DCA 1 APARTMENTS

KINGS COUNTY

BROOKLYN, NEW YORK

SITE MANAGEMENT PLAN

NYSDEC Site Number: C224162

Prepared for:

DCA 1, L.P.

c/o Omni New York LLC

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Revisions to Final Approved Site Management Plan:

Revision No.	Date Submitted	Summary of Revision	NYSDEC Approval Date

SEPTEMBER 2016

CERTIFICATION STATEMENT

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

_____ P.E.

9/12/2016 DATE

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List of Acronyms

AWQS	Ambient Water Quality Standards
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
bgs	Below Ground Surface
CAMP	Community Air Monitoring Plan
C/D	Construction and Demolition
CFR	Code of Federal Regulation
COC	Certificate of Completion
DER	Division of Environmental Remediation
EC	Engineering Control
EEA	Energy and Environmental Analysts, Inc.
ELAP	Environmental Laboratory Approval Program
ESA	Environmental Site Assessment
ESI	Environmental Site Investigation
EWP	Excavation Work Plan
ft	Feet
GEI	GEI Consultants, Inc., P.C.
HASP	Health and Safety Plan
Hg	Mercury
IC	Institutional Control
NYCDOH	New York City Department of Health
NYSBCP	New York State Brownfield Cleanup Program
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYCRR	New York Codes, Rules and Regulations
PAH	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyls
PCE	Tetrachloroethene
ppb	Parts Per Billion
ppm	Parts Per Million
PRR	Periodic Review Report
RAO	Remedial Action Objective
RAWP	Remedial Action Work Plan
REC	Recognized Environmental Condition
RI	Remedial Investigation
RRUSCO	Restricted Residential Use Soil Cleanup Objective
RSO	Remedial System Optimization
SCG	Standards, Criteria and Guidelines
SCO	Soil Cleanup Objective
SMP	Site Management Plan
SPDES	State Pollutant Discharge Elimination System
SVOC	Semi-Volatile Organic Compound
TAL	Target Analyte List

TCL	Target Compound List
TCE	Trichloroethylene
TR	Technical Report
µg/kg	Micrograms per Kilogram
µg/L	Micrograms per Liter
$\mu g/m^3$	Micrograms per Cubic Meter
USEPA	United States Environmental Protection Agency
UUSCO	Unrestricted Use Soil Cleanup Objective
VES	Vapor Encroachment Screening
VOC	Volatile Organic Compound

ES EXECUTIVE SUMMARY

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

Site Identification:	C224162 DCA1 Apartments, 495 Howard Avenue, Brooklyn, NY

Institutional Controls:	1. The property may be used for restricted-residential, commercial or industrial use;
	2. The remedial party or site owner must complete and submit a periodic certification of institutional and engineering controls; Cover System consisting of porous concrete pavers and tree grate.
	3. The restricted use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the New York State Department of Health (NYSDOH) or New York City Department of Health (NYCDOH); and
	4. Compliance with the approved SMP.
Engineering Controls:	1. Cover system consisting of porous concrete pavers and tree grate.

Inspections:	Frequency
1. Cover inspection	Annually
Monitoring: Not required	
Maintenance:	
1. Cover maintenance	As needed
Reporting:	
1. Maintenance Reports	As needed
2. Periodic Review Report	Annually

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

1.0 INTRODUCTION

1.1 General

This Site Management Plan (SMP) is a required element of the remedial program for the DCA 1 Apartments located in Brooklyn, New York (hereinafter referred to as the "Site"). See Figure 1. The Site is currently in the New York State (NYS) Brownfield Cleanup Program (BCP), Site No. C224162 which is administered by New York State Department of Environmental Conservation (NYSDEC).

DCA 1, L.P. entered into a Brownfield Cleanup Agreement (BCA), on September 11, 2012 with the NYSDEC to remediate the site. A figure showing the site location and boundaries of this site is provided in Figure 2. The boundaries of the site are more fully described in the metes and bounds site description that is part of the Environmental Easement provided in Appendix A.

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

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

It is important to note that:

- This SMP details the site-specific implementation procedures that are required by the Environmental Easement. Failure to properly implement the SMP is a violation of the Environmental Easement, which is grounds for revocation of the Certificate of Completion (COC);
- Failure to comply with this SMP is also a violation of Environmental Conservation Law, 6 (New York Codes, Rules and Regulations (NYCRR) Part 375 and the BCA, (Site #C224162) for the site, and thereby subject to applicable penalties.

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

This SMP was prepared by GEI Consultants, Inc., P.C., (GEI) on behalf of DCA 1, L.P., in accordance with the requirements of the NYSDEC's Division of Environmental Remediation (DER)-10 ("Technical Guidance for Site Investigation and Remediation"), dated May 2010, and the guidelines provided by the NYSDEC. This SMP addresses the means for implementing the ICs and/or ECs that are required by the Environmental Easement for the site.

1.2 Revisions

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

1.3 Notifications

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

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

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

- At least 60 days prior to the change, the NYSDEC will be notified in writing of the proposed change. This will include a certification that the prospective purchaser/Remedial Party has been provided with a copy of the BCA, and all approved work plans and reports, including this SMP.

- Within 15 days after the transfer of all or part of the site, the new owner's name, contact representative, and contact information will be confirmed in writing to the NYSDEC.

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

Table 1-1: Notifications*

Name	**Contact Information**
Nigel Crawford [NYSDEC Project Manager]	[718 482-7778] Nigel.crawford@dec.ny.gov
Kelly Lewandowski [NYSDEC Site Control]	[518-402-9553]Kelly.lewandowski@dec.ny.gov

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

2.0 SUMMARY OF PREVIOUS INVESTIGATIONS AND REMEDIALACTIONS

2.1 Site Location and Description

The site is located in Brooklyn, Kings County, New York and is identified as a small section of Block 1467 and Lot 1 on the New York City Tax Map (see Figure 1). The site is an approximately 0.019 acres in area and is bounded by open space followed by a residential building to the north, a residential building to the east, Sterling Place to the south and Howard Avenue to the west (see Figure 2 – Site Layout Map). The boundaries of the site are more fully described in Appendix A – Environmental Easement. The owner(s) of the site parcel(s) at the time of issuance of this SMP is/are: DCA 1, L.P.

2.2 Physical Setting

2.2.1 Land Use

The site is currently comprised of open space consisting of fenced grassy areas, a walkway and a driveway. The site is zoned R6 for residential use with a commercial overlay of C1-3 (commercial, industrial etc.).

The immediate surrounding properties consist of residential apartment buildings. The surrounding neighborhood is largely residential along with some commercial properties (primarily to the south) and public facilities and institutions. There are no schools or hospitals located within a 500-foot radius of the site. The Saratoga Daycare Corporation is located approximately 400 feet to the northeast of the site on Park Place.

2.2.2 Geology

The site soil stratigraphy consists of historical fill intermixed with native deposits from near grade to as deep as 12 feet below ground surface (bgs), indigenous glacial till consisting of dense sand, silt, gravel, and cobbles from the bottom of the fill layer to approximately 55 feet bgs, and fine to coarse grained sand from approximately 55 to 100 feet bgs.

2.2.3 Hydrogeology

Evidence of perched groundwater was encountered during a previous investigation at approximately 13 feet bgs. No evidence of perched water was observed during the remedial investigation (RI). Saturated soil indicative of the regional groundwater table was observed between 50 and 55 feet bgs. Above this depth, several intervals of moist to wet soil were observed in each of the borings.

Regional groundwater flow direction was reported to be towards the southeast.

2.3 Investigation and Remedial History

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

Prior to the Remedial Investigation, several investigations were conducted at the property. They included a Phase I Environmental Site Assessment (ESA), Phase II investigation which included soil vapor sampling in the area of the former dry cleaning building and surface soil sampling around the perimeter of the surrounding buildings, a vapor encroachment screening investigation, and a Phase II subsurface investigation of soil and groundwater. Sample locations from these investigations are shown on Figure 2.

PHASE I ESA

Based upon historical Sanborn atlases and historic reverse address directories performed at the site, a dry cleaning operation was identified in a former building on the site in the 1960s. The presence of a dry cleaning operation on the site was identified as a Recognized Environmental Condition (REC).

Soil Vapor Quality and Soil Sampling in the Vicinity of the BCP Site

A soil vapor investigation was performed as part of a Phase II investigation conducted in October 2011 by Energy and Environmental Analysts, Inc. (EEA) in the area of the former dry cleaning building, prior to the site's entry into the BCP. A total of four soil vapor samples and one outdoor air sample were collected on the site.

Results of analytical laboratory sampling indicated concentrations of tetrachloroethene (PCE) in soil vapor test probes at elevated levels in three onsite sample locations; SV-1 (1,221.3 micrograms per cubic meter [µg/m3]), SV-2 (4,206.7 µg/m3), and SV-4 (278.19 µg/m3). Trichloroethene (TCE) concentrations were also detected at SV-2 (69.9 µg/m3).

Five surface soil samples were taken around the perimeter of the surrounding buildings, one of which was collected adjacent to the BCP site (B-2). The samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs), and metals. There were no concentrations detected above the Restricted Residential Use Soil Cleanup Objectives (RRSCOs) in the sample from B-2, located adjacent to the site. Two pesticides (4,4-DDE and 4,4-DDT), one PCB (Aroclor 1254) and two metals (lead and zinc) were identified above the Unrestricted Use Soil Cleanup Objectives (UUSCOs) in this sample.

The extent of subsurface impacts was unknown and additional investigatory sampling was recommended to delineate the potential contamination concern.

Vapor Encroachment Screening

In order to determine if the chemicals identified during the soil vapor investigation have impacted onsite buildings sub-slab quality and ambient air quality, EEA performed a vapor encroachment screening (VES) investigation in the surrounding buildings in November 2011 prior to the site's entry into the BCP. The results of the investigation are summarized below.

There are three separate building structures in the immediate vicinity of the site, listed below:

1. Sterling Place Building
2. Howard Avenue Building
3. Park Place Building

In each of the buildings' structures, two sub-slab soil vapor samples were collected in accessible common locations such as hallways and corridors within the building. All

canisters were submitted to a New York State Department of Health (NYSDOH) Environmental Laboratory Accreditation Program (ELAP)-certified laboratory and analyzed for VOCs by United States Environmental Protection Agency (USEPA) Method TO-15.

According to the NYSDOH Decision Matrices, no further actions were needed to address human exposures. It is noted that eight of the twelve Summa canisters were returned to the laboratory with 0 (zero) inches of Hg of vacuum left, which calls the validity of the data into question. Furthermore, the indoor air samples that were collected within the Sterling, Howard, and Park Place buildings were collected in close proximity to exterior doors which may have influenced or diluted these samples. In December 2015 an off-site soil vapor intrusion evaluation was conducted at the DCA 1 Apartments at 1756-1760 Park Place, 477-485 Howard Avenue, and 1785-1791 Sterling Place. The investigation was conducted to determine whether impacted soil from the 495 Howard Avenue Brownfield site may be affecting the air quality of nearby offsite buildings. Based on the analytical results, no impacts to the indoor air quality at the subject properties was found. No concentrations of indoor and outdoor air sampled were above established NYSDOH air guideline values.

PHASE II SUBSURFACE INVESTIGATION

EEA performed a Phase II Environmental Subsurface Investigation (ESI) in December 2011 (prior to entry into the BCP). Sampling during this investigation included both soil and groundwater samples. Below is a summary of the results.

Soil Analytical Results

A total of 10 soil samples were collected from 3 soil borings, on or immediately adjacent to the site. Analytical laboratory results indicated that PCE was detected above laboratory method detection limits in the deep soil samples collected from B-2. Soil samples collected from B-1 and B-3 did not indicate any detectable concentrations of PCE.

The PCE concentrations in soil from deep soil boring B-2 were as follows:

Table 2A: Soil Analytical Results

Boring Location	Sample Depth (ft)	PCE Concentration (µg/kg)	NYCRR Part 375-6.8(a) Unrestricted Use SCO	NYCRR Part 375-6.8(b) Restricted Residential Use SCO
B-2	20	7	1,300	5,500
B-2	30	36		
B-2	40	63		
B-2	50	640		
B-2	60	<5.2		

Notes:
ft = feet
µg/kg = microgram per kilogram

The concentration of PCE increases with depth until the soil formation changes from glacial till to a more permeable sand layer at a depth of approximately 55 feet (ft) bgs.

The soil sample collected from 60 feet consisted of saturated permeable sand and is likely within the regional groundwater aquifer. PCE was not detected in soil at this depth in the formation.

Groundwater Analytical Results

Groundwater quality laboratory results collected from two temporary monitoring wells show concentrations of PCE above the NYSDEC Ambient Water Quality Standards (AWQS) and Guidance Values for Class GA Groundwater as summarized below.

Table 2B: Groundwater Analytical Results

Sample Location	AWQS	PCE Concentration (µg/L)
GW-1	5 µg/L	24
GW-3		6

Notes:
µg/L = micrograms per liter
AWQS and Guidance Values for Class GA Groundwater

REMEDIAL INVESTIGATION

The RI was conducted by GEI in June and July 2013 with supplemental investigation in May and October 2014 and November 2015, as detailed below. The results of the RI have revealed the presence of contamination both onsite and offsite in groundwater and to

a limited extent in soil, as well as in soil vapor. PCE, the primary contaminant of concern at the site, was identified in each of these media; however, the detections in soil were low and below the applicable RRUSCOs and UUSCOs.

PCE was detected at levels above applicable standards in groundwater and at elevated concentrations in soil vapor. The highest level of PCE in soil vapor was detected at an offsite location.

A supplemental investigation including the delineation of previously identified soil vapor impacts was conducted in May 2014. The results of the horizontal and vertical delineation of the identified soil vapor impacts showed that the impacts to soil vapor were higher in the offsite locations, which surrounded the elevated detection in soil vapor identified during the RI, than those in the onsite locations.

Supplemental soil samples were collected in October 2014 from targeted zones identified during the soil vapor delineation investigation. The soil analytical results from the investigation were below the RRUSCOs.

An offsite soil vapor intrusion investigation was conducted in the adjacent residential buildings in November 2015. The results of the investigation, as detailed in the *Off-Site Soil Vapor Intrusion Evaluation Report*, dated December 2015, concluded that there are no significant impacts to the indoor air quality at the subject properties and that no further action was warranted.

Detections of PCE in groundwater were identified in each of the monitoring wells sampled, including the monitoring wells located upgradient of the site. The detections of PCE in upgradient groundwater wells and in offsite soil vapor sampling locations suggest an offsite source may be present. The onsite sampling did not identify an onsite source of PCE contamination. Several other VOCs and metals were detected in groundwater above the applicable standards.

Soil contamination was primarily limited to SVOCs and metals within the shallow historical fill layer. The soil impacts are similar to those typically found with “urban fill” type soils.

Conceptual Model of Site Contamination

Concentrations of PCE and metals in groundwater onsite, and in the area offsite, but immediately adjacent to the site have been identified above the AWQS. Detections of several other VOCs were identified immediately offsite above the AWQS at an upgradient location.

Soil concentrations above the UUSCOs or the RRSCOs were primarily identified in the shallow zone (5 to 7 ft bgs) at both onsite and offsite locations. The compounds included several polycyclic aromatic hydrocarbons (PAHs), pesticides and metals. Concentrations above the SCOs in the deeper samples collected at, or immediately adjacent to, the site were limited to nickel (in two samples), lead (in one sample) and acetone (in four samples).

Elevated concentrations of PCE in soil vapor have been identified on site and in areas immediately adjacent to the site. As discussed above, a "hot spot" was identified as an AOC in the adjacent offsite area. Detections of PCE were also identified in soil vapor beneath the adjacent buildings; however, no detections of PCE were identified in the indoor air from these buildings.

2.4 Remedial Action Objectives

The Remedial Action Objectives (RAOs) for the Site as listed in the Decision Document dated October 23, 2015 are as follows:

Groundwater

RAOs for Public Health Protection

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

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.

Soil Vapor

RAOs for Public Health Protection

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a site.

It is noted that an off-site soil vapor intrusion investigation and report was completed prior to the issuance of the Decision Document by the Department. The report concluded that are no significant impacts to the indoor air quality at the subject properties and that no further action was warranted (see Section 2.3).

2.5 Remaining Contamination

2.5.1 Soil

Since no excavation is required for the remedy, remaining soil contamination left at the site will be the same as was identified during the RI.

No VOCs, SVOCs, pesticides, herbicides or PCBs were identified in the soil samples collected during the remedial investigation exceeding RRSCOs. Metals exceeding RRSCOs were limited to the shallow samples collected within the historic fill layer. Although the initial investigation for the site was focused on PCE, detections of PCE were all below the UUSCO of 1.3 parts per million (ppm). No evidence of an onsite source of PCE contamination was identified during the investigation. Metals exceeding the RRSCOs were limited to barium in the shallow samples collected from borings in the historic fill layer from 5 to 7 feet bgs. The samples exceeding the RRSCO (350 ppm) were all within the same order of magnitude as at concentrations up to 774 ppm.

Table 1 and Figure 3 summarize the results of all soil samples collected that exceed the UUSCOs and the Restricted Residential Use (RRU) SCOs at the site after completion of remedial action.

2.5.2 Groundwater

The planned remedy for the site does not include groundwater treatment. A groundwater use restriction, as included in the environmental easement will prevent exposure to contaminated groundwater at the site.

There were no samples exceeding the groundwater standards for SVOCs, pesticides, PCBs or herbicides. Samples exceeding the groundwater standards for VOCs were primarily limited to PCE, which was detected in each of the monitoring wells sampled and was detected above the groundwater standards in seven of the eleven monitoring wells. Detections above the standard ranged from 7 parts per billion (ppb) to 71 ppb in onsite monitoring wells as compared to the groundwater standard of 5 ppb. Three of the seven monitoring wells with detections of PCE above the groundwater standards were identified in upgradient offsite monitoring well clusters. PCE was detected in each of the five upgradient wells sampled, with concentrations ranging up to 31 ppb. No onsite source of groundwater contamination has been identified and it appears that the VOCs found in the groundwater both on and offsite are due to an upgradient offsite source. Total metals exceeding the groundwater standards were identified in each of the monitoring wells sampled. The compounds exceeding the groundwater standards included chromium at 273 ppb. These compounds appear to be naturally occurring.

Table 2 and Figure 4 summarize the results of all samples of groundwater that exceed the Standards, Criteria and Guidelines (SCGs) after completion of the remedial action.

2.5.3 Soil Vapor

Elevated concentrations of PCE were detected in soil vapor at three of four soil vapor points at concentrations ranging from 278 µg/m^3 to 4,207 µg/m^3. Trichloroethylene (TCE) a breakdown product of PCE was also detected in soil vapor at a maximum concentration of 69.9 µg/m^3. No on-site source of soil vapor was identified. Off-site sampling confirmed that there is no off-site source of soil vapor contamination.

Table 3 and Figure 5 summarize the results of all samples of soil vapor that exceed the SCGs after completion of the remedial action.

3.0 INSTITUTIONAL AND ENGINEERING CONTROL PLAN

3.1 General

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

This plan provides:

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

3.2 Institutional Controls

A series of ICs is required by the Decision Document to: (1) implement, maintain and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination; and, (3) limit the use and development of the site to restricted-residential, commercial or industrial uses only. Adherence to these ICs on the site is required by the

Environmental Easement and will be implemented under this SMP. ICs identified in the Environmental Easement may not be discontinued without an amendment to or extinguishment of the Environmental Easement. The IC boundaries are shown on Figure 2. These ICs are:

- the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- the use and development of the controlled property for restricted residential, commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- the restricted use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or NYCDOH; and
- requires compliance with the Department approved Site Management Plan.

3.3 Engineering Controls

3.3.1 Cover System

Exposure to remaining contamination at the site is prevented by a cover system placed over the site. This cover system is comprised of the pavement or sidewalks comprising the site development, and a system of porous pavers and tree grates over the previously uncapped portion of the site. Figure 6 presents the location of the cover system . The EWP provided in Appendix C outlines the procedures required to be implemented in the event the cover system is breached, penetrated or temporarily removed, and any underlying remaining contamination is disturbed. Procedures for the inspection of this cover are provided in the Monitoring Plan included in Section 4.0 of this SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) and associated Community Air Monitoring Plan (CAMP) prepared for the site and provided in Appendix D.

As built drawings, signed and sealed by a professional engineer, are included in Appendix E – As-Built Drawing. Figure 6 shows the location of the Cover System for the site.

3.3.2 Criteria for Completion of Remediation/Termination of Remedial Systems

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

3.3.2.1 – Cover (or Cap)

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

4.0 MONITORINGPLAN

4.1 General

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

This Monitoring Plan describes the methods to be used for:

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

To adequately address these issues, this Monitoring Plan provides information on:

- Annual inspection and periodic certification.

Reporting requirements are provided in Section 7.0 of this SMP.

4.2 Site–wide Inspection

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

- Compliance with all ICs, including site usage;
- An evaluation of the condition and continued effectiveness of ECs;
- General site conditions at the time of the inspection;
- Confirm that site records are up to date.

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

- Whether the EC continues to perform as designed;
- If the control continues to be protective of human health and the environment;
- Compliance with requirements of this SMP and the Environmental Easement; and
- If site records are complete and up to date.

Reporting requirements are outlined in Section 7.0 of this plan.

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

5.0 OPERATION AND MAINTENANCE PLAN

5.1 General

The site remedy does not rely on any mechanical systems, such as groundwater treatment systems, sub-slab depressurization systems or air sparge/soil vapor extraction systems to protect public health and the environment. Therefore, the operation and maintenance of such components is not included in this SMP.

6.0 PERIODIC ASSESSMENTS/EVALUATIONS

6.1 Climate Change Vulnerability Assessment

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

Based on the nature of the selected remedy, which is limited to a soil cover system, the remedy is not considered to be significantly vulnerable from severe weather events. The site is not located within a flood plain and drainage in the area is not a significant issue. High winds or electrical storms should not have any effect on the cover system. Based on this premise, a vulnerability assessment has not been conducted nor are any planned to be performed.

6.2 Green Remediation Evaluation

No waste generation, energy usage, emissions, or water usage are needed for the selected remedy. Therefore, a green remediation evaluation is not necessary.

6.3 Remedial System Optimization

A Remedial Site Optimization (RSO) study will be conducted any time that the NYSDEC or the remedial party requests in writing that an in-depth evaluation of the remedy is needed. An RSO may be appropriate if any of the following occur:

- The remedial actions have not met or are not expected to meet RAOs in the time frame estimated in the Decision Document;
- The management and operation of the remedial system is exceeding the estimated costs;

- The remedial system is not performing as expected or as designed;
- Previously unidentified source material may be suspected;
- Site conditions change due to development, change of use, change in groundwater use, etc.;
- There is an anticipated transfer of the site management to another remedial party or agency; and
- A new and applicable remedial technology becomes available.

An RSO will provide a critique of a site's conceptual model, give a summary of past performance, document current cleanup practices, summarize progress made toward the site's cleanup goals, gather additional performance or media specific data and information and provide recommendations for improvements to enhance the ability of the present system to reach RAOs or to provide a basis for changing the remedial strategy.

The RSO study will focus on overall site cleanup strategy, process optimization and management with the intent of identifying impediments to cleanup and improvements to site operations to increase efficiency, cost effectiveness and remedial time frames. Green remediation technology and principals are to be considered when performing the RSO.

7.0. REPORTING REQUIREMENTS

7.1 Site Management Reports

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

All applicable inspection forms and other records generated for the site during the reporting period will be provided in electronic format to the NYSDEC in accordance with the requirements of Table 7-1 and summarized in the Periodic Review Report.

Table 7-1: Schedule of Interim Monitoring/Inspection Reports

Task/Report	Reporting Frequency*
Periodic Inspection Review Report	Annual for the first 2 years (2017 and 2018), then every third year thereafter (2021), or as otherwise determined by the Department

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

Routine maintenance is not anticipated to be needed. Should it become necessary, routine maintenance event reporting forms will include, at a minimum:

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

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

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

7.2 Periodic Review Report

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

- Identification, assessment and certification of all ECs/ICs required by the remedy for the site.
- Results of the required annual site inspections and severe condition inspections, if applicable.
- All applicable site management forms and other records generated for the site during the reporting period in the NYSDEC-approved electronic format, if not previously submitted.
- A site evaluation, which includes the following:
  - The compliance of the remedy with the requirements of the site-specific Decision Document;

- Recommendations regarding any necessary changes to the remedy and/or Monitoring Plan; and

- The overall performance and effectiveness of the remedy.

7.2.1 Certification of Institutional and Engineering Controls

Following the last inspection of the reporting period, a qualified environmental professional or Professional Engineer licensed to practice in New York State will prepare, and include in the Periodic Review Report, the following certification as per the requirements of NYSDEC DER-10:

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

- *The inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;*

- *The institutional control and/or engineering control employed at this site is unchanged from the date the control was put in place, or last approved by the Department;*

- *Nothing has occurred that would impair the ability of the control to protect the public health and environment;*

- *Nothing has occurred that would constitute a violation or failure to comply with any site management plan for this control;*

- *Access to the site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;*

- *If a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for the intended purpose under the document;*

- *Use of the site is compliant with the environmental easement;*

- *The engineering control systems are performing as designed and are effective;*

- *To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program and generally accepted engineering practices; and*

- *The information presented in this report is accurate and complete.*

I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, Gary Rozmus, of GEI Consultants Inc., P.C., am certifying as Owner's/Remedial Party's Designated Site Representative for the site."

The signed certification will be included in the PRR.

The Periodic Review Report will be submitted, in electronic format, to the NYSDEC Central Office, Regional Office in which the site is located and the NYSDOH Bureau of Environmental Exposure Investigation. The PRR may need to be submitted in hard-copy format, as requested by the NYSDEC project manager.

7.3 Corrective Measures Work Plan

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

7.4 Remedial Site Optimization Report

In the event that an RSO is to be performed (see Section 6.3), upon completion of an RSO, an RSO report must be submitted to the Department for approval. A general outline for the RSO report is provided in Appendix F. The RSO report will document the research/ investigation and data gathering that was conducted, evaluate the results and facts obtained, present a revised conceptual site model and present recommendations. RSO recommendations are to be implemented upon approval from the NYSDEC. Additional

work plans, design documents, HASPs etc., may still be required to implement the recommendations, based upon the actions that need to be taken. A final engineering report and update to the SMP may also be required.

The RSO report will be submitted, in electronic format, to the NYSDEC Central Office, Regional Office in which the site is located, Site Control and the NYSDOH Bureau of Environmental Exposure Investigation.

8.0 REFERENCES

Phase I Environmental Site Assessment, EEA. September 2011.

Phase II Subsurface Environmental Investigation, EEA. November 2011.

Vapor Encroachment Screening Investigation, EEA. December, 2011.

Phase II Subsurface Environmental Investigation, EEA. December 2011.

Remedial Investigation Report, GEI. September 2015.

Remedial Action Work Plan, GEI. October 2015.

Off-site Soil Vapor Intrusion Evaluation Report, GEI. December 2015.

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

NYSDEC DER-10 – "Technical Guidance for Site Investigation and Remediation."

