium (max. of 32.3 ppm), lead (max. of 1650 ppm), magnesium (max. of 7,140 ppm), mercury (max. of 20.3 ppm) and zinc (max. of 3,140 ppm) exceeded Unrestricted Use SCOs. Of these metals arsenic, copper, lead and mercury also exceeded their respective Track 2 Commercial SCO.
7. Groundwater samples collected during the RI showed no only VOCs, 2-Butanone (50 µg/L) exceeded its 6NYCRR Part 375 Class GA Groundwater Quality Standards (GQS) in one well. Several SVOCs (six) exceeded their respective GQS. Only one pesticide, chlordane at a concentration of 0.071 µg/L, exceeded its standard of 0.050 µg/L. One PCB, Aroclor 1254 at 0.43 µg/L, exceeded its standard of 0.09 µg/L. Dissolved metals including aluminum, iron, manganese and sodium exceeded their respective GQS. None of the four metals detected above the Track 2 Restricted Commercial SCOs in soil exceeded the Class GA Groundwater standards in the tests for dissolved metals.
8. Soil vapor samples collected during the RI showed low to moderate concentrations of VOCs typical of gasoline service station operations in soil vapor samples as would be

expected in the vicinity of an operating gasoline service station. Highest concentrations of petroleum-related VOCs included benzene (maximum of 200 µg/m^3), ethanol (maximum of 260 µg/m^3), ethylbenzene (maximum of 195 µg/m^3), xylene (maximum of 699 µg/m^3) and toluene (maximum of 2,390 µg/m^3). These compounds were not detected in soil and groundwater. Chlorinated compounds were detected at low concentrations. Tetrachloroethylene (PCE) was identified in all three soil vapor samples at a maximum concentration of 14 µg/m^3. Trichloroethylene (TCE) was identified in all three soil vapor samples at a maximum concentration of 6.8 µg/m^3. Carbon tetrachloride was detected at a maximum concentration of 0.5 µg/m^3. TCA was not detected in soil vapor. The TCE concentrations are above the monitoring level ranges established within the State DOH soil vapor guidance matrix.

For environmental investigation data, consult reports listed in Section 1.4. Based on an evaluation of the environmental data and information, disposal of significant amounts of hazardous waste is not suspected at this site.

2.0 DESCRIPTION OF REMEDIATION

2.1 Objectives

Based on the results of the RI, the following Remedial Action Objectives (RAOs) have been identified for this Site:

Soil

- Prevent direct contact with contaminated soil.
- Prevent exposure to contaminants volatilizing from contaminated soil.
- Properly close the retail gasoline service station facility.

Groundwater

- Remove contaminant sources that may impact the groundwater.
- Prevent direct exposure to contaminated groundwater.
- Prevent exposure to contaminants volatilizing from contaminated groundwater.

Soil Vapor

- Prevent exposure to contaminants in soil vapor.
- Prevent migration of soil vapor into newly constructed building.

2.2 Remedial Alternatives Analysis

The goal of the remedy selection process under is to select a remedy that is protective of human health and the environment taking into consideration the current, intended and reasonably anticipated future use of the property. The remedy selection process begins by establishing RAOs for media in which chemical constituents were found in exceedance of applicable standards, criteria and guidance values (SCGs). A remedy is then developed based on the following ten criteria:

- Protection of human health and the environment;
- Compliance with SCGs;
- Short-term effectiveness and impacts;
- Long-term effectiveness and permanence;
- Reduction of toxicity, mobility, or volume of contaminated material;
- Implementability;
- Cost effectiveness;
- Community Acceptance;
- Land use; and
- Sustainability.

The following is a detailed description of the alternatives analysis and remedy selection to address impacted media at the Site. As required, a minimum of two remedial alternatives (including a Track 1 scenario) are evaluated, as follows:

Alternative 1 involves:

- Establishment of Unrestricted Use (Track 1) Soil Cleanup Objectives (SCOs).
- Removal of all soil/fill exceeding Track 1 Unrestricted Use SCOs throughout the Site and confirmation that Track 1 Unrestricted Use SCOs has been achieved with post-excavation endpoint sampling. Based on the results of the Remedial Investigation, it is expected that this alternative would require excavation across the entire Site to a depth of approximately to15 feet to removal all historic fill. Excavation for construction of the new building's cellar

level would take place to a depth of approximately 35 feet across the entire Site into native soils. If soil/fill containing analytes at concentrations above Unrestricted Use SCOs is still present at the base of the excavation after removal of all soil required for construction of the new building's cellar level is complete, additional excavation will be performed to ensure complete removal of soil that does not meet Track 1 Unrestricted Use SCOs.

- No Engineering or Institutional Controls are required for a Track 1 cleanup, but a vapor and waterproof barrier would be installed beneath the basement foundation and behind foundation sidewalls of the new building as a part of development to prevent any potential future exposures from off-Site soil vapor.
- Placement of a final cover over the entire Site as part of construction.

Alternative 2 involves

- Establishment of Site-Specific (Track 4) SCOs.
- Removal of all soil/fill exceeding Track 4 Site-Specific SCOs and confirmation that Track 4 Site-Specific SCOs have been achieved with post-excavation endpoint sampling. Remedial Investigations indicated historic fill to depths of 15 feet below grade. Excavation for construction of the new building's sub-cellar level would take place to a depth of approximately 35 feet for the entire Site. Therefore, if soil/fill containing analytes at concentrations above Track 4 Site-Specific SCOs is still present at the base of the excavation after removal of all soil required for construction of the new building is complete, additional excavation will be performed to meet Track 4 Site-Specific SCOs.
- Placement of a final cover over the entire Site to prevent exposure to remaining soil/fill;
- Installation of a soil vapor barrier/waterproofing system beneath the building slab and along foundation side walls to prevent any potential future exposures from off-Site soil vapor;
- Establishment of use restrictions including prohibitions on the use of groundwater from the Site; prohibitions of sensitive Site uses, such as farming or vegetable gardening, to prevent future exposure pathways; and prohibition of a higher level of land use without OER approval;

- Establishment of an approved Site Management Plan (SMP) to ensure long-term management of these Engineering and Institutional Controls including the performance of periodic inspections and certification that the controls are performing as they were intended. SMP will note that the property owner and property owner's successors and assigns must comply with the approved SMP; and
- The property will continue to be registered with an E-Designation at the NYC Buildings Department.

Threshold Criteria

Protection of Public Health and the Environment

This criterion is an evaluation of the remedy's ability to protect public health and the environment, and an assessment of how risks posed through each existing or potential pathway of exposure are eliminated, reduced or controlled through removal, treatment, and implementation of Engineering Controls or Institutional Controls. Protection of public health and the environment must be achieved for all approved remedial actions.

Alternative 1 would be protective of human health and the environment by removing contaminated soil/fill exceeding Track 1 Unrestricted Use SCOs and groundwater protection standards, thus eliminating potential for direct contact with contaminated soil/fill once construction is complete and eliminating the risk of contamination leaching into groundwater.

Alternative 2 would achieve comparable protections of human health and the environment by excavating the historic fill at the Site and by ensuring that remaining soil/fill on-Site meets Track 4 Site-Specific SCOs, as well as by placement of Institutional and Engineering controls, including a composite cover system. The composite cover system would prevent direct contact with any remaining on-Site soil/fill. Implementing Institutional Controls including a Site Management Plan and continued "E" designation of property would ensure that the composite cover system remains intact and protective. Establishment of Track 4 Site-Specific SCOs would minimize the risk of contamination leaching into groundwater.

For both Alternatives, potential exposure to contaminated soils or groundwater during construction would be minimized by implementing a Construction Health and Safety Plan, an approved Soil/Materials Management Plan and Community Air Monitoring Plan (CAMP). Potential contact with contaminated groundwater would be prevented as its use is prohibited by city laws and regulations. Potential future migration of off-Site soil vapors into the new building would be prevented by installing a vapor barrier below the new building's basement slab and continuing the vapor barrier around foundation walls.

Balancing Criteria

Compliance with Standards, Criteria and Guidance (SCGs)

This evaluation criterion assesses the ability of the alternative to achieve applicable standards, criteria and guidance.

Alternative 1 would achieve compliance with the remedial goals, chemical-specific SCGs and RAOs for soil through removal of soil to achieve Track 1 Unrestricted Use SCOs and Groundwater Protection Standards. Compliance with SCGs for soil vapor would also be achieved by installing a vapor barrier/waterproofing system below the new building's basement slab and continuing the vapor barrier around foundation walls, as part of development.

Alternative 2 would achieve compliance with the remedial goals, chemical-specific SCGs and RAOs for soil through removal of soil to meet Track 4 Site-Specific SCOs. Compliance with SCGs for soil vapor would also be achieved by installing a vapor barrier below the new building's basement slab and continuing the vapor barrier around foundation walls. A Site Management Plan would ensure that these controls remained protective for the long term.

Health and safety measures contained in the CHASP and Community Air Monitoring Plan (CAMP) that comply with the applicable SCGs shall be implemented during Site redevelopment under this RAWP. For both Alternatives, focused attention on means and methods employed during the remedial action would ensure that handling and management of contaminated material would be in compliance with applicable SCGs. These measures will protect on-site workers and

the surrounding community from exposure to Site-related contaminants.

Short-term effectiveness and impacts

This evaluation criterion assesses the effects of the alternative during the construction and implementation phase until remedial action objectives are met. Under this criterion, alternatives are evaluated with respect to their effects on public health and the environment during implementation of the remedial action, including protection of the community, environmental impacts, time until remedial response objectives are achieved, and protection of workers during remedial actions.

Both alternatives 1 and 2 have similar short-term effectiveness during their respective implementations, as each requires excavation of historic fill material. Both alternatives would result in short-term dust generation impacts associated with excavation, handling, load out of materials, and truck traffic. Short term impacts could potentially be higher for Alternative 1 if excavation of greater amounts of historical fill material is encountered below the excavation depth of the proposed building. However, focused attention to means and methods during the remedial action during a Track 1 removal action, including community air monitoring and appropriate truck routing, would minimize or negate the overall impact of these activities.

An additional short-term adverse impact and risks to the community associated with both remedial alternatives is increased truck traffic. Approximately 730, 25-ton capacity truck trips would be necessary to transport fill and soil excavated during Site development. Truck traffic will be routed on the most direct course using major thoroughfares where possible and flaggers will be used to protect pedestrians at Site entrances and exits.

Both alternatives would employ appropriate measures to prevent short term impacts, including a Construction Health and Safety Plan, a Community Air Monitoring Plan (CAMP) and a Soil/Materials Management Plan (SMMP), during all on-Site soil disturbance activities and would minimize the release of contaminants into the environment. Both alternatives provide short term effectiveness in protecting the surrounding community by decreasing the risk of contact with on-Site contaminants. Construction workers operating under appropriate management procedures and

a Construction Health and Safety Plan (CHASP) will be protected from on-Site contaminants (personal protective equipment would be worn consistent with the documented risks within the respective work zones).

Long-term effectiveness and permanence

This evaluation criterion addresses the results of a remedial action in terms of its permanence and quantity/nature of waste or residual contamination remaining at the Site after response objectives have been met, such as permanence of the remedial alternative, magnitude of remaining contamination, adequacy of controls including the adequacy and suitability of ECs/ICs that may be used to manage contaminant residuals that remain at the Site and assessment of containment systems and ICs that are designed to eliminate exposures to contaminants, and long-term reliability of Engineering Controls.

Alternative 1 would achieve long-term effectiveness and permanence related to on-Site contamination by permanently removing all impacted soil/fill above Track 1 Unrestricted Use SCOs. Removal of on-Site contaminant sources will prevent future groundwater contamination.

Alternative 2 would provide long-term effectiveness by removing most on-Site contamination and attaining Track 4 Site-Specific SCOs; a composite cover system across the Site, maintaining use restrictions, establishing an SMP to ensure long-term management of Institutional Controls (ICs), Engineering Controls (ECs), and maintaining continued registration as an E-designated property to memorialize these controls for the long term. The SMP would ensure long-term effectiveness of all ECs and ICs by requiring periodic inspection and certification that these controls and restrictions continue to be in place and are functioning as they were intended assuring that protections designed into the remedy will provide continued high level of protection in perpetuity.

Both alternatives would result in removal of soil contamination exceeding the SCOs providing the highest level, most effective and permanent remedy over the long-term with respect to a remedy for contaminated soil, which will eliminate any migration to groundwater. Potential sources of soil vapor and groundwater contamination will also be eliminated as part of the remedy.

Reduction of toxicity, mobility, or volume of contaminated material

This evaluation criterion assesses the remedial alternative's use of remedial technologies that permanently and significantly reduce toxicity, mobility, or volume of contaminants as their principal element. The following is the hierarchy of source removal and control measures that are to be used to remediate a Site, ranked from most preferable to least preferable: removal and/or treatment, containment, elimination of exposure and treatment of source at the point of exposure. It is preferred to use treatment or removal to eliminate contaminants at a Site, reduce the total mass of toxic contaminants, cause irreversible reduction in contaminants mobility, or reduce of total volume of contaminated media.

Alternative 1 would permanently eliminate the toxicity, mobility, and volume of contaminants from on-Site soil by removing all soil in excess of Track 1 - Unrestricted Use SCOs.

Alternative 2 would remove most of the historic fill at the Site, and any remaining on-Site soil beneath the new building will meet Track 4 - Site-Specific SCOs. Alternative 1 would eliminate a greater total mass of contaminants on Site.

The removal of soil to 35 feet for the new development in both scenarios would result in relatively minor differences between these two alternatives.

Implementability

This evaluation criterion addresses the technical and administrative feasibility of implementing an alternative and the availability of various services and materials required during its implementation, including technical feasibility of construction and operation, reliability of the selected technology, ease of undertaking remedial action, monitoring considerations, administrative feasibility (e.g. obtaining permits for remedial activities), and availability of services and materials.

The techniques, materials and equipment to implement both remedial Alternatives 1 and 2 are readily available and have been proven effective in remediating the contaminants associated with the Site. They use standard materials and services that are well established technology. The

reliability of each remedy is also high. There are no special difficulties associated with any of the activities proposed.

Cost effectiveness

This evaluation criterion addresses the cost of alternatives, including capital costs (such as construction costs, equipment costs, and disposal costs, engineering expenses) and site management costs (costs incurred after remedial construction is complete) necessary to ensure the continued effectiveness of a remedial action.

Since historic fill at the Site was found during the RI to only extend to a depth of up to 15 feet below grade, and the new building requires excavation of the entire Site to a depth of 35 ft, the costs associated with both Alternative 1 and Alternative 2 will likely be the comparable. Costs associated with Alternative 1 could potentially be higher than Alternative 2 if soil with analytes above Unrestricted Use SCOs is encountered below the excavation depth required for development. Additional costs would include installation of additional shoring/underpinning, disposal of additional soil, and import of clean soil for backfill. However, long-term costs for Alternative 2 are likely higher than Alternative 1 based on implementation of a Site Management Plan as part of Alternative 2.

The remedial plan creates an approach that combines the remedial action with the redevelopment of the Site, including the construction of the building foundation and subgrade structures. The remedial plan is also cost effective in that it will take into consideration the selection of the closest and most appropriate disposal facilities to reduce transportation and disposal costs during the excavation of historic fill and other soils during the redevelopment of the Site.

Community Acceptance

This evaluation criterion addresses community opinion and support for the remedial action.

Based on the overall goals of the remedial program and initial permitting associated with the proposed site development, no adverse community opinion is anticipated for either alternative. This RAWP will be subject to a public review under the NYC VCP and will provide the

opportunity for detailed public input on the remedial alternatives and the selected remedy. This public comment will be considered by OER prior to approval of this plan. The Citizen Participation Plan for the project is provided in Attachment B. Observations here will be supplemented by public comment received on the RAWP.

Land use

This evaluation criterion addresses the proposed use of the property. This evaluation has considered reasonably anticipated future uses of the Site and takes into account: current use and historical and/or recent development patterns; applicable zoning laws and maps; NYS Department of State's Brownfield Opportunity Areas (BOA) pursuant to section 970-r of the general municipal law; applicable land use plans; proximity to real property currently used for residential use, and to commercial, industrial, agricultural, and/or recreational areas; environmental justice impacts, Federal or State land use designations; population growth patterns and projections; accessibility to existing infrastructure; proximity of the site to important cultural resources and natural resources, potential vulnerability of groundwater to contamination that might emanate from the site, proximity to flood plains, geography and geology; and current Institutional Controls applicable to the site.

The proposed redevelopment of the Site is compatible with its current zoning and is consistent with recent development patterns. Following remediation, the Site will meet either Track 1 Unrestricted Use or Track 4 Site-Specific SCOs, both of which are appropriate for its planned residential use. Improvements in the current environmental condition of the property achieved by both alternatives are also consistent with the City's goals for cleanup of contaminated land and bringing such properties into productive reuse. Both alternatives are equally protective of natural resources and cultural resources.

Sustainability of the Remedial Action

This criterion evaluates the overall sustainability of the remedial action alternatives and the degree to which sustainable means are employed to implement the remedial action including those that take into consideration NYC's sustainability goals defined in *PlaNYC: A Greener, Greater New York*. Sustainability goals may include: maximizing the recycling and reuse of non-virgin materials; reducing the consumption of virgin and non-renewable resources; minimizing energy

consumption and greenhouse gas emissions; improving energy efficiency; and promotion of the use of native vegetation and enhancing biodiversity during landscaping associated with Site development.

While Alternative 2 would potentially result in lower energy usage based on reducing the volume of material transported off-Site, both remedial alternatives are comparable with respect to the opportunity to achieve sustainable remedial action. The remedial plan would take into consideration the shortest trucking routes during off-Site disposal of historic fill and other soils, which would reduce greenhouse gas emissions and conserve energy used to fuel trucks. New York City Clean Soil Bank program may be utilized for reuse of native soils. To the extent practicable, energy efficient building materials, appliances, and equipment will be utilized to complete the development. A complete list of green remedial activities considered as part of the NYC VCP is included in the Sustainability Statement, included as Appendix C.

3.0 REMEDIAL ACTION

3.1 Summary of Remedial Action

The preferred remedial action alternative is the Track 1 Alternative. The preferred remedial action alternative achieves protection of public health and the environment for the intended use of the property. The preferred remedial action alternative will achieve all of the remedial action objectives established for the project and addresses applicable SCGs. The preferred remedial action alternative is effective in both the short-term and long-term and reduces mobility, toxicity and volume of contaminants. The preferred remedial action alternative is cost effective and implementable and uses standards methods that are well established in the industry.

The proposed remedial action will consist of the following:

1. Preparation of a Community Protection Statement and performance of all required NYC VCP Citizen Participation activities according to an approved Citizen Participation Plan.
2. Performance of a Community Air Monitoring Program for particulates and volatile

organic carbon compounds.

3. Establish Track 1 Unrestricted Use Soil Cleanup Objectives (SCOs).
4. Site mobilization involving Site security setup, equipment mobilization, utility mark outs and permitting marking & staking excavation areas with MTA.
5. Closure of gasoline station and removal of tanks and associated pipes. The gasoline service station facility will be decommissioned and all UST's will be removed including all associated piping, dispensers, and fill-ports in accordance with the NYSDEC regulations and applicable regulations of the Fire Department of the City of New York. A PBS Facilities Modification form will be furnished to the NYSDEC.
6. Excavation and removal of soil/fill exceeding SCOs. Excavation and removal of soil/fill exceeding Track 1 Unrestricted Use SCOs. Entire property will be excavated to a depth of approximately 35 feet below grade for development purposes. Approximately 18,200 tons of soils will be excavated from this Site.
7. Screening of excavated soil/fill during intrusive work for indications of contamination by visual means, odor, and monitoring with a PID. Appropriate segregation of excavated media on-Site.
8. Transportation and off-Site disposal of all soil/fill material at permitted facilities in accordance with applicable laws and regulations for handling, transport, and disposal, and this plan. Sampling and analysis of excavated media as required by disposal facilities. Appropriate segregation of excavated media on-Site.
9. Collection and analysis of end-point samples to determine the performance of the remedy with respect to attainment of SCOs.
10. Import of materials to be used for backfill and cover in compliance with this plan and in accordance with applicable laws and regulations.
11. Performance of all activities required for the remedial action, including permitting requirements and pretreatment requirements, in compliance with applicable laws and regulations. Since groundwater is at a depth of 40 feet below ground surface, dewatering is not required.
12. Implementation of storm-water pollution prevention measures in compliance with applicable laws and regulations.
13. Submission of a Remedial Action Report (RAR) that describes the remedial activities,

certifies that the remedial requirements have been achieved, defines the Site boundaries, and, if Track 1 SCO's are not achieved, describes all Engineering and Institutional Controls to be implemented at the Site, and lists any changes from this RAWP.

If Track 1 Unrestricted Use SCOs are not achieved, the following elements will constitute Engineering and Institutional Controls:

19. As part of development, installation of a vapor barrier/waterproofing system below the concrete slab underneath the building, as well as behind foundation walls of the proposed building. The vapor barrier will consist of Raven Industries' VaporBlock Plus 20, manufactured by Raven Industries, or its equivalent or superior. VaporBlock Plus 20 is a 20 mil thickness, seven layer co-extruded barrier made from polyethylene and EVOH resins, with minimum permeance of 0.0098 Perms [grains/(ft^2 *hr * in.Hg)]. Additional specifications are provided in Appendix 7.As part of development, construction and maintenance of an engineered composite cover consisting of a minimum six (6) inch concrete slab across the footprint of the new building.
20. Submission of an approved Site Management Plan (SMP) in the RAR for long-term management of residual contamination, including plans for maintenance, inspection and reporting at a specified frequency.

    The property will continue to be registered with an E-Designation at the NYC Buildings Department. Establishment of Engineering Controls and Institutional Controls; a requirement that management of these controls must be in compliance with an approved SMP. Institutional Controls will include prohibition of the following: (1) vegetable gardening and farming; (2) use of groundwater without treatment rendering it safe for the intended use; (3) disturbance of residual contaminated material unless it is conducted in accordance with the SMP; and (4) higher level of land usage without OER-approval.

3.2 Soil Cleanup Objectives and Soil/Fill Management

Track 1 Soil Cleanup Objectives (SCOs) are proposed for this project. The SCOs for this Site are

listed in Table 1. If Track 1 is not achieved, the following Track 4 Site-Specific SCOs will be used:

Contaminant	Track 4 SCOs
Total SVOCs	250 ppm
Lead	1,000 ppm
Mercury	3.0 ppm

Soil and materials management on-Site and off-Site, including excavation, handling and disposal, will be conducted in accordance with the Soil/Materials Management Plan in Appendix 1. The location of planned excavations is shown in Figure 4.

Soil and fill management at the Site will include impacted soil removal and disposal within the development cut. Excavation areas are shown on Figure 5. No over-excavation beyond the development cut is anticipated. If any hot-spot areas are identified during development and remediation at the site, they will be removed to the extent practical. This information will be provided in the Remedial Action Report.

Estimated Soil/Fill Removal Quantities

The total quantity of soil/fill expected to be excavated and disposed off-Site is 18,200 tons; of this, approximately 10,400 tons is native soil. The proposed disposal locations for additional disposal locations established at a later date will be reported promptly to the OER Project Manager.

End-Point Sampling

The gasoline service station facility will be required to be properly closed and decommissioned, and all UST's removed including all associated piping, dispensers, and fill-ports in accordance with the NYSDEC regulations and applicable regulations of the Fire Department of the City of New York. A PBS Facilities Modification form will be furnished to the NYSDEC. Any contaminated soil/fill with stains, odors and/or impacted with petroleum that is encountered during decommissioning of the service station will be managed and disposed of in accordance with the applicable NYSDEC regulations prior to the start of redevelopment.

Excavation actions under this plan will be performed in conjunction with remedial end-point sampling. Post-excavation end-point sampling and testing will be performed promptly following materials removal and completed prior to Site development activities. End-point sampling frequency will consist of the following:

End point samples will be obtained for the excavations related to the closure of the gasoline service station facility, and observed by representatives of Paco. As required by NYSDEC Spill Prevention Operations Technology Series (SPOTS) Memo #14 - Site Assessments at Bulk Storage Facilities and NYSDEC Spill Technology and Remediation Series (STARS) Memo #1 - Petroleum-Contaminated Soil Guidance Policy. Five (5) soil samples will be collected (East Wall, West Wall, North Wall, South Wall, and any length more than thirty feet) and sent to the laboratory for analysis. A sample will be collected at the midpoint of each sidewall with a depth of 35 feet below ground surface (bgs). Three (3) bottom samples will be collected at the base of the excavation, at a depth of 30 feet bgs. All the end point soil samples collected will be field screened with the PID.

Post-remediation sample locations and depth will be biased towards the areas and depths of highest contamination identified during previous sampling episodes, unless field indicators such as field instrument measurements or visual contamination identified during the remedial action indicate that other locations and depths may be more heavily contaminated. In all cases, post-remediation samples should be biased toward locations and depths of the highest expected contamination.

New York State Department of Health ELAP certified labs will be used for all end-point sample analyses. Laboratory results for end-point sample analyses will be reported in the RCR. The RCR will provide a tabular and map summary of all end-point sample results. End-point samples will be analyzed for trigger analytes (those for which SCO exceedence are identified) utilizing the following methodology:

Soil analytical methods for Full List will include:

- Volatile organic compounds by EPA Method 8260;
- Semi-volatile organic compounds by EPA Method 8270;

If either LNAPL and/or DNAPL are detected, appropriate samples will be collected for characterization and "finger print analysis" and required regulatory reporting (i.e. spills hotline) will be performed.

Removal actions under this plan will be performed in conjunction with remedial end-point sampling. To evaluate attainment of Track 1 - Unrestricted Use SCOs, five additional samples will be collected (throughout the site) and analyzed for SVOCs and TAL Metals that exceeded Track 1 SCOs. The approximate collection location of the five endpoint soil samples is shown on Figure 5. The end-point sampling and testing will be performed promptly following excavation and be completed prior to any site development activities.

If additional hotspots are encountered during excavation, hotspot removal end-point sampling frequency will consist of the following:

1. For excavations less than 20 feet in total perimeter, at least one bottom sample and one sidewall sample biased in the direction of surface runoff.
2. For excavations 20 to 300 feet in perimeter:
    - For surface removals, one sample from the top of each sidewall for every 30 linear feet of sidewall and one sample from the excavation bottom for every 900 square feet of bottom area.
    - For subsurface removals, one sample from each sidewall for every 30 linear feet of sidewall and one sample from the excavation bottom for every 900 square feet of bottom area.
3. For sampling of volatile organics, bottom samples should be taken within 24 hours of excavation, and should be taken from the zero to six-inch interval at the excavation floor. Samples taken after 24 hours should be taken at six to twelve inches.
4. For contaminated soil removal, post remediation soil samples for laboratory analysis should be taken immediately after contaminated soil removal. If the excavation is enlarged horizontally, additional soil samples will be taken pursuant to bullets 1-3 above.

Post-remediation sample locations and depth will be biased towards the areas and depths of highest contamination identified during previous sampling episodes unless field indicators such as field instrument measurements or visual contamination identified during the remedial action indicate

that other locations and depths may be more heavily contaminated. In all cases, post-remediation samples should be biased toward locations and depths of the highest expected contamination.

New York State ELAP certified labs will be used for all end-point sample analyses. Labs for end-point sample analyses will be reported in the RAR. The RAR will provide a tabular and map summary of all end-point sample results and will include all data including non-detects and applicable standards and/or guidance values. End-point samples will be analyzed for trigger analytes (those for which SCO exceedance is identified) utilizing the following methodology:

Soil analytical methods will include:

- Volatile organic compounds by EPA Method 8260;
- Semi-volatile organic compounds by EPA Method 8270;
- Target Analyte List metals; and
- Pesticides/PCBs by EPA Method 8081/8082.

If either LNAPL and/or DNAPL are detected, appropriate samples will be collected for characterization and required regulatory reporting (i.e. spills hotline) will be performed.

3.3 Quality Assurance/Quality Control

The fundamental QA objective with respect to accuracy, precision, and sensitivity of analysis for laboratory analytical data is to achieve the QC acceptance of the analytical protocol. The accuracy, precision and completeness requirements will be addressed by the laboratory for all data generated.

For the removal of the gasoline service station facility and any related contaminated soil encountered, Paco will require QA/QC procedures in accordance with NYSDEC Spill Prevention Operations Technology Series (SPOTS) Memo #14 - Site Assessments at Bulk Storage Facilities and NYSDEC Spill Technology and Remediation Series (STARS) Memo #1 - Petroleum-Contaminated Soil Guidance Policy.

In addition to NYSDEC requirements, (for satisfaction of E-designation), one duplicate sample for every 20 samples collected will be submitted to the approved laboratory for analysis of the same parameters. One trip blank will be submitted to the laboratory with each shipment of soil samples.

Collected samples will be appropriately packaged, placed in coolers and shipped via overnight courier or delivered directly to the analytical laboratory by field personnel. Samples will be containerized in appropriate laboratory provided glassware and shipped in plastic coolers. Samples will be preserved through the use of ice or "cold-paks" to maintain a temperature of 4^{o}C.

Dedicated disposable sampling materials will be used for the collection endpoint samples, eliminating the need to prepare field equipment (rinsate) blanks. However, if non-disposable equipment is used, (stainless steel scoop, etc.) field rinsate blanks will be prepared at the rate of 1 for every eight samples collected. Decontamination of non-dedicated sampling equipment will consist of the following:

- Gently tap or scrape to remove adhered soil
- Rinse with tap water
- Wash with alconox® detergent solution and scrub
- Rinse with tap water
- Rinse with distilled or deionized water

Prepare field blanks by pouring distilled or deionized water over decontaminated equipment and collecting the water in laboratory provided containers. Trip blanks will be used whenever samples are transported to the laboratory for analysis of VOCs. Trip blanks will not be used for samples to be analyzed for metals, SVOCs or pesticides. One blind duplicate sample will be prepared and submitted for analysis every 20 samples.

Sample collection QA/QC

Sample collection and handling will also conform to appropriate sample custody procedures. The custody procedures include - sample identification, chain-of-custody forms, packaging and shipping procedures. Sample labels will be supplied by the laboratory along with proper jars and

containers to ensure proper sample identification. Coolers and ice packs will be used for preservation purposes.

All samples collected will be appropriately identified; the following information will be entered into the chain-of-custody form:

- Site name and address;
- Sampler(s)' name(s) and signature(s);
- Names and signatures of persons involved in the chain of possession of samples;
- Sample number;
- Number of containers;
- Sample location;
- Date and time of collection;
- Type of sample, sample matrix and analyses requested;

The sampler collector will sign and date the "Relinquished" section of the chain of custody and remove one copy of the custody form before sealing the remaining copies of the form in a Ziploc plastic bag and place inside the sample cooler. The sample cooler will be sealed with tape prior to laboratory pick-up. The samples will be picked up and analyzed by an ELAP-certified laboratory.

3.4 Import and Reuse of Soils

Import of soils onto the property and reuse of soils already onsite will be performed in conformance with the Soil/Materials Management Plan in Appendix 1.

No imported soil is required for this project. Should this change, all imported soil will be uncontaminated, clean soil that meets the lesser of the appropriate NYSDEC 6 NYCRR Part 375-6.8(a) Unrestricted Use SCOs and the NYSDEC 6 NYCRR Part 375-6.8 groundwater protection SCOs.

3.5 Engineering Controls

The excavation required for the proposed Site development will achieve Track 1 Unrestricted Use SCOs. No Engineering Controls are required to address residual contamination at the Site. However, the following elements will be incorporated into the foundation design as part of the development: composite cover system and soil vapor barrier. If Track 1 is not achieved, these two

elements will constitute Engineering Controls that will be employed in the remedial action to address residual contamination remaining at the Site.

3.6 Composite Cover System

As part of new development, the entire property will be covered by an engineered permanent cover system. This cover system will be comprised of a minimum six (6) inch thick concrete-building slab beneath the area of the proposed building.

If Track 1 SCO's are not achieved at the Site, the composite cover system will be a permanent engineering control. The system will be inspected and reported at specified intervals as required by this RAWP and the SMP. A Soil Management Plan will be included in the Site Management Plan and will outline the procedures to be followed in the event that the composite cover system and underlying residual soil/fill is disturbed after the remedial action is complete. Maintenance of this composite cover system will be described in the Site Management Plan in the RAR.

Under Alternative 2, the composite cover system would serve as a permanent engineering control for the Site. The system will be inspected and reported at specified intervals as required by this RAWP and the SMP. A Soil Management Plan will be included in the Site Management Plan and will outline the procedures to be followed in the event that the composite cover system and underlying residual soil/fill is disturbed after the remedial action is complete. Maintenance of this composite cover system will be described in the Site Management Plan in the RAR.

The purpose and function of the engineering control is to provide an under slab vapor retarder to protect against any vapors that might remain after the excavation or vapors migrating from off-Site sources. The protection against vapor intrusion aspects of the system are to be in addition to and to work in concert with the system for moisture protection designed by the architect or structural engineer. This engineering control is not a replacement for the moisture protection system specified by the architect or structural engineer.

3.7 Waterproofing/Vapor Barrier

As part of development, mitigation of potential soil vapor from offsite in the future will be achieved with a combination of building slab and waterproofing/vapor barrier system. This system will consist of Raven Industries' VaporBlock Plus 20, manufactured by Raven Industries, or its equivalent or superior. VaporBlock Plus 20 is a 20 mil thickness, seven layer co-extruded barrier made from polyethylene and EVOH resins, with minimum permeance of 0.0098 Perms [grains/(ft^2 *hr * in.Hg)]. Additional specifications are provided in Appendix 7.The vapor barrier will be installed prior to pouring the building's concrete slab. The vapor barrier will extend throughout the area occupied by the footprint of the new building and up the foundation sidewalls in accordance with manufacturer specifications. The specifications for installation will be provided to the construction management company and the foundation contractor or installer of the liner. The specifications state that all vapor barrier seams, penetrations, and repairs will be sealed either by the tape method or weld method, according to the manufacturer's recommendations and instructions.

The project's Professional Engineer licensed by the State of New York will have primary direct responsibility for overseeing the implementation of the waterproofing/vapor barrier system. The extent of the proposed vapor barrier membrane is provided in Figure 8. Installation details (penetrations, joints, etc.) with respect to the proposed building foundation, footings, slab, and sidewalls are provided in Figure 8. Product specification sheets are provided in Attachment E. The Remedial Action Report will include photographs (maximum of two photos per page) of the installation process, PE/RA certified letter (on company letterhead) from primary contractor responsible for installation oversight and field inspections, and a copy of the manufacturers certificate of warranty.

The building architect or structural engineer is fully responsible for the design of barriers to control moisture migration to prevent the growth of mold and mildew. The minimum specifications in this RAP are to provide the additional function of retarding vapor infiltration only, are not intended to control the migration of moisture or growth of mold or mildew.

The Vapor Barrier is intended to have a permeance of 0.0098 Perms [grains/(ft^2 *hr * in.Hg)] or less per ASTM E 96, and a minimum of 20 mils thickness. Specifications for this material and its placement are in Appendix 7.

3.8 Institutional Controls

Institutional Controls are not required on sites that achieve Track 1 Remedial Action. If Track 1 SCOs are not achieved, Institutional Controls (IC) will be utilized in this remedial action to manage residual soil/fill and other media and render the Site protective of public health and the environment. Institutional Controls are listed below. Long-term employment of EC/ICs will be implemented under a site-specific Site Management Plan (SMP) that will be included in the RAR.

Institutional Controls for this remedial action are:

- Continued registration of the E-Designation for the property. This RAWP includes a description of all EC's and IC's and summarizes the requirements of the Site Management Plan which will note that the property owner and property owner's successors and assigns must comply with the approved SMP;
- Site Management Plan approved by OER that provides procedures for appropriate operation, maintenance, inspection and certification of EC's and IC's. SMP will require that the property owner and property owner's successors and assigns will submit to OER a periodic written statement that certifies that: (1) controls employed at the Site are unchanged from the previous certification or that any changes to the controls were approved by OER; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. OER retains the right to enter the Site in order to evaluate the continued maintenance of any controls. This certification shall be submitted at a frequency to be determine by OER in the SMP and will comply with RCNY §43-1407(l)(3).
- Vegetable gardens and farming on the Site are prohibited;
- Use of groundwater underlying the Site is prohibited without treatment rendering it safe for its intended use;
- All future activities on the Site that will disturb residual material must be conducted pursuant to the soil management provisions in an approved SMP;

The Site will be used for residential use and will not be used for a higher level of use without prior approval by OER.

3.9 Site Management Plan

Site Management is not required on sites that achieve Track 1 Remedial Action. However, if Track 1 Unrestricted Use SCOs are not achieved, site management will be performed and will be the last phase of remediation and begins with the approval of the Remedial Action Report and issuance of the Notice of Completion (NOC) for the Remedial Action. The SMP describes appropriate methods and procedures to ensure implementation of all ECs and ICs that are required by this RAWP. The Site Management Plan is submitted as part of the RAR but will be written in a manner that allows its use as an independent document. Site Management continues until terminated in writing by OER. The property owner is responsible to ensure that all site management responsibilities defined in the SMP are implemented.

The SMP will provide a detailed description of the procedures required to manage residual soil/fill left in place following completion of the remedial action in accordance with the Voluntary Cleanup Agreement with OER. This includes a plan for: (1) implementation of EC's and IC's; (2) implementation of monitoring programs; (3) operation and maintenance of EC's; (4) inspection and certification of EC's; and (5) reporting.

Site management activities, reporting, and EC/IC certification will be scheduled on a periodic basis to be established in the SMP and will be subject to review and modification by OER. The Site Management Plan will be based on a calendar year and certification reports will be due for submission to OER by July 30 of the year following the reporting period.

3.10 Qualitative Human Health Exposure Assessment

The objective of the qualitative exposure assessment is to identify potential receptors and pathways to the contaminants of concern (COC) that are present at, or migrating from, the Site. The identification of exposure pathways describes the route that the COC takes to travel from the source to the receptor. An identified pathway indicates that the potential for exposure exists; it does not imply that exposures actually occur.

Investigations reported in the Remedial Investigation Report (RIR) are sufficient to complete a Qualitative Human Health Exposure Assessment (QHHEA). As part of the VCP process, a

QHHEA was performed to determine whether the Site poses an existing or future health hazard to the Site's exposed or potentially exposed population. The sampling data from the RI were evaluated to determine whether there is any health risk by characterizing the exposure setting, identifying exposure pathways, and evaluating contaminant fate and transport. This EA was prepared in accordance with Appendix 3B and Section 3.3 (b) 8 of the NYSDEC Draft DER-10 Technical Guidance for Site Investigation and Remediation.

Known and Potential Sources

Historic fill material is present at the Site from grade to approximately 2 feet below grade. Based on the results of the Remedial Investigation Report, the contaminants of concern found are:

Soil

- Metals, including arsenic, copper, lead and mercury exceeding Track 2 Restricted Residential SCOs. Arsenic, lead and mercury also exceeded Restricted Commercial SCOs;
- SVOCs (PAH compounds) were identified but none exceeded Restricted Commercial SCOs.

Groundwater

- One VOCs, 2-Butanone exceeded GQS;
- Several SVOCs exceeded their respective GQS;
- One pesticide, chlordane was detected at concentration above GQS;
- One PCB, Aroclor 1254 exceeded its GQS;
- Metals including aluminum, iron, manganese and sodium exceeding GQS;

Soil vapor

- Chlorinated VOCs were well below NYS DOH monitoring thresholds; and
- Petroleum VOCs detected at moderate concentrations including benzene, toluene, ethyl-benzene and xylenes.

Nature, Extent, Fate and Transport of Contaminants

SVOCs and metals are present in the historic fill materials throughout the Site. Pesticides were detected in one shallow sample. SVOC were also detected in groundwater. Dissolved metals

including iron, magnesium, manganese, and sodium were detected above GQS. The chlorinated VOCs in soil vapor were not detected or were well below guidance issued by New York State DOH and were not found in any of the on-Site soil or groundwater samples collected.

Receptor Populations

On-Site Receptors – The Site is currently occupied by an operating gasoline service station, a bar and a office. Onsite receptors are limited to customers and site representatives/workers. During redevelopment of the Site, the on-Site potential receptors will include construction workers, site representatives, and visitors. Once the Site is redeveloped, the on-Site potential sensitive receptors will include retail customers and retail/office workers and visitors.

Off-Site Receptors - Potential off-Site receptors within a 0.25-mile radius of the Site include: adult and child residents, and commercial and construction workers, pedestrians, trespassers, and cyclists, based on the following:

1. Commercial Businesses (up to 0.25 mile) – existing and future
2. Residential Buildings (up to 0.25 mile) – existing and future
3. Building Construction/Renovation (up to 0.25 mile) – existing and future
4. Pedestrians, Trespassers, Cyclists (up to .25 mile) – existing and future
5. Schools (up to .25 mile) – existing and future

Potential Routes of Exposure

The five elements of an exposure pathway are: (1) a contaminant source; (2) contaminant release and transport mechanisms; (3) a point of exposure; (4) a route of exposure; and (5) a receptor population. An exposure pathway is considered complete when all five elements of an exposure pathway are documented. A potential exposure pathway exists when any one or more of the five elements comprising an exposure pathway cannot be documented. An exposure pathway may be eliminated from further evaluation when any one of the five elements comprising an exposure pathway has not existed in the past, does not exist in the present, and will never exist in the future. Three potential primary routes exist by which chemicals can enter the body:

- Ingestion of water, fill, or soil;
- Inhalation of vapors and particulates; and

- Dermal contact with water, fill, soil, or building materials

Existence of Human Health Exposure

Current Conditions: The entire property is capped and potential for exposure to surficial historic fill does not exist under current conditions. Groundwater at 40 feet depth is marginally contaminated but is not exposed at the Site, and because the Site is served by the public water supply and groundwater use for potable supply is prohibited, groundwater is not used at the Site and there is no potential for exposure. As the site has structures (retail and office), accumulation of soil vapor can pose an exposure threat.

Construction/ Remediation Activities: Once redevelopment activities begin, construction workers will come into direct contact with surface and subsurface soils and groundwater (possible), as a result of on-Site construction and excavation activities. On-Site construction workers potentially could ingest, inhale or have dermal contact with any exposed impacted soil, and fill. Similarly, off-Site receptors could be exposed to dust and vapors from on-Site activities. During construction, on-Site and off-Site exposures to contaminated dust from on-Site will be addressed through the Soil/Materials Management Plan, dust controls, and through the implementation of the Community Air-Monitoring Program and a Construction Health and Safety Plan.

Proposed Future Conditions: Under future remediated conditions, all soils in excess of Track 1 SCOs will be removed. The Site will be fully capped, limiting potential direct exposure to soil and groundwater remaining in place, and a waterproofing/vapor barrier system will prevent any exposure to potential off site soil vapors in the future. The Site is served by a public water supply, and groundwater is not used at the Site for potable supply. There are no plausible off-Site pathways for ingestion, inhalation, or dermal exposure to contaminants derived from the Site under future conditions.

Overall Human Health Exposure Assessment

There are no potential complete exposure pathways for the current site condition. There is a potential complete exposure pathway that requires mitigation during implementation of the remedy. There is no complete exposure pathway under future conditions after the site is

developed. This assessment takes into consideration the reasonably anticipated use of the site, which includes a residential structure, site-wide impervious surface cover cap, and a subsurface waterproofing/vapor barrier system for the building. Potential post-construction use of groundwater is not considered an option because groundwater in this area of New York City is not used as a potable water source. There are no surface waters in close proximity to the Site that could be impacted or threatened.

Based upon this analysis, complete on-Site exposure pathways appear to be present only during the remedial action phase. During remedial construction, on-Site and off-Site exposures to contaminated dust from historic fill material will be addressed through dust controls, and through the implementation of the Community Air Monitoring Program, the Soil/Materials Management Plan, and a Construction Health and Safety Plan. After the remedial action is complete, there will be no remaining exposure pathways to on-Site soil/fill, as all soil above Unrestricted Use SCOs will have been removed and a vapor barrier system will have been installed as part of development.

4.0 REMEDIAL ACTION MANAGEMENT

4.1 Project Organization and Oversight

The Professional Engineer responsible for preparation of this RAP and oversight of its implementation is John A. Rhodes, P.E, CEUS Engineering, P.C. Site work related to remediation will managed by Richard Levato, Advanced Site Restoration, LLC. This constitutes the team responsible for the remediation aspects of this development construction.

Please note that this remediation will be conducted in the context of a major construction project and all remediation activities must be coordinated with the construction operation.

4.2 Site Security

Site access will be controlled by the Site development Constructor and development Construction Manager in accordance with New York City regulations.

4.3 Work Hours

The hours for operation of remedial construction will be established by the Site development constructor. These hours conform to the New York City Department of Buildings construction code requirements.

4.4 Construction Health and Safety Plan

The site-specific Construction Health and Safety Plan (CHASP) are included in Appendix 2. The Site Safety Coordinator will be Richard Levato. Remedial work performed under this RAP will be in full compliance with applicable health and safety laws and regulations, including Site and OSHA worker safety requirements and HAZWOPER requirements. Confined space entry, if any, will comply with OSHA requirements and industry standards and will address potential risks. The parties performing the remedial construction work will ensure that performance of work is in compliance with the CHASP and applicable laws and regulations. The CHASP pertains to remedial and invasive work performed at the Site until the issuance of the Notice Of Satisfaction.

All field personnel involved in remedial activities will participate in training required under 29 CFR 1910.120, including 40-hour hazardous waste operator training and annual 8-hour refresher training. Site Safety Officer will be responsible for maintaining workers training records.

Personnel entering any exclusion zone will be trained in the provisions of the CHASP and be required to sign the CHASP acknowledgment. Site-specific training will be provided to field personnel. Additional safety training may be added depending on the tasks performed. Emergency telephone numbers will be posted at the site location before any remedial work begins. A safety meeting will be conducted before each shift begins. Topics to be discussed include task hazards and protective measures (physical, chemical, environmental); emergency procedures; PPE levels and other relevant safety topics. Meetings will be documented in a log book or specific form.

An emergency contact sheet with names and phone numbers is included in the CHASP. That document will define the specific project contacts for use in case of emergency. Please note that this CHASP covers the remediation aspects of the development and will cover all personnel involved in the remediation. It does not replace the health & safety plans or the responsibility of all parties involved in the construction of the Site development; but only modifies those activities where they deal with an aspect of the remediation.