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

Table 1. Remaining Soil Sample Exceedances
Remedial Investigation Report
Omni New York DCA-1 Apartments
495 Howard Avenue
Brooklyn, New York

Analyte	Units	CAS No.	Unrestricted SCO	Restricted-Residential SCO	Location Name	Sample Name	Start Depth	End Depth	Depth Unit	Sample Date	Parent Sample
					SS4	SS04A (16-18')	16	18	ft	10/1/2014	
					SS4	SS04A (18-20')	18	20	ft	10/1/2014	
					SS4	SS04A (20-22')	20	22	ft	10/1/2014	
					SS4	SS04A (22-24')	22	24	ft	10/1/2014	
					SS4	SS04A (24-26')	24	26	ft	10/1/2014	
					SS4	SS04A (26-28')	26	28	ft	10/1/2014	
					SS4	SS04A (28-30')	28	30	ft	10/1/2014	
					SS4	SS04A (30-32')	30	32	ft	10/1/2014	
					SS4	SS04A (32-34')	32	34	ft	10/1/2014	
					SS4	SS04A (34-36')	34	36	ft	10/1/2014	
					SS4	SS04A (36-38')	36	38	ft	10/1/2014	
					SS4	DUP	36	38	ft	10/1/2014	SS04A (36-38')
					SS4	SS04A (38-40')	38	40	ft	10/1/2014	
					SS4	SS04A (40-42')	40	42	ft	10/1/2014	
BTEX	µg/kg										
Benzene		71-43-2	60	2900	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 U	9 U	9 U
Toluene		108-88-3	700	100000	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 U	9 U	9 U
Ethylbenzene		100-41-4	1000	30000	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 U	9 U	9 U
Total Xylene		1330-20-7	260	100000	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 U	9 U	9 U
Other VOCs	µg/kg										
Acetone		67-64-1	50	100000	**7 J**	**23 J**	8 UJ	**16 J**	7 UJ	**7 J**	**10 J**	**11 J**	**16 J**	8 UJ	12 UJ	10 UJ	**7 J**	9 UJ
Bromodichloromethane		75-27-4	NE	NE	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 U	9 U	9 U
Bromoform		75-25-2	NE	NE	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 U	9 U	9 U
Bromomethane		74-83-9	NE	NE	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 U	9 U	9 U
Carbon disulfide		75-15-0	NE	NE	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 U	9 U	9 U
Carbon tetrachloride		56-23-5	760	1400	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 U	9 U	9 U
Chlorobenzene		108-90-7	1100	100000	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 U	9 U	9 U
Chloroethane		75-00-3	NE	NE	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 U	9 U	9 U
Chloroform		67-66-3	370	10000	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 U	9 U	9 U
Chloromethane		74-87-3	NE	NE	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 U	9 U	9 U
Cyclohexane		110-82-7	NE	NE	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 U	9 U	9 U
1,2-Dibromo-3-chloropropane		96-12-8	NE	NE	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 U	9 U	9 U
Dibromochloromethane		124-48-1	NE	NE	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 U	9 U	9 U
1,2-Dibromoethane (EDB)		106-93-4	NE	NE	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 U	9 U	9 U
1,2-Dichlorobenzene		95-50-1	1100	100000	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 U	9 U	9 U
1,3-Dichlorobenzene		541-73-1	2400	17000	10 UJ	8 UJ	8 UJ	12 UJ	7 UJ	8 UJ	10 UJ	8 UJ	8 UJ	8 UJ	12 UJ	10 UJ	9 UJ	9 UJ
1,4-Dichlorobenzene		106-46-7	1800	9800	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 U	9 U	9 U
Dichlorodifluoromethane (Freon 12)		75-71-8	NE	NE	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 UJ	9 U	9 U
1,1-Dichloroethane		75-34-3	270	19000	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 U	9 U	9 U
1,2-Dichloroethane		107-06-2	20	2300	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 U	9 U	9 U
1,1-Dichloroethene		75-35-4	330	100000	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 U	9 U	9 U
cis-1,2-Dichloroethene		156-59-2	250	59000	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 U	9 U	9 U
trans-1,2-Dichloroethene		156-60-5	190	100000	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 U	9 U	9 U
1,2-Dichloropropane		78-87-5	NE	NE	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 U	9 U	9 U
cis-1,3-Dichloropropene		10061-01-5	NE	NE	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 U	9 U	9 U
trans-1,3-Dichloropropene		10061-02-6	NE	NE	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 U	9 U	9 U
2-Hexanone		591-78-6	NE	NE	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 U	9 U	9 U
Isopropyl benzene		98-82-8	NE	NE	10 UJ	8 UJ	8 UJ	12 UJ	7 UJ	8 UJ	10 UJ	8 UJ	8 UJ	8 UJ	12 UJ	10 UJ	9 UJ	9 UJ
Methyl acetate		79-20-9	NE	NE	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 UJ	9 U	9 U
Methyl ethyl ketone (2-Butanone)		78-93-3	120	100000	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	**3 J**	8 U	12 U	10 U	9 U	9 U
Methyl tert-butyl ether (MTBE)		1634-04-4	930	62000	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 U	9 U	9 U
4-Methyl-2-pentanone (MIBK)		108-10-1	NE	NE	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 U	9 U	9 U
Methylcyclohexane		108-87-2	NE	NE	10 UJ	8 UJ	8 UJ	12 UJ	7 UJ	8 UJ	10 UJ	8 UJ	8 UJ	8 UJ	12 UJ	10 UJ	9 UJ	9 UJ
Methylene chloride		75-09-2	50	51000	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 U	9 U	9 U
Styrene		100-42-5	NE	NE	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 U	9 U	9 U
1,1,2,2-Tetrachloroethane		79-34-5	NE	NE	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 U	9 U	9 U
Tetrachloroethene (PCE)		127-18-4	1300	5500	**1 J**	**70**	**13**	**29**	**4 J**	**30**	**22**	**230 J**	**3 J**	**91**	**29 J**	**180 J**	**12 J**	**140**
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		76-13-1	NE	NE	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 U	9 U	9 U
1,2,4-Trichlorobenzene		120-82-1	NE	NE	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 U	9 U	9 U
1,1,1-Trichloroethane (TCA)		71-55-6	680	100000	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 U	9 U	9 U
1,1,2-Trichloroethane		79-00-5	NE	NE	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 U	9 U	9 U
Trichloroethene (TCE)		79-01-6	470	10000	10 U	8 U	8 U	12 U	7 U	8 U	10 U	**2 J**	8 U	8 U	12 U	**2 J**	9 U	**3 J**
Trichlorofluoromethane (Freon 11)		75-69-4	NE	NE	10 U	8 U	8 U	12 U	**3 J**	**3 J**	10 U	**2 J**	**2 J**	**3 J**	**3 J**	10 U	9 U	9 U
Vinyl chloride		75-01-4	20	210	10 U	8 U	8 U	12 U	7 U	8 U	10 U	8 U	8 U	8 U	12 U	10 U	9 U	9 U
Total VOCs (ND=0)		TVOC_ND0	NE	NE	**8**	**93**	**13**	**45**	**7**	**40**	**32**	**245**	**24**	**94**	**32**	**182**	**19**	**143**
Other																		
Percent Moisture	%	MOIST	NE	NE	**8.4**	**11.4**	**9.4**	**20.1**	**8.2**	**9**	**10.4**	**9.7**	**6.9**	**9.2**	**9.3**	**8.1**	**9**	**8.2**

Table 1. Remaining Soil Sample Exceedances
Remedial Investigation Report
Omni New York DCA-1 Apartments
495 Howard Avenue
Brooklyn, New York

Analyte	Units	CAS No.	Unrestricted SCO	Restricted-Residential SCO	Location Name	SS4	SS4	SS5	SS5	SS5	SS5	SS5	SS5	SS5	SS5	SS6	SS6	SS6	SS6	SS6
					Sample Name	SS04A (42-44')	SS04A (44-45')	SS05 (30-32')	SS05 (32-34')	SS05 (34-36')	SS05 (36-38')	SS05 (38-40')	SS05 (40-42')	SS05 (42-44')	SS05 (44-45')	SS06A (30-32')	SS06A (32-34')	SS06A (34-36')	SS06A (36-38')	SS06A (38-40')
					Start Depth	42	44	30	32	34	36	38	40	42	44	30	32	34	36	38
					End Depth	44	45	32	34	36	38	40	42	44	45	32	34	36	38	40
					Depth Unit	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
					Sample Date	10/1/2014	10/1/2014	10/1/2014	10/1/2014	10/1/2014	10/1/2014	10/1/2014	10/1/2014	10/1/2014	10/1/2014	10/2/2014	10/2/2014	10/2/2014	10/2/2014	10/2/2014
					Parent Sample															
BTEX	µg/kg																			
Benzene		71-43-2	60	2900		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 U	10 U	9 U	9 U	8 U
Toluene		108-88-3	700	100000		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 U	10 U	9 U	9 U	8 U
Ethylbenzene		100-41-4	1000	30000		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 U	10 U	9 U	9 U	8 U
Total Xylene		1330-20-7	260	100000		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 U	10 U	9 U	9 U	8 U
Other VOCs	µg/kg																			
Acetone		67-64-1	50	100000		**16 J**	9 UJ	10 UJ	**6 J**	8 UJ	8 UJ	8 UJ	**8 J**	**8 J**	8 UJ	9 UJ	**8 J**	**70 J**	**10 J**	**22 J**
Bromodichloromethane		75-27-4	NE	NE		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 U	10 U	9 U	9 U	8 U
Bromoform		75-25-2	NE	NE		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 U	10 U	9 U	9 U	8 U
Bromomethane		74-83-9	NE	NE		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 U	10 U	9 U	9 U	8 U
Carbon disulfide		75-15-0	NE	NE		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 U	10 U	9 U	9 U	8 U
Carbon tetrachloride		56-23-5	760	1400		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 U	10 U	9 U	9 U	8 U
Chlorobenzene		108-90-7	1100	100000		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 U	10 U	9 U	9 U	8 U
Chloroethane		75-00-3	NE	NE		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 U	10 U	9 U	9 U	8 U
Chloroform		67-66-3	370	10000		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 U	10 U	9 U	9 U	8 U
Chloromethane		74-87-3	NE	NE		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 U	10 U	9 U	9 U	8 U
Cyclohexane		110-82-7	NE	NE		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 UJ	10 UJ	9 UJ	9 UJ	8 UJ
1,2-Dibromo-3-chloropropane		96-12-8	NE	NE		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 U	10 U	9 U	9 U	8 U
Dibromochloromethane		124-48-1	NE	NE		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 UJ	10 UJ	9 UJ	9 UJ	8 UJ
1,2-Dibromoethane (EDB)		106-93-4	NE	NE		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 UJ	10 UJ	9 UJ	9 UJ	8 UJ
1,2-Dichlorobenzene		95-50-1	1100	100000		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 U	10 U	9 U	9 U	8 U
1,3-Dichlorobenzene		541-73-1	2400	17000		14 UJ	9 UJ	10 UJ	9 UJ	8 UJ	8 UJ	8 UJ	8 U	9 UJ	8 UJ	9 U	10 U	9 U	9 U	8 U
1,4-Dichlorobenzene		106-46-7	1800	9800		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 U	10 U	9 U	9 U	8 U
Dichlorodifluoromethane (Freon 12)		75-71-8	NE	NE		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 UJ	9 U	8 U	9 U	10 U	9 U	9 U	8 U
1,1-Dichloroethane		75-34-3	270	19000		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 U	10 U	9 U	9 U	8 U
1,2-Dichloroethane		107-06-2	20	2300		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 U	10 U	9 U	9 U	8 U
1,1-Dichloroethene		75-35-4	330	100000		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 U	10 U	9 U	9 U	8 U
cis-1,2-Dichloroethene		156-59-2	250	59000		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 U	10 U	9 U	9 U	8 U
trans-1,2-Dichloroethene		156-60-5	190	100000		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 U	10 U	9 U	9 U	8 U
1,2-Dichloropropane		78-87-5	NE	NE		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 U	10 U	9 U	9 U	8 U
cis-1,3-Dichloropropene		10061-01-5	NE	NE		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 U	10 U	9 U	9 U	8 U
trans-1,3-Dichloropropene		10061-02-6	NE	NE		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 U	10 U	9 U	9 U	8 U
2-Hexanone		591-78-6	NE	NE		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 U	10 U	9 U	9 U	8 U
Isopropyl benzene		98-82-8	NE	NE		14 UJ	9 UJ	10 UJ	9 UJ	8 UJ	8 UJ	8 UJ	8 UJ	9 UJ	8 UJ	9 UJ	10 UJ	9 UJ	9 UJ	8 UJ
Methyl acetate		79-20-9	NE	NE		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 UJ	9 U	8 U	9 U	10 U	9 U	9 U	8 U
Methyl ethyl ketone (2-Butanone)		78-93-3	120	100000		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 U	10 U	**14**	9 U	8 U
Methyl tert-butyl ether (MTBE)		1634-04-4	930	62000		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 U	10 U	9 U	9 U	8 U
4-Methyl-2-pentanone (MIBK)		108-10-1	NE	NE		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 U	10 U	9 U	9 U	8 U
Methylcyclohexane		108-87-2	NE	NE		14 UJ	9 UJ	10 UJ	9 UJ	8 UJ	8 UJ	8 UJ	8 UJ	9 UJ	8 UJ	9 UJ	10 UJ	9 UJ	9 UJ	8 UJ
Methylene chloride		75-09-2	50	51000		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 U	10 U	9 U	9 U	8 U
Styrene		100-42-5	NE	NE		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 U	10 U	9 U	9 U	8 U
1,1,2,2-Tetrachloroethane		79-34-5	NE	NE		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 U	10 U	9 U	9 U	8 U
Tetrachloroethene (PCE)		127-18-4	1300	5500		**25**	**2 J**	**180**	**19**	**14**	**20**	**15**	**81**	**76**	**17**	**110**	**180**	**110**	**94**	**150**
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		76-13-1	NE	NE		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 U	10 U	9 U	9 U	8 U
1,2,4-Trichlorobenzene		120-82-1	NE	NE		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 U	10 U	9 U	9 U	8 U
1,1,1-Trichloroethane (TCA)		71-55-6	680	100000		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 U	10 U	9 U	9 U	8 U
1,1,2-Trichloroethane		79-00-5	NE	NE		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 UJ	10 UJ	9 UJ	9 UJ	8 UJ
Trichloroethene (TCE)		79-01-6	470	10000		14 U	9 U	**2 J**	9 U	8 U	8 U	8 U	**0.9 J**	**1 J**	8 U	9 U	**1 J**	9 U	9 U	**0.8 J**
Trichlorofluoromethane (Freon 11)		75-69-4	NE	NE		14 U	**4 J**	10 U	**3 J**	8 U	**1 J**	8 U	**1 J**	9 U	8 U	**2 J**	10 U	**2 J**	9 U	8 U
Vinyl chloride		75-01-4	20	210		14 U	9 U	10 U	9 U	8 U	8 U	8 U	8 U	9 U	8 U	9 U	10 U	9 U	9 U	8 U
Total VOCs (ND=0)		TVOC_ND0	NE	NE		**41**	**6**	**182**	**28**	**14**	**21**	**15**	**90.9**	**85**	**17**	**112**	**189**	**196**	**104**	**172.8**
Other																				
Percent Moisture	%	MOIST	NE	NE		**9.7**	**7.7**	**13.3**	**8.6**	**9.6**	**7.9**	**8.7**	**9.8**	**9.7**	**8.9**	**9.6**	**8.4**	**12.5**	**11.7**	**9.7**

Table 1. Remaining Soil Sample Exceedances
Remedial Investigation Report
Omni New York DCA-1 Apartments
495 Howard Avenue
Brooklyn, New York

				Location Name	SS6	SS6	SS6	SS6	SS6	SS6	SS6	SS6	SS6	SS6	SS6
				Sample Name	SS06A (40-42')	SS06A (42-44')	SS06A (44-46')	SS06A (46-48')	SS06A (48-50')	SS06A (50-52')	SS06A (52-54')	DUP-2	SS06A (54-56')	SS06A (56-58')	SS06A (58-60')
				Start Depth	40	42	44	46	48	50	52	52	54	56	58
				End Depth	42	44	46	48	50	52	54	54	56	58	60
				Depth Unit	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
				Sample Date	10/2/2014	10/2/2014	10/2/2014	10/2/2014	10/2/2014	10/2/2014	10/2/2014	10/2/2014	10/2/2014	10/2/2014	10/2/2014
				Parent Sample								SS06A (52-54')			
Analyte	**Units**	**CAS No.**	**Unrestricted SCO**	**Restricted-Residential SCO**											
BTEX	µg/kg														
Benzene		71-43-2	60	2900	8 U	9 U	8 U	9 U	7 U	8 U	9 U	9 U	8 U	8 U	9 U
Toluene		108-88-3	700	100000	8 U	9 U	8 U	9 U	7 U	8 U	9 U	9 U	8 U	8 U	9 U
Ethylbenzene		100-41-4	1000	30000	8 U	9 U	8 U	9 U	7 U	8 U	9 U	9 U	8 U	8 U	9 U
Total Xylene		1330-20-7	260	100000	8 U	9 U	8 U	9 U	7 U	8 U	9 U	9 U	8 U	8 U	9 U
Other VOCs	µg/kg														
Acetone		67-64-1	50	100000	**24 J**	**22 J**	**33 J**	9 UJ	**27 J**	8 UJ	**54 J**	9 UJ	**6 J**	**36 J**	**55 J**
Bromodichloromethane		75-27-4	NE	NE	8 U	9 U	8 U	9 U	7 U	8 U	9 U	9 U	8 U	8 U	9 U
Bromoform		75-25-2	NE	NE	8 U	9 U	8 U	9 U	7 U	8 U	9 U	9 U	8 U	8 U	9 U
Bromomethane		74-83-9	NE	NE	8 U	9 U	8 U	9 U	7 U	8 U	9 U	9 U	8 U	8 U	9 U
Carbon disulfide		75-15-0	NE	NE	8 U	9 U	8 U	9 U	7 U	8 U	9 U	9 U	8 U	8 U	9 U
Carbon tetrachloride		56-23-5	760	1400	8 U	9 U	8 U	9 U	7 U	8 U	9 U	9 U	8 U	8 U	9 U
Chlorobenzene		108-90-7	1100	100000	8 U	9 U	8 U	9 U	7 U	8 U	9 U	9 U	8 U	8 U	9 U
Chloroethane		75-00-3	NE	NE	8 U	9 U	8 U	9 U	7 U	8 U	9 U	9 U	8 U	8 U	9 U
Chloroform		67-66-3	370	10000	8 U	9 U	8 U	9 U	7 U	8 U	9 U	9 U	8 U	8 U	9 U
Chloromethane		74-87-3	NE	NE	8 U	9 U	8 U	9 U	7 U	8 U	9 U	9 U	8 U	8 U	9 U
Cyclohexane		110-82-7	NE	NE	8 UJ	9 UJ	8 UJ	9 UJ	7 UJ	8 UJ	9 UJ	9 U	8 UJ	8 UJ	9 UJ
1,2-Dibromo-3-chloropropane		96-12-8	NE	NE	8 U	9 U	8 U	9 U	7 U	8 U	9 U	9 U	8 U	8 U	9 U
Dibromochloromethane		124-48-1	NE	NE	8 UJ	9 UJ	8 UJ	9 UJ	7 UJ	8 UJ	9 UJ	9 U	8 UJ	8 UJ	9 UJ
1,2-Dibromoethane (EDB)		106-93-4	NE	NE	8 UJ	9 UJ	8 UJ	9 UJ	7 UJ	8 UJ	9 UJ	9 U	8 UJ	8 UJ	9 UJ
1,2-Dichlorobenzene		95-50-1	1100	100000	8 U	9 U	8 U	9 U	7 U	8 U	9 U	9 U	8 U	8 U	9 U
1,3-Dichlorobenzene		541-73-1	2400	17000	8 U	9 U	8 U	9 U	7 U	8 U	9 U	9 UJ	8 U	8 U	9 U
1,4-Dichlorobenzene		106-46-7	1800	9800	8 U	9 U	8 U	9 U	7 U	8 U	9 U	9 U	8 U	8 U	9 U
Dichlorodifluoromethane (Freon 12)		75-71-8	NE	NE	8 U	9 U	8 U	9 U	7 U	8 U	9 U	9 U	8 U	8 U	9 U
1,1-Dichloroethane		75-34-3	270	19000	8 U	9 U	8 U	9 U	7 U	8 U	9 U	9 U	8 U	8 U	9 U
1,2-Dichloroethane		107-06-2	20	2300	8 U	9 U	8 U	9 U	7 U	8 U	9 U	9 U	8 U	8 U	9 U
1,1-Dichloroethene		75-35-4	330	100000	8 U	9 U	8 U	9 U	7 U	8 U	9 U	9 U	8 U	8 U	9 U
cis-1,2-Dichloroethene		156-59-2	250	59000	8 U	9 U	8 U	9 U	7 U	8 U	**2 J**	**15**	**4 J**	8 U	**4 J**
trans-1,2-Dichloroethene		156-60-5	190	100000	8 U	9 U	8 U	9 U	7 U	8 U	9 U	9 U	8 U	8 U	9 U
1,2-Dichloropropane		78-87-5	NE	NE	8 U	9 U	8 U	9 U	7 U	8 U	9 U	9 U	8 U	8 U	9 U
cis-1,3-Dichloropropene		10061-01-5	NE	NE	8 U	9 U	8 U	9 U	7 U	8 U	9 U	9 U	8 U	8 U	9 U
trans-1,3-Dichloropropene		10061-02-6	NE	NE	8 U	9 U	8 U	9 U	7 U	8 U	9 U	9 U	8 U	8 U	9 U
2-Hexanone		591-78-6	NE	NE	8 U	9 U	8 U	9 U	7 U	8 U	9 U	9 U	8 U	8 U	9 U
Isopropyl benzene		98-82-8	NE	NE	8 UJ	9 UJ	8 UJ	9 UJ	7 UJ	8 UJ	9 UJ	9 UJ	8 UJ	8 UJ	9 UJ
Methyl acetate		79-20-9	NE	NE	8 U	9 U	8 U	9 U	7 U	8 U	9 U	9 U	8 U	8 U	9 U
Methyl ethyl ketone (2-Butanone)		78-93-3	120	100000	**5 J**	**5 J**	**5 J**	9 U	**4 J**	8 U	**10**	9 U	8 U	**6 J**	**9**
Methyl tert-butyl ether (MTBE)		1634-04-4	930	62000	8 U	9 U	8 U	9 U	7 U	8 U	9 U	9 U	8 U	8 U	9 U
4-Methyl-2-pentanone (MIBK)		108-10-1	NE	NE	8 U	9 U	8 U	9 U	7 U	8 U	9 U	9 U	8 U	8 U	9 U
Methylcyclohexane		108-87-2	NE	NE	8 UJ	9 UJ	8 UJ	9 UJ	7 UJ	8 UJ	9 UJ	9 UJ	8 UJ	8 UJ	9 UJ
Methylene chloride		75-09-2	50	51000	8 U	9 U	8 U	9 U	7 U	8 U	9 U	9 U	8 U	8 U	9 U
Styrene		100-42-5	NE	NE	8 U	9 U	8 U	9 U	7 U	8 U	9 U	9 U	8 U	8 U	9 U
1,1,2,2-Tetrachloroethane		79-34-5	NE	NE	8 U	9 U	8 U	9 U	7 U	8 U	9 U	9 U	8 U	8 U	9 U
Tetrachloroethene (PCE)		127-18-4	1300	5500	**150**	**220 J**	**130**	**57**	**140**	**32 J**	**1100 J**	**1700**	**670 J**	**130**	**580 J**
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		76-13-1	NE	NE	8 U	9 U	8 U	9 U	7 U	8 U	9 U	9 U	8 U	8 U	9 U
1,2,4-Trichlorobenzene		120-82-1	NE	NE	8 U	9 U	8 U	9 U	7 U	8 U	9 U	9 U	8 U	8 U	9 U
1,1,1-Trichloroethane (TCA)		71-55-6	680	100000	8 U	9 U	8 U	9 U	7 U	8 U	9 U	9 U	8 U	8 U	9 U
1,1,2-Trichloroethane		79-00-5	NE	NE	8 UJ	9 UJ	8 UJ	9 UJ	7 UJ	8 UJ	9 UJ	9 U	8 UJ	8 UJ	9 UJ
Trichloroethene (TCE)		79-01-6	470	10000	**0.8 J**	**1 J**	**0.8 J**	9 U	7 U	8 U	**5 J**	**19**	**8**	**1 J**	**6 J**
Trichlorofluoromethane (Freon 11)		75-69-4	NE	NE	8 U	**1 J**	8 U	9 U	**2 J**	**3 J**	9 U	9 U	**3 J**	**2 J**	**1 J**
Vinyl chloride		75-01-4	20	210	8 U	9 U	8 U	9 U	7 U	8 U	9 U	9 U	8 U	8 U	9 U
Total VOCs (ND=0)		TVOC_ND0	NE	NE	**179.8**	**249**	**168.8**	**57**	**173**	**35**	**1171**	**1734**	**691**	**175**	**655**
Other															
Percent Moisture	%	MOIST	NE	NE	**10.1**	**10.3**	**10.3**	**11.6**	**9**	**10**	**11.2**	**9.8**	**9**	**10**	**13.9**

Table 1. Remaining Soil Sample Exceedances
Remedial Investigation Report
Omni New York DCA-1 Apartments
495 Howard Avenue
Brooklyn, New York

Notes:
µg/kg = micrograms per kilogram

BTEX = Benzene, Toluene, Ethylbenzene, and Xylenes
VOC = Volatile Organic Compound

Total VOCs are calculated using detects only.

6 NYCRR = New York State Register and Official Compilation of Codes, Rules and Regulations of the State of New York
Comparison of detected results are performed against one or more of the following NYCRR, Chapter IV, Part 375-6 Soil Cleanup Objectives (SCO)s: Unrestricted Use, Residential, Restricted-Residential, Commercial, Industrial, Protection of Ecological Resources, or Protection of Groundwater

CAS No. = Chemical Abstracts Service Number
NE = Not Established

Bolding indicates a detected result concentration
Gray shading and bolding indicates that the detected result value exceeds the Unrestricted SCO
Yellow shading and bolding indicates that the detected result value exceeds the Restricted Residential SCO

Validation Qualifiers:
J = The result is an estimated value.
U = The result was not detected above the reporting limit .
UJ = The results was not detected at or above the reporting limit shown and the reporting limit is estimated.

Table 2. Remaining Groundwater Sample Exceedances
Groundwater Analysis Results
Omni New York DCA-1 Apartments
495 Howard Avenue
Brooklyn, New York

			Location Name	MW-1I	MW-1I	MW-1I2	MW-1D	MW-2I2	MW-2D	MW-3I2	MW-3D
			Sample Name	MW-1I	DUP-01	MW-1I2	MW-1D	MW-2I2	MW-2D	MW-3I2	MW-3D
			Sample Date	7/29/2013	7/29/2013	7/29/2013	7/29/2013	7/29/2013	7/29/2013	7/30/2013	7/30/2013
			Parent Sample Code		MW-1I						
Analyte	**Units**	**NYS AWQS**									
1.11 BTEX											
Benzene	ug/L	1		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Toluene	ug/L	5		**11 J**	**6 J**	**2 J**	**2 J**	**3 J**	10 UJ	10 UJ	10 UJ
Ethylbenzene	ug/L	5		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Total Xylene	ug/L	5		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
1.12 Other VOCs											
Acetone	ug/L	50*		10 UJ	10 UJ	10 UJ	**8 J**	10 UJ	10 UJ	10 UJ	10 UJ
Bromodichloromethane	ug/L	50*		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Bromoform	ug/L	50*		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Bromomethane	ug/L	5		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Carbon disulfide	ug/L	60*		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Carbon tetrachloride	ug/L	5		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Chlorobenzene	ug/L	5		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Chloroethane	ug/L	5		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Chloroform	ug/L	7		**25 J**	**13 J**	**4 J**	**11 J**	**5 J**	**1 J**	**1 J**	10 UJ
Chloromethane	ug/L	5		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Cyclohexane	ug/L	NE		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
1,2-Dibromo-3-chloropropane	ug/L	0.04		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Dibromochloromethane	ug/L	50*		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
1,2-Dibromoethane (EDB)	ug/L	0.0006		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
1,2-Dichlorobenzene	ug/L	3		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
1,3-Dichlorobenzene	ug/L	3		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
1,4-Dichlorobenzene	ug/L	3		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Dichlorodifluoromethane (Freon 12)	ug/L	5		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
1,1-Dichloroethane	ug/L	5		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
1,2-Dichloroethane	ug/L	0.6		10 UJ	10 UJ	10 UJ	**3 J**	10 UJ	10 UJ	10 UJ	10 UJ
1,1-Dichloroethene	ug/L	0.07		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
cis-1,2-Dichloroethene	ug/L	5		**1 J**	**3 J**	10 UJ	10 UJ	10 UJ	10 UJ	**3 J**	10 UJ
trans-1,2-Dichloroethene	ug/L	5		**1 J**	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
1,2-Dichloropropane	ug/L	1		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
cis-1,3-Dichloropropene	ug/L	0.4		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
trans-1,3-Dichloropropene	ug/L	0.4		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
2-Hexanone	ug/L	50*		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Isopropyl benzene	ug/L	5		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Methyl acetate	ug/L	NE		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Methyl ethyl ketone (2-Butanone)	ug/L	50*		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Methyl tert-butyl ether (MTBE)	ug/L	10*		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
4-Methyl-2-pentanone (MIBK)	ug/L	NE		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Methylcyclohexane	ug/L	NE		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Methylene chloride	ug/L	5		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Styrene	ug/L	5		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ

Table 2. Remaining Groundwater Sample Exceedances
Groundwater Analysis Results
Omni New York DCA-1 Apartments
495 Howard Avenue
Brooklyn, New York

			Location Name	MW-1I	MW-1I	MW-1I2	MW-1D	MW-2I2	MW-2D	MW-3I2	MW-3D
			Sample Name	MW-1I	DUP-01	MW-1I2	MW-1D	MW-2I2	MW-2D	MW-3I2	MW-3D
			Sample Date	7/29/2013	7/29/2013	7/29/2013	7/29/2013	7/29/2013	7/29/2013	7/30/2013	7/30/2013
			Parent Sample Code		MW-1I						
Analyte	**Units**	**NYS AWQS**									
1,1,2,2-Tetrachloroethane	ug/L	5		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Tetrachloroethene (PCE)	ug/L	5		**31 J**	**61 J**	**10 J**	**4 J**	**7 J**	**4 J**	**71 J**	**9 J**
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	ug/L	5		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
1,2,4-Trichlorobenzene	ug/L	5		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
1,1,1-Trichloroethane	ug/L	5		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
1,1,2-Trichloroethane	ug/L	1		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Trichloroethene (TCE)	ug/L	5		**2 J**	**3 J**	10 UJ	10 UJ	10 UJ	10 UJ	**3 J**	10 UJ
Trichlorofluoromethane (Freon 11)	ug/L	5		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Vinyl chloride	ug/L	2		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Total VOCs (ND=0)	ug/L	NE		**71**	**86**	**16**	**28**	**15**	**5**	**78**	**9**
2.33 NYSDEC PAH17											
Acenaphthene	ug/L	20*		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acenaphthylene	ug/L	NE		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Anthracene	ug/L	50*		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)anthracene	ug/L	0.002*		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	ug/L	0.002*		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	ug/L	0.002*		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	ug/L	NE		10 R	10 R	10 R	10 U	10 R	10 R	10 U	10 U
Benzo(a)pyrene	ug/L	ND		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chrysene	ug/L	0.002*		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	ug/L	NE		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluoranthene	ug/L	50*		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluorene	ug/L	50*		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	ug/L	0.002*		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene	ug/L	NE		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	ug/L	10*		10 UJ	10 UJ	10 UJ	10 U	10 UJ	10 UJ	10 U	10 U
Phenanthrene	ug/L	50*		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pyrene	ug/L	50*		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2.34 NYSDEC PAH17 Other SVOCs											
Acetophenone	ug/L	NE		10 UJ	10 UJ	10 UJ	10 U	10 UJ	10 UJ	10 U	10 U
Atrazine	ug/L	7.5		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzaldehyde	ug/L	NE		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Biphenyl (1,1-Biphenyl)	ug/L	5		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-chloroethoxy)methane	ug/L	5		10 UJ	10 UJ	10 UJ	10 U	10 UJ	10 UJ	10 U	10 U
Bis(2-chloroethyl)ether	ug/L	1		10 R	10 R	10 R	10 U	10 R	10 R	10 U	10 U
Bis(chloroisopropyl)ether	ug/L	5		10 R	10 R	10 R	10 UJ	10 R	10 R	10 UJ	10 UJ
Bis(2-ethylhexyl)phthalate	ug/L	5		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Bromophenyl phenyl ether	ug/L	NE		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butyl benzyl phthalate	ug/L	50*		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Caprolactam	ug/L	NE		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbazole	ug/L	NE		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol	ug/L	NE		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chloroaniline	ug/L	5		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chloronaphthalene	ug/L	10*		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U

Table 2. Remaining Groundwater Sample Exceedances
Groundwater Analysis Results
Omni New York DCA-1 Apartments
495 Howard Avenue
Brooklyn, New York

		Location Name	MW-1I	MW-1I	MW-1I2	MW-1D	MW-2I2	MW-2D	MW-3I2	MW-3D
		Sample Name	MW-1I	DUP-01	MW-1I2	MW-1D	MW-2I2	MW-2D	MW-3I2	MW-3D
		Sample Date	7/29/2013	7/29/2013	7/29/2013	7/29/2013	7/29/2013	7/29/2013	7/30/2013	7/30/2013
		Parent Sample Code		MW-1I						
Analyte	**Units**	**NYS AWQS**								
2-Chlorophenol	ug/L	NE	10 UJ	10 UJ	10 UJ	10 U	10 UJ	10 UJ	10 U	10 U
4-Chlorophenyl phenyl ether	ug/L	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	ug/L	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
3,3-Dichlorobenzidine	ug/L	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	ug/L	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Diethyl phthalate	ug/L	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dimethyl phthalate	ug/L	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	ug/L	50*	10 UJ	10 UJ	10 UJ	10 U	10 UJ	10 UJ	10 U	10 U
Di-n-butyl phthalate	ug/L	50	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4,6-Dinitro-2-methylphenol	ug/L	NE	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
2,4-Dinitrophenol	ug/L	10*	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
2,4-Dinitrotoluene	ug/L	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	ug/L	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-octyl phthalate	ug/L	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	ug/L	0.04	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	ug/L	0.5	10 UJ	10 UJ	10 UJ	10 U	10 UJ	10 UJ	10 U	10 U
Hexachlorocyclopentadiene	ug/L	5	10 U	10 U	10 U	10 UJ	10 U	10 U	10 U	10 U
Hexachloroethane	ug/L	5	10 R	10 R	10 R	10 U	10 R	10 R	10 U	10 U
Isophorone	ug/L	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylphenol (o-Cresol)	ug/L	1	10 UJ	10 UJ	10 UJ	10 U	10 UJ	10 UJ	10 U	10 U
4-Methylphenol (p-Cresol)	ug/L	1	10 UJ	10 UJ	10 UJ	10 U	10 UJ	10 UJ	10 U	10 U
2-Nitroaniline	ug/L	5	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
3-Nitroaniline	ug/L	5	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
4-Nitroaniline	ug/L	5	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitrobenzene	ug/L	0.4	10 UJ	10 UJ	10 UJ	10 U	10 UJ	10 UJ	10 U	10 U
2-Nitrophenol	ug/L	NE	10 UJ	10 UJ	10 UJ	10 U	10 UJ	10 UJ	10 U	10 U
4-Nitrophenol	ug/L	NE	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
N-Nitrosodi-n-propylamine	ug/L	NE	10 UJ	10 UJ	10 UJ	10 U	10 UJ	10 UJ	10 U	10 U
N-Nitrosodiphenylamine	ug/L	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	ug/L	1	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Phenol	ug/L	1	10 UJ	10 UJ	10 UJ	10 U	10 UJ	10 UJ	10 U	10 U
2,4,5-Trichlorophenol	ug/L	NE	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
2,4,6-Trichlorophenol	ug/L	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Total SVOCs (ND=0)	ug/L	NE	ND	ND	ND	ND	ND	ND	ND	ND
3.10 PCB Aroclors										
Aroclor 1016	ug/L	NE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1221	ug/L	NE	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Aroclor 1232	ug/L	NE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1242	ug/L	NE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1248	ug/L	NE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1254	ug/L	NE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1260	ug/L	NE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Total PCB Aroclors (ND=0)	ug/L	NE	ND	ND	ND	ND	ND	ND	ND	ND

Table 2. Remaining Groundwater Sample Exceedances
Groundwater Analysis Results
Omni New York DCA-1 Apartments
495 Howard Avenue
Brooklyn, New York

		Location Name	MW-1I	MW-1I	MW-1I2	MW-1D	MW-2I2	MW-2D	MW-3I2	MW-3D
		Sample Name	MW-1I	DUP-01	MW-1I2	MW-1D	MW-2I2	MW-2D	MW-3I2	MW-3D
		Sample Date	7/29/2013	7/29/2013	7/29/2013	7/29/2013	7/29/2013	7/29/2013	7/30/2013	7/30/2013
		Parent Sample Code		MW-1I						
Analyte	**Units**	**NYS AWQS**								
4.10 Pesticides										
Aldrin	ug/L	ND	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
alpha-BHC (Hexachlorocyclohexane)	ug/L	0.01	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 U
beta-BHC (beta-Hexachlorocyclohexane)	ug/L	0.04	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 U
gamma-BHC (gamma-Hexachlorocyclohexane) (Lindane)	ug/L	0.05	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
delta-BHC (delta-Hexachlorocyclohexane)	ug/L	0.04	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
alpha-chlordane	ug/L	NE	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 U
gamma-Chlordane	ug/L	NE	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 U
4,4'-DDT (p,p'-DDT)	ug/L	0.2	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDE (p,p'-DDE)	ug/L	0.2	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U
4,4-DDD (p,p-DDD)	ug/L	0.3	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Dieldrin	ug/L	0.004	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
alpha-Endosulfan (I)	ug/L	NE	**0.047 J**	0.05 U	0.05 U	**0.049 J**	0.05 U	0.05 U	0.05 U	**0.08**
beta-Endosulfan (II)	ug/L	NE	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U
Endosulfan sulfate	ug/L	NE	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U
Endrin	ug/L	0	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endrin aldehyde	ug/L	5	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endrin ketone	ug/L	5	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U
Heptachlor	ug/L	0.04	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor epoxide	ug/L	0.03	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 U
Methoxychlor	ug/L	35	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toxaphene	ug/L	0.06	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Total Pesticides (ND=0)	ug/L	NE	**0.047**	ND	ND	**0.049**	ND	ND	ND	**0.08**
5.1 Herbicides										
2,4-D (2,4-Dichlorophenoxyacetic acid)	ug/L	50	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dicamba	ug/L	0.44	0.15 U	0.15 U	0.15 U	0.15 UJ	0.15 U	0.15 U	0.15 U	0.15 U
Dinoseb	ug/L	1	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)	ug/L	35	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
2,4,5-TP (Silvex)	ug/L	0.26	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Total Herbicides (ND=0)	ug/L	NE	ND	ND	ND	ND	ND	ND	ND	ND
6.1 Metals										
Ferrous iron (Fe2+)	ug/L	NE	100 UJ	100 UJ	100 UJ	100 UJ	100 UJ	100 UJ	100 UJ	100 UJ
6.3 Total Metals										
Aluminum	ug/L	NE	**25100 J**	**1030 J**	**434 J**	**4790 J**	**2640 J**	**78.7 J**	**3680 J**	**11600 J**
Antimony	ug/L	3	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
Arsenic	ug/L	25	**6.4 J**	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U
Barium	ug/L	1000	**325 J**	**88.4 J**	3.7 U	**217**	**138 J**	**101 J**	**120 J**	**323**
Beryllium	ug/L	3*	**1.3 J**	0.1 U	0.1 U	**0.2 J**	0.1 U	0.1 U	0.1 U	**0.4 J**
Cadmium	ug/L	5	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Calcium	ug/L	NE	**96800**	**107000**	**129000**	**138000**	**132000**	**137000**	**131000**	**158000**
Chromium	ug/L	50	**259 J**	**14.8 J**	**2.8 J**	**101**	**273**	**2.2 J**	**27.8**	**53.2**
Cobalt	ug/L	NE	**41 J**	**3.7 J**	**2.4 J**	**8 J**	**8 J**	**1.2 J**	**6.9 J**	**17.9 J**
Copper	ug/L	200	**153 J**	**9.2 J**	0.4 UJ	0.4 UJ	**26 J**	**5.4 J**	**14.8 J**	**38.9 J**
Iron	ug/L	300	**60100 J**	**2170 J**	**1190**	**11400**	**7390**	**1290**	**7440**	**29000**
Lead	ug/L	25	**51.5 J**	**13.3 J**	**13.6**	**25.4**	**14.9**	**10.6**	**18.8**	**31.5**

Table 2. Remaining Groundwater Sample Exceedances
Groundwater Analysis Results
Omni New York DCA-1 Apartments
495 Howard Avenue
Brooklyn, New York

		Location Name	MW-1I	MW-1I	MW-1I2	MW-1D	MW-2I2	MW-2D	MW-3I2	MW-3D
		Sample Name	MW-1I	DUP-01	MW-1I2	MW-1D	MW-2I2	MW-2D	MW-3I2	MW-3D
		Sample Date	7/29/2013	7/29/2013	7/29/2013	7/29/2013	7/29/2013	7/29/2013	7/30/2013	7/30/2013
		Parent Sample Code		MW-1I						
Analyte	**Units**	**NYS AWQS**								
Magnesium	ug/L	35000*	**54500**	**45200**	**50000**	**56600**	**52500**	**56500**	**61300**	**66500**
Manganese	ug/L	300	**4070 J**	**909 J**	**1060**	**1680**	**1830**	**2000**	**1110**	**4520**
Mercury	ug/L	0.7	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Nickel	ug/L	100	**274 J**	**24.3 J**	**9.8 J**	**60.5**	**175**	**3.7 J**	**58.1**	**42.6**
Potassium	ug/L	NE	**10400 J**	49 UJ	**4370 J**	**5890 J**	**5890 J**	49 UJ	**5790 J**	**7170 J**
Selenium	ug/L	10	2.3 U	**2.9 J**	2.3 U	2.3 U	**3.7 J**	2.3 U	**4.1 J**	**5.1**
Silver	ug/L	50	0.2 U	0.2 U	**0.8 J**	**0.6 J**	**0.5 J**	0.2 U	0.2 U	**0.8 J**
Sodium	ug/L	20000	**44000**	**43600**	**51900**	**48600**	**48800**	**49400**	**65700**	**74200**
Thallium	ug/L	0.5*	1.9 U	1.9 U	1.9 U	**3.2 J**	1.9 U	1.9 U	1.9 U	1.9 U
Vanadium	ug/L	NE	**71.8 J**	**2.8 J**	**1.3 J**	**14.1 J**	**6.6 J**	0.3 U	**9.5 J**	**32.5 J**
Zinc	ug/L	2000*	**157 J**	**21.3 J**	**11.3 J**	**43.3**	**27.1**	**9.6 J**	**34.6**	**68.1**
9.9 Dechlorinating Bacteria[1]										
Dehalococcoides	cells/mL	NE	ND	ND	ND	ND	ND	ND	**9.00**	ND
tceA Reductase	cells/mL	NE	ND	ND	ND	ND	ND	ND	**7.20**	ND
BAV1 Vinyl Chloride Reductase	cells/mL	NE	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride Reductase	cells/mL	NE	ND	ND	ND	ND	ND	ND	ND	ND
9.10 Other										
Ammonia	ug/L	2000	100 U	100 U	**150**	100 U	100 U	100 U	100 U	**120**
Biochemical Oxygen Demand	ug/L	NE	2000 U	2000 U	2000 U	**2000**	2000 U	2000 U	2000 U	**7000**
Chemical Oxygen Demand	ug/L	NE	10000 U	10000 U	10000 U	10000 U	10000 U	**11300**	10000 U	**10700**
Hydrogen (H_2)[1]	ug/L	NE	ND	NA	ND	ND	ND	ND	ND	ND
Methane	ug/L	NE	**7.1 J**	**4.1 J**	**3.4**	**1.4 J**	**2.4**	1 U	**1.6**	**1.7**
Nitrite as Nitrogen	ug/L	1000	100 U	100 U	100 U	**210**	100 U	100 U	100 U	100 U
Nitrate as Nitrogen	ug/L	10000	**1840 J**	**3780 J**	**5650**	**4730**	**3750**	**3650**	**5930**	**6120**
Total Nitrogen	ug/L	NE	**2180 J**	**3780 J**	**5870**	**5280**	**4180**	**4090**	**6040**	**6120**
Total Kjeldahl Nitrogen	ug/L	NE	**340**	100 U	**220**	**550**	**430**	**440**	**110**	100 U
Sulfate	ug/L	250000	**137000**	**178000**	**208000**	**217000**	**193000**	**225000**	**205000**	**186000**
Total Organic Carbon	ug/L	NE	**3200**	**2600**	**2800**	**2700**	**3000**	**3000**	**3200**	**3900**

Table 2. Remaining Groundwater Sample Exceedances
Groundwater Analysis Results
Omni New York DCA-1 Apartments
495 Howard Avenue
Brooklyn, New York

		Location Name	MW-4I2	MW-4D	MW-5I2	MW-5D
		Sample Name	MW-4I2	MW-4D	MW-5I2	MW-5D
		Sample Date	7/29/2013	7/29/2013	7/30/2013	7/30/2013
		Parent Sample Code				
Analyte	**Units**	**NYS AWQS**				
1.11 BTEX						
Benzene	ug/L	1	10 UJ	10 UJ	10 UJ	10 UJ
Toluene	ug/L	5	**2 J**	**1 J**	10 UJ	10 UJ
Ethylbenzene	ug/L	5	10 UJ	10 UJ	10 UJ	10 UJ
Total Xylene	ug/L	5	10 UJ	10 UJ	10 UJ	10 UJ
1.12 Other VOCs						
Acetone	ug/L	50*	10 UJ	10 UJ	10 UJ	10 UJ
Bromodichloromethane	ug/L	50*	10 UJ	10 UJ	10 UJ	10 UJ
Bromoform	ug/L	50*	10 UJ	10 UJ	10 UJ	10 UJ
Bromomethane	ug/L	5	10 UJ	10 UJ	10 UJ	10 UJ
Carbon disulfide	ug/L	60*	10 UJ	10 UJ	10 UJ	10 UJ
Carbon tetrachloride	ug/L	5	10 UJ	10 UJ	10 UJ	10 UJ
Chlorobenzene	ug/L	5	10 UJ	10 UJ	10 UJ	10 UJ
Chloroethane	ug/L	5	10 UJ	10 UJ	10 UJ	10 UJ
Chloroform	ug/L	7	**1 J**	**7 J**	10 UJ	10 UJ
Chloromethane	ug/L	5	10 UJ	10 UJ	10 UJ	10 UJ
Cyclohexane	ug/L	NE	10 UJ	10 UJ	10 UJ	10 UJ
1,2-Dibromo-3-chloropropane	ug/L	0.04	10 UJ	10 UJ	10 UJ	10 UJ
Dibromochloromethane	ug/L	50*	10 UJ	10 UJ	10 UJ	10 UJ
1,2-Dibromoethane (EDB)	ug/L	0.0006	10 UJ	10 UJ	10 UJ	10 UJ
1,2-Dichlorobenzene	ug/L	3	10 UJ	10 UJ	10 UJ	10 UJ
1,3-Dichlorobenzene	ug/L	3	10 UJ	10 UJ	10 UJ	10 UJ
1,4-Dichlorobenzene	ug/L	3	10 UJ	10 UJ	10 UJ	10 UJ
Dichlorodifluoromethane (Freon 12)	ug/L	5	10 UJ	10 UJ	10 UJ	10 UJ
1,1-Dichloroethane	ug/L	5	10 UJ	10 UJ	10 UJ	10 UJ
1,2-Dichloroethane	ug/L	0.6	10 UJ	10 UJ	10 UJ	10 UJ
1,1-Dichloroethene	ug/L	0.07	10 UJ	10 UJ	10 UJ	10 UJ
cis-1,2-Dichloroethene	ug/L	5	**1 J**	10 UJ	10 UJ	10 UJ
trans-1,2-Dichloroethene	ug/L	5	10 UJ	10 UJ	10 UJ	10 UJ
1,2-Dichloropropane	ug/L	1	10 UJ	10 UJ	10 UJ	10 UJ
cis-1,3-Dichloropropene	ug/L	0.4	10 UJ	10 UJ	10 UJ	10 UJ
trans-1,3-Dichloropropene	ug/L	0.4	10 UJ	10 UJ	10 UJ	10 UJ
2-Hexanone	ug/L	50*	10 UJ	10 UJ	10 UJ	10 UJ
Isopropyl benzene	ug/L	5	10 UJ	10 UJ	10 UJ	10 UJ
Methyl acetate	ug/L	NE	10 UJ	10 UJ	10 UJ	10 UJ
Methyl ethyl ketone (2-Butanone)	ug/L	50*	10 UJ	10 UJ	10 UJ	10 UJ
Methyl tert-butyl ether (MTBE)	ug/L	10*	10 UJ	10 UJ	10 UJ	10 UJ
4-Methyl-2-pentanone (MIBK)	ug/L	NE	10 UJ	10 UJ	10 UJ	10 UJ
Methylcyclohexane	ug/L	NE	10 UJ	10 UJ	10 UJ	10 UJ
Methylene chloride	ug/L	5	10 UJ	10 UJ	10 UJ	10 UJ
Styrene	ug/L	5	10 UJ	10 UJ	10 UJ	10 UJ

Table 2. Remaining Groundwater Sample Exceedances
Groundwater Analysis Results
Omni New York DCA-1 Apartments
495 Howard Avenue
Brooklyn, New York

		Location Name	MW-4I2	MW-4D	MW-5I2	MW-5D
		Sample Name	MW-4I2	MW-4D	MW-5I2	MW-5D
		Sample Date	7/29/2013	7/29/2013	7/30/2013	7/30/2013
		Parent Sample Code				
Analyte	**Units**	**NYS AWQS**				
1,1,2,2-Tetrachloroethane	ug/L	5	10 UJ	10 UJ	10 UJ	10 UJ
Tetrachloroethene (PCE)	ug/L	5	**31 J**	**2 J**	**31 J**	**5 J**
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	ug/L	5	10 UJ	10 UJ	10 UJ	10 UJ
1,2,4-Trichlorobenzene	ug/L	5	10 UJ	10 UJ	10 UJ	10 UJ
1,1,1-Trichloroethane	ug/L	5	10 UJ	10 UJ	10 UJ	10 UJ
1,1,2-Trichloroethane	ug/L	1	10 UJ	10 UJ	10 UJ	10 UJ
Trichloroethene (TCE)	ug/L	5	**2 J**	10 UJ	**2 J**	10 UJ
Trichlorofluoromethane (Freon 11)	ug/L	5	10 UJ	10 UJ	10 UJ	10 UJ
Vinyl chloride	ug/L	2	10 UJ	10 UJ	10 UJ	10 UJ
Total VOCs (ND=0)	ug/L	NE	**37**	**10**	**33**	**5**
2.33 NYSDEC PAH17						
Acenaphthene	ug/L	20*	10 U	10 U	10 U	10 U
Acenaphthylene	ug/L	NE	10 U	10 U	10 U	10 U
Anthracene	ug/L	50*	10 U	10 U	10 U	10 U
Benzo(a)anthracene	ug/L	0.002*	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	ug/L	0.002*	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	ug/L	0.002*	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	ug/L	NE	10 U	10 R	10 U	10 U
Benzo(a)pyrene	ug/L	ND	10 U	10 U	10 U	10 U
Chrysene	ug/L	0.002*	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	ug/L	NE	10 U	10 U	10 U	10 U
Fluoranthene	ug/L	50*	10 U	10 U	10 U	10 U
Fluorene	ug/L	50*	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	ug/L	0.002*	10 U	10 U	10 U	10 U
2-Methylnaphthalene	ug/L	NE	10 U	10 U	10 U	10 U
Naphthalene	ug/L	10*	10 U	10 UJ	10 U	10 U
Phenanthrene	ug/L	50*	10 U	10 U	10 U	10 U
Pyrene	ug/L	50*	10 U	10 U	10 U	10 U
2.34 NYSDEC PAH17 Other SVOCs						
Acetophenone	ug/L	NE	10 U	10 UJ	10 U	10 U
Atrazine	ug/L	7.5	10 U	10 U	10 U	10 U
Benzaldehyde	ug/L	NE	10 UJ	10 UJ	10 UJ	10 UJ
Biphenyl (1,1-Biphenyl)	ug/L	5	10 U	10 U	10 U	10 U
Bis(2-chloroethoxy)methane	ug/L	5	10 U	10 UJ	10 U	10 U
Bis(2-chloroethyl)ether	ug/L	1	10 U	10 R	10 U	10 U
Bis(chloroisopropyl)ether	ug/L	5	10 UJ	10 R	10 UJ	10 UJ
Bis(2-ethylhexyl)phthalate	ug/L	5	10 U	10 U	10 U	10 U
4-Bromophenyl phenyl ether	ug/L	NE	10 U	10 U	10 U	10 U
Butyl benzyl phthalate	ug/L	50*	10 U	10 U	10 U	10 U
Caprolactam	ug/L	NE	10 U	10 U	10 U	10 U
Carbazole	ug/L	NE	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol	ug/L	NE	10 U	10 U	10 U	10 U
4-Chloroaniline	ug/L	5	10 U	10 U	10 U	10 U
2-Chloronaphthalene	ug/L	10*	10 U	10 U	10 U	10 U

Table 2. Remaining Groundwater Sample Exceedances
Groundwater Analysis Results
Omni New York DCA-1 Apartments
495 Howard Avenue
Brooklyn, New York

		Location Name	MW-4I2	MW-4D	MW-5I2	MW-5D
		Sample Name	MW-4I2	MW-4D	MW-5I2	MW-5D
		Sample Date	7/29/2013	7/29/2013	7/30/2013	7/30/2013
		Parent Sample Code				
Analyte	**Units**	**NYS AWQS**				
2-Chlorophenol	ug/L	NE	10 U	10 UJ	10 U	10 U
4-Chlorophenyl phenyl ether	ug/L	NE	10 U	10 U	10 U	10 U
Dibenzofuran	ug/L	NE	10 U	10 U	10 U	10 U
3,3-Dichlorobenzidine	ug/L	5	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	ug/L	5	10 U	10 U	10 U	10 U
Diethyl phthalate	ug/L	50*	10 U	10 U	10 U	10 U
Dimethyl phthalate	ug/L	50*	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	ug/L	50*	10 U	10 UJ	10 U	10 U
Di-n-butyl phthalate	ug/L	50	10 U	10 U	10 U	10 U
4,6-Dinitro-2-methylphenol	ug/L	NE	25 U	25 U	25 U	25 U
2,4-Dinitrophenol	ug/L	10*	25 U	25 U	25 U	25 U
2,4-Dinitrotoluene	ug/L	5	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	ug/L	5	10 U	10 U	10 U	10 U
Di-n-octyl phthalate	ug/L	50*	10 U	10 U	10 U	10 U
Hexachlorobenzene	ug/L	0.04	10 U	10 U	10 U	10 U
Hexachlorobutadiene	ug/L	0.5	10 U	10 UJ	10 U	10 U
Hexachlorocyclopentadiene	ug/L	5	10 U	10 U	10 U	10 U
Hexachloroethane	ug/L	5	10 U	10 R	10 U	10 U
Isophorone	ug/L	50*	10 U	10 U	10 U	10 U
2-Methylphenol (o-Cresol)	ug/L	1	10 U	10 UJ	10 U	10 U
4-Methylphenol (p-Cresol)	ug/L	1	10 U	10 UJ	10 U	10 U
2-Nitroaniline	ug/L	5	25 U	25 U	25 U	25 U
3-Nitroaniline	ug/L	5	25 U	25 U	25 U	25 U
4-Nitroaniline	ug/L	5	25 U	25 U	25 U	25 U
Nitrobenzene	ug/L	0.4	10 U	10 UJ	10 U	10 U
2-Nitrophenol	ug/L	NE	10 U	10 UJ	10 U	10 U
4-Nitrophenol	ug/L	NE	25 U	25 U	25 U	25 U
N-Nitrosodi-n-propylamine	ug/L	NE	10 U	10 UJ	10 U	10 U
N-Nitrosodiphenylamine	ug/L	50*	10 U	10 U	10 U	10 U
Pentachlorophenol	ug/L	1	25 U	25 U	25 U	25 U
Phenol	ug/L	1	10 U	10 UJ	10 U	10 U
2,4,5-Trichlorophenol	ug/L	NE	25 U	25 U	25 U	25 U
2,4,6-Trichlorophenol	ug/L	NE	10 U	10 U	10 U	10 U
Total SVOCs (ND=0)	ug/L	NE	ND	ND	ND	ND
3.10 PCB Aroclors						
Aroclor 1016	ug/L	NE	1 U	1 U	1 U	1 U
Aroclor 1221	ug/L	NE	2 U	2 U	2 U	2 U
Aroclor 1232	ug/L	NE	1 U	1 U	1 U	1 U
Aroclor 1242	ug/L	NE	1 U	1 U	1 U	1 U
Aroclor 1248	ug/L	NE	1 U	1 U	1 U	1 U
Aroclor 1254	ug/L	NE	1 U	1 U	1 U	1 U
Aroclor 1260	ug/L	NE	1 U	1 U	1 U	1 U
Total PCB Aroclors (ND=0)	ug/L	NE	ND	ND	ND	ND