4.5 Community Air Monitoring Plan

Real-time air monitoring for volatile organic compounds (VOCs) and particulate levels at the perimeter of the exclusion zone or work area will be performed. Continuous monitoring will be performed for all ground intrusive activities and during the handling of contaminated or potentially contaminated media. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pit excavation or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be performed during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. Periodic monitoring during sample collection, for instance, will consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. Depending upon the proximity of potentially exposed individuals, continuous monitoring

may be performed during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence. Exceedences of action levels observed during performance of the Community Air Monitoring Plan (CAMP) will be reported to the OER Project Manager and included in the Daily Report.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) will be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis during invasive work. Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background conditions. 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.

- 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 will be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities will 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 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 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 will be shutdown.

All 15-minute readings must be recorded and be available for OER personnel to review. Instantaneous readings, if any, used for decision purposes will also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations will be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring will be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment will be equipped with an audible alarm to indicate exceedence of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques will be employed.
- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work will be stopped and a re-evaluation of activities initiated. Work will 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 be available for OER personnel to review.

4.6 Agency Approvals

All permits or government approvals required for remediation and construction have been or will be obtained prior to the start of remediation and construction. Acceptance of this RAP by OER does not constitute satisfaction of these requirements and will not be a substitute for any required permit.

4.7 Site Preparation

Pre-Construction Meeting

OER will be invited to attend the pre-construction meeting at the Site with all parties involved in the remedial process prior to the start of remedial construction activities.

Mobilization

Mobilization will be conducted as necessary for each phase of work at the Site. Mobilization includes field personnel orientation, equipment mobilization (including securing all sampling equipment needed for the field investigation), marking/staking sampling locations and utility mark-outs. Each field team member will attend an orientation meeting to become familiar with the general operation of the Site, health and safety requirements, and field procedures.

Utility Marker Layouts, Easement Layouts

The responsibility for managing the excavation to avoid impacts to area utilities, including the New York Transit Authority facilities, is the sole responsibility of the project architect and structural engineer, and is not a component of this RAP.

Equipment and Material Staging

Equipment and materials will be stored and staged in a manner that complies with applicable laws and regulations. The location of proposed equipment and material staging areas, truck inspection station, stockpile areas, and other pertinent remedial management features will be established by the Site Architect, Site development Constructor and/or development Construction Manager.

Stabilized Construction Entrance

Steps will be taken by the Site development Constructor and/or development Construction Manager to ensure that trucks departing the site will not track soil, fill or debris off-Site. Such actions may include use of cleaned asphalt or concrete roads or use of stone or other aggregate-based egress paths between the truck inspection station and the property exit. Measures will be taken to ensure that adjacent roadways will be kept clean of project related soils, fill, and debris.

This RAP will enable coordination with and upgrading of the developments stabilization of the construction entrance as might be required for the transport of contaminated soil.

Truck Inspection Station

An outbound-truck inspection station will be set up close to the Site exit. Before exiting the Site, trucks will be required to stop at the truck inspection station and will be examined for evidence of contaminated soil on the undercarriage, body, and wheels. Soil and debris will be removed. Brooms, shovels and potable water will be utilized for the removal of soil from vehicles and equipment, as necessary. The Site development Constructor and/or development Construction Manager will be required to assist in this process for contaminated soil loads.

Extreme Storm Preparedness and Response Contingency Plan

Damage from flooding or storm surge can include dislocation of soil and stockpiled materials, dislocation of site structures and construction materials and equipment, and dislocation of support of excavation structures. Damage from wind during an extreme storm event can create unsafe or unstable structures, damage safety structures and cause downed power lines creating dangerous site conditions and loss of power. In the event of emergency conditions caused by an extreme storm event, Paco Lafayette, LLC will undertake the following steps for site preparedness prior to the event and response after the event.

Storm Preparedness

Preparations in advance of an extreme storm event will include the following: containerized hazardous materials and fuels will be removed from the property; lose materials will be secured to prevent dislocation and blowing by wind or water; heavy equipment such as excavators and generators will be removed from holes, trenches and depressions on the property to high ground or removed from the property; an inventory of the property with photographs will be performed to establish conditions for the site and equipment prior to the event; stockpile covers for soil and fill will be secured by adding weights such as sandbags for added security and worn or ripped stockpile covers will be replaced with competent covers; stockpiled hazardous wastes will be removed from the property; stormwater management systems will be inspected and fortified, including, as

necessary: clean and reposition silt fences, haybales; clean storm sewer filters and traps; and secure and protect pumps and hosing.

Storm Response

At the conclusion of an extreme storm event, as soon as it is safe to access the property, a complete inspection of the property will be performed. A site inspection report will be submitted to OER at the completion of site inspection and after the site security is assessed. Site conditions will be compared to the inventory of site conditions and material performed prior to the storm event and significant differences will be noted. Damage from storm conditions that result in acute public safety threats, such as downed power lines or imminent collapse of buildings, structures or equipment will be reported to public safety authorities via appropriate means such as calling 911. Petroleum spills will be reported to NYS DEC within 2 hours of identification and consistent with State regulations. Emergency and spill conditions will also be reported to OER. Public safety structures, such as construction security fences will be repaired promptly to eliminate public safety threats. Debris will be collected and removed. Dewatering will be performed in compliance with existing laws and regulations and consistent with emergency notifications, if any, from proper authorities. Eroded areas of soil including unsafe slopes will be stabilized and fortified. Dislocated materials will be collected and appropriately managed. Support of excavation structure will be inspected and fortified as necessary. Impacted stockpiles will be contained and damaged stockpile covers will be replaced. Storm-water control systems and structures will be inspected and maintained as necessary. If soil or fill materials are discharged off site to adjacent properties, property owners and OER will be notified and corrective measure plan designed to remove and clean dislocated material will be submitted to OER and implemented following approval by OER and granting of site access by the property owner. Impacted offsite areas may require characterization based on site conditions, at the discretion of OER. If onsite petroleum spills are identified, a qualified environmental professional will determine the nature and extent of the spill and report to NYS DEC's spill hotline at DEC 800-457-7362. If the source of the spill is ongoing and can be identified, it should be stopped it this can be done safely. Potential hazards will be addressed immediately, consistent with guidance issued by NYS DEC.

Storm Response Reporting

A site inspection report will be submitted to OER at the completion of site inspection. An inspection report established by OER is available on OER's website (www.nyc.gov/oer) and will be used for this purpose. Site conditions will be compared to the inventory of site conditions and material performed prior to the storm event and significant differences will be noted. The site inspection report will be sent to the OER project manager and will include the site name, address, tax block and lot, site primary and alternate contact name and phone number. Damage and soil release assessment will include: whether the project had stockpiles; whether stockpiles were damaged; photographs of damage and notice of plan for repair; report of whether soil from the site was dislocated and whether any of the soil left the site; estimates of the volume of soil that left the site, nature of impact, and photographs; description of erosion damage; description of equipment damage; description of damage to the remedial program or the construction program, such as damage to the support of excavation; presence of onsite or offsite exposure pathways caused by the storm; presence of petroleum or other spills and status of spill reporting to NYS DEC; description of corrective actions; schedule for corrective actions. This report should be completed and submitted to OER project manager with photographs within 24 hours of the time of safe entry to the property after the storm event.

4.8 Traffic Control

Drivers of trucks leaving the Site with soil/fill will be instructed to proceed without stopping in the vicinity of the site to prevent neighborhood impacts. The planned route on local roads for trucks leaving the site is will be established by the Project Traffic Engineer and requirements by the Site development Constructor and development Construction Manager. This RAP will ensure that traffic control is also applied to trucks carrying contaminated material.

4.9 Demobilization

Demobilization will include:

- As necessary, restoration of temporary access areas and areas that may have been disturbed to accommodate support areas (e.g., staging areas, decontamination areas, storage areas, temporary water management areas, and access area);
- Removal of sediment from erosion control measures and truck wash and disposal of materials in accordance with applicable laws and regulations;

- Equipment decontamination, and;
- General refuse disposal.

Equipment will be decontaminated and demobilized at the completion of all field activities. Investigation equipment and large equipment (*e.g.*, soil excavators) will be washed at the truck inspection station as necessary. In addition, all investigation and remediation derived waste will be appropriately disposed.

4.10 Reporting and Record Keeping

Daily Reports

Daily reports providing a general summary of activities for each day of *active remedial work* will be emailed to the OER Project Manager by the end of the following day. Those reports will include:

- Project number and statement of the activities and an update of progress made and locations of work performed;
- Quantities of material imported and exported from the Site;
- Status of on-Site soil/fill stockpiles;
- A summary of all citizen complaints, with relevant details (basis of complaint; actions taken; etc.);
- A summary of CAMP excursions, if any;
- Photograph of notable Site conditions and activities.

The frequency of the reporting period may be revised in consultation with OER project manager based on planned project tasks. Daily email reports are not intended to be the primary mode of communication for notification to OER of emergencies (accidents, spills), requests for changes to the RAP or other sensitive or time critical information. However, such information will be included in the daily reports. Emergency conditions and changes to the RAP will be

communicated directly to the OER project manager by personal communication. Daily reports will be included as an Appendix 3 in the RAR.

Record Keeping and Photo-Documentation

Job-site record keeping for all remedial work will be performed. These records will be maintained on-Site during the project and will be available for inspection by OER staff. Representative photographs will be taken of the Site prior to any remedial activities and during major remedial activities to illustrate remedial program elements and contaminant source areas. Photographs will be submitted at the completion of the project in the RAR in digital format (i.e. jpeg files).

4.11 Complaint Management

All complaints from citizens will be promptly reported to OER. Complaints will be addressed and outcomes will also be reported to OER in daily reports. Notices to OER will include the nature of the complaint, the party providing the complaint, and the actions taken to resolve any problems.

4.12 Deviations from the Remedial Action Plan

All changes to the RAP will be reported to the OER Project Manager and will be documented in daily reports and reported in the RAR. The process to be followed if there are any deviations from the RAP will include a request for approval for the change from OER noting the following:

- Reasons for deviating from the approved RAP;
- Effect of the deviations on overall remedy; and
- Determination that the remedial action with the deviation(s) is protective of public health and the environment.

5.0 REMEDIAL CLOSURE REPORT

A Remedial Action Report (RAR) will be submitted to OER following implementation of the remedial action defined in this RAP. The RAR will document that the remedial work required under this RAP has been completed and has been performed in compliance with this plan. The RAR will include:

- Information required by this RAP;
- As-built drawings for all constructed remedial elements, required certifications, manifests and other written and photographic documentation of remedial work performed under this remedy;
- Description of any changes in the remedial action from the elements provided in this RAP and associated design documents;
- A copy of the tenant's closure report for the gasoline service station facilities and removal of contaminated soil if encountered;
- Test results or other evidence demonstrating that remedial systems are functioning properly;
- Account of the source area locations and characteristics of all contaminated material removed from the Site including a map showing source areas;
- Account of the disposal destination of all contaminated material removed from the Site. Documentation associated with disposal of all material will include transportation and disposal records, and letters approving receipt of the material.
- Account of the origin and required chemical quality testing for material imported onto the Site, should this become necessary.
- Reports and supporting material will be submitted in digital form.

Remedial Action Report Certification

The following certification will appear in front of the Executive Summary of the Remedial Action Report. The certification will include the following statements:

I, _____, am currently a professional engineer licensed by the State of New York. I had primary direct responsibility for implementation of the remedial program for the 300 Lafayette Site, (14CVCP201M).

I, _____, am a qualified Environmental Professional. I had primary direct responsibility for implementation remedial program for the 300 Lafayette Site, (#14CVCP201M). (Optional)

I certify that the OER-approved Remedial Action Plan dated month day year and Stipulations in a letter dated month day, year; if any were implemented and that all requirements in those documents have been substantively complied with. I certify that contaminated soil, fill, liquids or other material from the property were taken to facilities licensed to accept this material in full compliance with applicable laws and regulations.

6.0 SCHEDULE

The table below presents a schedule for the proposed remedial action and reporting. If the schedule for remediation and development activities changes, it will be updated and submitted to OER. Currently, a 24 months remediation period is anticipated.

TABLE 4

Schedule Milestone	Tentative Start dates for Remedial Action Start
OER Approval of RAP	May 2014
Permits/MTA	October 2014
Site Preparation	November 2014
Demolition and UST Removal	December 2014
Excavation and Foundation	February 2015
Submit Remedial Action Report	March 2015

ATTACHMENT B
CITIZEN PARTICIPATION PLAN

The NYC Office of Environmental Remediation (OER) and Paco Lafayette, LLC have established this Citizen Participation Plan because the opportunity for citizen participation is an important component of the NYC Voluntary Cleanup Program (VCP). This Citizen Participation Plan describes how information about the project will be disseminated to the Community during the remedial process. As part of its obligations under the NYC VCP, Paco Lafayette, LLC ("Paco") will provide public notice at specified times throughout the remedial program. This Plan also takes into account potential environmental justice concerns in the community that surrounds the project Site. Under this Citizen Participation Plan, project documents and work plans are made available to the public in a timely manner. Public comment on work plans is strongly encouraged during public comment periods. Work plans are not approved by the OER until public comment periods have expired and all comments are formally reviewed. An explanation of cleanup plans in the form of a public meeting or informational session is available upon request to OER's project manager assigned to this Site, Katherine Glass, who can be contacted about these issues or any others questions, comments or concerns that arise during the remedial process at (212) 788-8348.

Project Contact List. OER has established a Site Contact List for this project to provide public notices in the form of fact sheets to interested members of the Community. Communications will include updates on important information relating to the progress of the cleanup program at the Site as well as to request public comments on the cleanup plan. The Project Contact List includes owners and occupants of adjacent buildings and homes, principal administrators of nearby schools, hospitals and day care centers, the public water supplier that serves the area, established document repositories, the representative Community Board, City Council members, other elected representatives and any local Brownfield Opportunity Area (BOA) grantee organizations. Any member of the public or organization will be added to the Site Contact List on request. A copy of the Site Contact List is maintained by OER's project manager. If you would like to be added to the Project Contact List, contact NYC OER at (212) 788-8841 or by email at brownfields@cityhall.nyc.gov.

Repositories. A document repository is maintained by OER on their website at www.nyc.gov/oer. This document repository is intended to house, for community review, all principal documents generated during the cleanup program including Remedial Investigation plans and reports, Remedial Action work plans and reports, and all public notices and fact sheets produced during the lifetime of the remedial project. Paco Lafayette, LLC ("Paco") will inspect the repositories to ensure that they are fully populated with project information. The local repository for this project is:

Repository Name: New York Public Library
Repository Address: Mulberry Street Branch
10 Jersey Street
New York, NY, 10012
Repository Telephone Number: (212) 966-3424

Repository Hours of Operation

Mon	12:00 PM - 7:00 PM
Tue	10:00 AM - 6:00 PM
Wed	12:00 PM - 7:00 PM
Thu	10:00 AM - 6:00 PM
Fri	10:00 AM - 5:00 PM
Sat	10:00 AM - 5:00 PM
Sun	Closed

Digital Documentation. NYC OER strongly encourages the use of digital documents in repositories as a means of minimizing paper use while also increasing convenience in access and ease of use.

Identify Issues of Public Concern. The major issues of concern to the public will be potential impacts of nuisance odors and dust during the disturbance of historic fill soils at the Site. This work will be performed in accordance with procedures which will be specified under a detailed Remedial Program which considers and takes preventive measures for exposures to future residents of the property and those on adjacent properties during construction. Detailed plans to

monitor the potential for exposure including a Construction Health and Safety Plan and a Community Air Monitoring Plan are required components of the remedial program. Implementation of these plans will be under the direct oversight of the New York City Department of Environmental Remediation (NYCOER).

These plans will specify the following worker and community health and safety activities during remedial activity at the Site:

- On-Site air monitoring for worker protection,
- Perimeter air monitoring for community protection.

The Health and Safety Plan and the Community Air Monitoring Plan prepared as part of the Remedial Action Work Plan will be available for public review at the document repository.

Public Notice and Public Comment. Public notice to all members of the Project Contact List is required at three major steps during the performance of the cleanup program (listed below) and at other points that may be required by OER. Notices will include Fact Sheets with descriptive project summaries, updates on recent and upcoming project activities, repository information, and important phone and email contact information. All notices will be prepared by Paco Lafayette, LLC ("Paco"), reviewed and approved by OER prior to distribution and mailed by Paco Lafayette, LLC. Public comment is solicited in public notices for all work plans developed under the NYC Voluntary Cleanup Program. Final review of all work plans by OER will consider all public comments. Approval will not be granted until the public comment period has been completed.

Citizen Participation Milestones. Public notice and public comment activities occur at several steps during a typical NYC VCP project. See flow chart on the following page, which identifies when during the NYC VCP public notices are issued: These steps include:

- **Public Notice of the availability of the Remedial Investigation Report and Remedial Action Work Plan and a 30-day public comment period on the Remedial Action Work Plan.**

  Public notice in the form of a Fact Sheet is sent to all parties listed on the Site Contact List announcing the availability of the Remedial Investigation Report and Remedial Action

Work Plan and the initiation of a 30-day public comment period on the Remedial Action Work Plan. The Fact Sheet summarizes the findings of the RIR and provides details of the RAWP. The public comment period will be extended an additional 15 days upon public request. A public meeting or informational session will be conducted by OER upon request.

- **Public Notice announcing the approval of the RAWP and the start of remediation**
  Public notice in the form of a Fact Sheet is sent to all parties listed on the Site Contact List announcing the approval of the RAWP and the start of remediation.

- **Public Notice announcing the completion of remediation, designation of Institutional and Engineering Controls and issuance of the Notice of Completion**
  Public notice in the form of a Fact Sheet is sent to all parties listed on the Site Contact List announcing the completion of remediation, providing a list of all Institutional and Engineering Controls implemented for to the Site and announcing the issuance of the Notice of Completion

ATTACHMENT C
SUSTAINABILITY STATEMENT

This Sustainability Statement documents sustainable activities and green remediation efforts planned under this remedial action.

Reuse of Clean, Recyclable Materials. Reuse of clean, locally-derived recyclable materials reduces consumption of non-renewable virgin resources and can provide energy savings and greenhouse gas reduction.

This project intends to use recycled concrete aggregate wherever possible in grading and backfilling the Site. An estimate of the quantity (in tons) of clean, non-virgin materials (reported by type of material) reused under this plan will be quantified and reported in the RAR.

Reduce Consumption of Virgin and Non-Renewable Resources. Reduced consumption of virgin and non-renewable resources lowers the overall environmental impact of the project on the region by conserving these resources.

The project will reduce the consumption of virgin materials by substituting recycled concrete aggregate for mined gravel and/or sand backfill whenever possible. An estimate of the quantity (in tons) of virgin and non-renewable resources, the use of which will be avoided under this plan, will be quantified and reported in the RAR.

Reduced Energy Consumption and Promotion of Greater Energy Efficiency. Reduced energy consumption lowers greenhouse gas emissions, improves local air quality, lessens in-city power generation requirements, can lower traffic congestion, and provides substantial cost savings.

Recycled concrete materials and other backfill materials will be locally sourced reducing the energy consumption associated with transporting these materials to the Site. Best efforts will be made to quantify energy efficiencies achieved during the remediation and will be reported in the Remedial Action Report (RAR). Where energy savings cannot be easily quantified, a gross indicator of the amount of energy saved or the means by which energy savings was achieved will be reported.

Paperless Volunteer Cleanup Program. 62 Box Street LLC is participating in OER's Paperless Voluntary Cleanup Program. Under this program, submission of electronic documents will replace

submission of hard copies for the review of project documents, communications and milestone reports.

Low-Energy Project Management Program. 62 Box Street LLC is participating in OER's low-energy project management program. Under this program, whenever possible, meetings are held using remote communication technologies, such as videoconferencing and teleconferencing to reduce energy consumption and traffic congestion associated with personal transportation.