Table 2. Remaining Groundwater Sample Exceedances
Groundwater Analysis Results
Omni New York DCA-1 Apartments
495 Howard Avenue
Brooklyn, New York

		Location Name	MW-4I2	MW-4D	MW-5I2	MW-5D
		Sample Name	MW-4I2	MW-4D	MW-5I2	MW-5D
		Sample Date	7/29/2013	7/29/2013	7/30/2013	7/30/2013
		Parent Sample Code				
Analyte	**Units**	**NYS AWQS**				
4.10 Pesticides						
Aldrin	ug/L	ND	0.05 U	0.05 U	0.05 U	0.05 U
alpha-BHC (Hexachlorocyclohexane)	ug/L	0.01	0.05 U	0.05 U	0.05 U	0.05 U
beta-BHC (beta-Hexachlorocyclohexane)	ug/L	0.04	0.05 U	0.05 U	0.05 U	0.05 U
gamma-BHC (gamma-Hexachlorocyclohexane) (Lindane)	ug/L	0.05	0.05 U	0.05 U	0.05 U	0.05 U
delta-BHC (delta-Hexachlorocyclohexane)	ug/L	0.04	0.05 U	0.05 U	0.05 U	0.05 U
alpha-chlordane	ug/L	NE	0.05 U	0.05 U	0.05 U	0.05 U
gamma-Chlordane	ug/L	NE	0.05 U	0.05 U	0.05 U	0.05 U
4,4'-DDT (p,p'-DDT)	ug/L	0.2	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDE (p,p'-DDE)	ug/L	0.2	0.1 U	0.1 U	0.1 U	0.1 U
4,4-DDD (p,p-DDD)	ug/L	0.3	0.1 U	0.1 U	0.1 U	0.1 U
Dieldrin	ug/L	0.004	0.1 U	0.1 U	0.1 U	0.1 U
alpha-Endosulfan (I)	ug/L	NE	**0.026 J**	0.05 U	0.05 U	0.05 U
beta-Endosulfan (II)	ug/L	NE	0.1 U	0.1 U	0.1 U	0.1 U
Endosulfan sulfate	ug/L	NE	0.1 U	0.1 U	0.1 U	0.1 U
Endrin	ug/L	0	0.1 U	0.1 U	0.1 U	0.1 U
Endrin aldehyde	ug/L	5	0.1 U	0.1 U	0.1 U	0.1 U
Endrin ketone	ug/L	5	0.1 U	0.1 U	0.1 U	0.1 U
Heptachlor	ug/L	0.04	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor epoxide	ug/L	0.03	0.05 U	0.05 U	0.05 U	0.05 U
Methoxychlor	ug/L	35	0.5 U	0.5 U	0.5 U	0.5 U
Toxaphene	ug/L	0.06	5 U	5 U	5 U	5 U
Total Pesticides (ND=0)	ug/L	NE	**0.026**	ND	ND	ND
5.1 Herbicides						
2,4-D (2,4-Dichlorophenoxyacetic acid)	ug/L	50	0.5 U	0.5 U	0.5 U	0.5 U
Dicamba	ug/L	0.44	0.15 U	0.15 U	0.15 U	0.15 U
Dinoseb	ug/L	1	0.2 U	0.2 U	0.2 U	0.2 U
2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)	ug/L	35	0.25 U	0.25 U	0.25 U	0.25 U
2,4,5-TP (Silvex)	ug/L	0.26	0.25 U	0.25 U	0.25 U	0.25 U
Total Herbicides (ND=0)	ug/L	NE	ND	ND	ND	ND
6.1 Metals						
Ferrous iron (Fe2+)	ug/L	NE	100 UJ	100 UJ	100 UJ	100 UJ
6.3 Total Metals						
Aluminum	ug/L	NE	**4600 J**	**5560 J**	**192 J**	**168 J**
Antimony	ug/L	3	1.2 U	1.2 U	1.2 U	1.2 U
Arsenic	ug/L	25	2.8 U	2.8 U	2.8 U	**2.8 J**
Barium	ug/L	1000	3.7 U	**146 J**	3.7 U	**450**
Beryllium	ug/L	3*	0.1 U	0.1 U	0.1 U	0.1 U
Cadmium	ug/L	5	0.1 U	0.1 U	0.1 U	0.1 U
Calcium	ug/L	NE	**119000**	**115000**	**103000**	**120000**
Chromium	ug/L	50	**73.3**	**32.4**	**2.8 J**	**7.7 J**
Cobalt	ug/L	NE	**8.8 J**	**6.9 J**	**1.6 J**	**2.3 J**
Copper	ug/L	200	**27.6 J**	**30.9 J**	**3.6 J**	**5.5 J**
Iron	ug/L	300	**7890**	**12600**	**379**	**411**
Lead	ug/L	25	**35.1**	**21.1**	**7.5**	**9.8**

Table 2. Remaining Groundwater Sample Exceedances
Groundwater Analysis Results
Omni New York DCA-1 Apartments
495 Howard Avenue
Brooklyn, New York

		Location Name	MW-4I2	MW-4D	MW-5I2	MW-5D
		Sample Name	MW-4I2	MW-4D	MW-5I2	MW-5D
		Sample Date	7/29/2013	7/29/2013	7/30/2013	7/30/2013
		Parent Sample Code				
Analyte	**Units**	**NYS AWQS**				
Magnesium	ug/L	35000*	**47600**	**41400**	**29500**	**41400**
Manganese	ug/L	300	**2350**	**1340**	**543**	**3620**
Mercury	ug/L	0.7	0.1 U	0.1 U	0.1 U	0.1 U
Nickel	ug/L	100	**84.8**	**23 J**	**13.1 J**	**8.4 J**
Potassium	ug/L	NE	**5670 J**	49 UJ	49 UJ	**9290 J**
Selenium	ug/L	10	**6.6**	2.3 U	**3.9 J**	**4.3 J**
Silver	ug/L	50	**3.3 J**	**1.4 J**	0.2 U	**1 J**
Sodium	ug/L	20000	**79900**	**61600**	**53500**	**47500**
Thallium	ug/L	0.5*	1.9 U	1.9 U	1.9 U	1.9 U
Vanadium	ug/L	NE	**10.7 J**	**16.1 J**	**1 J**	0.3 U
Zinc	ug/L	2000*	**67.7**	**92.1**	**9.8 J**	**14.6 J**
9.9 Dechlorinating Bacteria[1]						
Dehalococcoides	cells/mL	NE	ND	0.2 J	ND	ND
tceA Reductase	cells/mL	NE	ND	ND	ND	ND
BAV1 Vinyl Chloride Reductase	cells/mL	NE	ND	ND	ND	ND
Vinyl Chloride Reductase	cells/mL	NE	ND	ND	ND	ND
9.10 Other						
Ammonia	ug/L	2000	100 U	100 U	100 U	100 U
Biochemical Oxygen Demand	ug/L	NE	2000 U	**2000**	2000 U	**4000**
Chemical Oxygen Demand	ug/L	NE	10000 U	**10000**	10000 U	**12000**
Hydrogen (H_2)[1]	ug/L	NE	ND	ND	ND	ND
Methane	ug/L	NE	1 U	1 U	1 U	1 U
Nitrite as Nitrogen	ug/L	1000	**350**	100 U	100 U	100 U
Nitrate as Nitrogen	ug/L	10000	**4970**	**4060**	**7290**	**6240**
Total Nitrogen	ug/L	NE	**5510**	**4440**	**7290**	**6410**
Total Kjeldahl Nitrogen	ug/L	NE	**540**	**380**	100 U	**170**
Sulfate	ug/L	250000	**164000**	**128000**	**106000**	**209000**
Total Organic Carbon	ug/L	NE	**3100**	**3100**	**2700**	**4000**

Table 2. Remaining Groundwater Sample Exceedances
Remedial Investigation Report
Omni New York DCA-1 Apartments
495 Howard Avenue
Brooklyn, New York

General Notes:

ug/L - micrograms per liter or parts per billion (ppb)

BTEX - benzene, toluene, ethylbenzene, and xylenes
VOCs - volatile organic compounds
PAHs - polycyclic aromatic hydrocarbons
PCBs - polychlorinated biphenyls
SVOCs - semi-volatile organic compounds
Total VOCs, Total SVOCs, Total PCBs, Total Pesticides, and Total Herbicides are calculated using detects only.

NYS AWQS - New York State Ambient Water Quality Standards and Guidance Values for GA groundwater
* indicates the value is a guidance value and not a standard
[1]: Results not validated

NYSDEC- New York State Department of Environmental Conservation
CAS no. - Chemical Abstracts Service number
NE - not established
NA - not analyzed
ND - not detected

Bolding indicates a detected result concentration
Gray shading indicates that the detected result value exceeds NYS AWQS

Validation Qualifiers:

J - estimated value
R - rejected
U - indicates not detected to the reporting limit
UJ - not detected at or above the reporting limit shown and the reporting limit is estimated

Table 3. Soil Vapor Sample Exceedances
Remedial Investigation Report
Omni New York DCA-1 Apartments
495 Howard Avenue
Brooklyn, New York

Sample Name		SV-01	SV-02	DUP-01
Sample Date		7/19/2013	7/19/2013	7/19/2013
Parent Sample Code				SV-02
Analyte	**Units**			
1.11 BTEX				
Benzene	µg/m^3	**2.49**	**1.73**	**1.92**
Toluene	µg/m^3	**6.03**	**6.55**	**6.33**
Ethylbenzene	µg/m^3	**2.52**	**1.43 J**	**1.69 J**
o-Xylene	µg/m^3	**5.21**	**2.82**	**3.34**
Total Xylene	µg/m^3	**10.9**	**5.52**	**6.65**
1.12 Other VOCs				
Acetone	µg/m^3	**299**	**83.9**	**52.3**
Bromodichloromethane	µg/m^3	3.35 U	3.35 U	3.35 U
Bromoform	µg/m^3	5.17 U	5.17 U	5.17 U
Bromomethane	µg/m^3	1.94 U	1.94 U	1.94 U
Carbon disulfide	µg/m^3	**16.1**	**40.6**	**41.9**
Carbon tetrachloride	µg/m^3	3.15 U	3.15 U	3.15 U
Chlorobenzene	µg/m^3	2.3 U	2.3 U	2.3 U
Chloroethane	µg/m^3	1.32 U	1.32 U	1.32 U
Chloroform	µg/m^3	**29.3**	**6.89**	**7.23**
Chloromethane	µg/m^3	1.03 U	1.03 U	1.03 U
Cryofluorane (Freon-114)	µg/m^3	3.5 U	3.5 U	3.5 U
Dibromochloromethane	µg/m^3	4.26 U	4.26 U	4.26 U
1,2-Dibromoethane (EDB)	µg/m^3	3.84 U	3.84 U	3.84 U
1,2-Dichlorobenzene	µg/m^3	3.01 U	3.01 U	3.01 U
1,3-Dichlorobenzene	µg/m^3	3.01 U	3.01 U	3.01 U
1,4-Dichlorobenzene	µg/m^3	3.01 U	3.01 U	3.01 U
Dichlorodifluoromethane (Freon 12)	µg/m^3	**1.43 J**	**1.63 J**	**0.99 J**
1,1-Dichloroethane	µg/m^3	2.02 U	2.02 U	2.02 U
1,2-Dichloroethane	µg/m^3	2.02 U	2.02 U	2.02 U
1,1-Dichloroethene	µg/m^3	1.98 U	1.98 U	1.98 U
cis-1,2-Dichloroethene	µg/m^3	1.98 U	1.98 U	1.98 U
trans-1,2-Dichloroethene	µg/m^3	1.98 U	1.98 U	1.98 U
1,2-Dichloropropane	µg/m^3	2.31 U	2.31 U	2.31 U
cis-1,3-Dichloropropene	µg/m^3	2.27 U	2.27 U	2.27 U
trans-1,3-Dichloropropene	µg/m^3	2.27 U	2.27 U	2.27 U
Hexachlorobutadiene	µg/m^3	5.33 U	5.33 U	5.33 U
2-Hexanone	µg/m^3	**8.52**	**5.65**	**6.8**
Methyl ethyl ketone (2-Butanone)	µg/m^3	**27**	**11.4**	**13**
Methyl tert-butyl ether (MTBE)	µg/m^3	1.8 U	1.8 U	1.8 U
4-Methyl-2-pentanone (MIBK)	µg/m^3	2.05 U	**3.65**	**4.02**
Methylene chloride	µg/m^3	**1.59 J**	**1.2 J**	**1.13 J**
Styrene	µg/m^3	2.13 U	2.13 U	2.13 U
1,1,2,2-Tetrachloroethane	µg/m^3	3.43 U	3.43 U	3.43 U
Tetrachloroethene (PCE)	µg/m^3	**30700**	**2470**	**2520**
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	µg/m^3	3.83 U	3.83 U	3.83 U
1,2,4-Trichlorobenzene	µg/m^3	3.71 UJ	3.71 UJ	3.71 UJ
1,1,1-Trichloroethane	µg/m^3	2.73 U	2.73 U	2.73 U
1,1,2-Trichloroethane	µg/m^3	2.73 U	2.73 U	2.73 U
Trichloroethene (TCE)	µg/m^3	**335**	**20.9**	**23.9**
Trichlorofluoromethane (Freon 11)	µg/m^3	**2.02 J**	**1.8 J**	**1.85 J**
1,2,4-Trimethylbenzene	µg/m^3	**23.3**	**9.78**	**11.5**
1,3,5-Trimethylbenzene	µg/m^3	2.46 U	**2.56**	**3.15**
Vinyl acetate	µg/m^3	1.76 U	1.76 U	1.76 U
Vinyl chloride	µg/m^3	1.28 U	1.28 U	1.28 U

Table 3. Soil Vapor Sample Exceedances
Remedial Investigation Report
Omni New York DCA-1 Apartments
495 Howard Avenue
Brooklyn, New York

Notes:

$\mu g/m^3$ - micrograms per cubic meter

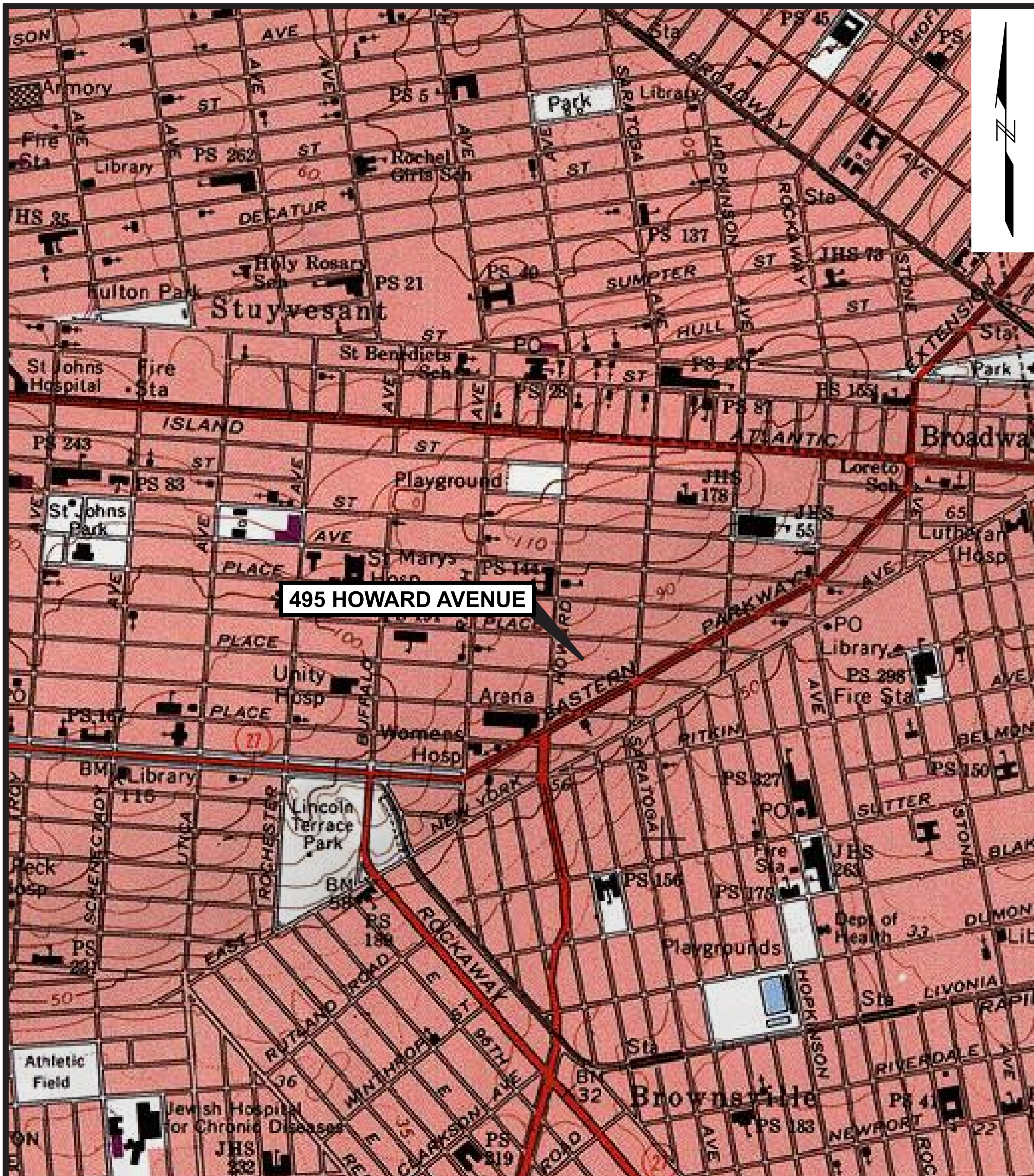
BTEX - benzene, toluene, ethylbenzene, and xylenes
VOCs - volatile organic compounds

CAS no. - Chemical Abstracts Service number

Bolding indicates a detected result concentration

Validation Qualifiers:

J - estimated value
U - indicates not detected to the reporting limit
UJ - not detected at or above the reporting limit shown and the reporting limit is estimated



SOURCE:
Map created with TOPO! ® ©2001 National Geographic
(www.nationalgeographic.com/topo)

0 1000 2000
SCALE, FEET

SITE MANAGEMENT PLAN 495 HOWARD AVENUE BRONX, NEW YORK	GEI Consultants	**SITE LOCATION MAP**
OMNI GROUP NEW YORK, NEW YORK	Project 1325980-1000	**May 2016** Figure 1

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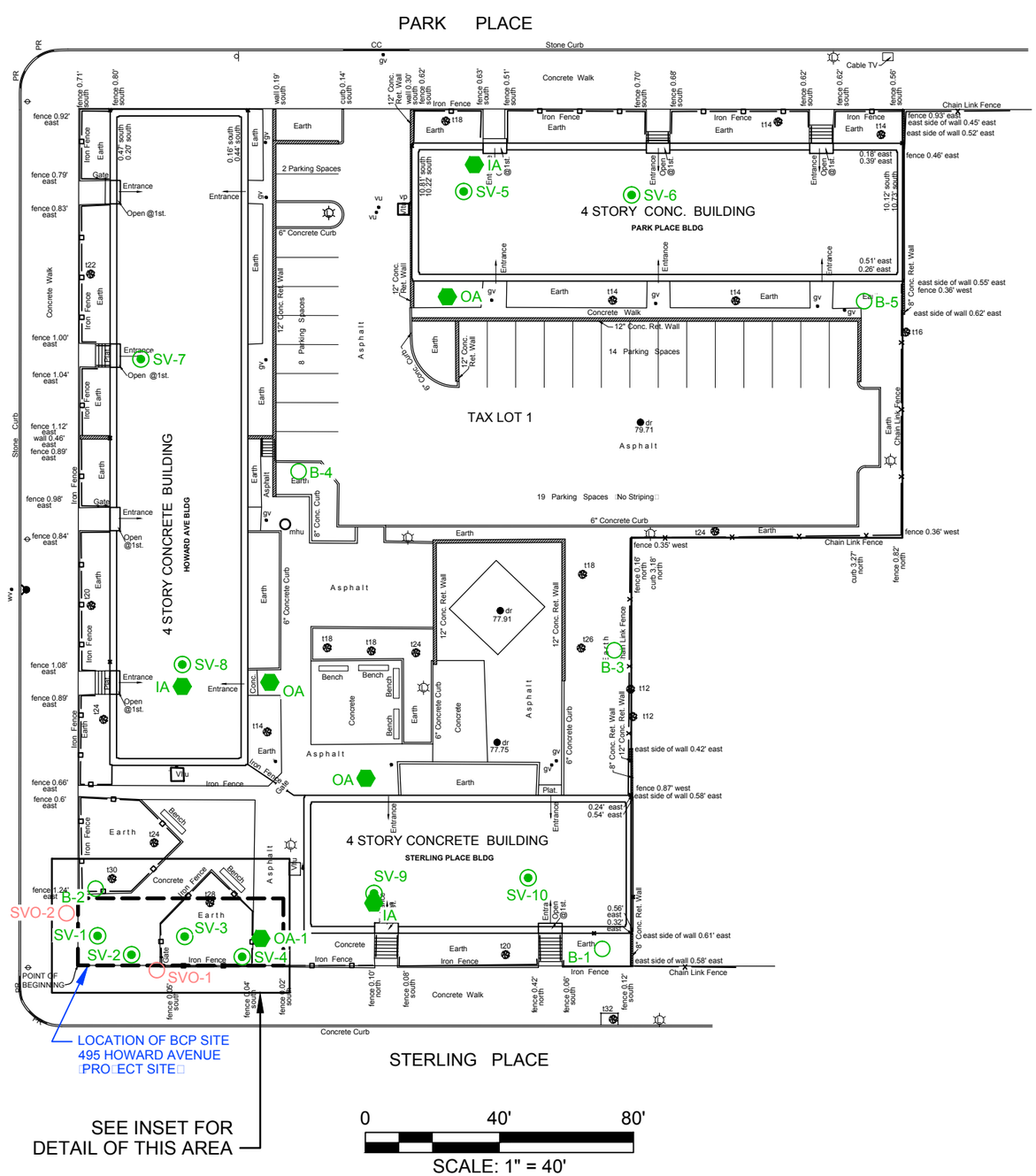

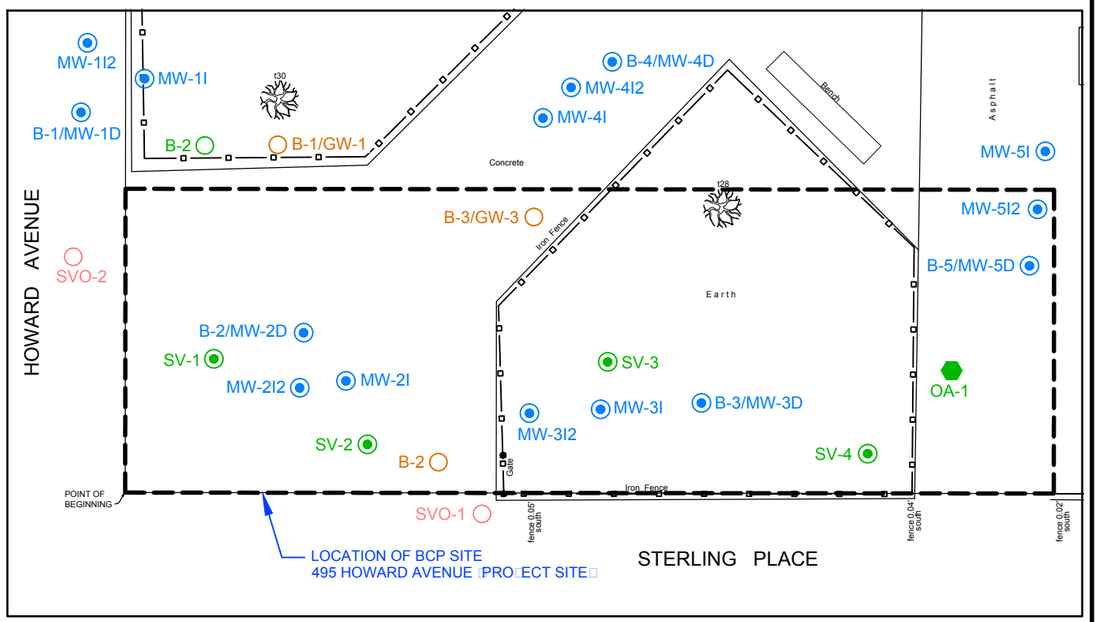

INSET OF SITE

0 10' 20'

SCALE: 1" = 10'

LEGEND

SV-1	HISTORICAL SOIL VAPOR
OA	HISTORICAL OUTSIDE AIR
IA	HISTORICAL INSIDE AIR
B-2	HISTORICAL SOIL BORING (NOVEMBER 2011)
B-2	HISTORICAL SOIL BORING (DECEMBER 2011)
B-1/GW-1	HISTORICAL SOIL BORING AND GROUNDWATER SAMPLE (DECEMBER 2011)
B-2/MW-2D	SOIL BORING/ MONITORING WELL
MW-2I2	MONITORING WELL
SVO-1	SOIL VAPOR
	BCP SITE BOUNDARY

SOURCE:

PLAN BASED ON MAP PREPARED BY MONTROSE SURVEYING CO., LLP, DATED 08/04/11 TITLED *ALTA-ACSM LAND TITLE SURVEY.*

SITE MANAGEMENT PLAN 495 HOWARD AVE BRONX, NEW YORK	GEI Consultants	**SITE LAYOUT MAP (SAMPLE LOCATIONS, BOUNDARIES, TAX PARCELS, ETC.)**
OMNI GROUP NEW YORK, NEW YORK	Project 1325980-1000	May 2016 Figure 2

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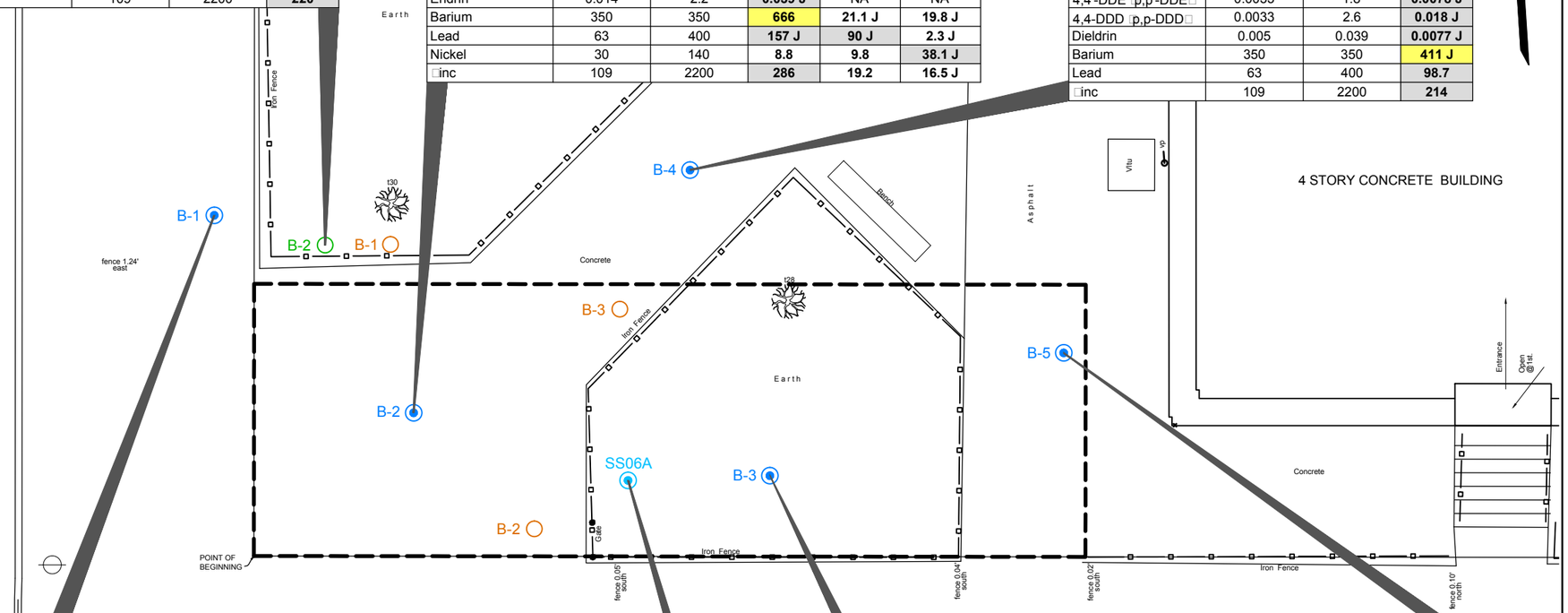
Sample Name: / Sample Date: / Analyte	Unrestricted SCO	Restricted-Residential SCO	B-2 (0-2') 11/4/2011
	mg/kg	mg/kg	mg/kg
p,p-DDE	0.0033	1.8	**0.028**
p,p-DDT	0.0033	1.7	**0.045**
Aroclor 1254	0.1	1	**0.43**
Lead as Pb	63	400	**160**
(inc	109	2200	**220**

Sample Name: / Sample Date: / Analyte	Unrestricted Use SCO	Restricted-Residential Use SCO	B2 (5-7') 7/15/2013	B2 (45-47') 7/15/2013	B2 (75-77') 7/16/2013
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
4,4'-DDT (p,p'-DDT)	0.0033	1.7	**0.32**	NA	NA
4,4'-DDE (p,p'-DDE)	0.0033	1.8	**0.067**	NA	NA
4,4-DDD (p,p-DDD)	0.0033	2.6	**0.026 J**	NA	NA
Dieldrin	0.005	0.039	**0.015**	NA	NA
Endrin	0.014	2.2	**0.039 J**	NA	NA
Barium	350	350	**666**	**21.1 J**	**19.8 J**
Lead	63	400	**157 J**	**90 J**	**2.3 J**
Nickel	30	140	**8.8**	**9.8**	**38.1 J**
(inc	109	2200	**286**	**19.2**	**16.5 J**

Sample Name: / Sample Date: / Analyte	Unrestricted SCO	Restricted-Residential SCO	B4 (5-7') 6/28/2013
	mg/kg	mg/kg	mg/kg
Ben(o)a)anthracene	1	1	**1.2**
Ben(o)b)fluoranthene	1	1	**1.3**
Chrysene	1	1	**1.3**
4,4'-DDT (p,p'-DDT)	0.0033	1.7	**0.04 J**
4,4'-DDE (p,p'-DDE)	0.0033	1.8	**0.0078 J**
4,4-DDD (p,p-DDD)	0.0033	2.6	**0.018 J**
Dieldrin	0.005	0.039	**0.0077 J**
Barium	350	350	**411 J**
Lead	63	400	**98.7**
(inc	109	2200	**214**



Sample Name: / Sample Date: / Parent Sample: / Analyte	Unrestricted SCO	Restricted-Residential SCO	B1 (5-7') 7/18/2013 --	DUP-03 7/18/2013 B1 (5-7')
	mg/kg	mg/kg	mg/kg	mg/kg
Arsenic	13	16	**5.4 J**	**20.7 J**
Barium	350	350	**71.9 J**	**160 J**
Copper	50	270	**68.7 J**	**72 J**
Lead	63	400	**76.8 J**	**225 J**
Mercury	0.18	0.81	**0.2 J**	**0.92 J**
Selenium	3.9	36	**0.93 J**	**4.4 J**
(inc	109	2200	**891**	**1050**

Sample Name: / Sample Date: / Parent Sample: / Analyte	Unrestricted Use SCO	Restricted-Residential Use SCO	SS06A (34-36') 10/2/2014 ---	SS06A (52-54') 10/2/2014 ---	DUP-2 10/2/2014 SS06A (52-54')	SS06A (58-60') 10/2/2014 ---
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Acetone	0.05	100	**0.070 J**	**0.054 J**	0.009 U(	**0.055 J**
Tetrachloroethene (PCE)	1.3	5.5	**0.11**	**0.11 J**	**1.7**	**0.58 J**

Sample Name: / Sample Date: / Parent Sample: / Analyte	Unrestricted SCO	Restricted-Residential SCO	B3 (5-7') 7/8/2013 --	B3 (13-14') 7/8/2013 --	DUP-02 7/8/2013 B3 (25-27')
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Acetone	0.05	100	0.007 U	**0.072**	0.005 U
4,4'-DDT (p,p'-DDT)	0.0033	1.7	**0.32**	NA	NA
4,4'-DDE (p,p'-DDE)	0.0033	1.8	**0.074**	NA	NA
4,4-DDD (p,p-DDD)	0.0033	2.6	**0.036**	NA	NA
Dieldrin	0.005	0.039	**0.017**	NA	NA
Barium	350	350	**774**	**47.8**	**40**
Lead	63	400	**86 J**	**3.6 J**	0.11 U(
Manganese	1600	2000	**236 J**	**144 J**	**2020 J**
(inc	109	2200	**524 J**	**39.5 J**	**36.9 J**

Sample Name: / Sample Date: / Analyte	Unrestricted SCO	Restricted-Residential SCO	B5 (5-7') 6/24/2013	B5 (65-67') 6/25/2013
	mg/kg	mg/kg	mg/kg	mg/kg
4,4-DDD (p,p-DDD)	0.0033	2.6	**0.01**	NA
Lead	63	400	**147**	0.11 U
Mercury	0.18	0.81	**0.26**	0.018 U
Nickel	30	140	**12.1 J**	**41.1 J**
(inc	109	2200	**169**	**31.4**

LEGEND

- B-2 — HISTORICAL SOIL BORING (NOVEMBER 2011)
- B-2 — HISTORICAL SOIL BORING (DECEMBER 2011)
- B-2 — SOIL BORING
- SS06A — SOIL VAPOR SCREENING POINT AND SOIL BORING
- BCP SITE BOUNDARY

COMPARISON OF DETECTED RESULTS ARE PERFORMED AGAINST THE FOLLOWING NYCRR, CHAPTER IV, PART 375-6 SOIL CLEANUP OBJECTIVES (SCOS): UNRESTRICTED USE AND RESTRICTED-RESIDENTIAL USE

- 6 NYCRR — NEW YORK STATE REGISTER AND OFFICIAL COMPILATION OF CODES, RULES AND REGULATIONS OF THE STATE OF NEW YORK
- mg/kg — MILLIGRAMS PER KILOGRAM OR PARTS PER MILLION (ppm)
- **12.1 J** — DETECTED RESULT CONCENTRATION
- **0.26** — EXCEEDS RESIDENTIAL SCO
- **774** — EXCEEDS RESTRICTED-RESIDENTIAL SCO
- NA — NOT ANALYZED
- (— ESTIMATED VALUE
- U — NOT DETECTED TO THE REPORTING LIMIT
- U(— NOT DETECTED ABOVE THE REPORTING LIMIT SHOWN AND THE REPORTING LIMIT IS ESTIMATED

0 10' 20'

SCALE: 1" = 10'

SOURCE:

PLAN BASED ON MAP PREPARED BY MONTROSE SURVEYING CO., LLP, DATED 08/04/11 TITLED *ALTA-ACSM LAND TITLE SURVEY.*

SITE MANAGEMENT PLAN
495 HOWARD AVE
BRONX, NEW YORK

OMNI GROUP
NEW YORK, NEW YORK

GEI Consultants

Project 1325980-1000

REMAINING SOIL SAMPLE EXCEEDANCES

May 2016 Figure 3

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Sample Name:		GW-1
Sample Date:	NYS	12/5/2011
Analyte	AW□S	µg/L
Volatile Organic Compounds		
Tetrachloroethene (PCE□	5	**24**

Sample Name:		GW-3
Sample Date:	NYS	12/5/2011
Analyte	AW□S	µg/L
Volatile Organic Compounds		
Tetrachloroethene (PCE□	5	**6**

Sample Name:		MW-4I2	MW-4D
Sample Date:	NYS	7/29/2013	7/29/2013
Analyte	AW□S	µg/L	µg/L
Volatile Organic Compounds			
Tetrachloroethene (PCE□	5	**31 J**	**2 J**
Total Metals			
Chromium	50	**73.3**	**32.4**
Iron	300	**7890**	**12600**
Lead	25	**35.1**	**21.1**
Magnesium	35000□	**47600**	**41400**
Manganese	300	**2350**	**1340**
Sodium	20000	**79900**	**61600**

LEGEND

MW-2I2	MONITORING WELL
GW-1	HISTORICAL GROUNDWATER SAMPLE
	BCP SITE BOUNDARY
NYS AW□S	NEW YORK STATE AMBIENT WATER □UALITY STANDARDS AND GUIDANCE VALUES FOR GA GROUNDWATER
□	INDICATES THE VALUE IS A GUIDANCE VALUE AND NOT A STANDARD
µg/L	MICROGRAMS PER LITER
29500	DETECTED RESULT CONCENTRATION
543	EXCEEDS NYS AW□S
□	ESTIMATED VALUE
U	NOT DETECTED TO THE REPORTING LIMIT
U□	NOT DETECTED ABOVE THE REPORTING LIMIT SHOWN AND THE REPORTING LIMIT IS ESTIMATED

Sample Name:		MW-5I2	MW-5D
Sample Date:	NYS	7/30/2013	7/30/2013
Analyte	AW□S	µg/L	µg/L
Volatile Organic Compounds			
Tetrachloroethene (PCE□	5	**31 J**	**5 J**
Total Metals			
Iron	300	**379**	**411**
Magnesium	35000□	**29500**	**41400**
Manganese	300	**543**	**3620**
Sodium	20000	**53500**	**47500**

Sample Name:		MW-1I	MW-1I2	MW-1D
Sample Date:	NYS	7/29/2013	7/29/2013	7/29/2013
Analyte	AW□S	µg/L	µg/L	µg/L
Volatile Organic Compounds				
Toluene	5	**11 J**	**2 J**	**2 J**
Chloroform	7	**25 J**	**4 J**	**11 J**
1,2-Dichloroethane	0.6	10 U□	10 U□	**3 J**
Tetrachloroethene (PCE□	5	**31 J**	**10 J**	**4 J**
Total Metals				
Chromium	50	**259 J**	**2.8 J**	**101**
Iron	300	**60100 J**	**1190**	**11400**
Lead	25	**51.5 J**	**13.6**	**25.4**
Magnesium	35000□	**54500**	**50000**	**56600**
Manganese	300	**4070 J**	**1060**	**1680**
Nickel	100	**274 J**	**9.8 J**	**60.5**
Sodium	20000	**44000 J**	**51900**	**48600**
Thallium	0.5□	1.9 U	1.9 U	**3.2 J**

Sample Name:		MW-2I2	MW-2D
Sample Date:	NYS	7/29/2013	7/29/2013
Analyte	AW□S	µg/L	µg/L
Volatile Organic Compounds			
Tetrachloroethene (PCE□	5	**7 J**	**4 J**
Total Metals			
Chromium	50	**273**	**2.2 J**
Iron	300	**7390**	**1290**
Magnesium	35000□	**52500**	**56500**
Manganese	300	**1830**	**2000**
Nickel	100	**175**	**3.7 J**
Sodium	20000	**48800**	**49400**

Sample Name:		MW-3I2	MW-3D
Sample Date:	NYS	7/30/2013	7/30/2013
Analyte	AW□S	µg/L	µg/L
Volatile Organic Compounds			
Tetrachloroethene (PCE□	5	**71 J**	**9 J**
Total Metals			
Chromium	50	**27.8**	**53.2**
Iron	300	**7440**	**29000**
Lead	25	**18.8**	**31.5**
Magnesium	35000□	**61300**	**66500**
Manganese	300	**1110**	**4520**
Sodium	20000	**65700**	**74200**

SOURCE:

PLAN BASED ON MAP PREPARED BY MONTROSE SURVEYING CO., LLP, DATED 08/04/11 TITLED *ALTA-ACSM LAND TITLE SURVEY.*

0 10' 20'

SCALE: 1" = 10'

SITE MANAGEMENT PLAN
495 HOWARD AVE
BRONX, NEW YORK

OMNI GROUP
NEW YORK, NEW YORK

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REMAINING GROUNDWATER SAMPLE EXCEEDANCES

Project 1325980-1000 | May 2016 | Figure 4

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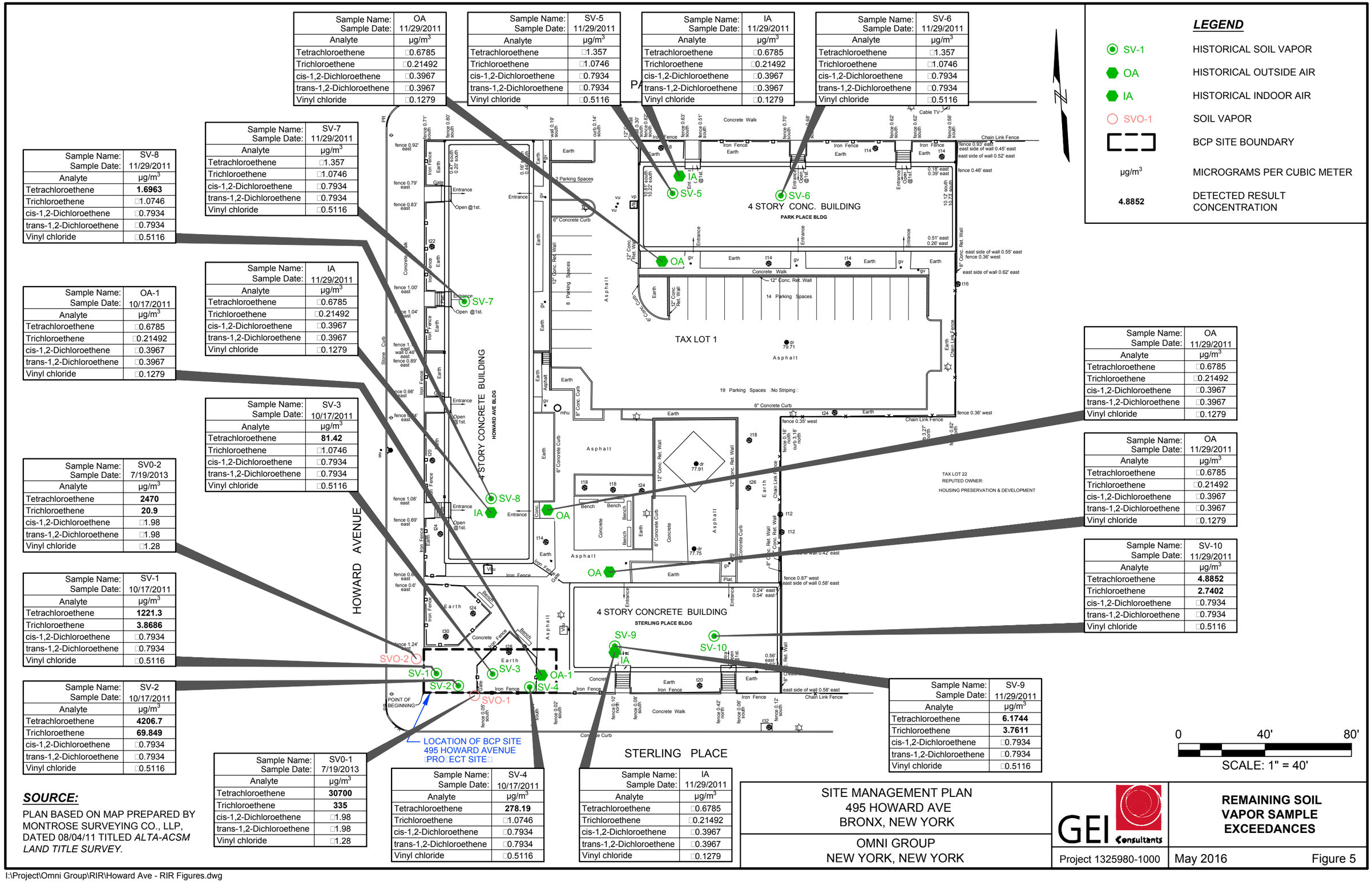

Sample Name: / Sample Date:	OA 11/29/2011
Analyte	µg/m³
Tetrachloroethene	0.6785
Trichloroethene	0.21492
cis-1,2-Dichloroethene	0.3967
trans-1,2-Dichloroethene	0.3967
Vinyl chloride	0.1279

Sample Name: / Sample Date:	SV-5 11/29/2011
Analyte	µg/m³
Tetrachloroethene	1.357
Trichloroethene	1.0746
cis-1,2-Dichloroethene	0.7934
trans-1,2-Dichloroethene	0.7934
Vinyl chloride	0.5116

Sample Name: / Sample Date:	IA 11/29/2011
Analyte	µg/m³
Tetrachloroethene	0.6785
Trichloroethene	0.21492
cis-1,2-Dichloroethene	0.3967
trans-1,2-Dichloroethene	0.3967
Vinyl chloride	0.1279

Sample Name: / Sample Date:	SV-6 11/29/2011
Analyte	µg/m³
Tetrachloroethene	1.357
Trichloroethene	1.0746
cis-1,2-Dichloroethene	0.7934
trans-1,2-Dichloroethene	0.7934
Vinyl chloride	0.5116

Sample Name: / Sample Date:	SV-7 11/29/2011
Analyte	µg/m³
Tetrachloroethene	1.357
Trichloroethene	1.0746
cis-1,2-Dichloroethene	0.7934
trans-1,2-Dichloroethene	0.7934
Vinyl chloride	0.5116

Sample Name: / Sample Date:	SV-8 11/29/2011
Analyte	µg/m³
Tetrachloroethene	**1.6963**
Trichloroethene	1.0746
cis-1,2-Dichloroethene	0.7934
trans-1,2-Dichloroethene	0.7934
Vinyl chloride	0.5116

Sample Name: / Sample Date:	IA 11/29/2011
Analyte	µg/m³
Tetrachloroethene	0.6785
Trichloroethene	0.21492
cis-1,2-Dichloroethene	0.3967
trans-1,2-Dichloroethene	0.3967
Vinyl chloride	0.1279

Sample Name: / Sample Date:	OA-1 10/17/2011
Analyte	µg/m³
Tetrachloroethene	0.6785
Trichloroethene	0.21492
cis-1,2-Dichloroethene	0.3967
trans-1,2-Dichloroethene	0.3967
Vinyl chloride	0.1279

Sample Name: / Sample Date:	SV-3 10/17/2011
Analyte	µg/m³
Tetrachloroethene	**81.42**
Trichloroethene	1.0746
cis-1,2-Dichloroethene	0.7934
trans-1,2-Dichloroethene	0.7934
Vinyl chloride	0.5116

Sample Name: / Sample Date:	SV0-2 7/19/2013
Analyte	µg/m³
Tetrachloroethene	**2470**
Trichloroethene	**20.9**
cis-1,2-Dichloroethene	1.98
trans-1,2-Dichloroethene	1.98
Vinyl chloride	1.28

Sample Name: / Sample Date:	SV-1 10/17/2011
Analyte	µg/m³
Tetrachloroethene	**1221.3**
Trichloroethene	**3.8686**
cis-1,2-Dichloroethene	0.7934
trans-1,2-Dichloroethene	0.7934
Vinyl chloride	0.5116

Sample Name: / Sample Date:	SV-2 10/17/2011
Analyte	µg/m³
Tetrachloroethene	**4206.7**
Trichloroethene	**69.849**
cis-1,2-Dichloroethene	0.7934
trans-1,2-Dichloroethene	0.7934
Vinyl chloride	0.5116

Sample Name: / Sample Date:	SV0-1 7/19/2013
Analyte	µg/m³
Tetrachloroethene	**30700**
Trichloroethene	**335**
cis-1,2-Dichloroethene	1.98
trans-1,2-Dichloroethene	1.98
Vinyl chloride	1.28

Sample Name: / Sample Date:	SV-4 10/17/2011
Analyte	µg/m³
Tetrachloroethene	**278.19**
Trichloroethene	1.0746
cis-1,2-Dichloroethene	0.7934
trans-1,2-Dichloroethene	0.7934
Vinyl chloride	0.5116

Sample Name: / Sample Date:	IA 11/29/2011
Analyte	µg/m³
Tetrachloroethene	0.6785
Trichloroethene	0.21492
cis-1,2-Dichloroethene	0.3967
trans-1,2-Dichloroethene	0.3967
Vinyl chloride	0.1279

Sample Name: / Sample Date:	OA 11/29/2011
Analyte	µg/m³
Tetrachloroethene	0.6785
Trichloroethene	0.21492
cis-1,2-Dichloroethene	0.3967
trans-1,2-Dichloroethene	0.3967
Vinyl chloride	0.1279

Sample Name: / Sample Date:	OA 11/29/2011
Analyte	µg/m³
Tetrachloroethene	0.6785
Trichloroethene	0.21492
cis-1,2-Dichloroethene	0.3967
trans-1,2-Dichloroethene	0.3967
Vinyl chloride	0.1279

Sample Name: / Sample Date:	SV-10 11/29/2011
Analyte	µg/m³
Tetrachloroethene	**4.8852**
Trichloroethene	**2.7402**
cis-1,2-Dichloroethene	0.7934
trans-1,2-Dichloroethene	0.7934
Vinyl chloride	0.5116

Sample Name: / Sample Date:	SV-9 11/29/2011
Analyte	µg/m³
Tetrachloroethene	**6.1744**
Trichloroethene	**3.7611**
cis-1,2-Dichloroethene	0.7934
trans-1,2-Dichloroethene	0.7934
Vinyl chloride	0.5116

LEGEND

SV-1	HISTORICAL SOIL VAPOR
OA	HISTORICAL OUTSIDE AIR
IA	HISTORICAL INDOOR AIR
SVO-1	SOIL VAPOR
	BCP SITE BOUNDARY
µg/m³	MICROGRAMS PER CUBIC METER
4.8852	DETECTED RESULT CONCENTRATION

SOURCE:

PLAN BASED ON MAP PREPARED BY MONTROSE SURVEYING CO., LLP, DATED 08/04/11 TITLED *ALTA-ACSM LAND TITLE SURVEY*.

SITE MANAGEMENT PLAN
495 HOWARD AVE
BRONX, NEW YORK

OMNI GROUP
NEW YORK, NEW YORK

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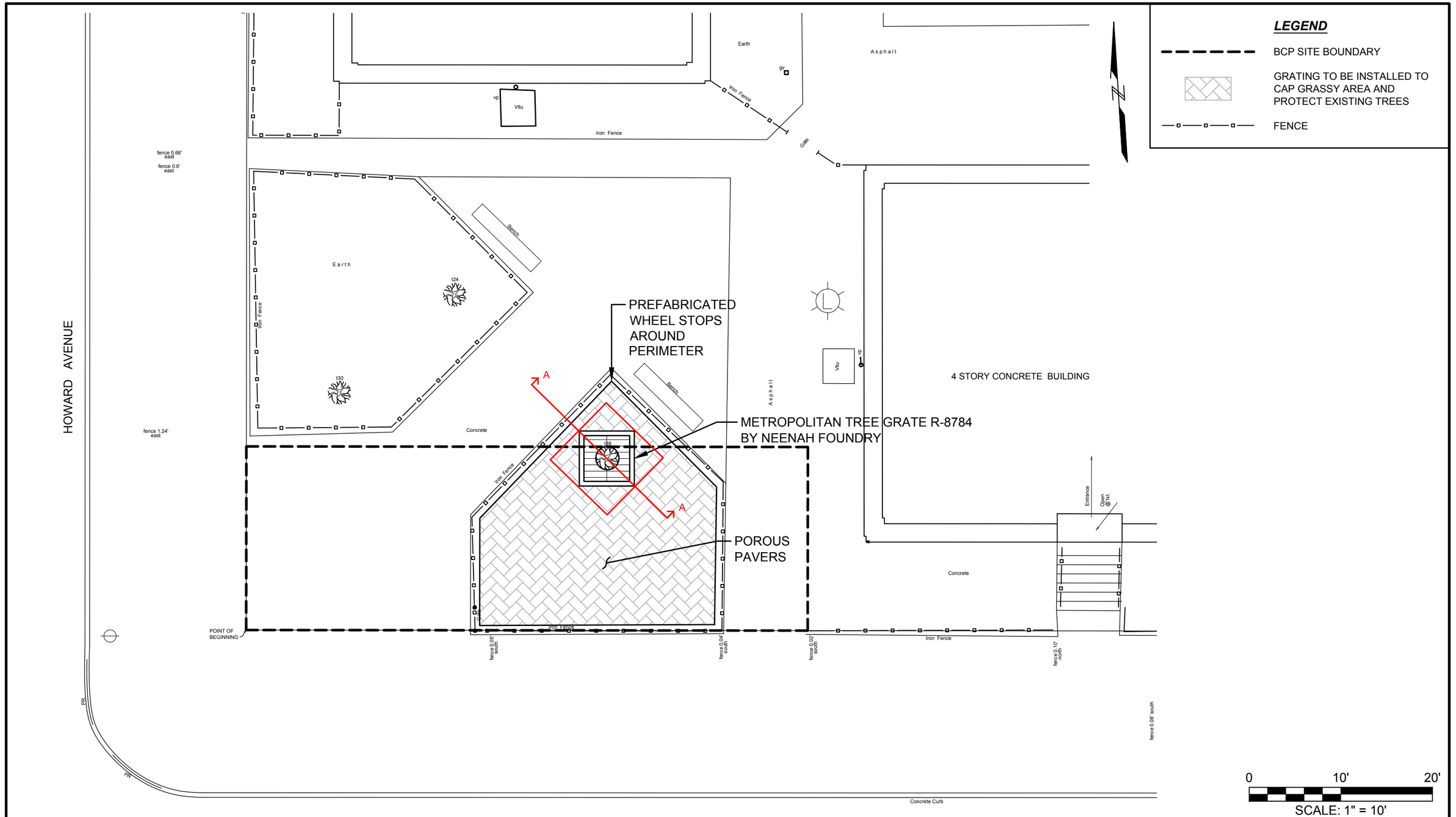
Project 1325980-1000

May 2016

Figure 5

REMAINING SOIL VAPOR SAMPLE EXCEEDANCES

I:\Project\Omni Group\RIR\Howard Ave - RIR Figures.dwg



SOURCE:

PLAN BASED ON MAP PREPARED BY MONTROSE SURVEYING CO., LLP, DATED 08/04/11 TITLED *ALTA-ACSM LAND TITLE SURVEY.*

SITE MANAGEMENT PLAN 495 HOWARD AVE BRONX, NEW YORK	GEI Consultants	**COVER SYSTEM LOCATION**
OMNI GROUP NEW YORK, NEW YORK	Project 1325980	May 2016 Figure 6

I:\Tech\Environmental Projects\Omni New York\Tree Grate&Porous Paver Detail\DWG\10_6_Howard Ave - RAWP Figures.dwg

APPENDIX A – ENVIRONMENTAL EASEMENT

NYC DEPARTMENT OF FINANCE
OFFICE OF THE CITY REGISTER

This page is part of the instrument. The City Register will rely on the information provided by you on this page for purposes of indexing this instrument. The information on this page will control for indexing purposes in the event of any conflict with the rest of the document.