FIGURES

Figure 1 Site Plan

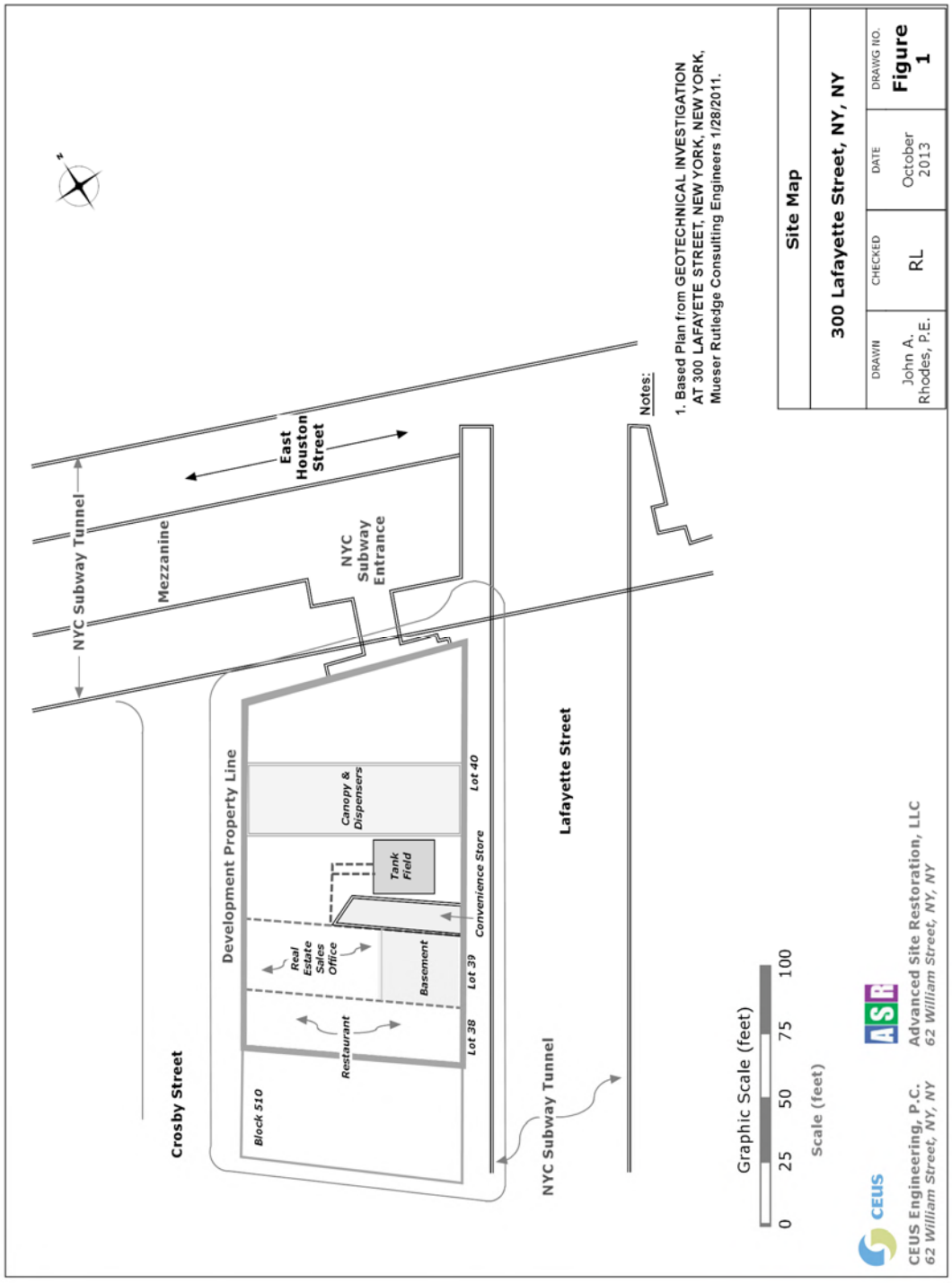


Figure 2 Surrounding Land Use Map

Figure 3 Redevelopment Plan

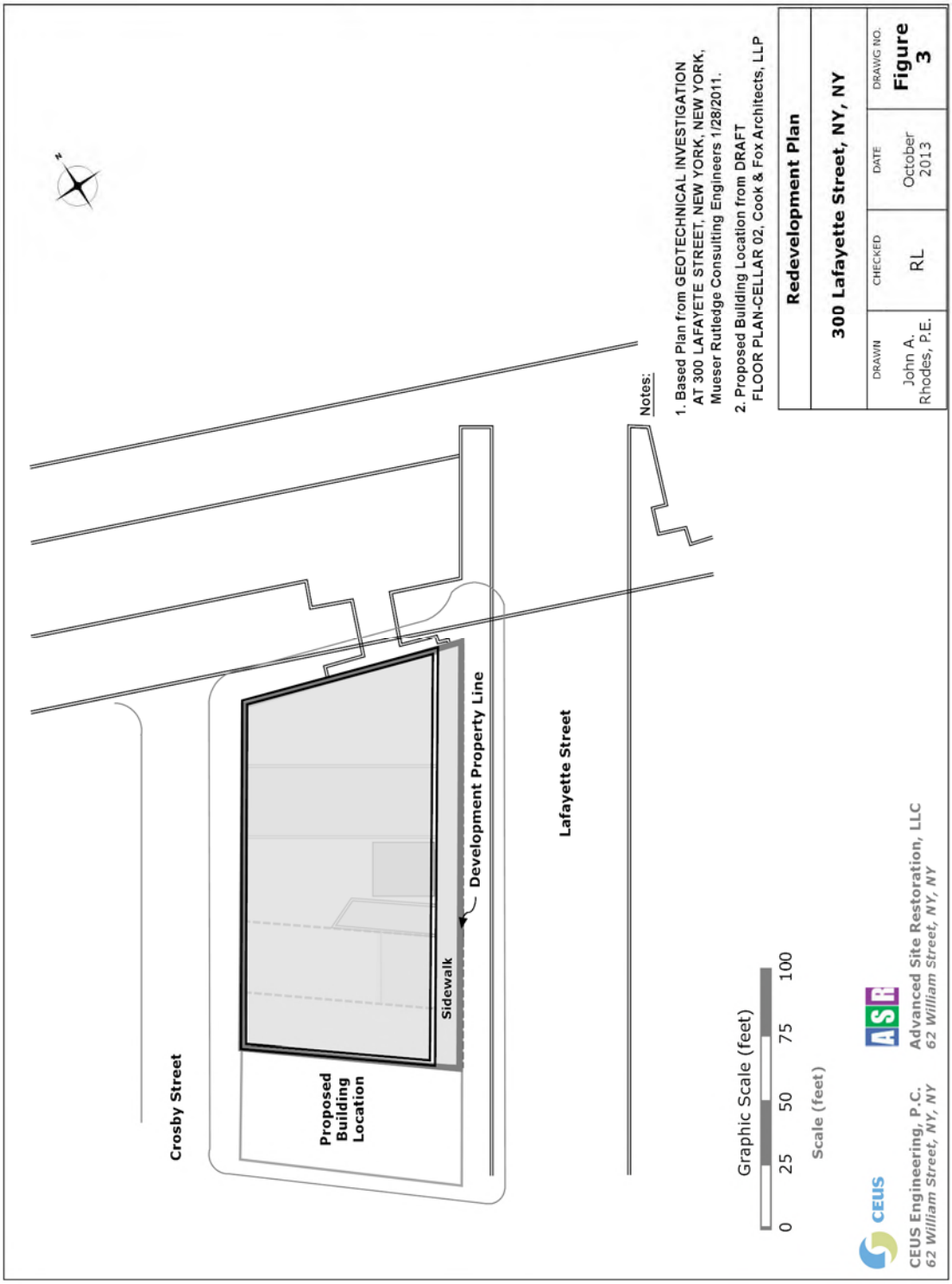


Figure 4 Excavation Plan

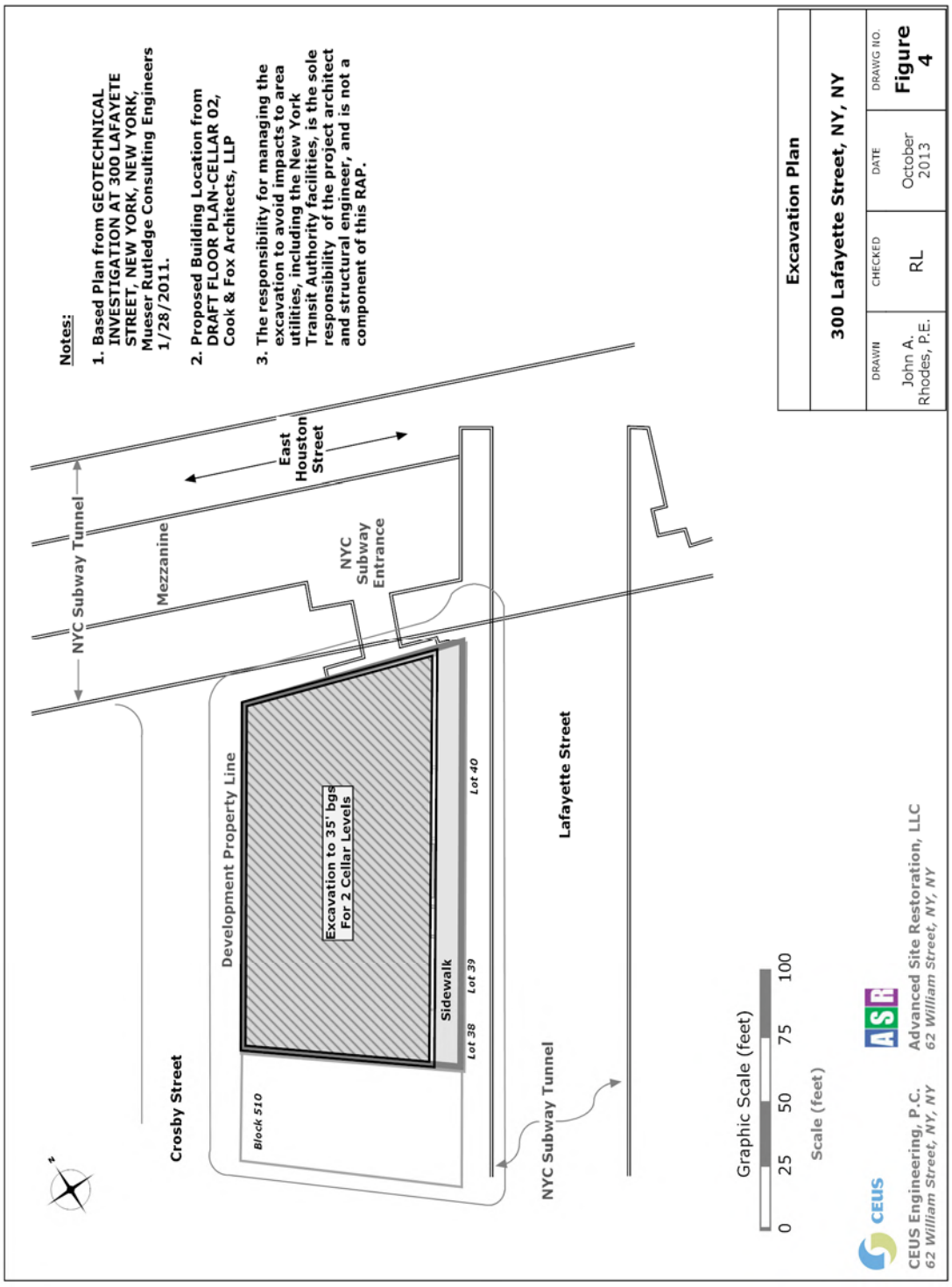
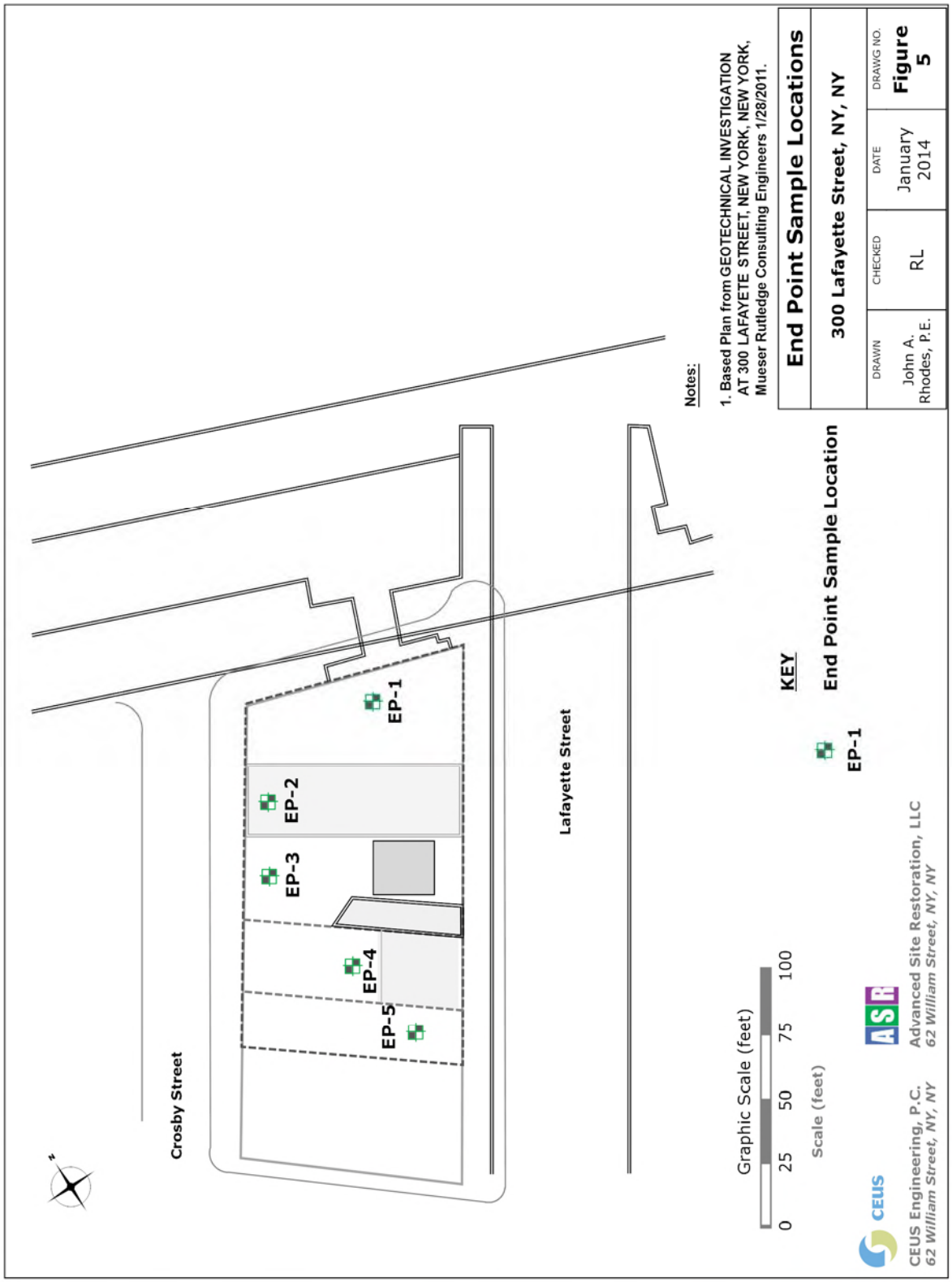


Figure 5 End-point Sampling Location Map



TABLES

Table 1 — **Soil Analytical Data Summary**

Detections Highlighted in Blue	CAS No.	Soil Clean-up Objective: Track 1 Unrestricted	Track 2 Restricted Residential	Track 2 Commercial Exceedance Highlight	B-1 (15 FT) 5/14/2013 15-16 ft Soil Result	RL	B-1 (34-35 FT) 5/14/2013 34-35 ft Soil Result	RL	B-1 (42-43 FT) 5/14/2013 42-43 ft Soil Result	RL	B-2 (5 FT) 6/21/2013 5-6 ft Soil Result	RL
Metals, Total (mg/kg)												
Aluminum					4,460	49	3,050	46	2,720	62	3,410	52
Antimony					BRL	3	BRL	3	BRL	4	BRL	4
Arsenic	7440-38-2	13	16	16	1.6	0.7	1.3	0.6	BRL	0.8	0.8	0.7
Barium	7440-39-3	350	350	400	68.0	0.3	62.1	0.3	31.3	0.4	48.7	0.4
Beryllium	7440-41-7	7.2	14.0	590	0.3	0.3	0.3	0.2	BRL	0.3	BRL	0.3
Cadmium	7440-43-9	2.5	2.5	9.3	BRL	0.3	BRL	0.3	BRL	0.4	BRL	0.4
Calcium					1,450	5	865	5	919	6	1,080	5
Chromium	16065-83-1	30	36	1,500	14.3	0.3	8.7	0.3	6.2	0.4	9.7	0.4
Cobalt					3.6	0.3	3.3	0.3	2.4	0.4	2.6	0.4
Copper	7440-50-8	50	270	270	27	0.3	7	0.3	7	0.4	8	0.4
Iron					9,730	49	7,470	46	6,340	6	7,630	5
Lead	7439-92-1	63	400	1,000	14	0.3	3	0.3	3	0.4	12	0.4
Magnesium	7439-96-5	1,600	2,000	10,000	2,290	5	2,110	5	1,480	6	1,420	5
Manganese					180	3	242	3	147	0	319	4
Mercury		0.18	0.81	2.8	BRL	0.1	BRL	0.1	BRL	0.1	BRL	0.1
Nickel	7440-02-0	30	140	310	18.4	0.3	13.9	0.3	8.6	0.4	9.2	0.4
Potassium					1,180	5	973	5	771	6	1,090	5
Selenium	7782-49-2	3.9	36	1,500	BRL	1.3	BRL	1.2	BRL	1.7	BRL	1.4
Silver	7440-22-4	2.0	36	1,500	BRL	0.3	BRL	0.3	BRL	0.4	BRL	0.4
Sodium					227	4.9	108	46.0	123	6.2	216	5.2
Thallium					BRL	3.0	BRL	2.7	BRL	3.7	BRL	3.1
Vanadium					13.4	0.3	10.0	0.3	8.1	0.4	10.7	0.4
Zinc	7440-66-6	109	2,200	10,000	30	0.3	12	0.3	11	0.4	14	0.4
PCBs By SW 8082 (ug/kg)												
PCB-1016					ND	340.0	ND	330.0	ND	390.0	ND	340.0
PCB-1221					ND	340.0	ND	330.0	ND	390.0	ND	340.0
PCB-1232					ND	340.0	ND	330.0	ND	390.0	ND	340.0
PCB-1242					ND	340.0	ND	330.0	ND	390.0	ND	340.0
PCB-1248					ND	340.0	ND	330.0	ND	390.0	ND	340.0
PCB-1254					ND	340.0	ND	330.0	ND	390.0	ND	340.0
PCB-1260					ND	340.0	ND	330.0	ND	390.0	ND	340.0
PCB-1262					ND	340.0	ND	330.0	ND	390.0	ND	340.0
PCB-1268					ND	340.0	ND	330.0	ND	390.0	ND	340.0
Total PCBs	1336-36-3	100	1,000	1,000	ND		ND		ND		ND	

Table 1

Soil Analytical Data Summary

Detections Highlighted in Blue	CAS No.	Soil Clean-up Objective Track 1 Unrestricted	Track 2 Restricted Residential	Track 2 Commercial Exceedance Highlight	B-2 (15 FT) 6/21/2013 15-16 ft Soil Result	RL	B-3 (5 FT) 6/21/2013 5-6 ft Soil Result	RL	B-3 (15 FT) 6/21/2013 15-16 ft Soil Result	RL	B-3 (30 FT) 6/21/2013 29-30 ft Soil Result	RL	SB1 4/2/2013 4-5 ft Soil Result	RL	SB2 4/2/2013 4-5 ft Soil Result	RL
Metals, Total (mg/kg)																
Aluminum					5,940	51	6,130	56	4,450	50	3,260	53	7,900	64	4,660	55
Antimony					BRL	3	BRL	4	BRL	3	BRL	4	BRL	4	BRL	4
Arsenic	7440-38-2	13	16	16	20.9	0.7	5.5	0.7	1.0	0.7	BRL	0.7	21.5	0.8	1.4	0.7
Barium	7440-39-3	350	350	400	186.0	0.3	133.0	0.4	50.7	0.3	33.1	0.4	346.0	0.4	36.9	0.4
Beryllium	7440-41-7	7.2	14.0	590	0.3	0.3	0.4	0.3	0.4	0.3	0.4	0.3	0.5	0.3	BRL	0.3
Cadmium	7440-43-9	2.5	2.5	9.3	1.1	0.3	1.8	0.4	BRL	0.3	BRL	0.4	2.5	0.4	BRL	0.4
Calcium					21,900	51	64,800	56	1,250	5	1,270	5	43,800	64	11,100	55
Chromium	16065-83-1	30	36	1,500	14.7	0.3	26.6	0.4	15.4	0.3	11.0	0.4	32.3	0.4	12.8	0.4
Cobalt					5.6	0.3	3.5	0.4	3.1	0.3	2.6	0.4	10.8	0.4	2.7	0.4
Copper	7440-50-8	50	270	270	106	0.3	64	0.4	10	0.3	5	0.4	305	4.2	13	0.4
Iron					30,300	51	16,200	56	9,350	50	6,650	5	40,600	64	7,660	55
Lead	7439-92-1	63	400	1,000	405	3.4	863	3.7	5	0.3	3	0.4	1,650	42.0	31	0.4
Magnesium	7439-95-5	1,800	2,000	10,000	2,930	5	7,140	56	1,870	5	1,740	5	6,130	64	3,240	6
Manganese					430	3	258	4	368	3	187	4	349	4	125	0
Mercury		0.18	0.81	2.8	0.6	0.1	0.4	0.1	BRL	0.1	BRL	0.1	20.3	4.6	5.5	0.6
Nickel	7440-02-0	30	140	310	28.6	0.3	15.5	0.4	17.3	0.3	18.3	0.4	29.3	0.4	10.4	0.4
Potassium					1,090	5	1,550	6	1,310	5	1,070	5	1,480	64	903	55
Selenium	7782-49-2	3.9	36	1,500	BRL	1.4	BRL	1.5	BRL	1.3	BRL	1.4	BRL	1.7	BRL	1.5
Silver	7440-22-4	2.0	36	1,500	BRL	0.7	BRL	0.6	BRL	0.3	BRL	0.4	BRL	3.0	BRL	3.0
Sodium					507	5.1	528	56.0	210	5.0	72	5.3	1,610	6.4	497	5.5
Thallium					BRL	3.1	BRL	3.3	BRL	3.0	BRL	3.2	BRL	3.8	BRL	3.3
Vanadium					19.9	0.3	21.1	0.4	16.7	0.3	9.6	0.4	22.3	0.4	11.9	0.4
Zinc	7440-66-6	109	2,200	10,000	223	3.4	3,140	37.0	12	0.3	11	0.4	968	4.2	22	0.4
PCBs By SW 8082 (ug/kg)																
PCB-1016					ND	370.0	ND	360.0	ND	350.0	ND	340.0	ND	390.0	ND	340.0
PCB-1221					ND	370.0	ND	360.0	ND	350.0	ND	340.0	ND	390.0	ND	340.0
PCB-1232					ND	370.0	ND	360.0	ND	350.0	ND	340.0	ND	390.0	ND	340.0
PCB-1242					ND	370.0	ND	360.0	ND	350.0	ND	340.0	ND	390.0	ND	340.0
PCB-1248					ND	370.0	ND	360.0	ND	350.0	ND	340.0	ND	390.0	ND	340.0
PCB-1254					ND	370.0	ND	360.0	ND	350.0	ND	340.0	ND	390.0	ND	340.0
PCB-1260					ND	370.0	ND	360.0	ND	350.0	ND	340.0	ND	390.0	ND	340.0
PCB-1262					ND	370.0	ND	360.0	ND	350.0	ND	340.0	ND	390.0	ND	340.0
PCB-1268					ND	370.0	ND	360.0	ND	350.0	ND	340.0	ND	390.0	ND	340.0
Total PCBs	1336-36-3	100	1,000	1,000	ND		ND		ND		ND		ND		ND	

Table 1

Soil Analytical Data Summary

Detections Highlighted in Blue	CAS No.	Soil Clean-up Objective Track 1 Unrestricted	Track 2 Restricted Residential	Track 2 Commercial Exceedance Highlight	B-1 (15 FT) 5/14/2013 15-16 ft Soil Result	RL	B-1 (34-35 FT) 5/14/2013 34-35 ft Soil Result	RL	B-1 (42-43 FT) 5/14/2013 42-43 ft Soil Result	RL	B-2 (5 FT) 6/21/2013 5-6 ft Soil Result	RL
Volatiles By SW8260 (µg/kg)												
1,1,1,2-Tetrachloroethane					ND	4.9	ND	3.7	ND	7.1	ND	5.3
1,1,1-Trichloroethane	71-55-6	680	100,000	500,000	ND	4.9	ND	3.7	ND	7.1	ND	5.3
1,1,2,2-Tetrachloroethane					ND	2.9	ND	2.2	ND	4.3	ND	3.2
1,1,2-Trichloroethane					ND	4.9	ND	3.7	ND	7.1	ND	5.3
1,1-Dichloroethane	75-34-3	270	19,000	240,000	ND	4.9	ND	3.7	ND	7.1	ND	5.3
1,1-Dichloroethene	75-35-4	330	100,000	500,000	ND	4.9	ND	3.7	ND	7.1	ND	5.3
1,1-Dichloropropene					ND	4.9	ND	3.7	ND	7.1	ND	5.3
1,2,3-Trichlorobenzene					ND	4.9	ND	3.7	ND	7.1	ND	5.3
1,2,3-Trichloropropane					ND	4.9	ND	3.7	ND	7.1	ND	5.3
1,2,4-Trichlorobenzene					ND	4.9	ND	3.7	ND	7.1	ND	5.3
1,2,4-Trimethylbenzene	95-63-6	3,600	47,000	190,000	ND	4.9	ND	3.7	ND	7.1	ND	5.3
1,2-Dibromo-3-chloropropane					ND	4.9	ND	3.7	ND	7.1	ND	5.3
1,2-Dibromoethane					ND	4.9	ND	3.7	ND	7.1	ND	5.3
1,2-Dichlorobenzene	95-50-1	1,100	100,000	500,000	ND	4.9	ND	3.7	ND	7.1	ND	5.3
1,2-Dichloroethane	107-06-2	20	2,300	30,000	ND	4.9	ND	3.7	ND	7.1	ND	5.3
1,2-Dichloropropane					ND	4.9	ND	3.7	ND	7.1	ND	5.3
1,3,5-Trimethylbenzene	108-67-8				ND	4.9	ND	3.7	ND	7.1	ND	5.3
1,3-Dichlorobenzene	541-73-1	2,400	17,000	280,000	ND	4.9	ND	3.7	ND	7.1	ND	5.3
1,3-Dichloropropane					ND	4.9	ND	3.7	ND	7.1	ND	5.3
1,4-Dichlorobenzene	106-46-7	1,800	9,800	130,000	ND	4.9	ND	3.7	ND	7.1	ND	5.3
2,2-Dichloropropane					ND	4.9	ND	3.7	ND	7.1	ND	5.3
2-Chlorotoluene					ND	4.9	ND	3.7	ND	7.1	ND	5.3
2-Hexanone					ND	24.0	ND	19.0	ND	35.0	ND	27.0
2-Isopropyltoluene					ND	4.9	ND	3.7	ND	7.1	ND	5.3
4-Chlorotoluene					ND	4.9	ND	3.7	ND	7.1	ND	5.3
4-Methyl-2-pentanone					ND	24.0	ND	19.0	ND	35.0	ND	27.0
Acetone	67-64-1	50	100,000	500,000	ND	98.0	ND	74.0	ND	140.0	ND	32.0
Acrylonitrile					ND	4.9	ND	3.7	ND	7.1	ND	5.3
Benzene	71-43-2	60	2,900	44,000	ND	4.9	ND	3.7	ND	7.1	ND	5.3
Bromobenzene					ND	4.9	ND	3.7	ND	7.1	ND	5.3
Bromochloromethane					ND	4.9	ND	3.7	ND	7.1	ND	5.3
Bromodichloromethane					ND	4.9	ND	3.7	ND	7.1	ND	5.3
Bromoform					ND	4.9	ND	3.7	ND	7.1	ND	5.3
Bromomethane					ND	4.9	ND	3.7	ND	7.1	ND	5.3
Carbon Disulfide					ND	4.9	ND	3.7	ND	7.1	ND	5.3