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RECORDING AND ENDORSEMENT COVER PAGE **PAGE 1 OF 12**

Document ID: 2016082301005001 Document Date: 07-25-2016 Preparation Date: 08-23-2016
Document Type: EASEMENT
Document Page Count: 10

PRESENTER:
ADVANTAGE TITLE AGENCY (13CK46892)
201 OLD COUNTRY ROAD, SUITE 200
MELVILLE, NY 11747
631-424-6100
MSANDILLO@ADVANTAGETITLE.COM

RETURN TO:
ADVANTAGE TITLE AGENCY (13CK46892)
201 OLD COUNTRY ROAD, SUITE 200
MELVILLE, NY 11747
631-424-6100
MSANDILLO@ADVANTAGETITLE.COM

PROPERTY DATA

Borough	Block	Lot	Unit	Address
BROOKLYN	1467	1	Entire Lot	495 HOWARD AVENUE

Property Type: APARTMENT BUILDING

CROSS REFERENCE DATA

CRFN_____ *or* DocumentID_____ *or* _____ Year____ Reel____ Page_____ *or* File Number_____

PARTIES

GRANTOR/SELLER:
HP DCA BROOKLYN HOUSING DEVELOPMENT FUND CO., INC.
C/O HOUSING PARTNERSHIP DEVELOPMENT CORPORATION, 242 WEST 36TH STREET, 3RD FLOOR

☒ Additional Parties Listed on Continuation Page

GRANTEE/BUYER:
PEOPLE OF THE STATE OF NEW YORK
625 BROADWAY
ALBANY, NY 12233-1500

FEES AND TAXES

Mortgage :

Mortgage Amount:	$	0.00
Taxable Mortgage Amount:	$	0.00
Exemption:		
TAXES: County (Basic):	$	0.00
City (Additional):	$	0.00
Spec (Additional):	$	0.00
TASF:	$	0.00
MTA:	$	0.00
NYCTA:	$	0.00
Additional MRT:	$	0.00
TOTAL:	$	0.00
Recording Fee:	$	87.00
Affidavit Fee:	$	0.00

Filing Fee: $ 250.00
NYC Real Property Transfer Tax: $ 0.00
NYS Real Estate Transfer Tax: $ 0.00

RECORDED OR FILED IN THE OFFICE OF THE CITY REGISTER OF THE CITY OF NEW YORK
Recorded/Filed 08-26-2016 14:59
City Register File No.(CRFN): **2016000296357**

City Register Official Signature

NYC DEPARTMENT OF FINANCE
OFFICE OF THE CITY REGISTER

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RECORDING AND ENDORSEMENT COVER PAGE (CONTINUATION) **PAGE 2 OF 12**

Document ID: 2016082301005001 Document Date: 07-25-2016 Preparation Date: 08-23-2016
Document Type: EASEMENT

PARTIES

GRANTEE/BUYER:
COMMISSIONER OF DEPT OF ENVIRONMENTAL
CONSERVATION
625 BROADWAY
ALBANY, NY 12233-1500

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

THIS INDENTURE made this 25th day of July, 2016 between Owner(s) HP DCA Brooklyn Housing Development Fund Company, Inc., having an office at c/o Housing Partnership Development Corporation, Inc., 242 West 36th Street, 3rd Floor, New York, New York 10018, County of New York, State of New York (the "Grantor"), and The People of the State of New York (the "Grantee."), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

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

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

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

WHEREAS, Grantor, is the owner of real property located at the addresses of 473-495 Howard Avenue, 1756-1764 Park Place, and 1785-1791 Sterling Place in the City of New York, County of Kings and State of New York, which combined and contiguous addresses are known and designated on the tax map of the New York City Department of Finance as tax map parcel number: Block 1467 Lot 1 ("Lot 1"), being a portion of the property conveyed to Grantor by deed dated August 15, 2013 and recorded in the City Register of the City of New York as CFRN # 2013000402311. A portion of Lot 1 is the property subject to this Environmental Easement (the "Controlled Property"), which portion of Lot 1 comprises approximately 0.019 +/- acres, and is hereinafter more fully described in the Land Title Survey dated October 8, 2013 and last revised April 12, 2016 prepared by Saeid Jaliluand, L.L.S. of Montrose Surveying Co., LLP, which will be attached to the Site Management Plan. The Controlled Property description is set forth in and attached hereto as Schedule A; and

WHEREAS, the Department accepts this Environmental Easement in order to ensure the protection of public health and the environment and to achieve the requirements for remediation established for the Controlled Property until such time as this Environmental Easement is extinguished pursuant to ECL Article 71, Title 36; and

NOW THEREFORE, in consideration of the mutual covenants contained herein and the terms and conditions of Brownfield Cleanup Agreement Index Number: C224162-09-12, Grantor conveys to Grantee a permanent Environmental Easement pursuant to ECL Article 71, Title 36 in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement")

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

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

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

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

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

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

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

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

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

(7) All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the SMP;

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

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

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

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

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

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

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

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

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

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

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

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

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

(i) are in-place;

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

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

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

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

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

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

(7) the information presented is accurate and complete.

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

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

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

B. The right to give, sell, assign, or otherwise transfer part or all of the underlying fee

interest to the Controlled Property, subject and subordinate to this Environmental Easement;

5. Enforcement

A. This Environmental Easement is enforceable in law or equity in perpetuity by Grantor, Grantee, or any affected local government, as defined in ECL Section 71-3603, against the owner of the Property, any lessees, and any person using the land. Enforcement shall not be defeated because of any subsequent adverse possession, laches, estoppel, or waiver. It is not a defense in any action to enforce this Environmental Easement that: it is not appurtenant to an interest in real property; it is not of a character that has been recognized traditionally at common law; it imposes a negative burden; it imposes affirmative obligations upon the owner of any interest in the burdened property; the benefit does not touch or concern real property; there is no privity of estate or of contract; or it imposes an unreasonable restraint on alienation.

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

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

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

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

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

Parties shall address correspondence to:

Site Number: C224162
Office of General Counsel
NYSDEC
625 Broadway
Albany New York 12233-5500

With a copy to:

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

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

7. Recordation. Grantor shall record this instrument, within thirty (30) days of execution of this instrument by the Commissioner or her/his authorized representative in the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

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

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

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

Remainder of Page Intentionally Left Blank

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

HP DCA Brooklyn Housing Development Fund Company, Inc.:

By: _____

Print Name: Daniel M. Cohen

Title: Vice President Date: 7/15/2016

Grantor's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF New York)

On the 15 day of July, in the year 2016, before me, the undersigned, personally appeared Daniel M. Cohen, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of ~~which~~ the individual(s) acted, executed the instrument.

_____
Notary Public - State of New York

HIRSCH L. NEUSTEIN
Notary Public - State of New York
No. 02NE6319827
County of New York
Commission Expires 2/23/19

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

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

Grantee's Acknowledgment

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

On the 25 day of July, in the year 2016, before me, the undersigned, personally appeared Robert W. Schick, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s), whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public - State of New York

David J. Chiusano
Notary Public, State of New York
No. 01CH5082146
Qualified in Schenectady County
Commission Expires August 22, 2018

SCHEDULE "A" PROPERTY DESCRIPTION

ALL that certain plot or piece or parcel of land, situate lying and being in the Borough of Brooklyn, County of Kings, City and State of New York bounded and described as follows:

BEGINNING at the corner formed by the intersection of the northerly side of Sterling Place with the easterly side of Howard Avenue;

RUNNING THENCE easterly along the northerly side of Howard Place, 50.20 feet more or less to the easterly wall of the former dry cleaning business;

RUNNING THENCE northerly, along the easterly wall of the former dry cleaning business and parallel with the easterly side of Howard Avenue, 16.30 feet more or less to the northerly wall of the former dry cleaning business;

RUNNING THENCE westerly along the northerly wall of the former dry cleaning business and parallel with the northerly side of Sterling Place, 50.20 feet more or less to the easterly side of Howard Avenue;

RUNNING THENCE southerly, along the easterly side of Howard Avenue, 16.30 feet more or less to the corner, the point or place of BEGINNING.

Above described parcel contains an area of 818 square feet or 0.01878 acre.

ENVIRONMENTAL EASEMENT

Title # 13-CK-46892

Block: 1467
Lot: 1
County: Kings

Record and Return to:

Omni New York LLC
885 Second Avenue, 31st Floor
New York, NY 10017
Attn: David Fleming, Esq.

APPENDIX B – LIST OF SITE CONTACTS

Name	Phone/Email Address
Andrew Germansky DCA 1, L.P.	[646-374-0077] [Agermansky@onyllc.com]
GEI Consultants, Inc., P.C. Nicholas J. Recchia	[631-760-9300] [nrecchia@geiconsultants.com]
NYSDEC Regional HW Engineer Nigel Crawford	[718-482-7778] [Ncrawford@dec.ny.gov]
NYSDEC Site Control Kelly Lewandowski	[518-402-9553] [Kelly.lewandowski@dec.ny.gov]
NYSDEC Chief Superfund and Brownfield Cleanup Section Jane H. O'Connell	[718-482-4599] [Jane.oconnell@dec.ny.gov]

APPENDIX C – EXCAVATION WORK PLAN (EWP)

C-1 NOTIFICATION

The intended site use is not planned to change after the completion of the remedy, or in the foreseeable future. Should the need for excavation arise, a more detailed plan than what is included below may be necessary.

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

Table C-1: Notifications*

Central Office NYSDEC Robert J. Cozzy	[518-402-9768] [Robert.cozzy@dec.ny.gov]
Regional Office NYSDEC Nigel Crawford	[718-482-7778] [Ncrawford@dec.ny.gov]
NYSDEC Site Control] Kelly Lewandowski	[518-402-9553] [Kelly.lewandowski@dec.ny.gov]

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

This notification will include:

- A detailed description of the work to be performed, including the location and areal extent of excavation, plans/drawings for site re-grading, intrusive elements or utilities to be installed below the soil cover, estimated volumes of contaminated soil to be excavated and any work that may impact an engineering control;

- A summary of environmental conditions anticipated to be encountered in the work areas, including the nature and concentration levels of contaminants of concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling;
- A schedule for the work, detailing the start and completion of all intrusive work;
- A summary of the applicable components of this EWP;
- A statement that the work will be performed in compliance with this EWP and 29 CFR 1910.120;
- A copy of the contractor's health and safety plan (HASP), in electronic format, if it differs from the HASP provided in Appendix D of this SMP;
- Identification of disposal facilities for potential waste streams; and
- Identification of sources of any anticipated backfill, along with all required chemical testing results.

C-2 SOIL SCREENING METHODS

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

Soils will be segregated based on previous environmental data and screening results into material that requires off-site disposal and material that requires testing to determine if the material can be reused on-site as soil beneath a cover or if the material can be used as cover soil. Further discussion of off-site disposal of materials and on-site reuse is provided in Sections 6 and 7 of this Appendix.

C-3 SOIL STAGING METHODS

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

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

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

C-4 MATERIALS EXCAVATION AND LOAD-OUT

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

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

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

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

A truck wash station will be operated on-site, as appropriate. The qualified environmental professional will be responsible for ensuring that all outbound trucks will

be washed at the truck wash station before leaving the site until the activities performed under this section are completed. Truck wash waters will be collected and disposed of off-site in an appropriate manner.

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

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

C-5 MATERIALS TRANSPORT OFF-SITE

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

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

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

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

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

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

C-6 MATERIALS DISPOSAL OFF-SITE

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

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

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

C-7 MATERIALS REUSE ON-SITE

The qualified environmental professional will ensure that procedures defined for materials reuse in this SMP are followed and that unacceptable material does not remain on-site. Contaminated on-site material, including historic fill and contaminated soil, that is acceptable for reuse on-site will be placed below the demarcation layer or impervious surface, and will not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines.

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

C-8 FLUIDS MANAGEMENT

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

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

C-9 COVER SYSTEM RESTORATION

After the completion of soil removal and any other invasive activities the cover system will be restored in a manner that complies with the decision document. The existing cover system is comprised of porous pavers and a tree grate. There is no demarcation layer; therefore, all soil beneath the cover system will require adherence to special conditions for disturbance of remaining contaminated soils defined in this SMP. If the type of cover system changes from that which exists prior to the excavation (i.e., a soil cover is replaced by asphalt), this will constitute a modification of the cover element of the remedy and the upper surface of the remaining contamination. A figure showing the modified surface will be included in the subsequent PRR and in an updated SMP.

C-10 BACKFILL FROM OFF-SITE SOURCES

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

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

All imported soils will meet the backfill and cover soil quality standards established in 6NYCRR 375-6.7(d). Soils to be imported will be selected based on an evaluation of the land use, protection of groundwater and protection of ecological resources criteria, and the resulting soil quality standards consistent with the approved land use in accordance with the Decision Document. Soils that meet 'exempt' fill requirements under 6 NYCRR Part 360, but do not meet backfill or cover soil objectives for this site, will not be imported onto the site without prior approval by NYSDEC. Solid waste will not be imported onto the site.

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

C-11 EXCAVATION CONTINGENCY PLAN

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

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

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

C-12 COMMUNITY AIR MONITORING PLAN

The NYSDOH Generic Community Air Monitoring Plan (Appendix D) will be followed should excavation be necessary.

C-13 ODOR CONTROL PLAN

This odor control plan is capable of controlling emissions of nuisance odors off-site. Specific odor control methods to be used on a routine basis will be determined, should excavation become necessary. If nuisance odors are identified at the site boundary, or if odor complaints are received, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of any other complaints about the project. Implementation of all odor controls, including the halt of work, is the responsibility of the remedial party's Remediation Engineer, and any measures that are implemented will be discussed in the Periodic Review Report.

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

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

C-14 DUST CONTROL PLAN

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

- Dust suppression will be achieved using a dedicated on-site water truck. The truck will be equipped with a water cannon capable of spraying water directly onto off-road areas including excavations and stockpiles.

- Clearing and grubbing of larger sites will be done in stages to limit the area of exposed, unvegetated soils vulnerable to dust production.
- Gravel will be used on roadways to provide a clean and dust-free road surface.
- On-site roads will be limited in total area to minimize the area required for water truck sprinkling.

C-15 OTHER NUISANCES

A plan for rodent control will be developed and utilized by the contractor prior to and during site clearing and site grubbing, and during all remedial work.

A plan will be developed and utilized by the contractor for all remedial work to ensure compliance with local noise control ordinances.

APPENDIX D – HEALTH AND SAFETY PLAN

GEI Consultants

Geotechnical
Environmental and
Water Resources
Engineering

Health and Safety Plan

Former Dry Cleaners
495 Howard Avenue
Brooklyn, New York

Submitted to:
New York State Department of Environmental Conservation
Region 2
1 Hunters Point Plaza
47-40 21st Street
Long Island City, NY 11101

Submitted by:
GEI Consultants, Inc.
110 Walt Whitman Road, Suite 204 Hicksville, NY 11801
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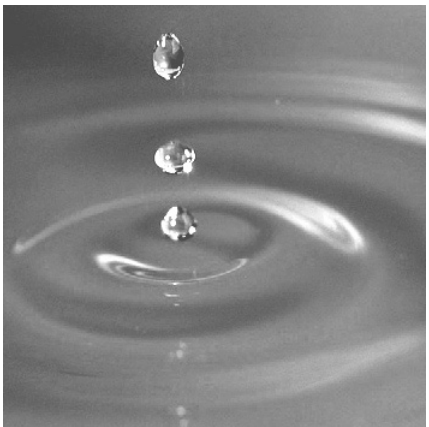

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Abbreviations and Acronyms

ACGIH	American Conference of Governmental Industrial Hygienists
BTEX	Benzene, Toluene, Ethylbenzene, Total Xylenes
CHSO	Corporate Health and Safety Officer
CMS	Chip Measurement System
CNS	Central Nervous System
COC	Compounds of Concern
CRZ	Contamination Reduction Zone
CSO	Combined Sewer Overflow
EPA	United States Environmental Protection Agency
EZ	Exclusion Zone
FID	Flame Ionization Detector
GEI	GEI Consultants, Inc.
GFCI	Ground Fault Circuit Interrupter
HASP	Health and Safety Plan
LEL	Lower Explosive Limit
MGP	Manufactured Gas Plant
MSDS	Material Safety Data Sheet
NAPL	Non-aqueous Phase Liquid
NFPA	National Fire Protection Association
NYSDEC	New York State Department of Environmental Conservation
NYSEG	New York State Electric and Gas Corporation
OSHA	Occupational Health and Safety Administration
PAHs	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated bipenyls
PEL	Permissible Exposure Level
PID	Photoionization Detector
PM	Project Manager
PPE	Personal Protective Equipment
RG&E	Rochester Gas and Electric Corporation
SSO	Site Safety Officer
SVOC	Semivolatile Organic Compound
SZ	Support Zone
USCG	United States Coast Guard
VOC	Volatile Organic Compounds
WNV	West Nile Virus

1. Background Information

1.1 General

Engineer GEI Consultants, Inc.
110 Walt Whitman Road, Suite 110
Huntington Station, New York 11746

Project Name Former Dry Cleaners
495 Howard Avenue
Brooklyn, New York

This Health and Safety Plan (HASP) establishes policies and procedures to protect GEI personnel from the potential hazards posed by the activities at the Former Dry Cleaners located at 495 Howard Avenue, Brooklyn, NY (the site). Reading of the HASP is required of all onsite GEI personnel and GEI subcontractors. All subcontractors will prepare their own site-specific HASP and may use this as a guide. The plan identifies measures to minimize accidents and injuries, which may result from project activities or during adverse weather conditions.

1.2 Project Description

A remedial investigation will be performed in accordance with the Remedial Investigation Work Plan (RIWP) dated March 20, 2012. The RIWP will include soil boring advancement, soil sampling, groundwater monitoring well installations, and groundwater sampling.

1.3 Site Description

Based upon historical Sanborn atlases and historic reverse address directories of the Phase I ESA, a dry-cleaning operation had been identified in a former building on this site in the 1960's. Dry cleaning establishments are types of businesses that typically store and use toxic or hazardous materials, and generate toxic or hazardous wastes (i.e., dry cleaning solvents and wastes, spot cleaners, and contaminated dry cleaning machine components such as machine filter cartridges).

Based upon the historical use identified, EEA performed a Phase II investigation and the *Phase II Environmental Subsurface Investigation Report* was submitted in December 2011. The following results are from the *Phase II Environmental Subsurface Investigation Report* dated December 2011 by EEA.

Soil Analytical Results

Results of analytical laboratory sampling at three soil test borings B-1 (21 ft bg), B-2 (60 ft bg), and B-3 (25 ft bg) indicated that tetrachloroethene (PCE) was detected above laboratory method detection limits in the deep soil samples collected from soil test boring location B-2. Soil samples collected from B-1 and B-2 did not indicate any concentrations of PCE above laboratory detection limitations.

The PCE concentrations in soil and soil stratigraphy for deep soil boring B-2 were as follows:

Table A: Soil Analytical Results

Boring Location	Sample Depth (ft)	PCE Concentration (µg/kg)
B-2	20	7
B-2	30	36
B-2	40	63
B-2	50	640
B-2	60	<5.2

Notes

µg/kg = micrograms per liter

The location of elevated PCE results (B-2) coincides with locations of the property where historical dry-cleaning operations were performed and indicates that the former dry-cleaning operations likely had a release of dry-cleaning chemical compounds into the subsurface during past operations. The concentration of PCE increases with depth until the soil formation change from glacial till to a more permeable sand layer at a depth of approximately 55 ft bg.

The soil sample collected from 60 feet consisted of saturated permeable sand and is likely within the regional ground water aquifer. No concentration of PCE (B-2 60ft <5.2 µg/kg) was found at this depth in this formation.

Groundwater Analytical Results

Groundwater quality laboratory results collected from two locations B-1 (GW-1) and B-3 (GW-3) show concentrations of PCE above the New York State Department of Environmental Conservation (NYSDEC) Groundwater Quality Standards.

Additionally, PCE was detected in onsite groundwater above the *New York State Ambient Water Quality Standards (AWQS) and Guidance Values for Class GA Groundwater* as summarized below.

Table B: Groundwater Analytical Results

Sample Location	AWQS	PCE Concentration (µg/kg)
GW-1	5 ug/L	24
GW-3		36

Notes

New York State Ambient Water Quality Standards (AWQS) and Guidance Values for Class GA Groundwater

2. Statement of Safety and Health Policy

GEI is committed to providing a safe and healthy work environment for its employees. To maintain a safe work environment, GEI has established an organizational structure and a Corporate Health and Safety Program to promote the following objectives:

- Reduce the risk of injury, illness, and loss of life to GEI employees.
- Maintain compliance with federal, state, and other applicable safety regulations; and minimize GEI employees' work exposure to potential physical, chemical, biological, and radiological hazards.

3. Hazard/Risk Analysis

Physical hazards associated with heavy equipment and demolition operations are present. The heavy equipment associated with this project will include drill rigs and heavy trucks. Some of the hazards associated with this equipment include crushing of limbs, slipping, tripping, or falling, and heavy lifting.

The Contractor should verify that all electric, gas, water, steam, sewer, and other services lines should be shut off, capped, or otherwise controlled, at or outside the building before demolition work is started. In each case, any utility company that is involved should be notified in advance by the Contractor, and its approval or services, if necessary, shall be obtained.

Smoking is prohibited at or in the vicinity of hazardous operations or materials. Where smoking is permitted, safe receptacles shall be provided for smoking materials. The hazards for this operation are listed in the following Activity Hazard Analysis and Site Hazards sections.

3.1 Personal Safety

Field activities have the potential to take site workers into areas which may pose a risk to personal safety. The following websites (sources) have been researched to identify potential crime activity in the area of the project:

- www.crimereports.com
- www.cityrating.com/crimestatistics.asp
- www.crimemapping.com

One incident was displayed on the www.crimereports.com map near the site. Zero incidents were reported on www.crimemapping.com. However, the area is known to be dangerous.

To protect yourself, take the following precautions:

- Use the buddy system (teams of a minimum of two persons present);
- Let the Site Safety Officer (SSO) know when you begin work in these areas and when you leave;
- Call in regularly;
- Pay attention to what is going on around you; and
- If you arrive in an area and it does not look safe to get out of your vehicle, lock the doors and drive off quickly but safely.

Site workers must not knowingly enter into a situation where there is the potential for physical and violent behaviors to occur. If site workers encounter hostile individuals or a confrontation develops in the work area, suspend work activities, immediately leave the area of concern, and contact local 911 for assistance. Notify the SSO and CHSO of any incidents once you are out of potential danger.

In the event of an emergency, prompt communications with local emergency responders is essential. At least one charged and otherwise functioning cell phone to facilitate emergency communications will be on site. Confirmation of cellular phone operation and site worker safety will be confirmed at the start, mid-point, and near the end of each working day.

3.2 Activity Hazard Analysis

The potential hazards for this project have been categorized into site and activity hazards. Site hazards are those hazards associated with site conditions, and activity hazards are associated with GEI on-site activities. The potential hazards and control measures established to reduce the risk of injury or illness are identified in the following tables. Safe operating procedures established for routine hazards and common site conditions are included in the table below, or contained in the GEI Corporate Health and Safety Manual.

3.2.1 Activity Hazard Analysis Table

SITE HAZARDS	
Potential Hazard	**Control Measures**
Construction Safety	▪ Identify yourself and your work location to heavy equipment operators, so they may incorporate you into their operations. Coordinate hand signals with operators. ▪ Stay Alert! Pay attention to equipment backup alarms and swing radii. ▪ Wear a high visibility vest when working near equipment or motor vehicle traffic. ▪ Position yourself in a safe location when filling out logs and talking with the contractor. ▪ Notify the contractor immediately if any problems arise. ▪ Do not stand or sit under suspended loads or near any pressurized equipment lines. ▪ Do not operate cellular telephones in the vicinity of heavy equipment operation.
Physical Injury	▪ Wear work boots in good condition with non-slip soles. ▪ Maintain good visibility of the work area. ▪ Avoid walking on uneven or debris ridden ground surfaces.
Noise	▪ Wear hearing protection when near loud noises. ▪ Wear hearing protection whenever you need to raise your voice above normal conversational speech due to a loud noise source; this much noise indicates the need for protection.
Heat Stress	• Increase water intake while working. • Increase number of rest breaks and/or rotate workers in shorter work shifts. Rest in cool, dry areas. • Watch for signs and symptoms of heat exhaustion and fatigue. • In the event of heat stroke, bring the victim to a cool environment, call for help, and initiate first aid procedures. • See Heat Stress Guidelines in Appendix C.
Vehicular Traffic	▪ Wear traffic safety vest at all times. ▪ Use cones, flags, barricades, and caution tape to define work area. ▪ Use a "spotter" to locate oncoming vehicles. ▪ Use vehicle to block work area. ▪ Engage police detail if needed.

Utilities	▪ Check that contactor has cleared underground utilities before any intrusive activities, and that contractor has coordinate with utility locating services, property owner(s) or utility companies. ▪ Utilities are to be considered live or active until documented otherwise. ▪ For overhead utilities within 50 feet, have contractor determine with the utility company the appropriate safe distance. Minimum distance for clearance is based on voltage of the line. ▪ An observer will be established when operating drilling rigs near overhead utilities.

ACTIVITY HAZARDS

Activity	Potential Hazards	Protective Equipment
Entering Construction Site	Heavy equipment, dust, noise.	Hardhat, orange safety vest, steel-toed, steel-shank boots, safety glasses, latex/neoprene gloves, and earplugs.
Drilling	Heavy equipment, dust, noise.	In addition to the PPE listed above for "Entering Construction Site:" hearing protection (ear plugs or ear muffs).
Personal Protective Equipment (PPE) is the *initial level of protection* based on the activity hazards and Site conditions which have been identified. *Upgrades to respiratory protection may be required based on the designated action levels.* General on site provisions shall include: extra nitrile, leather, and/or Kevlar gloves, extra protective coveralls (e.g. Tyvek ®) with boot covers, drinking water and electrolyte fluids, reflective vest, first aid kit, hearing protection and washing facilities.		

If site conditions suggest the existence of a situation more hazardous than anticipated, the site personnel shall evacuate the immediate area. The hazard, the level of precautions, and the Personal Protection Equipment (PPE) shall then be reevaluated with the assistance and approval of the GEI Corporate Health and Safety Officer (Robin DeHate) and Project Manager.

3.2.2 Handling Drums and Containers

Regulations for handling drums and containers are specified by OSHA 29 CFR 1910.120(j). Potential hazards associated with handling drums include vapor generation, fire, explosions, and possible physical injury. Handling of drums/containers during the site investigation and

remediation activities may be necessary. If drum/container handling is necessary, it will be performed in accordance with all applicable regulations.

3.2.3 Precautions for Working in Confined Spaces

The site remediation work does not call for performing any specific work in confined spaces. However, if any work in confined spaces is required, it will be performed in accordance with 29 CFR 1910.146 (effective April 15, 1993), as applicable. Copies of the standards will be kept on file in GEI's main office. Confined space work will not be performed without first notifying and receiving approval from the CHSO.

3.3 Evaluation of Potential Chemical Hazards

The characteristics of compounds at the Site are discussed below for information purposes. Adherence to the safety and health guidelines in this HASP should reduce the potential for exposure to the compounds discussed below.

3.3.1 Volatile Organic Compounds (VOCs)

Volatile organic chemicals (VOCs), such as PCE are present as soil and groundwater contaminants. These compounds generally have a depressant effect on the CNS, may cause chronic liver and kidney damage, and some are suspected human carcinogens.

3.3.2 Evaluation of Organic Vapor Exposure

Air monitoring reduces the risk of overexposure by indicating when action levels have been exceeded and when personal protective equipment (PPE) must be upgraded or changed. Action levels for volatile organic compounds and associated contingency plans for the work zone are discussed within Section 8.0 of this Health and Safety Plan.