Table 1

Soil Analytical Data Summary

Detections Highlighted in Blue	CAS No.	Soil Clean-up Objective Track 1 Unrestricted	Track 2 Restricted Residential	Track 2 Commercial Exceedance Highlight	B-2 (15 FT) 6/21/2013 15-16 ft Soil Result	RL	B-3 (5 FT) 6/21/2013 5-6 ft Soil Result	RL	B-3 (15 FT) 6/21/2013 15-16 ft Soil Result	RL	B-3 (30 FT) 6/21/2013 29-30 ft Soil Result	RL	SB1 4/2/2013 4-5 ft Soil Result	RL	SB2 4/2/2013 4-5 ft Soil Result	RL
Volatiles By SW8260 (ug/kg)																
1,1,1,2-Tetrachloroethane					ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
1,1,1-Trichloroethane	71-55-6	680	100,000	500,000	ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
1,1,2,2-Tetrachloroethane					ND	5.2	ND	3.5	ND	2.5	ND	2.8	ND	4.8	ND	3.1
1,1,2-Trichloroethane					ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
1,1-Dichloroethane	75-34-3	270	19,000	240,000	ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
1,1-Dichloroethene	75-35-4	330	100,000	500,000	ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
1,1-Dichloropropene					ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
1,2,3-Trichlorobenzene					ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
1,2,3-Trichloropropane					ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
1,2,4-Trichlorobenzene					ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
1,2,4-Trimethylbenzene	95-63-6	3,600	47,000	190,000	ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
1,2-Dibromo-3-chloropropane					ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
1,2-Dibromoethane					ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
1,2-Dichlorobenzene	95-50-1	1,100	100,000	500,000	ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
1,2-Dichloroethane	107-06-2	20	2,300	30,000	ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
1,2-Dichloropropane					ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
1,3,5-Trimethylbenzene	108-67-8				ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
1,3-Dichlorobenzene	541-73-1	2,400	17,000	280,000	ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
1,3-Dichloropropane					ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
1,4-Dichlorobenzene	106-46-7	1,800	9,800	130,000	ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
2,2-Dichloropropane					ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
2-Chlorotoluene					ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
2-Hexanone					ND	43.0	ND	29.0	ND	20.0	ND	23.0	ND	40.0	ND	26.0
2-Isopropyltoluene					ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
4-Chlorotoluene					ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
4-Methyl-2-pentanone					ND	43.0	ND	29.0	ND	20.0	ND	23.0	ND	40.0	ND	26.0
Acetone	67-64-1	50	100,000	500,000	ND	52.0	ND	35.0	ND	25.0	ND	28.0	ND	160.0	ND	100.0
Acrylonitrile					ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
Benzene	71-43-2	60	2,900	44,000	ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
Bromobenzene					ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
Bromochloromethane					ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
Bromodichloromethane					ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
Bromoform					ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
Bromomethane					ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
Carbon Disulfide					ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2

Table 1

Soil Analytical Data Summary

Detections Highlighted in Blue	CAS No.	Soil Clean-up Objective Track 1 Unrestricted	Track 2 Restricted Residential	Track 2 Commercial Exceedance Highlight	B-1 (15 FT) 5/14/2013 15-16 ft Soil Result	RL	B-1 (34-35 FT) 5/14/2013 34-35 ft Soil Result	RL	B-1 (42-43 FT) 5/14/2013 42-43 ft Soil Result	RL	B-2 (5 FT) 6/21/2013 5-6 ft Soil Result	RL
Carbon tetrachloride	56-23-5	760	1,400	22,000	ND	4.9	ND	3.7	ND	7.1	ND	5.3
Chlorobenzene	108-90-7	1,100	100,000	500,000	ND	4.9	ND	3.7	ND	7.1	ND	5.3
Chloroethane					ND	4.9	ND	3.7	ND	7.1	ND	5.3
Chloroform	67-66-3	370	10,000	350,000	ND	4.9	ND	3.7	ND	7.1	ND	5.3
Chloromethane					ND	4.9	ND	3.7	ND	7.1	ND	5.3
cis-1,2-Dichloroethene	156-59-2	250	59,000	500,000	ND	4.9	ND	3.7	ND	7.1	ND	5.3
cis-1,3-Dichloropropene					ND	4.9	ND	3.7	ND	7.1	ND	5.3
Dibromochloromethane					ND	2.9	ND	2.2	ND	4.3	ND	3.2
Dibromomethane					ND	4.9	ND	3.7	ND	7.1	ND	5.3
Dichlorodifluoromethane					ND	4.9	ND	3.7	ND	7.1	ND	5.3
Ethylbenzene	100-41-4	1,000	30,000	390,000	ND	4.9	ND	3.7	ND	7.1	ND	5.3
Hexachlorobutadiene	118-74-1	330	330	6,000	ND	4.9	ND	3.7	ND	7.1	ND	5.3
Isopropylbenzene					ND	4.9	ND	3.7	ND	7.1	ND	5.3
m&p-Xylene					ND	4.9	ND	3.7	ND	7.1	ND	5.3
Methyl Ethyl Ketone	78-93-3	120	100,000	500,000	ND	29.0	ND	22.0	ND	43.0	ND	32.0
Methyl t-butyl ether (MTBE)	1634-04-4	930	62,000	500,000	ND	9.8	ND	7.4	ND	14.0	ND	11.0
Methylene chloride	75-09-2	50	51,000	500,000	ND	4.9	ND	3.7	ND	7.1	ND	5.3
Naphthalene					ND	4.9	ND	3.7	ND	7.1	ND	5.3
n-Butylbenzene	104-51-8	12,000	100,000	500,000	ND	4.9	ND	3.7	ND	7.1	ND	5.3
n-Propylbenzene	103-65-1	3,900	100,000	500,000	ND	4.9	ND	3.7	ND	7.1	ND	5.3
o-Xylene					ND	4.9	ND	3.7	ND	7.1	ND	5.3
p-Isopropyltoluene					ND	4.9	ND	3.7	ND	7.1	ND	5.3
sec-Butylbenzene	135-98-8	11,000	100,000	500,000	ND	4.9	ND	3.7	ND	7.1	ND	5.3
Styrene					ND	4.9	ND	3.7	ND	7.1	ND	5.3
tert-Butylbenzene	98-06-6	5,900	100,000	500,000	ND	4.9	ND	3.7	ND	7.1	ND	5.3
Tetrachloroethene	127-18-4	1,300	5,500	150,000	ND	4.9	ND	3.7	ND	7.1	ND	5.3
Tetrahydrofuran (THF)					ND	9.8	ND	7.4	ND	14.0	ND	11.0
Toluene	108-88-3	700	100,000	500,000	ND	4.9	ND	3.7	ND	7.1	ND	5.3
Total Xylenes	1330-20-7	260	100,000	500,000	ND	4.9	ND	3.7	ND	7.1	ND	5.3
trans-1,2-Dichloroethene	156-60-5	190	100,000	500,000	ND	4.9	ND	3.7	ND	7.1	ND	5.3
trans-1,3-Dichloropropene					ND	4.9	ND	3.7	ND	7.1	ND	5.3
trans-1,4-dichloro-2-butene					ND	9.8	ND	7.4	ND	14.0	ND	11.0
Trichloroethene	79-01-6	470	10,000	200,000	ND	4.9	ND	3.7	ND	7.1	ND	5.3
Trichlorofluoromethane					ND	4.9	ND	3.7	ND	7.1	ND	5.3
Trichlorotrifluoroethane					ND	4.9	ND	3.7	ND	7.1	ND	5.3
Vinyl chloride	75-01-4	20	210	13,000	ND	4.9	ND	3.7	ND	7.1	ND	5.3

Table 1

Soil Analytical Data Summary

Detections Highlighted in Blue	CAS No.	Soil Clean-up Objective Track 1 Unrestricted	Track 2 Restricted Residential	Track 2 Commercial Exceedance Highlight	B-2 (15 FT) 6/21/2013 15-16 ft Soil Result	RL	B-3 (5 FT) 6/21/2013 5-6 ft Soil Result	RL	B-3 (15 FT) 6/21/2013 15-16 ft Soil Result	RL	B-3 (30 FT) 6/21/2013 29-30 ft Soil Result	RL	SB1 4/2/2013 4-5 ft Soil Result	RL	SB2 4/2/2013 4-5 ft Soil Result	RL
Carbon tetrachloride	56-23-5	760	1,400	22,000	ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
Chlorobenzene	108-90-7	1,100	100,000	500,000	ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
Chloroethane					ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
Chloroform	67-66-3	370	10,000	350,000	ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
Chloromethane					ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
cis-1,2-Dichloroethene	156-59-2	250	59,000	500,000	ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
cis-1,3-Dichloropropene					ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
Dibromochloromethane					ND	5.2	ND	3.5	ND	2.5	ND	2.8	ND	4.8	ND	3.1
Dibromomethane					ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
Dichlorodifluoromethane					ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
Ethylbenzene	100-41-4	1,000	30,000	390,000	ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
Hexachlorobutadiene	118-74-1	330	330	6,000	ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
Isopropylbenzene					ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
m&p-Xylene					ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
Methyl Ethyl Ketone	78-93-3	120	100,000	500,000	NS	52.0	ND	35.0	ND	25.0	ND	28.0	ND	48.0	ND	31.0
Methyl t-butyl ether (MTBE)	1634-04-4	930	62,000	500,000	ND	17.0	ND	12.0	ND	8.2	ND	9.4	ND	16.0	ND	10.0
Methylene chloride	75-09-2	50	51,000	500,000	ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
Naphthalene					ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
n-Butylbenzene	104-51-8	12,000	100,000	500,000	ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
n-Propylbenzene	103-65-1	3,900	100,000	500,000	ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
o-Xylene					ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
p-Isopropyltoluene					ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
sec-Butylbenzene	135-98-8	11,000	100,000	500,000	ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
Styrene					ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
tert-Butylbenzene	98-06-6	5,900	100,000	500,000	ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
Tetrachloroethene	127-18-4	1,300	5,500	150,000	ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
Tetrahydrofuran (THF)					ND	17.0	ND	12.0	ND	8.2	ND	9.4	ND	16.0	ND	10.0
Toluene	108-88-3	700	100,000	500,000	ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
Total Xylenes	1330-20-7	260	100,000	500,000	ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
trans-1,2-Dichloroethene	156-60-5	190	100,000	500,000	ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
trans-1,3-Dichloropropene					ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
trans-1,4-dichloro-2-butene					ND	17.0	ND	12.0	ND	8.2	ND	9.4	ND	16.0	ND	10.0
Trichloroethene	79-01-6	470	10,000	200,000	ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
Trichlorofluoromethane					ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
Trichlorotrifluoroethane					ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2
Vinyl chloride	75-01-4	20	210	13,000	ND	8.7	ND	5.8	ND	4.1	ND	4.7	ND	8.0	ND	5.2

Table 1 **Soil Analytical Data Summary**

Detections Highlighted in Blue	CAS No.	Soil Clean-up Objective Track 1 Unrestricted	Track 2 Restricted Residential	Track 2 Commercial Exceedance Highlight	B-1 (15 FT) 5/14/2013 15-16 ft Soil Result	RL	B-1 (34-35 FT) 5/14/2013 34-35 ft Soil Result	RL	B-1 (42-43 FT) 5/14/2013 42-43 ft Soil Result	RL	B-2 (5 FT) 6/21/2013 5-6 ft Soil Result	RL
Semivolatiles By SW 8270 (µg/kg)												
1,2,4,5-Tetrachlorobenzene					ND	240	ND	240	ND	270	ND	240
1,2,4-Trichlorobenzene					ND	240	ND	240	ND	270	ND	240
1,2-Dichlorobenzene					ND	240	ND	240	ND	270	ND	240
1,2-Diphenylhydrazine					ND	350	ND	340	ND	390	ND	340
1,3-Dichlorobenzene					ND	240	ND	240	ND	270	ND	240
1,4-Dichlorobenzene					ND	240	ND	240	ND	270	ND	240
2,4,5-Trichlorophenol					ND	240	ND	240	ND	270	ND	240
2,4,6-Trichlorophenol					ND	240	ND	240	ND	270	ND	240
2,4-Dichlorophenol					ND	240	ND	240	ND	270	ND	240
2,4-Dimethylphenol					ND	240	ND	240	ND	270	ND	240
2,4-Dinitrophenol					ND	550	ND	540	ND	620	ND	540
2,4-Dinitrotoluene					ND	240	ND	240	ND	270	ND	240
2,6-Dinitrotoluene					ND	240	ND	240	ND	270	ND	240
2-Chloronaphthalene					ND	240	ND	240	ND	270	ND	240
2-Chlorophenol					ND	240	ND	240	ND	270	ND	240
2-Methylnaphthalene					ND	240	ND	240	ND	270	ND	240
2-Methylphenol (o-cresol)	95-48-7	330	100,000	500,000	ND	240	ND	240	ND	270	ND	240
2-Nitroaniline					ND	550	ND	540	ND	620	ND	540
2-Nitrophenol					ND	240	ND	240	ND	270	ND	240
3&4-Methylphenol (m&p-cresol)	106-44-5;	330	100,000	500,000	ND	350	ND	340	ND	390	ND	340
3,3'-Dichlorobenzidine					ND	240	ND	240	ND	270	ND	240
3-Nitroaniline					ND	550	ND	540	ND	620	ND	540
4,6-Dinitro-2-methylphenol					ND	1,000	ND	980	ND	1,100	ND	980
4-Bromophenyl phenyl ether					ND	350	ND	340	ND	390	ND	340
4-Chloro-3-methylphenol					ND	240	ND	240	ND	270	ND	240
4-Chloroaniline					ND	240	ND	240	ND	270	ND	240
4-Chlorophenyl phenyl ether					ND	240	ND	240	ND	270	ND	240
4-Nitroaniline					ND	550	ND	540	ND	620	ND	540
4-Nitrophenol					ND	1,000	ND	980	ND	1,100	ND	980
Acenaphthene	83-32-9	20,000	100,000	500,000	ND	240	ND	240	ND	270	ND	240
Acenaphthylene	208-96-8	100,000	100,000	500,000	ND	240	ND	240	ND	270	ND	240
Acetophenone					ND	240	ND	240	ND	270	ND	240
Aniline					ND	1,000	ND	980	ND	1,100	ND	980
Anthracene	120-12-7	100,000	100,000	500,000	ND	240	ND	240	ND	270	ND	240
Benz[a]anthracene	56-55-3	1,000	1,000	5,600	ND	240	ND	240	ND	270	ND	240
Benzidine					ND	420	ND	410	ND	470	ND	400

Table 1

Soil Analytical Data Summary

Detections Highlighted in Blue	CAS No.	Soil Clean-up Objective Track 1 Unrestricted	Track 2 Restricted Residential	Track 2 Commercial Exceedance Highlight	B-2 (15 FT) 6/21/2013 15-16 ft Soil		B-3 (5 FT) 6/21/2013 5-6 ft Soil		B-3 (15 FT) 6/21/2013 15-16 ft Soil		B-3 (30 FT) 6/21/2013 29-30 ft Soil		SB1 4/2/2013 4-5 ft Soil		SB2 4/2/2013 4-5 ft Soil	
					Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Semivolatiles By SW 8270 (µg/kg)																
1,2,4,5-Tetrachlorobenzene					ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
1,2,4-Trichlorobenzene					ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
1,2-Dichlorobenzene					ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
1,2-Diphenylhydrazine					ND	370	ND	1,800	ND	350	ND	340	ND	4,000	ND	350
1,3-Dichlorobenzene					ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
1,4-Dichlorobenzene					ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
2,4,5-Trichlorophenol					ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
2,4,6-Trichlorophenol					ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
2,4-Dichlorophenol					ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
2,4-Dimethylphenol					ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
2,4-Dinitrophenol					ND	590	ND	2,900	ND	560	ND	550	ND	6,400	ND	550
2,4-Dinitrotoluene					ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
2,6-Dinitrotoluene					ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
2-Chloronaphthalene					ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
2-Chlorophenol					ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
2-Methylnaphthalene					ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
2-Methylphenol (o-cresol)	95-48-7	330	100,000	500,000	ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
2-Nitroaniline					ND	590	ND	2,900	ND	560	ND	550	ND	6,400	ND	550
2-Nitrophenol					ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
3&4-Methylphenol (m&p-cresol)	106-44-5;	330	100,000	500,000	ND	370	ND	1,800	ND	350	ND	340	ND	4,000	ND	350
3,3'-Dichlorobenzidine					ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
3-Nitroaniline					ND	590	ND	2,900	ND	560	ND	550	ND	6,400	ND	550
4,6-Dinitro-2-methylphenol					ND	1,100	ND	5,300	ND	1,000	ND	990	ND	12,000	ND	1,000
4-Bromophenyl phenyl ether					ND	370	ND	1,800	ND	350	ND	340	ND	4,000	ND	350
4-Chloro-3-methylphenol					ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
4-Chloroaniline					ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
4-Chlorophenyl phenyl ether					ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
4-Nitroaniline					ND	590	ND	2,900	ND	560	ND	550	ND	6,400	ND	550
4-Nitrophenol					ND	1,100	ND	5,300	ND	1,000	ND	990	ND	12,000	ND	1,000
Acenaphthene	83-33-0	20,000	100,000	500,000	ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
Acenaphthylene	208-96-8	100,000	100,000	500,000	ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
Acetophenone					ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
Aniline					ND	1,100	ND	5,300	ND	1,000	ND	990	ND	12,000	ND	1,000
Anthracene	120-12-7	100,000	100,000	500,000	ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
Benz[a]anthracene	56-55-3	1,000	1,000	5,600	400	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
Benzidine					ND	450	ND	2,200	ND	420	ND	410	ND	4,800	ND	420

Table 1

Soil Analytical Data Summary

Detections Highlighted in Blue	CAS No.	Soil Clean-up Objective Track 1 Unrestricted	Track 2 Restricted Residential	Track 2 Commercial Exceedance Highlight	B-2 (15 FT) 6/21/2013 15-16 ft Soil Result	RL	B-3 (5 FT) 6/21/2013 5-6 ft Soil Result	RL	B-3 (15 FT) 6/21/2013 15-16 ft Soil Result	RL	B-3 (30 FT) 6/21/2013 29-30 ft Soil Result	RL	SB1 4/2/2013 4-5 ft Soil Result	RL	SB2 4/2/2013 4-5 ft Soil Result	RL
Benzo(a)pyrene	50-32-8		1,000	1,000	280	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
Benzo(b)fluoranthene	205-99-2	1,000	1,000	5,600	350	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
Benzo(ghi)perylene	191-24-2	100,000	100,000	500,000	ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
Benzo(k)fluoranthene	207-08-9	800	1,000	56,000	ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
Benzoic acid					ND	1,100	ND	5,300	ND	1,000	ND	990	ND	12,000	ND	1,000
Benzyl butyl phthalate					ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
Bis(2-chloroethoxy)methane					ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
Bis(2-chloroethyl)ether					ND	370	ND	1,800	ND	350	ND	340	ND	4,000	ND	350
Bis(2-chloroisopropyl)ether					ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
Bis(2-ethylhexyl)phthalate					ND	260	ND	1,300	ND	240	ND	240	ND	2,800	270	240
Carbazole					ND	560	ND	2,700	ND	520	ND	510	ND	6,000	ND	520
Chrysene	218-01-9	1,000	1,000	56,000	410	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
Dibenz(a,h)anthracene	53-70-3	330	330	560	ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
Dibenzofuran					ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
Diethyl phthalate					ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
Dimethylphthalate					ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
Di-n-butylphthalate					ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
Di-n-octylphthalate					ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
Fluoranthene	206-44-0	100,000	100,000	500,000	780	260	1,400	1,300	ND	240	ND	240	ND	2,800	ND	240
Fluorene	86-73-7	30,000	100,000	500,000	ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
Hexachlorobenzene					ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
Hexachlorobutadiene					ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
Hexachlorocyclopentadiene					ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
Hexachloroethane					ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
Indeno(1,2,3-cd)pyrene	193-39-5	500	500	5,600	ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
Isophorone					ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
Naphthalene	91-20-3	12,000	100,000	500,000	ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
Nitrobenzene					ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
N-Nitrosodimethylamine					ND	370	ND	1,800	ND	350	ND	340	ND	4,000	ND	350
N-Nitrosodi-n-propylamine					ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
N-Nitrosodiphenylamine					ND	370	ND	1,800	ND	350	ND	340	ND	4,000	ND	350
Pentachloronitrobenzene					ND	370	ND	1,800	ND	350	ND	340	ND	4,000	ND	350
Pentachlorophenol	87-86-5	800	2,400	6,700	ND	370	ND	1,800	ND	350	ND	340	ND	4,000	ND	350
Phenanthrene	85-01-8	100,000	100,000	500,000	800	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
Phenol	108-95-2		100,000	500,000	ND	260	ND	1,300	ND	240	ND	240	ND	2,800	ND	240
Pyrene	129-00-0	100,000	100,000	500,000	740	260	1,400	1,300	ND	240	ND	240	ND	2,800	ND	240
Pyridine					ND	370	ND	1,800	ND	350	ND	340	ND	4,000	ND	350