Exposure to organic vapors shall be evaluated and/or controlled by:

- Monitoring air concentrations for organic vapors in the breathing zone with a photo-ionization detector (PID) or a flame ionizing detector (FID)
- When possible, engineering control measures will be utilized to suppress the volatile organic vapors. Engineering methods can include utilizing a fan to promote air circulation, utilizing volatile suppressant foam, providing artificial ground cover or covering up the impacted material with a tarp to mitigate volatile odors.
- When volatile suppression engineering controls are not effective and organic vapor meters indicate concentrations above the action levels, then appropriate respiratory protection (i.e. air purifying respirator with organic vapor cartridge) will be employed.

3.3.3 Evaluation of Skin Contact and Absorption

Skin contact by contaminants may be controlled by use of proper hygiene practices, PPE, and good housekeeping procedures. The proper PPE (e.g., Tyvek®, gloves, safety glasses) as described in Section 1.8 will be worn for all activities where contact with potential contaminated media or materials are expected.

Material Safety Data Sheets (MSDS) (as available) and/or Occupational Health Guidelines for decontamination chemicals and laboratory reagents that may be used on site are included in Appendix B. Specific chemical hazards information from the MSDS and Occupational Health Guidelines are summarized in Table 1.

Table 1
Chemical Data

Compound	CAS #	ACGIH TLV	OSHA PEL	Route of Exposure	Symptoms of Exposure	Target Organs	Physical Data
Asbestos	1332-21-4	0.1 f/cc	0.1 f/cc over 8 hr period or 1.0f/cc over 30 min.	Inhalation Ingestion Skin Contact	Asbestosis (chronic exposure); mesothelioma, breathing difficulty, interstitial fibrosis' restricted pulmonary function, finger clubbing; irritate eyes, known human carcinogen	Respiratory system, eyes	White, greenish, blue, or gray-green fibrous solids FP: NA LEL: NA UEL NA VP: 0 mm
Arsenic	7440-38-2	0.01 mg/m^3	0.01 mg/m^3 A.L. .005mg/m3	Inhalation Skin Absorption Ingestion Skin Contact	Ulceration of nasal septum, dermatitis, GI disturbances, peripheral neuropathy, respiratory irritation, hyperpigmentation of skin, potential carcinogen	Liver, kidneys, skin, lungs, lymphatic system	Metal: Silver-gray or tin-white, brittle, odorless solid FP: NA LEL: NA UEL: NA VP: 0 mm
Benzene	71-43-2	0.5 ppm (Skin)	1 ppm TWA 5 ppm STEL	Inhalation Skin Absorption Ingestion Skin Contact	Irritation of eyes, skin, nose, respiratory system, giddiness, headache, nausea; staggering gait, fatigue, anorexia, weakness, dermatitis, bone marrow depression, known human carcinogen	Eyes, skin, CNS, bone marrow, blood	FP: 12^o F LEL: 1.2% UEL:7.8% VP: 75 mm
Chromium (Chromic Acid and Chromates)	1333-82-0	0.05 mg/m^3	0.1 mg/m^3	Inhalation Ingestion Skin Contact	Irritates respiratory system, nasal, septum perforation, liver and kidney damage, leucocytosis (increased blood leucocytes), leukopenia (reduced blood leucocytes), moncytosis (increased monocytes), Eosinophilia, eye injury, conjunctivitis, skin ulcer, sensitivity dermatitis, potential carcinogen	Blood, respiratory system, liver, kidney, eyes, skin, lung cancer	FP:NA VP: Very Low LEL: NA UEL: NA

Table 1
Chemical Data

Compound	CAS #	ACGIH TLV	OSHA PEL	Route of Exposure	Symptoms of Exposure	Target Organs	Physical Data
Ethylbenzene	100-41-4	100 ppm	100 ppm	Inhalation Ingestion Skin Contact	Eye, skin, mucous membrane irritation; headache; dermatitis, narcosis; coma	Eyes, skin, respiratory system, Central Nervous System	FP: 55° F LEL: 0.8% UEL:6.7% VP: 7 mm
Hydrogen cyanide	74-90-8	4.7 ppm (5 mg/m^3) STEL [skin]	10 ppm (11 mg/m^3) [skin]	Inhalation Ingestion Absorption Skin/Eye Contact	Asphyxia; weakness, headache, confusion; nausea, vomiting; increased rate and depth of respiration or respiration slow and gasping; thyroid, blood changes	Central Nervous System, Cardiovascular system, thyroid, blood	Colorless or pale-blue liquid or gas (above 78°F) with a bitter, almond-like odor. VP: 630 mmHg
Hydrogen sulfide	7783-06-4	10 ppm TWA, 15 ppm STEL	20 ppm C, 50 ppm [10-min. Maximum peak]	Inhalation Skin/Eye Contact	Irritation eyes, respiratory system; apnea, coma, convulsions; conjunctivitis, eye pain, lacrimation (discharge of tears), photophobia (abnormal visual intolerance to light), corneal vesiculation; dizziness, headache, fatigue, irritability, insomnia; gastrointestinal disturbance; liquid: frostbite	Eyes, respiratory system, Central Nervous System	Colorless gas with a strong odor of rotten eggs. VP: 17.6 atm
Lead	7439-92-1	0.050 mg/m^3	0.05 mg/m^3 A.L. 0.03 mg/m3	Inhalation Ingestion Skin Contact	Weakness, insomnia; facial pallor; pal eye, anorexia, weight loss, malnutrition; constipation, abdominal pain, colic; anemia; gingival lead line; tremor; paralysis of wrist and ankles; irritates eyes, hypo tension	Eyes, GI tract, Central Nervous System, kidneys, blood, gingival tissue	A heavy, ductile, soft, gray solid. FP: NA LEL: NA UEL: NA VP: 0 mm

Table 1
Chemical Data

Compound	CAS #	ACGIH TLV	OSHA PEL	Route of Exposure	Symptoms of Exposure	Target Organs	Physical Data
Mercury	7439-97-6	0.025 mg/m^3	0.10 mg/m3	Inhalation Ingestion Skin Contact Skin Absorption	Irritates eyes and skin, chest pain, cough, difficulty breathing, bronchitis, pneumonitis, tremor, insomnia, irritability, indecision, headache, fatigue, weakness, stomatitis, salivation, Gastrointestinal disturbance, weight loss, proteinuria	Eyes, skin, respiratory tract, central nervous system	Silver-white, heavy odorless liquid FP: NA LEL: NA UEL:NA VP: 0.0012 mm
Naphthalene	91-20-3		10 ppm (50 mg/m^3) TWA	inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes; headache, confusion, excitement, malaise (vague feeling of discomfort); nausea, vomiting, abdominal pain; irritation bladder; profuse sweating; jaundice; hematuria (blood in the urine), renal shutdown; dermatitis, optical neuritis, corneal damage	Eyes, skin, blood, liver, kidneys, central nervous system	FP: 174 F IP: 8.12 eV, LEL: 0.8% UEL:6.7%, VP: 0.08 mm
PAH's as Coal tar pitch Volatiles (CTPV)	65996-93-2	0.2 mg/m3	0.2 mg/m3	Inhalation Skin contact Ingestion	Irritant to eyes, swelling, acne contact dermatitis, chronic bronchitis	Respiratory system, Central Nervous System, liver, kidneys, skin, bladder,	Black or dark brown amorphous residue.
PCBs	11097-69-1	0.5 mg/m^3 (Skin)	0.5 mg/m^3 (Skin)	Inhalation Skin Absorption Ingestion Skin Contact	Irritate eyes; chloracne; liver damage;	Skin, eyes, liver, reproductive system	Colorless liquid or solid with a mild, hydro-carbon odor VP = 0.00006 mm
Phenol	108-95-2	10 ppm (skin)	5 ppm (19 mg/m^3) [skin]	Inhalation Skin Absorption Ingestion Skin Contact	Irritates eyes, nose, throat, anorexia, weight loss, weakness, muscle ache, pain, dark urine, cyanosis, liver and kidney	Eyes, skin, respiratory system, liver, kidneys	Colorless to light pink crystalline solid with sweet, acrid odor. FP:175 ^{o}F IP:8.5

Table 1
Chemical Data

Compound	CAS #	ACGIH TLV	OSHA PEL	Route of Exposure	Symptoms of Exposure	Target Organs	Physical Data
					damage, skin burns, dermatitis, tremors, convulsions, twitching,		LEL:1.8% UEL: 8.6% VP: 0.4 mm
Selenium	7782-49-2	0.2 mg/m^3	0.2 mg/m^3	Inhalation Ingestion Skin Contact	Irritant to eyes, skin, nose and throat, visual disturbance, headache, chills, fever, breathing difficulty, bronchitis, metallic taste, garlic breath, GI disturbance, dermatitis, eye and skin burns,	Eyes, skin, respiratory system, liver, kidneys, blood spleen	Amphorous or crystalline, red to gray solid FP: NA LEL: NA UEL: NA VP: 0 mm
Toluene	108-88-3	50 ppm	200 ppm	Inhalation Skin Absorption Ingestion Skin Contact	Eye, nose irritation; fatigue, weakness, confusion, euphoria, dizziness, headache; dilated pupils, tearing of eyes; nervousness, muscle fatigue, insomnia, tingling in limbs; dermatitis	Eyes, skin, respiratory system, Central Nervous System, liver, kidneys	FP: 40^o F LEL: 1.1% UEL:7.1% VP: 21 mm
Xylene	1330-20-7	100 ppm	100 ppm	Inhalation Skin Absorption Ingestion Skin Contact	Eye, skin, nose, throat irritation; dizziness, excitement, drowsiness; incoordination, staggering gait; corneal damage; appetite loss, nausea, vomiting, abdominal pain; dermatitis	Eyes, skin, respiratory system, Central Nervous System, GI tract, blood, liver, kidneys	FP: 90^o F LEL: 0.9% UEL: 6.7% VP: 9 mm

Abbreviations	
A.L. Action Level	ppm = parts per million
C = ceiling limit, not to be exceeded	STEL = Short-term exposure limit (15 minutes)
FP = Flash point	TWA = Time-weighted average (8 hours)
GI = Gastro-intestinal	UEL = Upper explosive limit
LEL = Lower explosive limit	VP = vapor pressure approximately 68° F in mm Hg (mercury)
mm = millimeter	

3.4 Biological Hazards

3.4.1 Poisonous Plants

Persons working on the site should be aware of the possible presence of poisonous plants and insects. Poison ivy is a climbing plant with leaves that consist of three glossy, greenish leaflets. Poison ivy has conspicuous red foliage in the fall. Small yellowish-white flowers appear in May through July at the lower leaf axils of the plant. White berries appear from August through November. Poison ivy is typically found east of the Rockies. Poison oak is similar to poison ivy but its leaves are oak-like in form. Poison oak occurs mainly in the south and southwest. Poison sumac typically occurs as a small tree or shrub and may be 6-20 feet in height. The bark is smooth, dark and speckled with darker spots. Poison sumac is typically found in swampy areas and east of the Mississippi. The leaves have 7-13 smooth-edged leaflets and drooping clusters of ivory-white berries appear in August and last through spring.

The leaves, roots, stems and fruit of these poisonous plants contain urushiol. Contact with the irritating oil causes an intensely itching skin rash and characteristic, blister-like lesions. The oil can be transmitted on soot particles when burned and may be carried on the fur of animals, equipment and apparel.

Proper identification of these plants is the key to preventing contact and subsequent dermatitis. Wear long sleeves and pants when working in wooded areas. In areas of known infestation, wear Tyvek coveralls and gloves. Oils are easily transferred from one surface to another. If you come in contact with these poisonous plants, wash all exposed areas immediately with cool water to remove the oils. Some commercial products such as Tecnu's Poison Oak-n-Ivy Cleanser claim to further help with the removal of oils.

3.4.2 Ticks

Lyme Disease
Ticks are bloodsuckers, attaching themselves to warm-blooded vertebrates to feed. Deer ticks, are associated with the transmission the bacteria that causes Lyme Disease. Female deer ticks are about one-quarter inch in length and are black and brick red in color. Males are smaller and all black. If a tick is not removed, or if the tick is allowed to remain for days feeding on human blood, a condition known as tick paralysis can develop. This is due to a neurotoxin, which the tick apparently injects while engorging. This neurotoxin acts upon the spinal cord causing incoordination, weakness and paralysis.

The early stages of Lyme disease, which can develop within a week to a few weeks of the tick bite, are usually marked by one or more of these signs and symptoms:

- Tiredness
- Chills and fever
- Headache
- Muscle and/or join pain
- Swollen lymph glands
- Characteristic skin rash (i.e. bullseye rash)

Rocky Mountain Spotted Fever
Rocky Mountain spotted fever is spread by the American dog tick, the lone-star tick, and the wood tick, all of which like to live in wooded areas and tall, grassy fields. The disease is most common in the spring and summer when these ticks are active, but it can occur anytime during the year when the weather is warm.

Initial signs and symptoms of the disease include sudden onset of fever, headache, and muscle pain, followed by development of rash. Initial symptoms may include fever, nausea, vomiting, severe headache, muscle pain, lack of appetite.

The rash first appears 2-5 days after the onset of fever and is often not present or may be very subtle. Most often it begins as small, flat, pink, non-itchy spots on the wrists, forearms, and ankles. These spots turn pale when pressure is applied and eventually become raised on the skin. Later signs and symptoms include rash, abdominal pain, joint pain, diarrhea.

The characteristic red, spotted rash of Rocky Mountain spotted fever is usually not seen until the sixth day or later after onset of symptoms, and this type of rash occurs in only 35% to 60% of patients with Rocky Mountain spotted fever. The rash involves the palms or soles in as many as 50% to 80% of patients; however, this distribution may not occur until later in the course of the disease.

Prevention
Tick season lasts from April through October; peak season is May through July. You can reduce your risk by taking these precautions:

- During outside activities, wear long sleeves and long pants tucked into socks. Wear a hat, and tie hair back.
- Use insecticides to repel or kill ticks. Repellents containing the compound DEET can be used on exposed skin except for the face, but they do not kill ticks and are not 100% effective in discouraging ticks from biting. Products containing permethrin kill

ticks, but they cannot be used on the skin -- only on clothing. When using any of these chemicals, follow label directions carefully.

- After outdoor activities, perform a tick check. Check body areas where ticks are commonly found: behind the knees, between the fingers and toes, under the arms, in and behind the ears, and on the neck, hairline, and top of the head. Check places where clothing presses on the skin.
- Remove attached ticks promptly. Removing a tick before it has been attached for more than 24 hours greatly reduces the risk of infection. Use tweezers, and grab as closely to the skin as possible. Do not try to remove ticks by squeezing them, coating them with petroleum jelly, or burning them with a match. Keep ticks in a zip-lock baggie in case testing needs to be performed.
- Report any of the above symptoms and all tick bites to the PM and CHSO for evaluation.

3.4.3 Mosquito- Borne Disease - West Nile Virus

West Nile encephalitis is an infection of the brain caused by the West Nile virus, which is transmitted by infected mosquitoes. Following transmission from an infected mosquito, West Nile virus multiplies in the person's blood system and crosses the blood-brain barrier to reach the brain. The virus interferes with normal central nervous system functioning and causes inflammation of the brain tissue. However, most infections are mild and symptoms include fever, headache and body aches. More severe infections may be marked by headache, high fever, neck stiffness, stupor, disorientation, coma, tremors, convulsions, muscle weakness, paralysis and rarely, death. Persons over the age of 50 have the highest risk of severe disease.

Prevention centers on public health action to control mosquitoes and on individual action to avoid mosquito bites. To avoid being bitten by the mosquitoes that cause the disease, use the following control measures:

If possible, stay inside between dusk and dark. This is when mosquitoes are most active. When outside between dusk and dark, wear long pants and long-sleeved shirts. Spray exposed skin with an insect repellent, preferably containing DEET.

3.4.4 Wasps and Bees

Wasps (hornets and yellow-jackets) and bees (honeybees and bumblebees) are common insects that may pose a potential hazard to the field team if work is performed during spring, summer or fall. Bees normally build their nests in the soil. However, they use other natural holes such as abandoned rodent nests or tree hollows. Wasps make a football-shaped, paper-like nest either below or above the ground. Yellow-jackets tend to build their nests in the ground but hornets tend to build their nests in trees and shrubbery. Bees are generally more

mild-mannered than wasps and are less likely to sting. Bees can only sting once while wasps sting multiple times because their stinger is barbless. Wasps sting when they feel threatened. By remaining calm and not annoying wasps by swatting, you lessen the chance of being stung.

Wasps and bees inject a venomous fluid under the skin when they sting. The venom causes a painful swelling that may last for several days. If the stinger is still present, carefully remove it with tweezers. Some people may develop an allergic reaction (i.e. anaphylatic shock) to a wasp or bee sting. If such a reaction develops, seek medical attention at once.

3.4.5 Sun Exposure

Employees are encouraged to liberally apply sunscreen, with a minimum sun protection factor (SPF) of 15, when working outdoors to avoid sunburn and potential skin cancer, which is associated with excessive sun exposure to unprotected skin. Additionally, employees should wear safety glasses that offer protection from UVA/UVB rays.

4. Personal Protective Equipment

The PPE specified in Table 2 represents PPE selection required by 29 CFR 1910.132, and is based on the AHA of Section 3. Specific information on the selection rationale activity can be found in the GEI Health and Safety Manual.

The PPE program addresses elements, such as PPE selection based on site hazards, use and limitations, donning and doffing procedures, maintenance and storage, decontamination and disposal, training and proper fitting, inspection procedures prior to / during / and after use, evaluation of the effectiveness of the PPE program, and limitations during temperature extremes, heat stress, and other appropriate medical considerations.

A summary of PPE for each level of protection is as follows:

Table 2

Safety Equipment	Level A	Level B	Level C	Level D
TyvekTM suit or work overalls				●
Hard hats with splash shields or safety glasses			●	●
Steel-toe/shank boots with overboots			●	●
Chemical-resistant gloves as appropriate for work being performed and materials handled			●	●
Half- or full-face respirators with appropriate cartridges as approved by the CHSO			●	
TyvekTM splash-resistant suit			●	
Chemical-resistant clothing		●		
Pressure-demand, full-face SCBA or pressure-demand supplied air respirator with escape SCBA	●	●		
Inner and outer chemical-resistant gloves	●	●		
Chemical-resistant safety boots or shoes	●	●		
Two-way radio	●	●		
Hard hat	●	●		
Fully encapsulating chemical-resistant suit	●			
Reflective vest	●	●	●	●

PPE requirements for field activities are as follows.

Activity	Level of Protection	Backup Protection
Soil Boring and Well Installation	D	C
Soil Sampling	D	C
Groundwater Sampling	D	C

Use of Level A or Level B PPE is not anticipated. If conditions indicating the need for Level A or Level B PPE are encountered, personnel will leave the exclusion zone and this HASP will be revised with oversight of the CHSO or GEI personnel will not re-enter the exclusion zone until conditions allow.

OSHA Requirements for Personal Protective Equipment

All personal protective equipment used during the course of this field investigation must meet the following OSHA standards:

Type of Protection	Regulation	Source
Eye and Face	29 CFR 1910.133	ANSI Z87.1 1968
Respiratory	29 CFR 1910.134	ANSI Z88.1 1980
Head	29 CFR 1910.135	ANSI Z89.1 1969
Foot	29 CFR 1910.136	ANSI Z41.1 1967

ANSI = American National Standards Institute

5. Key Project Personnel/Responsibilities and Lines of Authority

5.1 GEI Personnel

- Nicholas Recchia GEI Project Manager
- Gary Rozmus GEI Project Engineer
- Thomas Johansen GEI Site Safety Officer
- George Holmes GEI Field Representative
- Robin DeHate GEI Corporate Health and Safety Officer
- Steven Hawkins Regional Health and Safety Officer

The implementation of health and safety at this project location will be the shared responsibility of the GEI Project Manager (PM), the GEI Corporate Health and Safety Officer (CHSO), the GEI Project Site Safety Officer (SSO), other GEI personnel implementing the proposed scope of work.

5.1.1 GEI Project Manager

The GEI Project Manager is responsible for ensuring that the requirements of this HASP are implemented. Some of the PM's specific responsibilities include:

- Verifying that the GEI staff selected to work on this program are sufficiently trained for the sampling activities;
- Assuring that all personnel to whom this HASP applies, including subcontractor personnel, have received a copy of it;
- Providing the CHSO with updated information regarding conditions at the site and the scope of site work;
- Providing adequate authority and resources to the on-site SSO to allow for the successful implementation of all necessary safety procedures;
- Supporting the decisions made by the SSO and CHSO;
- Maintaining regular communications with the SSO and, if necessary, the CHSO;
- Verifying that the subcontractors selected by GEI to work on this program have completed GEI environmental, health and safety requirements and has been deemed acceptable for the proposed scope of work; and,

- Coordinating the activities of all GEI subcontractors and ensuring that they are aware of the pertinent health and safety requirements for this project.

5.1.2 GEI Corporate Health and Safety Officer

The GEI CHSO, Robin DeHate, is the individual responsible for the review, interpretation and modification of this HASP. Modifications to this HASP which may result in less stringent precautions cannot be undertaken by the PM or the SSO without the approval of the CHSO. Specific duties of the CHSO include:

1. Writing, approving and amending the HASP for this project;
2. Advising the PM and SSO on matters relating to health and safety on this site;
3. Recommending appropriate personal protective equipment (PPE) and safety equipment to protect personnel from potential site hazards;
4. Conducting accident investigations; and,
5. Maintaining regular contact with the PM and SSO to evaluate site conditions and new information which might require modifications to the HASP.

5.1.3 GEI Site Safety Officer

All GEI field staff are responsible for implementing the safety requirements specified in this HASP. However, one person will serve as the SSO. For this program, the Field Team Leader (Brandon Nathe/Chris Anastasiou) will serve as the SSO. The SSO will be on-site during all activities covered by this HASP. The SSO is responsible for enforcing the requirements of this HASP once work begins. The SSO has the authority to immediately correct all situations where noncompliance with this HASP is noted and to immediately stop work in cases where an immediate danger is perceived. Some of the SSO's specific responsibilities include:

- Assuring that all personnel to whom this HASP applies, including subcontractors, have submitted a completed copy of the HASP receipt and acceptance form;
- Conducting the pre-entry briefing prior to beginning work, and subsequent safety meetings as necessary;
- Conduct daily Safety Tailboard meeting in accordance with RG&E (can be combined with “pre-entry”) briefing for river related work;
- Assuring that all personnel to whom this HASP applies have attended and actively participated in a pre-entry briefing and any subsequent safety meetings that are conducted during the implementation of the program;

- Maintaining a high level of health and safety consciousness among employees implementing the proposed activities;
- Procuring the air monitoring instrumentation required and performing air monitoring for investigative activities;
- Procuring and distributing the PPE and safety equipment needed for this project for GEI employees;
- Verifying that all PPE and health and safety equipment used by GEI is in good working order;
- Verifying that the selected contractors are prepared with the correct PPE and safety equipment and supplies;
- Notifying the PM of all noncompliance situations and stopping work in the event that an immediate danger situation is perceived;
- Monitoring and controlling the safety performance of all personnel within the established restricted areas to ensure that required safety and health procedures are being followed;
- Stopping work in the event that an immediate danger situation is perceived;
- Conducting accident/incident investigations and preparing accident/incident investigation reports; and,

6. Initiating emergency response procedures in conjunction with the marine subcontractor's boat captains and in accordance with Section 11.0 of this HASP.

5.1.4 GEI Field Personnel

All GEI field personnel covered by this HASP are responsible for following the health and safety procedures specified in this HASP and for performing their work in a safe and responsible manner. Some of the specific responsibilities of the field personnel are as follows:

- Reading the HASP in its entirety prior to the start of on-site work;
- Submitting a completed HASP Acceptance Form to the GEI SSO prior to the start of work;
- Attending and actively participating in the required pre-entry briefing prior to beginning on-site work and any subsequent safety meetings that are conducted during the implementation of the program;
- Stopping work in the event that an immediate danger situation is perceived;
- Bringing forth any questions or concerns regarding the content of the HASP to the PM or the SSO prior to the start of work;

- Reporting all accidents, injuries and illnesses, regardless of their severity, to the GEI SSO; and,
- Complying with the requirements of this HASP and the requests of the SSO and boat captain.

Lines of Authority will be as follows:

On site – GEI will have responsibility for safety of its employees during the work performed at the site. GEI's field representative will have a cell phone available to contact the appropriate local authorities, in the event of an emergency. GEI's field representative will be available for communication with the GEI Project Manager and with the Client representative.

5.2. Subcontractors

GEI has subcontracted the following firms to assist in performing work on this project:

Tri-State Drilling Technologies, Inc.	55 Hilton Avenue, Garden City, New York 11530 (516) 294-6400
X-Ray Locating Service, Inc.	173 Terry Road, Smithtown, New York 11787 (631) 979-2890

GEI requires its subcontractors to work in a responsible and safe manner. Subcontractors for this project will be required to develop their own HASP for projection of their employees but at a minimum must adhere to applicable requirements set forth in this HASP.

5.3 Emergency Contact List

<table>
<tr><th colspan="3">EMERGENCY INFORMATION</th></tr>
<tr><th colspan="2">Important Phone Numbers</th><th>Directions to Hospital</th></tr>
<tr><td>Local Police</td><td>911</td><td rowspan="10">1. Head north on Howard Ave toward Park Pl
2. Take the 1st right onto Park Pl
3. Slight left onto Eastern Parkway Extension/Eastern Pkwy
4. Turn right onto Rockaway Ave
5. Turn right onto Linden Blvd
Destination will be on the right
Brookdale University Hospital and Medical Center
One Brookdale Plaza
Brooklyn, NY 11212</td></tr>
<tr><td>Fire Department</td><td>911</td></tr>
<tr><td>Ambulance</td><td>911</td></tr>
<tr><td>State Police or County Sheriff</td><td>911</td></tr>
<tr><td>Local Hospital Brookdale University Hospital</td><td>(718) 240-5000</td></tr>
<tr><td>Project Manager</td><td>(516) 395-8763</td></tr>
<tr><td>Corporate Health and Safety Officer Robin DeHate</td><td>(813) 774-6564 office
(813) 323-6220 cell</td></tr>
<tr><td>Regional Health and Safety Officer</td><td>(860) 916-4167</td></tr>
<tr><td>Client Contact</td><td>TBD</td></tr>
<tr><td>Utility Clearance Permit #</td><td>TBD</td></tr>
<tr><td colspan="3">Nearest Telephone Location: Onsite cellular</td></tr>
</table>

6. Training Program

6.1 HAZWOPER Training

In accordance with 29 CFR 1910.120, hazardous waste site workers shall, at the time of job assignment, have received a minimum of 40 hours of initial health and safety training for hazardous waste site operations. At a minimum, the training shall have consisted of instruction in the topics outlined in the standard. Personnel who have not met the requirements for initial training shall not be allowed to work in any site activities in which they may be exposed to hazards (chemical or physical). Proof of training shall be submitted to the GEI CHSO or her representative prior to the start of field activities.

6.2 Annual Eight-Hour Refresher Training

Annual eight-hour refresher training will be required of all hazardous waste site field personnel in order to maintain their qualifications for fieldwork. The training will cover a review of 29 CFR 1910.120 requirements and related company programs and procedures. Proof of current 8-hour refresher training shall be submitted to the GEI CHSO or her representative prior to the start of field activities.

6.3 Supervisor Training

Personnel acting in a supervisory capacity shall have received 8 hours of instruction in addition to the initial 40 hours training. In addition supervisors shall have one year of field experience and training specific to work activities (i.e., sampling, construction observation, etc.)

6.4 Site-Specific Training

Prior to commencement of field activities, the GEI CHSO or her representative will ensure all field personnel assigned to the project will have completed training that will specifically address the activities, procedures, monitoring, and equipment used in the site operations. It will include site and facility layout, hazards and emergency services at the site and will highlight all provisions contained within this HASP. This training will also allow field workers to clarify anything they do not understand and to reinforce their responsibilities regarding safety and operations for their particular activity. Personnel that have not received site-specific training will not be allowed on-site.