Table 1

Soil Analytical Data Summary

Detections Highlighted in Blue	CAS No.	Soil Clean-up Objective Track 1 Unrestricted	Track 2 Restricted Residential	Track 2 Commercial Exceedance Highlight	B-1 (15 FT) 5/14/2013 15-16 ft Soil Result	RL	B-1 (34-35 FT) 5/14/2013 34-35 ft Soil Result	RL	B-1 (42-43 FT) 5/14/2013 42-43 ft Soil Result	RL	B-2 (5 FT) 6/21/2013 5-6 ft Soil Result	RL
Benzo(a)pyrene	50-32-8		1,000	1,000	ND	240	ND	240	ND	270	ND	240
Benzo(b)fluoranthene	205-99-2	1,000	1,000	5,600	ND	240	ND	240	ND	270	ND	240
Benzo(ghi)perylene	191-24-2	100,000	100,000	500,000	ND	240	ND	240	ND	270	ND	240
Benzo(k)fluoranthene	207-08-9	800	1,000	56,000	ND	240	ND	240	ND	270	ND	240
Benzoic acid					ND	1,000	ND	980	ND	1,100	ND	980
Benzyl butyl phthalate					ND	240	ND	240	ND	270	ND	240
Bis(2-chloroethoxy)methane					ND	240	ND	240	ND	270	ND	240
Bis(2-chloroethyl)ether					ND	350	ND	340	ND	390	ND	340
Bis(2-chloroisopropyl)ether					ND	240	ND	240	ND	270	ND	240
Bis(2-ethylhexyl)phthalate					ND	240	ND	240	ND	270	ND	240
Carbazole					ND	520	ND	510	ND	580	ND	510
Chrysene	218-01-9	1,000	1,000	56,000	ND	240	ND	240	ND	270	ND	240
Dibenz(a,h)anthracene	53-70-3	330	330	560	ND	240	ND	240	ND	270	ND	240
Dibenzofuran					ND	240	ND	240	ND	270	ND	240
Diethyl phthalate					ND	240	ND	240	ND	270	ND	240
Dimethylphthalate					ND	240	ND	240	ND	270	ND	240
Di-n-butylphthalate					ND	240	ND	240	ND	270	ND	240
Di-n-octylphthalate					ND	240	ND	240	ND	270	ND	240
Fluoranthene	206-44-0	100,000	100,000	500,000	ND	240	ND	240	ND	270	ND	240
Fluorene	86-73-7	30,000	100,000	500,000	ND	240	ND	240	ND	270	ND	240
Hexachlorobenzene					ND	240	ND	240	ND	270	ND	240
Hexachlorobutadiene					ND	240	ND	240	ND	270	ND	240
Hexachlorocyclopentadiene					ND	240	ND	240	ND	270	ND	240
Hexachloroethane					ND	240	ND	240	ND	270	ND	240
Indeno(1,2,3-cd)pyrene	193-39-5	500	500	5,600	ND	240	ND	240	ND	270	ND	240
Isophorone					ND	240	ND	240	ND	270	ND	240
Naphthalene	91-20-3	12,000	100,000	500,000	ND	240	ND	240	ND	270	ND	240
Nitrobenzene					ND	240	ND	240	ND	270	ND	240
N-Nitrosodimethylamine					ND	350	ND	340	ND	390	ND	340
N-Nitrosodi-n-propylamine					ND	240	ND	240	ND	270	ND	240
N-Nitrosodiphenylamine					ND	350	ND	340	ND	390	ND	340
Pentachloronitrobenzene					ND	350	ND	340	ND	390	ND	340
Pentachlorophenol	87-86-5	800	2,400	6,700	ND	350	ND	340	ND	390	ND	340
Phenanthrene	85-01-8	100,000	100,000	500,000	ND	240	ND	240	ND	270	ND	240
Phenol	108-95-2		100,000	500,000	ND	240	ND	240	ND	270	ND	240
Pyrene	129-00-0	100,000	100,000	500,000	ND	240	ND	240	ND	270	ND	240
Pyridine					ND	350	ND	340	ND	390	ND	340

Table 1

Soil Analytical Data Summary

Detections Highlighted in Blue	CAS No.	Soil Clean-up Objective Track 1 Unrestricted	Track 2 Restricted Residential	Track 2 Commercial Exceedance Highlight	B-1 (15 FT) 5/14/2013 15-16 ft Soil Result	RL	B-1 (34-35 FT) 5/14/2013 34-35 ft Soil Result	RL	B-1 (42-43 FT) 5/14/2013 42-43 ft Soil Result	RL	B-2 (5 FT) 6/21/2013 5-6 ft Soil Result	RL
Pesticides By SW8081 (µg/kg)												
4,4' -DDD	72-55-9	3	1,800	62,000	ND	33.0	ND	32.0	ND	38.0	ND	33.0
4,4' -DDE	50-29-3	3	1,700	47,000	ND	33.0	ND	32.0	ND	38.0	ND	33.0
4,4' -DDT	72-54-8	3	2,600	92,000	ND	33.0	ND	32.0	ND	38.0	ND	33.0
a-BHC	319-84-6	20	97	3,400	ND	16.0	ND	16.0	ND	19.0	ND	16.0
Alachlor					ND	16.0	ND	16.0	ND	19.0	ND	16.0
Aldrin	309-00-2	5	19	680	ND	5.1	ND	5.0	ND	5.9	ND	5.1
b-BHC	319-85-7	36	72	3,000	ND	16.0	ND	16.0	ND	19.0	ND	16.0
Chlordane	5103-71-9	94	910	24,000	ND	51.0	ND	50.0	ND	59.0	ND	51.0
d-BHC	319-86-8	40	100,000	500,000	ND	16.0	ND	16.0	ND	19.0	ND	16.0
Dieldrin	60-57-1	5	39	1,400	ND	5.1	ND	5.0	ND	5.9	ND	5.1
Endosulfan I	959-98-8	2,400	4,800	200,000	ND	16.0	ND	16.0	ND	19.0	ND	16.0
Endosulfan II	33213-65-9	2,400	4,800	200,000	ND	33.0	ND	32.0	ND	38.0	ND	33.0
Endosulfan sulfate	1031-07-8	2,400	4,800	200,000	ND	33.0	ND	32.0	ND	38.0	ND	33.0
Endrin	72-20-8	14	2,200	89,000	ND	33.0	ND	32.0	ND	38.0	ND	33.0
Endrin aldehyde					ND	33.0	ND	32.0	ND	38.0	ND	33.0
Endrin ketone					ND	33.0	ND	32.0	ND	38.0	ND	33.0
g-BHC (Lindane)	58-89-9	100	280	9,200	ND	5.1	ND	5.0	ND	5.9	ND	5.1
Heptachlor	76-44-8	42	420	15,000	ND	10.0	ND	10.0	ND	12.0	ND	10.0
Heptachlor epoxide					ND	16.0	ND	16.0	ND	19.0	ND	16.0
Methoxychlor					ND	160.0	ND	160.0	ND	190.0	ND	160.0
Toxaphene					ND	160.0	ND	160.0	ND	190.0	ND	160.0

Table 1

Soil Analytical Data Summary

Detections Highlighted in Blue	CAS No.	Soil Clean-up Objective: Track 1 Unrestricted	Track 2 Restricted Residential	Track 2 Commercial Exceedance Highlight	B-2 (15 FT) 6/21/2013 15-16 ft Soil		B-3 (5 FT) 6/21/2013 5-6 ft Soil		B-3 (15 FT) 6/21/2013 15-16 ft Soil		B-3 (30 FT) 6/21/2013 29-30 ft Soil		SB1 4/2/2013 4-5 ft Soil		SB2 4/2/2013 4-5 ft Soil	
					Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Pesticides By SW8081 (µg/kg)																
4,4'-DDD	72-55-9	3	1,800	62,000	ND	36.0	ND	34.0	ND	33.0	ND	33.0	ND*	190.0	ND	33.0
4,4'-DDE	50-29-3	3	1,700	47,000	ND	36.0	ND	34.0	ND	33.0	ND	33.0	ND*	190.0	ND	33.0
4,4'-DDT	72-54-8	3	2,600	92,000	ND	36.0	ND	34.0	ND	33.0	ND	33.0	ND*	190.0	ND	33.0
a-BHC	319-84-6	20	97	3,400	ND	18.0	ND	17.0	ND	17.0	ND	16.0	ND*	93.0	ND	16.0
Alachlor					ND	18.0	ND	17.0	ND	17.0	ND	16.0	ND*	93.0	ND	16.0
Aldrin	309-00-2	5	19	680	ND	5.6	ND	5.4	ND	5.2	ND	5.1	ND*	29.0	ND	5.1
b-BHC	319-85-7	36	72	3,000	ND	18.0	ND	17.0	ND	17.0	ND	16.0	ND*	93.0	ND	16.0
Chlordane	5103-71-9	94	910	24,000	ND	56.0	ND	54.0	ND	52.0	ND	51.0	ND*	290.0	ND	51.0
d-BHC	319-86-8	40	100,000	500,000	ND	18.0	ND	17.0	ND	17.0	ND	16.0	ND*	93.0	ND	16.0
Dieldrin	60-57-1	5	39	1,400	ND	5.6	ND	5.4	ND	5.2	ND	5.1	ND*	29.0	ND	5.1
Endosulfan I	959-98-8	2,400	4,800	200,000	ND	18.0	ND	17.0	ND	17.0	ND	16.0	ND*	93.0	ND	16.0
Endosulfan II	33213-65-9	2,400	4,800	200,000	ND	36.0	ND	34.0	ND	33.0	ND	33.0	ND*	190.0	ND	33.0
Endosulfan sulfate	1031-07-8	2,400	4,800	200,000	ND	36.0	ND	34.0	ND	33.0	ND	33.0	ND*	190.0	ND	33.0
Endrin	72-20-8	14	2,200	89,000	ND	36.0	ND	34.0	ND	33.0	ND	33.0	ND*	190.0	ND	33.0
Endrin aldehyde					ND	36.0	ND	34.0	ND	33.0	ND	33.0	ND*	190.0	ND	33.0
Endrin ketone					ND	36.0	ND	34.0	ND	33.0	ND	33.0	ND*	190.0	ND	33.0
g-BHC (Lindane)	58-89-9	100	280	9,200	ND	5.6	ND	5.4	ND	5.2	ND	5.1	ND*	29.0	ND	5.1
Heptachlor	76-44-8	42	420	15,000	ND	11.0	ND	11.0	ND	10.0	ND	10.0	ND*	58.0	ND	10.0
Heptachlor epoxide					ND	18.0	ND	17.0	ND	17.0	ND	16.0	ND*	93.0	ND	16.0
Methoxychlor					ND	180.0	ND	170.0	ND	170.0	ND	160.0	ND*	930.0	ND	160.0
Toxaphene					ND	180.0	ND	170.0	ND	170.0	ND	160.0	ND*	930.0	ND	160.0

Table 2 Groundwater Analytical Data Summary

Detections Highlighted in Blue	TOGS-WQ/GA Exceedance Highlight	EMW-1 6/24/2013		EMW-3 6/24/2013		B-1 (ASR-1) 6/24/2013	
		Result	RL	Result	RL	Result	RL
Metals (Units: mg/l)							
Aluminum	0.1	31.5	0.01	2.69	0.01	116	0.1
Aluminum (Dissolved)	0.1	0.4	0.01	0.39	0.01	0.58	0.01
Antimony	0.003	0.016	0.003	BRL	0.003	0.007	0.003
Antimony (Dissolved)	0.003	BRL	0.003	BRL	0.003	BRL	0.003
Arsenic	0.025	0.009	0.004	0.01	0.004	0.037	0.004
Arsenic (Dissolved)	0.025	BRL	0.004	0.007	0.004	BRL	0.004
Barium	1	0.335	0.002	0.506	0.002	1.91	0.002
Barium (Dissolved)	1	0.03	0.002	0.467	0.002	0.169	0.002
Beryllium	0.003	0.002	0.001	BRL	0.001	0.009	0.001
Beryllium (Dissolved)	0.003	BRL	0.001	BRL	0.001	BRL	0.001
Cadmium	0.005	0.003	0.001	BRL	0.001	0.006	0.001
Cadmium (Dissolved)	0.005	BRL	0.001	BRL	0.001	BRL	0.001
Calcium		66	0.01	144	0.01	109	0.01
Calcium (Dissolved)		56.9	0.01	142	0.01	78.6	0.01
Chromium	0.05	0.101	0.001	0.01	0.001	0.461	0.001
Chromium (Dissolved)	0.05	BRL	0.001	0.002	0.001	0.003	0.001
Cobalt		0.037	0.002	0.009	0.002	0.121	0.002
Cobalt (Dissolved)		0.003	0.001	0.01	0.001	0.003	0.001
Copper	0.2	0.369	0.005	0.061	0.005	0.506	0.005
Copper (Dissolved)	0.2	0.042	0.005	0.008	0.005	BRL	0.005
Iron	0.3	49.5	0.01	60.5	0.01	218	0.1
Iron (Dissolved)	0.3	0.295	0.011	58.4	0.011	0.838	0.011
Lead	0.025	0.261	0.002	0.034	0.002	0.37	0.002
Lead (Dissolved)	0.025	BRL	0.002	0.005	0.002	BRL	0.002
Magnesium	35	24.2	0.01	22.5	0.01	71	0.01
Magnesium (Dissolved)	35	13.1	0.01	21.8	0.01	21.4	0.01
Manganese	0.3	0.576	0.001	13.1	0.01	11.7	0.01
Manganese (Dissolved)	0.3	0.156	0.001	11.3	0.011	2.42	0.011
Mercury	0.0007	BRL	0.0002	BRL	0.0002	BRL	0.0002
Mercury (Dissolved)	0.0007	BRL	0.0002	BRL	0.0002	BRL	0.0002
Nickel	0.1	0.093	0.001	0.018	0.001	0.557	0.001
Nickel (Dissolved)	0.1	0.034	0.001	0.021	0.001	0.034	0.001
Potassium		18.8	0.1	31.7	0.1	42	0.1
Potassium (Dissolved)		12.3	0.1	35.6	0.1	14.2	0.1
Selenium	0.01	BRL	0.01	BRL	0.01	BRL	0.01
Selenium (Dissolved)	0.01	BRL	0.01	BRL	0.01	BRL	0.01
Silver	0.05	BRL	0.001	BRL	0.003	BRL	0.001
Silver (Dissolved)	0.05	BRL	0.001	BRL	0.003	BRL	0.001
Sodium	20	138	1	147	1	148	1
Sodium (Dissolved)	20	141	1.1	134	1.1	148	1.1
Thallium	0.0005	BRL	0.0005	BRL	0.0005	BRL	0.0005
Thallium (Dissolved)	0.0005	BRL	0.0005	BRL	0.0005	BRL	0.0005
Vanadium		0.077	0.002	0.006	0.002	0.268	0.002
Vanadium (Dissolved)		BRL	0.002	BRL	0.002	BRL	0.002
Zinc	5	1.23	0.002	0.429	0.002	1.93	0.002
Zinc (Dissolved)	5	0.054	0.002	0.117	0.002	0.054	0.002

Table 2 **Groundwater Analytical Data Summary**

Detections Highlighted in Blue	TOGS-WQ/GA Exceedance Highlight	EMW-1 6/24/2013 Result	RL	EMW-3 6/24/2013 Result	RL	B-1 (ASR-1) 6/24/2013 Result	RL
PCBs By 8082 (Units: ug/L)							
PCB-1016	0.09	ND	0.05	ND	0.25	ND	0.05
PCB-1221	0.09	ND	0.05	ND	0.25	ND	0.05
PCB-1232	0.09	ND	0.05	ND	0.25	ND	0.05
PCB-1242	0.09	ND	0.05	ND	0.25	ND	0.05
PCB-1248	0.09	ND	0.05	ND	0.25	ND	0.05
PCB-1254	0.09	0.43	0.05	ND	0.25	ND	0.05
PCB-1260	0.09	ND	0.05	ND	0.25	ND	0.05
PCB-1262		ND	0.05	ND	0.25	ND	0.05
PCB-1268		ND	0.05	ND	0.25	ND	0.05
Total PCBs		0.43		0.00		0.00	
Volatiles By SW8260 (Units: µg/L)							
1,1,1,2-Tetrachloroethane	5	ND	1	ND	1	ND	1
1,1,1-Trichloroethane	5	ND	1	ND	1	ND	1
1,1,2,2-Tetrachloroethane	5	ND	0.5	ND	0.5	ND	0.5
1,1,2-Trichloroethane	1	ND	1	ND	1	ND	1
1,1-Dichloroethane	5	ND	1	ND	1	ND	1
1,1-Dichloroethene	5	ND	1	ND	1	ND	1
1,1-Dichloropropene	5	ND	1	ND	1	ND	1
1,2,3-Trichlorobenzene		ND	1	ND	1	ND	1
1,2,3-Trichloropropane	0.04	ND	1	ND	1	ND	1
1,2,4-Trichlorobenzene		ND	1	ND	1	ND	1
1,2,4-Trimethylbenzene	5	ND	1	ND	1	ND	1
1,2-Dibromo-3-chloropropane	0.04	ND	1	ND	1	ND	1
1,2-Dibromoethane	0.0006	ND	1	ND	1	ND	1
1,2-Dichlorobenzene		ND	1	ND	1	ND	1
1,2-Dichloroethane	0.6	ND	0.6	ND	0.6	ND	0.6
1,2-Dichloropropane	1	ND	1	ND	1	ND	1
1,3,5-Trimethylbenzene	5	ND	1	ND	1	ND	1
1,3-Dichlorobenzene	3	ND	1	ND	1	ND	1
1,3-Dichloropropane	5	ND	1	ND	1	ND	1
1,4-Dichlorobenzene		ND	1	ND	1	ND	1
2,2-Dichloropropane	5	ND	1	ND	1	ND	1
2-Chlorotoluene	5	ND	1	ND	1	ND	1
2-Hexanone	50	ND	5	ND	5	ND	5
2-Isopropyltoluene	5	ND	1	ND	1	ND	1
4-Chlorotoluene	5	ND	1	ND	1	ND	1
4-Methyl-2-pentanone		ND	5	ND	5	ND	5
Acetone	50	ND	25	ND	25	ND	25
Acrylonitrile	5	ND	5	ND	5	ND	5
Benzene	1	ND	0.7	ND	0.7	ND	0.7
Bromobenzene	5	ND	1	ND	1	ND	1
Bromochloromethane	5	ND	1	ND	1	ND	1
Bromodichloromethane	50	ND	0.5	ND	0.5	ND	0.5
Bromoform	50	ND	1	ND	1	ND	1
Bromomethane	5	ND	1	ND	1	ND	1
Carbon Disulfide		ND	5	ND	5	ND	5
Carbon tetrachloride	5	ND	1	ND	1	ND	1
Chlorobenzene	5	ND	1	ND	1	ND	1
Chloroethane	5	ND	1	ND	1	ND	1
Chloroform	7	ND	1	ND	1	ND	1
Chloromethane	5	ND	1	ND	1	ND	1
cis-1,2-Dichloroethene	5	ND	1	ND	1	ND	1
cis-1,3-Dichloropropene	0.4	ND	0.4	ND	0.4	ND	0.4

Table 2 Groundwater Analytical Data Summary

Detections Highlighted in Blue	TOGS-WQ/GA Exceedance Highlight	EMW-1 6/24/2013		EMW-3 6/24/2013		B-1 (ASR-1) 6/24/2013	
		Result	RL	Result	RL	Result	RL
Dibromochloromethane	50	ND	0.5	ND	0.5	ND	0.5
Dibromomethane	5	ND	1	ND	1	ND	1
Dichlorodifluoromethane	5	ND	1	ND	1	ND	1
Ethylbenzene	5	ND	1	ND	1	ND	1
Hexachlorobutadiene	0.5	ND	0.4	ND	0.4	ND	0.4
Isopropylbenzene	5	ND	1	ND	1	ND	1
m&p-Xylene		ND	1	ND	1	ND	1
Methyl ethyl ketone (2-Butanone)	50	ND	5	50	5	ND	5
Methyl t-butyl ether (MTBE)		ND	1	ND	1	ND	1
Methylene chloride	5	ND	1	ND	1	ND	1
Naphthalene	10	ND	1	ND	1	ND	1
n-Butylbenzene	5	ND	1	ND	1	ND	1
n-Propylbenzene	5	ND	1	ND	1	ND	1
o-Xylene	5	ND	1	ND	1	ND	1
p-Isopropyltoluene	5	ND	1	ND	1	ND	1
sec-Butylbenzene	5	ND	1	ND	1	ND	1
Styrene	5	ND	1	ND	1	ND	1
tert-Butylbenzene	5	ND	1	ND	1	ND	1
Tetrachloroethene	5	ND	1	ND	1	ND	1
Tetrahydrofuran (THF)	50	ND	2.5	ND	2.5	ND	2.5
Toluene	5	ND	1	ND	1	ND	1
Total Xylenes	5	ND	1	ND	1	ND	1
trans-1,2-Dichloroethene	5	ND	1	ND	1	ND	1
trans-1,3-Dichloropropene	0.4	ND	0.4	ND	0.4	ND	0.4
trans-1,4-dichloro-2-butene	5	ND	5	ND	5	ND	5
Trichloroethene	5	ND	1	ND	1	ND	1
Trichlorofluoromethane	5	ND	1	ND	1	ND	1
Trichlorotrifluoroethane	5	ND	1	ND	1	ND	1
Vinyl chloride	2	ND	1	ND	1	ND	1
Total VOCs		0.0		50.0		0.0	

Table 2 **Groundwater Analytical Data Summary**

Detections Highlighted in Blue	TOGS-WQ/GA Exceedance Highlight	EMW-1 6/24/2013 Result	EMW-1 RL	EMW-3 6/24/2013 Result	EMW-3 RL	B-1 (ASR-1) 6/24/2013 Result	B-1 (ASR-1) RL
Semivolatiles By SW8270 (SIM), (Units: µg/L)							
1,2,4,5-Tetrachlorobenzene		ND	1.6	ND	11	ND	1.6
Acenaphthene	20	ND	0.05	ND	11	ND	0.05
Acenaphthylene		ND	0.05	ND	11	ND	0.05
Benz(a)anthracene	0.002	0.1	0.02	ND	11	0.05	0.02
Benzo(a)pyrene		ND	0.02	ND	11	ND	0.02
Benzo(b)fluoranthene	0.002	0.2	0.02	ND	11	0.06	0.02
Benzo(ghi)perylene		ND	3	ND	11	ND	3
Benzo(k)fluoranthene	0.002	0.06	0.02	ND	11	ND	0.02
Bis(2-ethylhexyl)phthalate	5	15	1.6	ND	11	ND	1.6
Chrysene	0.002	0.22	0.02	ND	11	ND	0.02
Dibenz(a,h)anthracene		0.02	0.02	ND	11	ND	0.02
Hexachlorobenzene	0.04	ND	0.02	ND	11	ND	0.02
Hexachloroethane	5	ND	2.4	ND	11	ND	2.4
Indeno(1,2,3-cd)pyrene	0.002	0.05	0.02	ND	11	ND	0.02
Pentachloronitrobenzene		ND	0.1	ND	11	ND	0.1
Pentachlorophenol	1	ND	0.8	ND	11	ND	0.8
Phenanthrene	50	0.18	0.05	ND	11	ND	0.05
Pyridine	50	ND	0.5	ND	11	ND	0.5

Semivolatiles By SW8270 (Units: µg/L)							
1,2,4-Trichlorobenzene		ND	5	ND	11	ND	5
1,2-Dichlorobenzene		ND	3	ND	11	ND	3
1,2-Diphenylhydrazine		ND	5	ND	11	ND	5
1,3-Dichlorobenzene	3	ND	3	ND	11	ND	3
1,4-Dichlorobenzene		ND	5	ND	11	ND	5
2,4,5-Trichlorophenol	1	ND	1	ND	11	ND	1
2,4,6-Trichlorophenol	1	ND	1	ND	11	ND	1
2,4-Dichlorophenol	5	ND	1	ND	11	ND	1
2,4-Dimethylphenol	1	ND	1	ND	11	ND	1
2,4-Dinitrophenol	5	ND	1	ND	56	ND	1
2,4-Dinitrotoluene	5	ND	5	ND	11	ND	5
2,6-Dinitrotoluene	5	ND	5	ND	11	ND	5
2-Chloronaphthalene	10	ND	5	ND	11	ND	5
2-Chlorophenol	1	ND	1	ND	11	ND	1
2-Methylnaphthalene		ND	5	ND	11	ND	5
2-Methylphenol (o-cresol)	1	ND	1	ND	11	ND	1
2-Nitroaniline	5	ND	5	ND	56	ND	5
2-Nitrophenol	1	ND	1	ND	11	ND	1
3&4-Methylphenol (m&p-cresol)		ND	10	12	11	ND	10
3,3'-Dichlorobenzidine	5	ND	5	ND	22	ND	5
3-Nitroaniline	5	ND	5	ND	56	ND	5
4,6-Dinitro-2-methylphenol	1	ND	1	ND	56	ND	1
4-Bromophenyl phenyl ether		ND	5	ND	11	ND	5
4-Chloro-3-methylphenol	1	ND	1	ND	22	ND	1
4-Chloroaniline	5	ND	5	ND	22	ND	5
4-Chlorophenyl phenyl ether		ND	5	ND	11	ND	5
4-Nitroaniline	5	ND	5	ND	56	ND	5
4-Nitrophenol	1	ND	1	ND	11	ND	1
Acetophenone		ND	5	ND	11	ND	5
Aniline	5	ND	5	ND	56	ND	5
Anthracene	50	ND	5	ND	11	ND	5
Benzidine	5	ND	5	ND	22	ND	5
Benzoic acid		ND	50	ND	56	ND	50
Benzyl butyl phthalate	50	ND	5	ND	11	ND	5

Table 2 Groundwater Analytical Data Summary

Detections Highlighted in Blue	TOGS-WQ/GA Exceedance Highlight	EMW-1 6/24/2013 Result	RL	EMW-3 6/24/2013 Result	RL	B-1 (ASR-1) 6/24/2013 Result	RL
Bis(2-chloroethoxy)methane	5	ND	5	ND	11	ND	5
Bis(2-chloroethyl)ether	1	ND	1	ND	11	ND	1
Bis(2-chloroisopropyl)ether		ND	5	ND	11	ND	5
Carbazole		ND	5	ND	56	ND	5
Dibenzofuran		ND	5	ND	11	ND	5
Diethyl phthalate	50	ND	5	ND	11	ND	5
Dimethylphthalate	50	ND	5	ND	11	ND	5
Di-n-butylphthalate	50	ND	5	ND	11	ND	5
Di-n-octylphthalate	50	ND	5	ND	11	ND	5
Fluoranthene	50	ND	5	ND	11	ND	5
Fluorene	50	ND	5	ND	11	ND	5
Hexachlorobutadiene	0.5	ND	0.5	ND	11	ND	0.5
Hexachlorocyclopentadiene	5	ND	5	ND	11	ND	5
Isophorone	50	ND	5	ND	11	ND	5
Naphthalene	10	ND	5	ND	11	ND	5
Nitrobenzene	0.4	ND	0.4	ND	11	ND	0.4
N-Nitrosodimethylamine		ND	5	ND	11	ND	5
N-Nitrosodi-n-propylamine		ND	5	ND	11	ND	5
N-Nitrosodiphenylamine	50	ND	5	ND	11	ND	5
Phenol	1	ND	1	ND	11	ND	1
Pyrene	50	ND	5	ND	11	ND	5
Total SVOCs		**15.83**		**12.00**		**0.11**	
Pesticides By SW8081 (Units: µg/L)							
4,4' -DDD	0.3	ND*	0.5	ND*	1.2	ND	0.01
4,4' -DDE	0.2	ND*	0.5	ND*	1.2	ND	0.01
4,4' -DDT	0.2	ND*	0.5	ND*	1.2	ND	0.01
a-BHC	0.01	ND*	0.25	ND*	0.62	ND	0.01
Alachlor	0.5	ND*	0.75	ND*	1.9	ND	0.075
Aldrin		ND*	0.015	ND*	0.075	ND	0.002
b-BHC	0.04	ND*	0.05	ND*	0.12	ND	0.005
Chlordane	0.05	ND*	3	ND*	7.5	0.071	0.05
d-BHC	0.04	ND*	0.25	ND*	0.62	ND	0.025
Dieldrin	0.004	ND*	0.015	ND*	0.038	ND	0.003
Endosulfan I		ND*	0.5	ND*	1.2	ND	0.05
Endosulfan II		ND*	0.5	ND*	1.2	ND	0.05
Endosulfan Sulfate		ND*	0.5	ND*	1.2	ND	0.05
Endrin		ND*	0.5	ND*	1.2	ND	0.01
Endrin Aldehyde	5	ND*	0.5	ND*	1.2	ND	0.05
Endrin ketone	5	ND*	0.5	ND*	1.2	ND	0.05
g-BHC (Lindane)	0.05	ND*	0.25	ND*	0.62	ND	0.025
Heptachlor	0.04	ND*	0.25	ND*	0.62	ND	0.01
Heptachlor epoxide	0.03	ND*	0.25	ND*	0.62	ND	0.01
Methoxychlor	35	ND*	1	ND*	2.5	ND	0.1
Toxaphene	0.06	ND*	10	ND*	25	ND	0.25
Total Pesticides		**0.00**		**0.00**		**0.07**	

Table 3 Soil Vapor Analytical Data Summary

	VP1 (SB1)		B3 (30 FT)		B2 (15 FT)	
	5 ft		30 ft		15 ft	
	4/3/2013		6/24/2013		6/24/2013	
Detections Highlighted in Blue	Result	RL	Result	RL	Result	RL
Volatiles (TO15) By TO15 (µg/m^3)						
1,1,1,2-Tetrachloroethane	ND	1	ND	1	ND	1
1,1,1-Trichloroethane	ND	1	ND	1	ND	1
1,1,2,2-Tetrachloroethane	ND	1	ND	1	ND	1
1,1,2-Trichloroethane	ND	1	ND	1	ND	1
1,1-Dichloroethane	ND	1	ND	1	ND	1
1,1-Dichloroethene	ND	1	ND	1	ND	1
1,2,4-Trichlorobenzene	ND	1	ND	1	ND	1
1,2,4-Trimethylbenzene	24.6	1	29.1	1	29.1	1
1,2-Dibromoethane(EDB)	ND	1	ND	1	ND	1
1,2-Dichlorobenzene	ND	1	ND	1	ND	1
1,2-Dichloroethane	ND	1	1.01	1	ND	1
1,2-dichloropropane	ND	1	ND	1	ND	1
1,2-Dichlorotetrafluoroethane	ND	1	ND	1	ND	1
1,3,5-Trimethylbenzene	6.78	1	9.09	1	8.6	1
1,3-Butadiene	ND	1	ND	1	ND	1
1,3-Dichlorobenzene	ND	1	ND	1	ND	1
1,4-Dichlorobenzene	ND	1	ND	1	ND	1
1,4-Dioxane	ND	1	ND	1	ND	1
2-Hexanone(MBK)	ND	1	ND	1	ND	1
4-Ethyltoluene	4.91	1	22.3	1	23.2	1
4-Isopropyltoluene	1.32	1	ND	1	1.15	1
4-Methyl-2-pentanone(MIBK)	2.42	1	ND	1	10.4	1
Acetone	52.7	1	976	1	275	1
Acrylonitrile	ND	1	ND	1	ND	1
Benzene	2.52	1	200	1	105	1
Benzyl chloride	ND	1	ND	1	ND	1
Bromodichloromethane	ND	1	5.09	1	ND	1
Bromoform	ND	1	ND	1	ND	1
Bromomethane	ND	1	ND	1	ND	1
Carbon Disulfide	9.65	1	24.1	1	29.6	1
Carbon Tetrachloride	0.503	0.25	ND	0.25	0.251	0.25
Chlorobenzene	ND	1	ND	1	ND	1
Chloroethane	ND	1	ND	1	ND	1
Chloroform	ND	1	198	1	18.4	1
Chloromethane	ND	1	1.71	1	1.28	1
Cis-1,2-Dichloroethene	ND	1	ND	1	ND	1
cis-1,3-Dichloropropene	ND	1	ND	1	ND	1
Cyclohexane	4.44	1	14	1	8.81	1
Dibromochloromethane	ND	1	ND	1	ND	1
Dichlorodifluoromethane	2.22	1	2.47	1	2.57	1
Ethanol	14	1	260	1	109	1

Table 3 Soil Vapor Analytical Data Summary

	VP1 (SB1)		B3 (30 FT)		B2 (15 FT)	
	5 ft		30 ft		15 ft	
	4/3/2013		6/24/2013		6/24/2013	
Detections Highlighted in Blue	Result	RL	Result	RL	Result	RL
Volatiles (TO15) By TO15 (µg/m^3)						
Ethyl acetate	ND	1	ND	1	ND	1
Ethylbenzene	9.63	1	195	1	138	1
Heptane	2.99	1	219	1	89.7	1
Hexachlorobutadiene	ND	1	ND	1	ND	1
Hexane	3.38	1	284	1	129	1
Isopropylalcohol	3.07	1	15	1	7.39	1
Isopropylbenzene	1.18	1	4.18	1	2.95	1
m,p-Xylene	39.6	1	699	1	456	1
Methyl Ethyl Ketone	11.4	1	ND	1	ND	1
Methyl tert-butyl ether(MTBE)	ND	1	ND	1	ND	1
Methylene Chloride	1.7	1	10.6	1	2.95	1
n-Butylbenzene	2.08	1	1.76	1	2.08	1
o-Xylene	19.5	1	144	1	108	1
Propylene	20.8	1	155	1	71.9	1
sec-Butylbenzene	ND	1	ND	1	ND	1
Styrene	ND	1	18.3	1	14.9	1
Tetrachloroethene	12.8	0.25	6.1	0.25	14.1	0.25
Tetrahydrofuran	ND	1	27.1	1	13.3	1
Toluene	15.5	1	2,390	1	1,300	1
Trans-1,2-Dichloroethene	ND	1	ND	1	ND	1
trans-1,3-Dichloropropene	ND	1	ND	1	ND	1
Trichloroethene	0.322	0.25	6.12	0.25	6.82	0.25
Trichlorofluoromethane	1.12	1	2.36	1	2.7	1
Trichlorotrifluoroethane	ND	1	ND	1	1.07	1
Vinyl Chloride	ND	0.25	ND	0.25	ND	0.25

Appendix 1

APPENDIX 1 Soil/Materials Management Plan

1.0 Soil Materials Management Plan

1.1 Soil Screening Methods

Visual, olfactory and PID soil screening and assessment will be performed under the supervision of a Qualified Environmental Professional or Professional Engineer and will be reported in the Remedial Closure Report (RCR). Soil screening will be performed during the excavation of soil for construction purposes.

1.2 Stockpile Methods

Excavated soil from suspected areas of contamination or that is indicated to be contaminated by field screening will be stockpiled separately and will be segregated from clean soil and construction materials. Stockpiles will be used only when necessary and will be removed as soon as practicable. While stockpiles are in place, they will be inspected daily, and before and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by OER. Excavated soils will be stockpiled on, at minimum, layers of 10-mil minimum sheeting, will be kept covered at all times with appropriately anchored plastic tarps, and will be routinely inspected. Broken or ripped tarps will be promptly replaced.

All stockpile activities will be compliant with applicable laws and regulations. Soil stockpile areas will be appropriately graded to control run-off in accordance with applicable laws and regulations. Hay bales or equivalent will surround soil stockpiles except for areas where access by equipment is required. Silt fencing and hay bales will be used as needed near catch basins, surface waters and other discharge points.

1.3 Characterization of Excavated Materials

Soil/fill or other excavated media that is transported off-Site for disposal will be sampled in a manner required by the receiving facility, and in compliance with applicable laws and regulations. Soils proposed for reuse on-Site will be managed as defined in this plan.

1.4 Materials Excavation, Load-Out and Departure

The PE/QEP overseeing the remedial action will:

- Oversee the excavation and load-out of contaminated soil, if encountered;
- Ensure that there is a party responsible for the safe execution of excavation and other work performed under this work plan;
- Ensure that Site development activities and development-related grading cuts will not interfere with, or otherwise impair or compromise the remedial activities proposed in this RAP;
- Ensure that all loaded outbound trucks containing contaminated soil are inspected and cleaned if necessary before leaving the Site;
- Ensure that all egress points for trucks carrying contaminated soil from the Site will be kept clean of Site-derived materials during Site remediation.

During the transport of contaminated soil, locations where vehicles containing contaminated soil exit the Site will be inspected daily for evidence of soil tracking off premises. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to Site-derived contaminated materials.

Open and uncontrolled mechanical processing of historical fill and contaminated soil on-Site will not be performed without prior OER approval.

The responsibility for managing the excavation to avoid impacts to area utilities, including the New York Transit Authority facilities, is the sole responsibility of the project architect and structural engineer, and is not a component of this RAP.

1.5 Off-Site Materials Transport

Loaded vehicles leaving the Site will comply with all applicable materials transportation requirements (including appropriate covering, manifests, and placards) in accordance with applicable laws and regulations, including use of licensed haulers in accordance with 6 NYCRR

Part 364. If loads contain wet material capable of causing leakage from trucks, truck liners will be used. Queuing of trucks will be performed on-Site, when possible in order to minimize off Site disturbance. Off-Site queuing will be minimized.

Outbound truck transport routes are in Section 3.8 of the RAP. This routing takes into account the following factors: (a) limiting transport through residential areas and past sensitive sites; (b) use of mapped truck routes; (c) minimizing off-Site queuing of trucks entering the facility; (d) limiting total distance to major highways; € promoting safety in access to highways; and (f) overall safety in transport. To the extent possible, all trucks loaded with Site materials will travel from the Site using these truck routes. Trucks will not stop or idle in the neighborhood after leaving the project Site.

1.6 Materials Disposal Off-Site

The following documentation will be established and reported by the PE/QEP for each disposal destination used in this project to document that the disposal of regulated material exported from the Site conforms with applicable laws and regulations: (1) a letter from the PE/QEP or Applicant to each disposal facility describing the material to be disposed and requesting written acceptance of the material. This letter will state that material to be disposed is regulated material generated at an environmental remediation Site in New York under a governmental remediation program. The letter will provide the project identity and the name and phone number of the PE/QEP or Applicant. The letter will include as an attachment a summary of all chemical data for the material being transported; and (2) a letter from each disposal facility stating it is in receipt of the correspondence (1, above) and is approved to accept the material. These documents will be included in the RCR.

The RCR will include an itemized account of the destination of all contaminated material removed from the Site during this remedial action. Documentation associated with disposal of all material will include records and approvals for receipt of the material. This information will be presented in the RCR.

All impacted soil/fill or other waste excavated and removed from the Site will be managed as regulated material and will be disposed in accordance with applicable laws and regulations.

Waste characterization will be performed for off-Site disposal in a manner required by the receiving facility and in conformance with its applicable permits. Waste characterization sampling and analytical methods, sampling frequency, analytical results and QA/QC will be reported in the RCR. A manifest system for off-Site transportation of exported contaminated materials will be employed. Manifest information will be reported in the RCR. Hazardous wastes derived from on-Site will be stored, transported, and disposed of in compliance with applicable laws and regulations.

Disposal of soil/fill from this Site is proposed for unregulated disposal (i.e., clean soil removed for development purposes), including transport to a Part 360-16 Registration Facility. A formal request will be made for approval by OER with an associated plan compliant with 6NYCRR Part 360-16. This request and plan will include the location, volume and a description of the material to be recycled, including verification that the material is not impacted by site uses and that the material complies with receipt requirements for recycling under 6NYCRR Part 360. This material will be appropriately handled on-Site to prevent mixing with contaminated material that cannot be handled as unregulated disposal.

1.7 Materials Reuse On-Site

Reuse of soil on-Site is not required for this project; however, incidental disturbance and replacement of the native soils may occur during construction of foundations. This common construction practice is not considered soil reuse for the purposes of this RAP.

Organic matter (wood, roots, stumps, etc.) or other waste derived from clearing and grubbing of the Site will not be buried on-Site. Soil or fill excavated from the site for grading or other purposes will not be reused within a cover soil layer or within landscaping berms.

1.8 Demarcation

The excavation is being conducted for the purposes of building two levels of underground space. As a result, excavated soil will be replaced by structures. A demarcation layer is not feasible.

1.9 Import of Backfill Soil from Off-Site Sources

No imported soil is required for this project. Should this change, all imported soil will be uncontaminated, clean soil that meets the lesser of the appropriate NYSDEC 6 NYCRR Part 375-6.8(a) Unrestricted Use SCOs and the NYSDEC 6 NYCRR Part 375-6.8 groundwater protection SCOs.

The proposed development and construction will require a full excavation of the proposed building footprint of approximately thirty (35) feet bgs to accommodate two (2) cellar levels. This will generate large quantities of native soils and urban fills of sufficient quality for beneficial reuse. The native soil (the second stratum) that is comprised of loose to medium compacted brown fine to course sand with some trace of silt, gravel, mica will be reused in accordance with the OER soil reuse and banking program. Additionally, soil/fill materials in the upper 15 to 20 feet below ground surface may be reused in some instances; otherwise they will be excavated and transported to an approved waste disposal, recycling or reuse facility in accordance with NYSDEC regulations.

1.10 Fluids Management

As groundwater is below the depth of the excavation, fluids management is unlikely to be required during the excavation. If required, all liquids to be removed from the Site, including dewatering fluids, will be handled, transported and disposed in accordance with applicable laws and regulations. Liquids discharged into the New York City sewer system will receive prior approval by New York City Department of Environmental Protection (NYC DEP), in accordance with Title 15, Rules of the City of New York Chapter 19. Discharge to the New York City sewer system will require an authorization and sampling data demonstrating that the groundwater meets the City's discharge criteria. The dewatering fluid will be pretreated as necessary to meet the NYC DEP discharge criteria. If discharge to the City sewer system is not appropriate, the dewatering fluids will be managed by transportation and disposal at an off-Site treatment facility.

Discharge of water generated during remedial construction to surface waters (i.e. a stream or river) is infeasible and will not be done without a SPDES permit issued by New York State Department of Environmental Conservation.

1.11 Storm-water Pollution Prevention

The project architect or his designee will have responsibility for compliance with applicable laws and regulations pertaining to storm-water pollution prevention, and these responsibilities are not included in this RAP except as detailed in Section 1.2, Stockpiles.

1.12 Contingency Plan

This contingency plan is developed for the remedial construction to address the discovery of unknown structures or contaminated media during excavation. Identification of unknown contamination source areas during invasive Site work will be promptly communicated to OER's Project Manager. Petroleum spills will be reported to the NYS DEC Spill Hotline. These findings will be included in the daily report. If previously unidentified contaminant sources are found during on-Site remedial excavation or development-related excavation, sampling will be performed on contaminated source material and surrounding soils and reported to OER. Chemical analytical testing will be performed for Full List volatiles and semi-volatiles, pesticides/PCBs, and TAL metals, as appropriate.

1.13 Odor, Dust and Nuisance Control

Odor Control

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

This odor control plan is capable of controlling emissions of nuisance odors. If nuisance odors are identified, 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. OER will be notified of all odor complaint events. Implementation of all odor controls, including halt of work, will be the responsibility of the PE/QEP's certifying the RCR.

Dust Control

Dust management during invasive on-Site work will include, at a minimum:

- Use of a dedicated water spray methodology for roads, excavation areas and stockpiles.
- Use of properly anchored tarps to cover stockpiles.
- Exercise extra care during dry and high-wind periods.
- Use of gravel or recycled concrete aggregate on egress and other roadways to provide a clean and dust-free road surface.

This dust control plan is capable of controlling emissions of dust. If nuisance dust emissions are identified, work will be halted and the source of dusts will be identified and corrected. Work will not resume until all nuisance dust emissions have been abated. OER will be notified of all dust complaint events. Implementation of all dust controls, including halt of work, will be the responsibility of the PE/QEP's responsible for certifying the Remedial Closure Report.

Other Nuisances

Noise control will be exercised during the remedial program. All remedial work will conform, at a minimum, to NYC noise control standards.

1.14 Import of Clean Cover

No imported soil is required for this project. Should this change, all imported soil will be uncontaminated, clean soil that meets the lesser of the appropriate NYSDEC 6 NYCRR Part 375-6.8(a) Unrestricted Use SCOs and the NYSDEC 6 NYCRR Part 375-6.8 groundwater protection SCOs.

Appendix 2

Construction Health and Safety Plan

Appendix 3

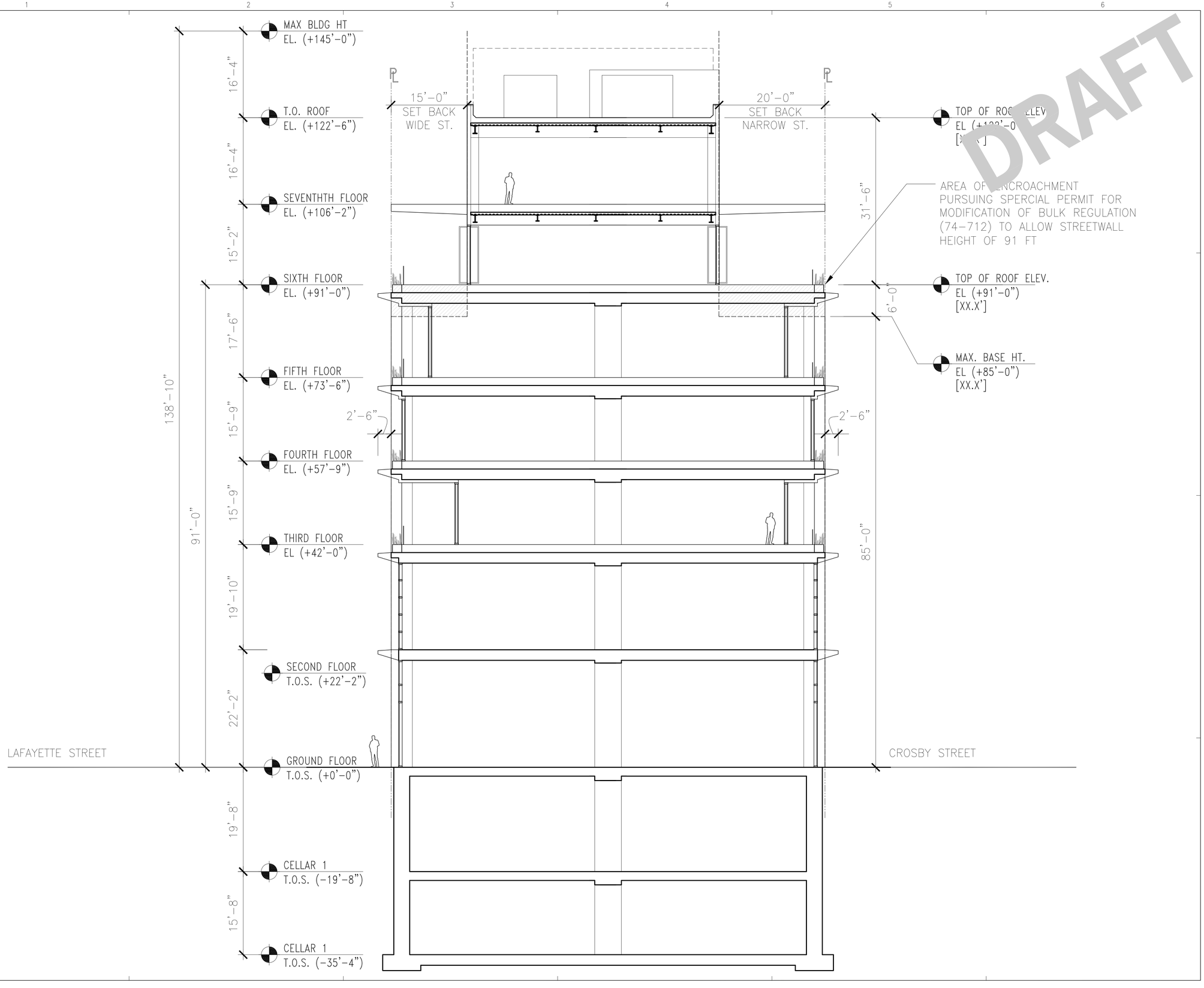
RCR Deliverable Requirements

Vapor Barrier Membrane

Detailed certified drawings prepared by a PE or RA of Record depicting the extent of the proposed waterproofing/vapor barrier membrane and the installation details (penetrations, joints, etc.) with respect to the proposed building foundation, footings, slab, and sidewalls, and product specification sheets are provided as Appendix 7. The Remedial Closure Report will include photographs (maximum of two photos per page) of the installation process, PE/RA certified letter (on company letterhead) from primary contractor responsible for installation oversight and field inspections, and a copy of the manufacturers certificate of warranty.

Appendix 4

Proposed Development Plans



DRAFT

\\server10\projects2\2914 - 300 Lafayette\Dwg\SD\Sheetfiles\120628 - ULURP\A-300- SECTION.dwg Aug.02.2012

Cook + Fox

300 Lafayette

ALL INFO TO BE UPDATED

LargaVista Companies — CLIENT
364 Maspeth Ave.
Brooklyn, NY 11211
T: 718.782.4200 F: 866.465.6082

Cook + Fox Architects, LLP — ARCHITECT
641 Avenue of the Americas, 8th Floor
New York NY 10011
T: 212.477.0287 F: 212.477.4521

CONSTRUCTION MANAGER

ISSUES:

NO	DATE	DESCRIPTION

PLOT PLAN [NTS] BLOCK: 0000 LOT: 00

PLEASE BE ADVISED THAT THE INFORMATION CONTAINED IN THIS PACKAGE HAS NOT BEEN VERIFIED, AND NO EXPRESS REPRESENTATION OR WARRANTY IS MADE NOR IS ANY TO BE IMPLIED AS TO THE ACCURACY THEREOF AND IS SUBMITTED SUBJECTED TO ERRORS AND OMISSIONS.

PROJECT

300 LAFAYETTE
LAFAYETTE
New York, NY 11111

DRAWING TITLE:

SECTION

SEAL

PROJECT NO.:	2914
SCALE:	1/8"=1'-0"
@ SHEET SIZE:	24 x 36

DRAWING NO:

A-300.00
00 OF 00

B-SCAN STICKER

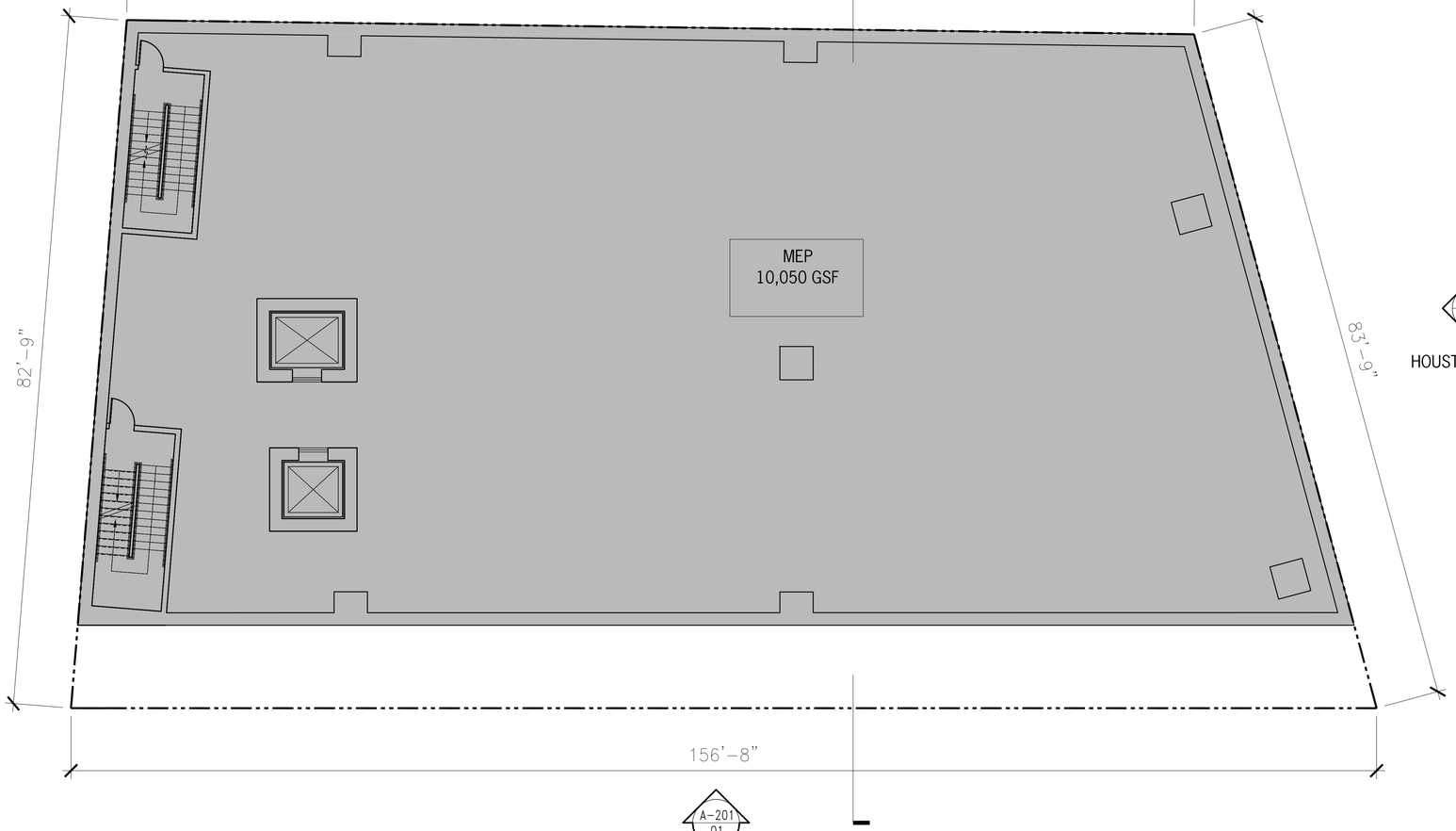
DRAFT

CROSBY STREET

01
A-200

A-300
01

128'-1"



82'-9"

83'-9"

01
A-202

HOUSTON STREET

156'-8"

A-201
01

LAFAYETTE STREET

ATTACHMENT 6

\\server10\projects2\2914 - 300 Lafayette\Dwg\SD\Sheetfiles\120628 - ULURP\A-100- CELLAR 02.dwg Aug.02.2012

Cook + Fox

300 Lafayette

ALL INFO TO BE UPDATED

LargaVista Companies
364 Maspeth Ave.
Brooklyn, NY 11211
T: 718.782.4200 F: 866.465.6082
CLIENT

Cook + Fox Architects, LLP
641 Avenue of the Americas, 8th Floor
New York NY 10011
T: 212.477.0287 F: 212.477.4521
ARCHITECT

CONSTRUCTION MANAGER

ISSUES:

NO	DATE	DESCRIPTION

PLOT PLAN (NTS) BLOCK: 0000 LOT: 00

PLEASE BE ADVISED THAT THE INFORMATION CONTAINED IN THIS PACKAGE HAS NOT BEEN VERIFIED, AND NO EXPRESS REPRESENTATION OR WARRANTY IS MADE NOR IS ANY TO BE IMPLIED AS TO THE ACCURACY THEREOF AND IS SUBMITTED SUBJECTED TO ERRORS AND OMISSIONS.

PROJECT

300 LAFAYETTE
LAFAYETTE
New York, NY 11111

DRAWING TITLE:

FLOOR PLAN-
CELLAR 02

SEAL

PROJECT NO.:	2914
SCALE:	1/8"=1'-0"
@ SHEET SIZE:	24 x 36
DRAWING NO:	A-100.00
	00 OF 00

B-SCAN STICKER

Appendix 5

Remedial Investigation Report

Provided in Electronic Form.

APPENDIX 6

PREVIOUS REGULATORY CORRESPONDANCES

OER Approval of RIWP

From: Chawla, Shaminder [ShaminderC@dep.nyc.gov]

Sent: Friday, April 05, 2013 1:54 PM

To: Richard Levato

Cc: Dana Levato

Subject: RE: 300 Lafayette

Richard:

Proposed sampling plan is approved.

Please keep us informed of field work.

Also, when you get data set, please contact me to discuss results before you finalize Phase II report.

I'll provide you template document.

Shaminder

Pre-RIR Report Submittal Call with OER

_____

From: Chawla, Shaminder [mailto:ShaminderC@dep.nyc.gov]

Sent: Monday, August 26, 2013 10:51 AM

To: John Rhodes

Subject: RE: Paco - 300 Lafayette Street

John:

We can discuss these results later today around 2 PM.

Shaminder

From: John Rhodes [mailto:JARhodes1@verizon.net]

Sent: Monday, August 26, 2013 8:58 AM

To: Chawla, Shaminder

Cc: Seth Friedland; Richard Levato; Mark McIntyre (MMcIntyre@cityhall.nyc.gov<mailto:MMcIntyre@cityhall.nyc.gov>)

Subject: Paco - 300 Lafayette Street

Shaminder,

In your email to Richard Levato approving the sampling plan for the Site at 300 Lafayette, you asked that we contact you to discuss the results before finalizing the Phase II report. I would like to hold this discussion with you at your earliest opportunity as my client is anxious to submit the report and move forward with the redevelopment.

To aid our discussion, I am attaching tables of the results of the sampling and a Site plan. In brief, the results look very good and suitable for rapid and safe redevelopment of the Site, with appropriate closure of the gasoline service station and management of excavated soil.

I am available today and most days this week by phone at 646 465 2494.

Thank you, Shaminder,

John A. Rhodes, P.E., F.NSPE

CEUS Engineering, P.C.

NJ: 5 Bedford Place, Morristown, 07960

NY: 62 William Street, 3rd Floor, New York, 10005

OER Comments on Draft Remedial Action Plan

Dear Mr. Rhodes,
I reviewed the RAP submitted for 300 Lafayette Street (VCP Project #14CVCP201M) and have the following comments:

-The E-Designation number 14EHAZ344M has been assigned to this project—please add this number to the cover page
-Please include the local library name and address in the Citizen Participation Plan Section
-Please include a cross-section figure showing slab thickness, gravel layer, the vapor barrier, etc.
-Please fill in the highlighted information on the edited RAP attached
-Please make edits on the clean copy of the document attached
-Additionally, I have attached a copy of the end point sampling map with suggested sampling locations; please use these suggestions to revise the End Point Sampling Plan

Let me know if you have any questions.

Thank you,

Katherine Glass
Project Manager
Mayor's Office of Environmental Remediation
(212) 788-8348
KGlass@dep.nyc.gov

Appendix 7

Specifications for Vapor Barrier Membrane

The building architect or structural engineer is fully responsible for the design of barriers to control moisture migration to prevent the growth of mold and mildew. The following are minimum specifications to provide the additional function of retarding vapor infiltration only, are not intended to control the migration of moisture or growth of mold or mildew.

The Vapor Barrier shall have a permeance of 0.0098 Perms [grains/(ft^2 *hr * in.Hg)] or less per ASTM E 96, and a minimum of 20 mils thickness. The Vapor Barrier shall be VaporBlock Plus 20, manufactured by Raven Industries, (605) 3350174, or its equivalent or superior.

Seam tape and vapor-proofing mastic shall be as recommended by the manufacturer, or its equivalent or superior.

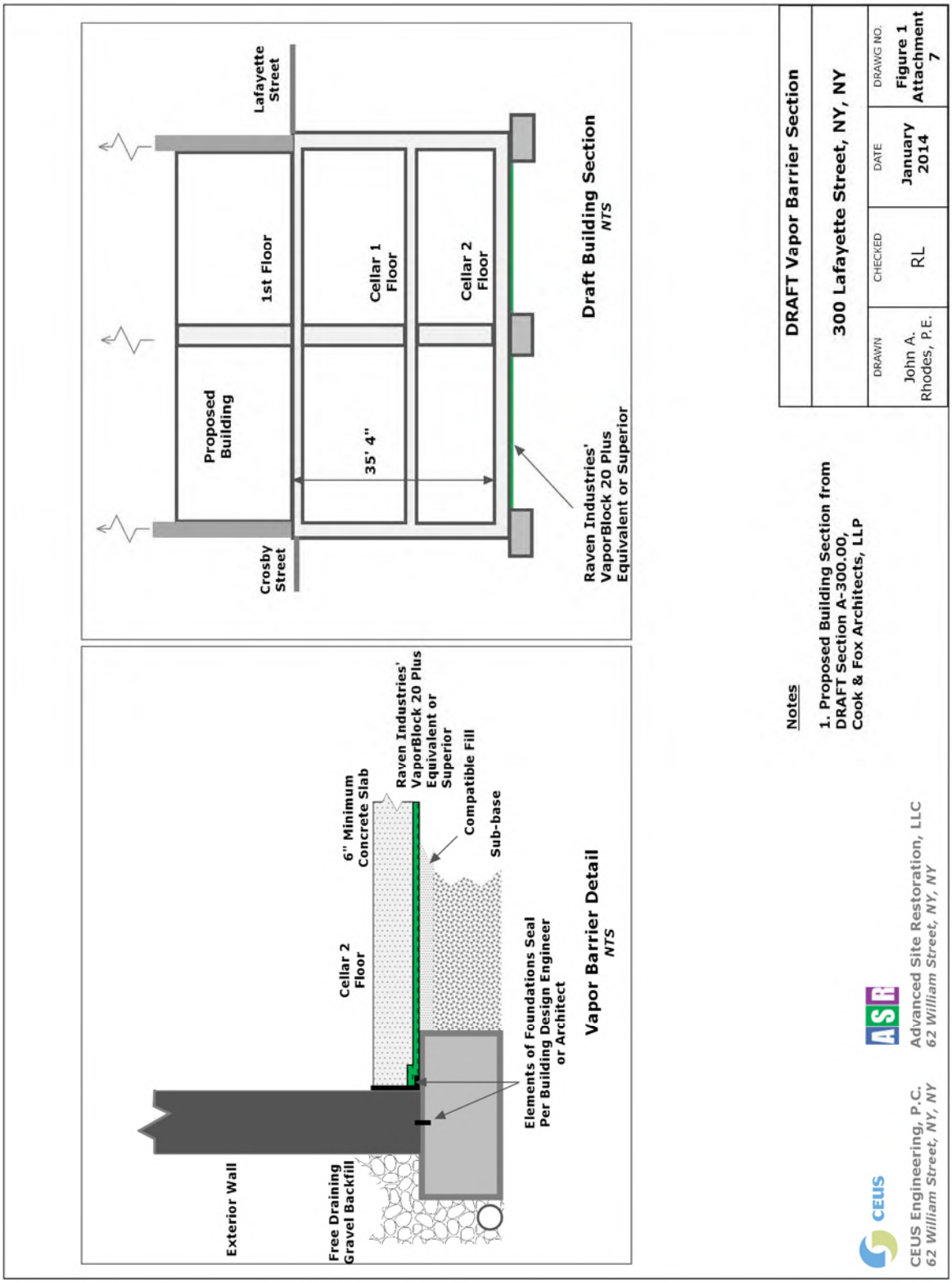
The Vapor Retarder shall be installed in accordance with manufacturer's instructions and ASTM E 1643, including the following:

1. Unroll vapor barrier with the longest dimension parallel with the direction of the concrete placement.
2. Lap vapor barrier over footings and/or seal to foundation walls.
3. Overlap joints 6 inches and seal with manufacturer's tape, its equivalent or superior.
4. Seal all penetrations (including pipes) per manufacturer's instructions.
5. No penetration of the vapor barrier is allowed except for reinforcing steel and permanent utilities.

Any damaged areas shall be repaired by cutting patches of vapor barrier, overlapping damaged area 6 inches and taping all sides with tape.

Oversight of the installation of the Vapor Retarder including field inspections will be provided a Professional Engineer. The Remedial Closure Report will include photographs (maximum of two photos per page) of the installation process, PE/RA certified letter (on company letterhead) from primary contractor responsible for installation oversight and field inspections.

Attachment 7 Figure 1 Vapor Barrier Specifications



VaporBlock Plus VBP 20

VAPORBLOCK® PLUS™ VBP20

Under-Slab Vapor / Gas Barrier

RAVEN INDUSTRIES

Product Description

VaporBlock® Plus™ 20 is a seven-layer co-extruded barrier made from state-of-the-art polyethylene and EVOH resins to provide unmatched impact strength as well as superior resistance to gas and moisture transmission. VaporBlock® Plus™ 20 is a highly resilient underslab / vertical wall barrier designed to restrict naturally occurring gases such as radon and/or methane from migrating through the ground and concrete slab. VaporBlock® Plus™ 20 is more than 100 times less permeable than typical high-performance polyethylene vapor retarders against Methane, Radon and other harmful VOCs.

VaporBlock® Plus™ 20 is one of the most effective underslab gas barriers in the building industry today far exceeding ASTM E-1745 (Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs) Class A, B and C requirements. Available in a 20 (Class A) mil thicknesses designed to meet the most stringent requirements. VaporBlock® Plus™ 20 is produced within the strict guidelines of our ISO 9001:2008 Certified Management System.

Product Use

VaporBlock® Plus™ 20 resists gas and moisture migration into the building envelop when properly installed to provide protection from toxic/harmful chemicals. It can be installed as part of a passive or active control system extending across the entire building including floors, walls and crawl spaces. When installed as a passive system it is recommended to also include a ventilated system with sump(s) that could be converted to an active control system with properly designed ventilation fans.

VaporBlock® Plus™ 20 works to protect your flooring and other moisture-sensitive furnishings in the building's interior from moisture and water vapor migration, greatly reducing condensation, mold and degradation.

Size & Packaging

VaporBlock® Plus™ 20 is available in 10' x 150' rolls to maximize coverage. All rolls are folded on heavy-duty cores for ease in handling and installation. Other custom sizes with factory welded seams are available based on minimum volume requirements. Installation instructions and ASTM E-1745 classifications accompany each roll.

Under-Slab Vapor/Gas Retarder

Product	Part #
VaporBlock Plus 20	VBP 20

APPLICATIONS

- Radon Barrier
- Methane Barrier
- VOC Barrier
- Under-Slab Vapor Retarder
- Foundation Wall Vapor Retarder

VaporBlock® Plus™
UNDERSLAB VAPOR RETARDER / GAS BARRIER

© 2012 RAVEN INDUSTRIES INC. All rights reserved.

VAPORBLOCK® PLUS™ VBP20

ISO 9001:2008 CERTIFIED MANAGEMENT SYSTEM

Under-Slab Vapor / Gas Barrier

PROPERTIES	TEST METHOD	VAPORBLOCK PLUS 20 IMPERIAL	VAPORBLOCK PLUS 20 METRIC
APPEARANCE		White/Gold	
THICKNESS, NOMINAL		20 mil	0.51 mm
WEIGHT		102 lbs/MSF	498 g/m²
CLASSIFICATION	ASTM E 1745	CLASS A, B & C	
TENSILE STRENGTH LBF/IN (N/CM) AVERAGE MD & TD (NEW MATERIAL)	ASTM E 154 Section 9 (D-882)	58 lbf	102 N
IMPACT RESISTANCE	ASTM D 1709	2600 g	
MAXIMUM USE TEMPERATURE		180° F	82° C
MINIMUM USE TEMPERATURE		-70° F	-57° C
PERMEANCE (NEW MATERIAL)	ASTM E 154 Section 7 ASTM E 96 Procedure B	0.0098 Perms grains/(ft²·hr·in·Hg)	0.0064 Perms g/(24hr·m²·mm Hg)
(AFTER CONDITIONING) PERMS (SAME MEASUREMENT AS ABOVE PERMEANCE)	ASTM E 154 Section 8, E96 Section 11, E96 Section 12, E96 Section 13, E96	0.0079 0.0079 0.0097 0.0113	0.0052 0.0052 0.0064 0.0074
WVTR	ASTM E 96 Procedure B	0.0040 grains/hr-ft²	0.0028 gm/hr-m²
RADON DIFFUSION COEFFIECIENT	K124/02/95	< 1.1 x 10^{-13} m²/s	
METHANE PERMEANCE	ASTM D 1434	< 1.7 x 10^{-10} m²/d• atm 0.32 GTR (Gas Transmission Rate) ml/m²•D•ATM	

VaporBlock® Plus™ Placement

All instructions on architectural or structural drawings should be reviewed and followed.
Detailed installation instructions accompany each roll of VaporBlock® Plus™ and can also be located on our website.
ASTM E-1643 also provides general installation information for vapor retarders.

VaporBlock® Plus™
UNDERSLAB VAPOR RETARDER / GAS BARRIER

VaporBlock® Plus™ is a seven-layer co-extruded barrier made using high quality virgin-grade polyethylene and EVOH resins to provide unmatched impact strength as well as superior resistance to gas and moisture transmission.

Note: To the best of our knowledge, unless otherwise stated, these are typical property values and are intended as guides only, not as specification limits. Chemical resistance, odor transmission, longevity as well as other performance criteria is not implied or given and actual testing must be performed for applicability in specific applications and/or conditions. RAVEN INDUSTRIES MAKES NO WARRANTIES AS TO THE FITNESS FOR A SPECIFIC USE OR MERCHANTABILITY OF PRODUCTS REFERRED TO, no guarantee of satisfactory results from reliance upon contained information or recommendations and disclaims all liability for resulting loss or damage. Limited Warranty available at www.RavenEFD.com

RAVEN INDUSTRIES
Engineered Films Division
P.O. Box 5107
Sioux Falls, SD 57117-5107
Ph: (605) 335-0174 • Fx: (605) 331-0333
Toll Free: 800-635-3456
Email: efdsales@ravenind.com
www.ravenefd.com
1/11 EFD 1125

Scan QR Code to download current technical data sheets via the Raven website