6.5 On-Site Safety Briefings

Other GEI personnel will be given health and safety briefings daily by GEI's field representative to assist GEI personnel in safely conducting work activities. The briefings will include information on new operations to be conducted, changes in work practices or changes in the site's environmental conditions, as well as periodic reinforcement of

previously discussed topics. The briefings will also provide a forum to facilitate conformance with safety requirements and to identify performance deficiencies related to safety during daily activities or as a result of safety inspections. Documentation of these briefings will e recorded in the GEI field book. The meetings will also be an opportunity to periodically update the workers on monitoring results. In addition, all GEI personnel shall sign the HASP to document that they understand the hazards and control measures presented and agree to comply with the procedures established in the plan.

6.6 First Aid and CPR

The PM will identify individuals certified in first aid and CPR, or identify individuals for such training in order to ensure that emergency medical treatment is available during field activities. The training will be consistent with the requirements of the American Red Cross Association.

7. Medical Surveillance Program

GEI maintains a continuous, corporate, medical surveillance program that includes a plan designed specifically for field personnel engaged in work at sites where hazardous or toxic materials may be present. Dr. Robin DeHate is GEI's CHSO and is responsible for the administration and coordination of medical evaluations conducted for GEI's employees at all branch office locations. Comprehensive examinations are given to all GEI field personnel participating in hazardous waste operations on an annual or biennial basis (as determined to be appropriate by the CHSO). The medical results of the examinations aid in determining the overall fitness of employees participating in field activities.

Dr. Robin DeHate's telephone number is:
Telephone: (183) 774-6564 (office) or (813) 323-6220 (cell)

Under the CHSO's supervision, all field personnel undergo a complete initial physical examination, including a detailed medical and occupational history, before they participate in hazardous waste site investigations. Extensive annual/biennial reexaminations are also performed. Upon completion of these tests, personnel are certified by an occupational health physician as to whether they are fit for field work in general, and fit to use all levels of respiratory protection, in particular.

If a GEI employee or other project worker shows symptoms of exposure to a hazardous substance and wishes to be rechecked, he/she will be directed to the nearest area hospital or medical facility.

All GEI subcontractor personnel that will enter any active waste handling or other active non-"clean" area must certify that they are participating in a medical surveillance program that complies with OSHA regulations for hazardous waste operations (i.e., 29 CFR 1910.120 and 29 CFR 1926.65). Proof of medical clearance shall be submitted to the GEI CHSO or her representative prior to the start of field activities.

8. Community Air Monitoring

Community air monitoring shall be performed to identify and quantify airborne levels of hazardous substances and safety and health hazards in order to determine the appropriate level of worker protection needed on site.

GEI will conduct perimeter air monitoring, and work zone monitoring for on-site workers. GEI will monitor and document daily site conditions and operations and inform field representative of results. If action levels are exceeded GEI's field representative will immediately implement dust suppression activities and notify GEI's Project Manager.

GEI will provide the following equipment for health and safety monitoring of on-site personnel:

- Particulate Meter (PM-10 capable)
- Sound Level Meter if deemed necessary by the CHSO or PM (type to be appropriate to the activities performed)

The perimeter and work zone air monitoring will be conducted during any demolition activities. Table 3 provides a summary of real time air monitoring action levels and contingency plans for work zone activities.

Table 3
Work Zone Air Monitoring Action Levels

Air Monitoring Instrument	Monitoring Location	Action Level	Site Action
PID	Breathing Zone	0.5 ppm	Use Dräger Chip Measurement System (CMS) tube for benzene or Z-nose® to verify if concentration is benzene.
PID	Breathing Zone	0 - 10 ppm	No respiratory protection is required.
		10 - 250 ppm	Stop work, withdrawal from work area, institute engineering controls, if levels persist Upgrade to Level C.
		> 250 ppm	Stop work, withdraw from work area; notify PM & CHSO.
Oxygen meter (O_2)	Breathing Zone	< 20.75%	Stop work; withdraw from work area; ventilate area, notify PM & CHSO.
		> 21.1%	Stop work; withdraw from work area; notify PM & CHSO.
Hydrogen Sulfide (H_2S) meter	Breathing Zone	<5 ppm	No respiratory protection is required.
		>5 ppm	Stop work, cover excavation, withdraw from work area, institute engineering controls, and notify PM & CHSO.
Hydrogen Cyanide (HCN) meter	Breathing Zone	<1.0 ppm	Run CMS Dräger tube, continue monitoring with real time meter, and continue work if CMS Dräger Tube Reading is less than 2ppm.

Table 3
Work Zone Air Monitoring Action Levels

Air Monitoring Instrument	Monitoring Location	Action Level	Site Action
		1.0< HCN <2.0 ppm	Run CMS Dräger tube and confirm concentration is less than 2.0 ppm, notify SSO and CESM. Run CMS Dräger tube for sulfur dioxide, hydrogen sulfide, and phosphine chip potential interferences. Continue to monitor with real time meter.
		>2.0 ppm	Stop work, and move (with continuous HCN monitoring meter) at least 25 feet upwind of the excavation until continuous meter reads less than 1 ppm, Notify PM & CHSO. Run CMS Dräger hydrogen cyanide chip and re-evaluate activity, continue monitoring with a real time meter, resume work if concentrations read less than 1.0 ppm.
Combustible Gas Indicator (CGI)	Excavation/ Work Zone	< 10 % Lower Explosive Limit (LEL)	Investigate possible causes, allow excavation to ventilate; use caution during procedures.
		> 10% LEL	Stop work; allow excavation, borehole to ventilate to < 10% LEL; if ventilation does not result in a decrease to < 10% LEL, withdraw from work area; notify PM & CHSO.
Particulate Meter	Excavation/ Work Zone	0.150 ug/m^3	Implement work practices to reduce/minimize airborne dust generation, e.g., spray/misting of soil with water.

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. Periodic monitoring for VOCs will be performed during non-intrusive activities. Depending upon the proximity of potentially exposed individuals, continuous monitoring may be performed. Exceedances of action levels observed during performance of the Community Air Monitoring Plan (CAMP) will be reported to the 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 exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

• If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques will be employed. Work will continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m3 above the upwind level and provided that no visible dust is migrating from the work area.

• If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m3 above the upwind level, work will be stopped and 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/m3 of the upwind level and in preventing visible dust migration.

9. Site Control Measures

9.1 Site Zones

Site zones are intended to control the potential spread of contamination and to assure that only authorized individuals are permitted into potentially hazardous areas. A three-zone approach will be utilized. It shall include an Exclusion Zone (EZ), Contamination Reduction Zone (CRZ) and a Support Zone (SZ). Specific zones shall be established on the work site by the Contractor when operations begin for each task requiring such delineation. Maps depicting the zones will be available at the Site.

This project is being conducted under the requirements of 29 CFR 1910.120, and any personnel working in an area where the potential for exposure to site contaminants exists, will only be allowed access after proper training and medical documentation.

The following shall be used for guidance in revising these preliminary zone designations, if necessary.

Support Zone - The SZ is an uncontaminated area that will be the field support area for most operations. The SZ provides for field team communications and staging for medical emergency. Appropriate sanitary facilities and safety equipment will be located in this zone. Potentially contaminated personnel/materials are not allowed in this zone.

Contamination Reduction Zone - The CRZ is established between the EZ and the SZ. The CRZ contains the contamination reduction corridor and provides an area for decontamination of personnel and portable hand-held equipment, tools and heavy equipment. A personnel decontamination area will be prepared at each exclusion zone. The CRZ will be used for Exclusion Zone entry and egress in addition to access for heavy equipment and emergency support services.

Exclusion Zone - All activities which may involve exposure to site contaminants, hazardous materials and/or conditions should be considered an exclusion zone. This zone will be clearly delineated by cones, tapes or other means. The Contractor may establish more than one EZ where different levels of protection may be employed or different hazards exist. The size of the EZ shall be determined by the Contractor allowing adequate space for the activity to be completed, field members and emergency equipment.

The Contractor is responsible for constructing, maintaining, and enforcing the zones.

9.2 Buddy System

GEI personnel should be in line-of-site or communication contact with another on-site person. The other on-site personnel should be aware of their role as a "buddy" and be able to provide assistance in the event of an emergency. A copy of this plan shall be given to any person acting as a GEI "buddy" for informational purposes.

9.3 Sanitation for Temporary Work Sites

Temporary sanitary facilities including toilets will be available on site.

9.4 Illumination

Illumination requirements identified by OSHA are directed to work efforts inside buildings and/or during non-daylight hours. All activities planned for the site are anticipated to occur outside during daylight hours. However, if yard areas are used after dark they will be equipped with illumination that meets or exceeds requirements specified in 29 CFR 1926.56, Illumination.

9.5 Utilities

The site may have shallow, buried utilities and also overhead utilities in certain areas. It will be necessary for all parties disturbing the existing ground surface and conducting operations with heavy equipment having high clearances to exercise a high degree of caution in performing project-related work with respect to the presence of utilities. Utility companies with active buried lines in the site area will be asked to mark all of their facilities as necessary. Site workers will use these data to choose apparently safe work locations.

9.5.1 Underground Utilities

No excavating, drilling, boring or other intrusive activities will be performed until a thorough underground utility survey, conducted by knowledgeable persons or agencies, has been made and it is found safe to begin. This survey will identify any underground and in-workplace utilities such as the following.

- Electrical lines and appliances
- Telephone lines
- Cable television lines
- Gas lines
- Pipelines
- Steam lines
- Water lines

- Sewer lines
- Pressurized air lines

The location of any utility that could pose a risk to workers must be communicated to all workers during site safety indoctrination. Utilities should be marked or access otherwise restricted to avoid change of accidental contact.

Even when a utility search has been completed, drilling, boring and excavation should commence with caution until advanced beyond the depth at which such utilities are usually located. All utilities shall be considered "live" or active until reliable sources demonstrate otherwise.

9.5.2 Overhead Utilities

Overhead transmission and distribution lines will be carried on towers and poles which provide adequate safety clearance over roadways and structures. Clearances will be adequate for the safe movement of vehicles and for the operation of construction equipment.

Overhead or above-ground electric lines should be considered active until a reliable source has documented them to be otherwise. Elevated work platforms, ladders, scaffolding, man-lifts, and drill or vehicle superstructures shall be erected a minimum of 20 feet (the actual distance is dependent upon the voltage of the line) from overhead electrical lines until the line is de-energized, grounded or shielded and a competent electrician has certified that arcing cannot occur between the work location or superstructure.

10. Accident Reporting

GEI will report incidents involving GEI personnel or subcontractor personnel, such as: lost time injuries, injuries requiring medical attention, near miss incidents, fires, fatalities, accidents involving the public, and property damage. The report shall be made to the GEI Project Manager verbally within 2 hours of the incident. The Project Manager will immediately inform the CHSO and the Director of Human Resources of the incident. An Accident Report Form will be completed and submitted to the CHSO and the Director of Human Resources within 24 hours of the incident

11. Decontamination Procedures

11.1 Personnel Decontamination

Contaminated PPE (gloves, suits, etc.) will be placed in plastic bags (or other appropriate container) and disposed of in an approved facility.

Decontamination wastewater and used cleaning fluids will be collected and disposed of in accordance with all applicable state and federal regulations.

11.2 Heavy Equipment Decontamination

Heavy equipment decontamination will be performed by the Contractor within the limits of the on-site decontamination pad in accordance with the contract specifications. A steam generator and brushes will be used to clean demolition equipment and other tools. No heavy equipment will be permitted to leave the site unless it has been thoroughly decontaminated.

Wastewater from the heavy equipment and personnel decontamination areas will be collected and disposed of in accordance with all applicable state and federal regulations. The Contractor will be responsible for ultimate disposal of investigation-derived wastes.

11.3 Decontamination Equipment Requirements

The following equipment, if required, should be in sufficient supply to implement decontamination procedures for GEI's equipment.

- Buckets
- Alconox™ detergent concentrate
- Hand pump sprayers
- Long handle soft bristle brushes
- Large sponges
- Cleaning wipes for respirators
- Bench or stool(s)
- Methanol
- Liquid detergent and paper towels
- Plastic trash bags

The Contractor performing decontamination procedures is responsible for ensuring that the above materials, as required for their operation, are in sufficient supply.

12. Supplemental Contingency Plan Procedures

12.1 Hazard Communication Plan

GEI personnel have received hazard communication training as part of their 40-hour HAZWOPER training. All hazardous materials used on the site will be properly labeled, stored, and handled. Material Safety Data sheets (MSDS) will be available to all potentially exposed employees.

12.2 Fire

In the event of a fire all personnel will evacuate the area. GEI's field representative will contact the local fire department with jurisdiction and report the fire. Notification of evacuation will be made to the GEI Project Manager and the CHSO. The field representative will account for GEI personnel and subcontractor personnel and report their status to the GEI Project Manager.

12.3 Medical Support

In case of minor injuries, on site care shall be administered with the site first aid kit. For serious injuries, call 911 and request emergency medical assistance. Seriously injured persons should not be moved, unless they are in immediate danger.

Section 5 of this HASP contains detailed emergency information, including directions to the nearest hospital, and a list of emergency services and their telephone numbers. GEI field personnel will carry a cellular telephone.

12.4 Severe Weather

The contingency plan for severe weather includes reviewing the expected weather to determine if severe weather is in the forecast. Severe weather includes high winds over 30 mph, heavy rains or snow squalls, thunderstorms, hurricanes, and lightning storms. If severe weather is approaching, the decision to evacuate GEI personnel and subcontractor personnel from the site will be the responsibility of GEI's field representative. Notification of evacuation will be made to the GEI Project Manager and the CHSO. The field representative will account for GEI personnel and subcontractor personnel and report their status to the GEI Project Manager.

12.5 Spills or Material Release

If a hazardous waste spill or material release, the SSO or his representative will immediately assess the magnitude and potential seriousness of the spill or release based on the following.

- MSDS for the material spilled or released
- Source of the release or spillage of hazardous material
- An estimate of the quantity released and the rate at which it is being released
- The direction in which the spill or air release is moving
- Personnel who may be or may have been in contact with the material, or air release, and possible injury or sickness as a result
- Potential for fire and/or explosion resulting from the situation
- Estimates of area under influence of release

If the spill or release is determined to be within the on-site emergency response capabilities, the SSO will ensure implementation of the necessary remedial action. If the release is beyond the capabilities of the site personnel, all personnel will be evacuated from the immediate area and the local fire department will be contacted. The SSO will notify the PM and the CHSO.

12.6 Alcohol and Drug Abuse Prevention

Alcohol and drugs will not be allowed on the work site. Project personnel under the influence of alcohol or drugs will not be allowed to enter the site.

Health and Safety Plan Sign-Off

All GEI personnel conducting site activities must read the Health and Safety Plan, be familiar with its requirements, and agree to its implementation.

Once the Health and Safety Plan has been read, complete this sign-off sheet, and return it to the Project Manager.

Site Name:
495 Howard Avenue
Brooklyn, New York

Investigation:
Soil boring installation, groundwater monitoring well installation, soil sampling, groundwater sampling

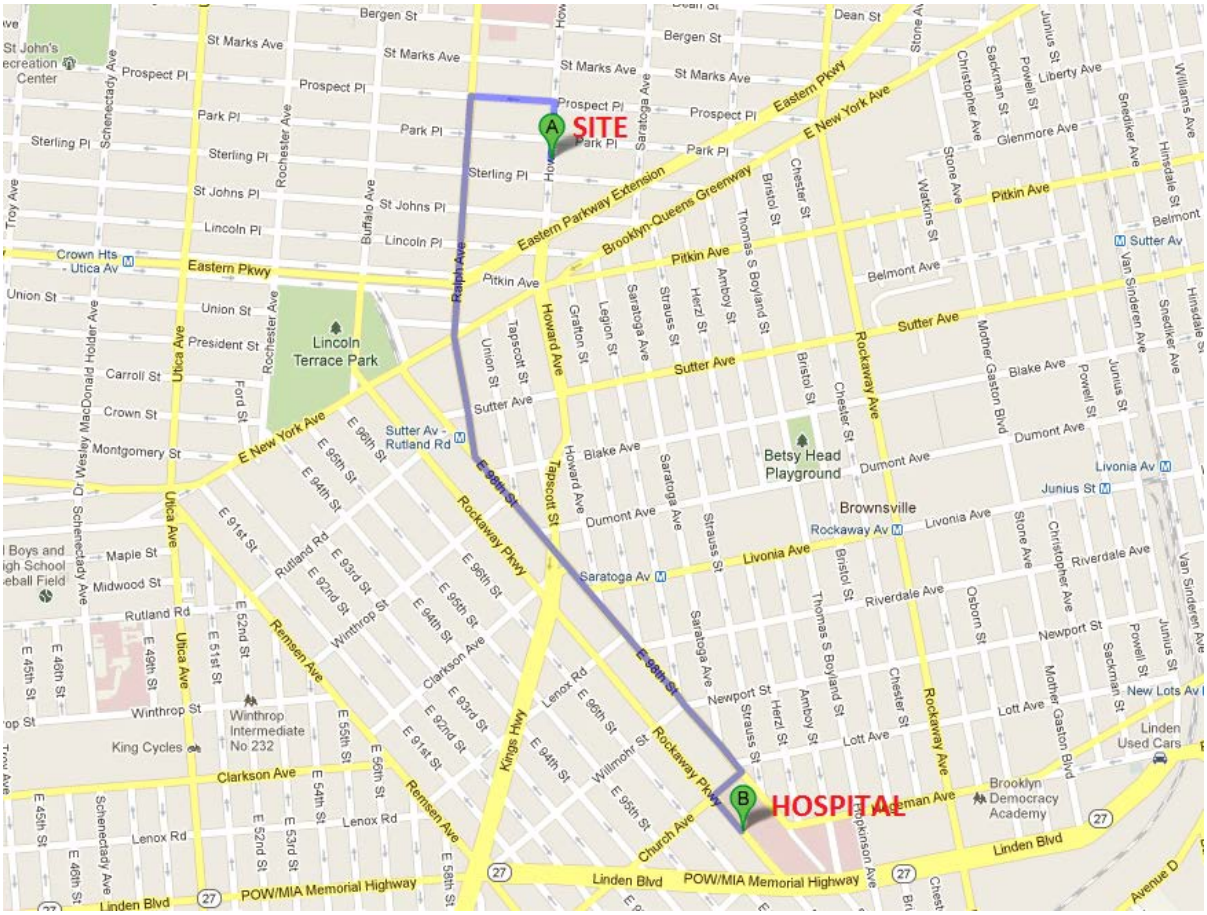
GEI Project No: TBD

I have received and read the Health and Safety Plan, been briefed on it, and agree to its implementation.

Name:	Signature:	Date:
Name:	Signature:	Date:
Name:	Signature:	Date:
Name:	Signature:	Date:
Name:	Signature:	Date:
Name:	Signature:	Date:
Name:	Signature:	Date:
Name:	Signature:	Date:
Name:	Signature:	Date:
Name:	Signature:	Date:

APPENDIX A
MAP TO HOSPITAL

MAP TO HOSPITAL



Brookdale University Hospital and Medical Center

One Brookdale Plaza

Brooklyn, NY 11212

APPENDIX B
HEAT STRESS/COLD STRESS GUIDELINES

Cold Stress Guidelines

	Symptoms	What to do
Mild Hypothermia	• Body Temp 98-90°F • Shivering • Lack of coordination, stumbling, fumbling hands • Slurred speech • Memory loss • Pale, cold skin	• Move to warm area • Stay active • Remove we clothes and replace with dry clothes of blankets • Cover the head • Drink warm (not hot) sugary drink
Moderate Hypothermia	• Body temp 90-86°F • Shivering stops • Unable to walk of stand • Confused irrational	• All of the above, plus: • Call 911 • Cover all extremities complexly • Place very warm objects, such as hot packs on the victim's head, neck, chest and groin
Severe Hypothermia	• Body temp 86-78°F • Severe muscle stiffness • Very sleepy or unconscious • Ice cold skin • Death	• Call 911 • Treat victim very gently • Do not attempt to re-warm
Frostbite	• Cold, tingling, stinging or aching feeling in the frostbitten area, followed by numbness • Skin color turns red, then purple, then white or very pale skin • Cold to the touch • Blisters in severe cases	• Call 911 • Don not rub the area • Wrap in soft cloth • If help is delayed, immerse in warm, not hot, water
Trench Foot	• Tingling, itching or burning sensation • Blisters	• Soak feet in warm water, then wrap with dry cloth bandages • Drink a warm sugary drink

HEAT STRESS GUIDELINES

Form	Signs & Symptoms	Care	Prevention[3]
Heat Rash	Tiny red vesicles in affected skin area. If the area is extensive, sweating can be impaired.	Apply mild lotions and cleanse the affected area.	Cool resting and sleeping areas to permit skin to dry between heat exposures
Heat Cramps	Spasm, muscular pain (cramps) in stomach area and extremities (arms and legs).	Provide replacement fluids with minerals (salt) such as Gatorade.	Adequate salt intake with meals[1] ACCLIMATIZATION[2]
Heat Exhaustion	Profuse sweating, cool (clammy) moist skin, dizziness, confusion, pale skin color, faint, rapid shallow breathing, headache, weakness, muscle cramps.	Remove from heat, sit or lie down, rest, replace lost water with electrolyte replacement fluids (water, Gatorade) take frequent sips of liquids in amounts greater than required to satisfy thirst.	ACCLIMATIZATION[2] Adequate salt intake with meals [1] only during early part of heat season. Ample water intake, frequently during the day
Heat Stroke	HOT Dry Skin. Sweating has stopped. Mental confusion, dizziness, nausea, severe headache, collapse, delirium, coma.	HEAT STROKE IS A MEDICAL EMERGENCY - Remove from heat. - COOL THE BODY AS RAPIDLY AS POSSIBLE by immersing in cold (or cool) water, or splash with water and fan. Call for Emergency Assistance. Observe for signs of shock.	ACCLIMATIZATION[2] Initially moderate workload in heat (8 to 14 days). Monitor worker's activities.

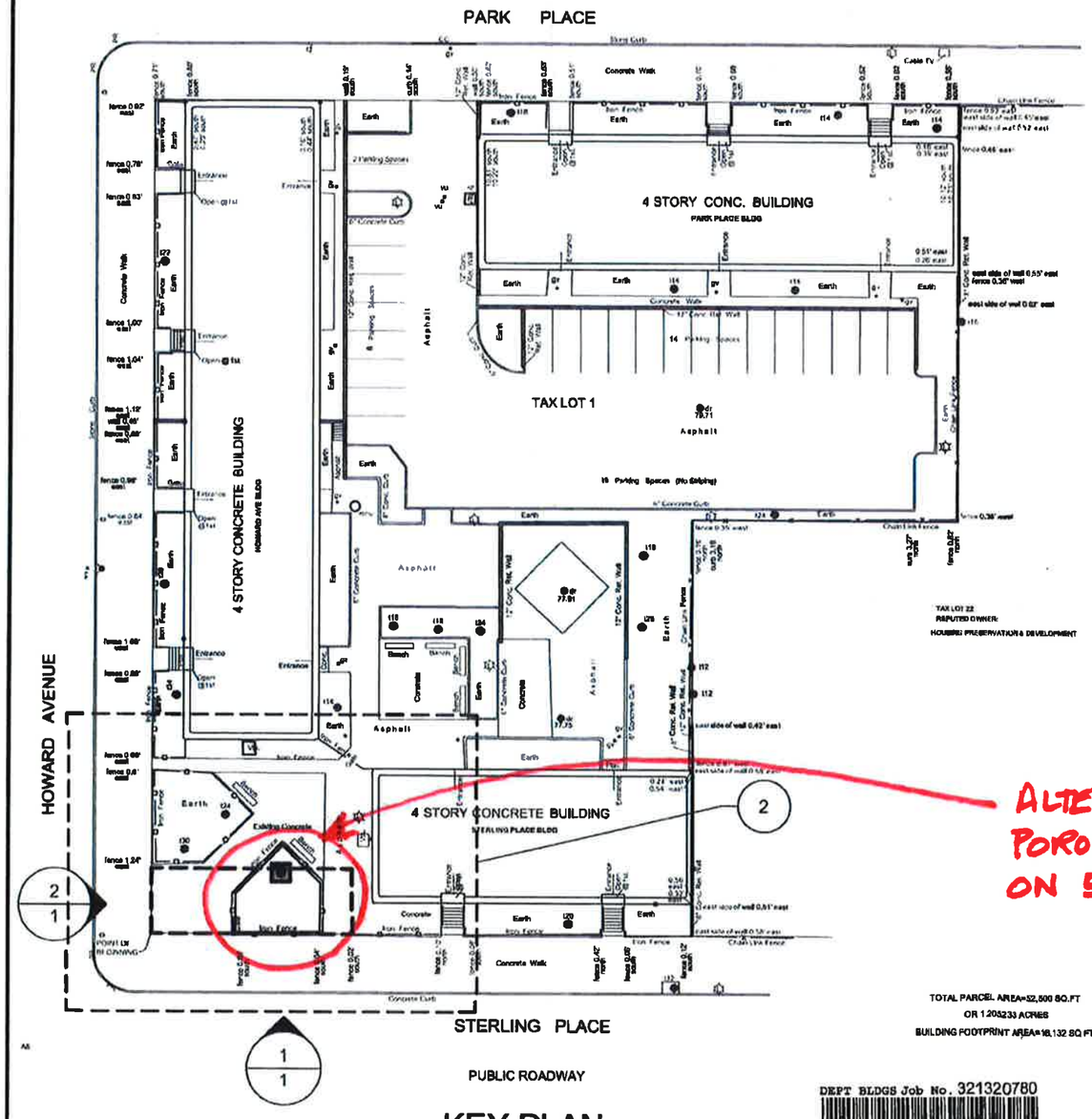
Footnotes:

1.) American diets are normally high in salt, sufficient to aid acclimatization. However, during the early part of the heat season, (May, June), one extra shake of salt during one to two meals per day may help, so long as this is permitted by your physician. Check with your personal physician.

2.) ACCLIMATIZATION - The process of adapting to heat is indicated by worker's ability to perform hot jobs less fluid loss, lower concentrations of salt loss in sweat, and a reduced core (body) temperature and heart rate.

3.) Method to Achieve Acclimatization - Moderate work or exercise in hot temperatures during early part of heat season. Adequate salt (mineral) and water intake. Gradually increasing work time in hot temperatures. Avoid alcohol. Normally takes 8 to 14 days to achieve acclimatization. Lost rapidly, if removed from strenuous work (or exercise) in hot temperature for more than approximately five days.

APPENDIX E – AS-BUILT DRAWINGS



KEY PLAN

SCALE: 1"=40'

BLOCK: 1467
LOT: 1

TOTAL PARCEL AREA=52,500 SQ.FT
OR 1.205233 ACRES
BUILDING FOOTPRINT AREA=18,132 SQ.FT.

DEPT BLDGS Job No. 321320780
Scan Code ESHS2405346

0 40' 80'
SCALE: 1" = 40'

SOURCE:
PLAN BASED ON MAP PREPARED BY MONTROSE SURVEYING CO., LLP, DATED 08/04/11 TITLED *ALTA-ACSM LAND TITLE SURVEY.*

PHOTO 1:
STERLING PLACE - FACING NORTH
SCALE: N.T.S

PHOTO 2:
HOWARD AVENUE - FACING EAST
SCALE: N.T.S.

TABLE OF CONTENTS

1. PROJECT LOCATION
2. SURFACE SOIL COVER SYSTEM
3. TREE GRATE, FRAME AND POROUS PAVER DETAIL
4. ALTERNATE TREE GRATE AND STAKES DETAIL

STATE OF NEW YORK
GARY A. ROSE
No. 056744
LICENSED PROFESSIONAL ENGINEER
9/12/16

ACCEPTABLE FOR PERMIT
UNDER DIRECTIVE NO. 14/76
APR 14 2016
RUDOLPH COVELLI, P.E.

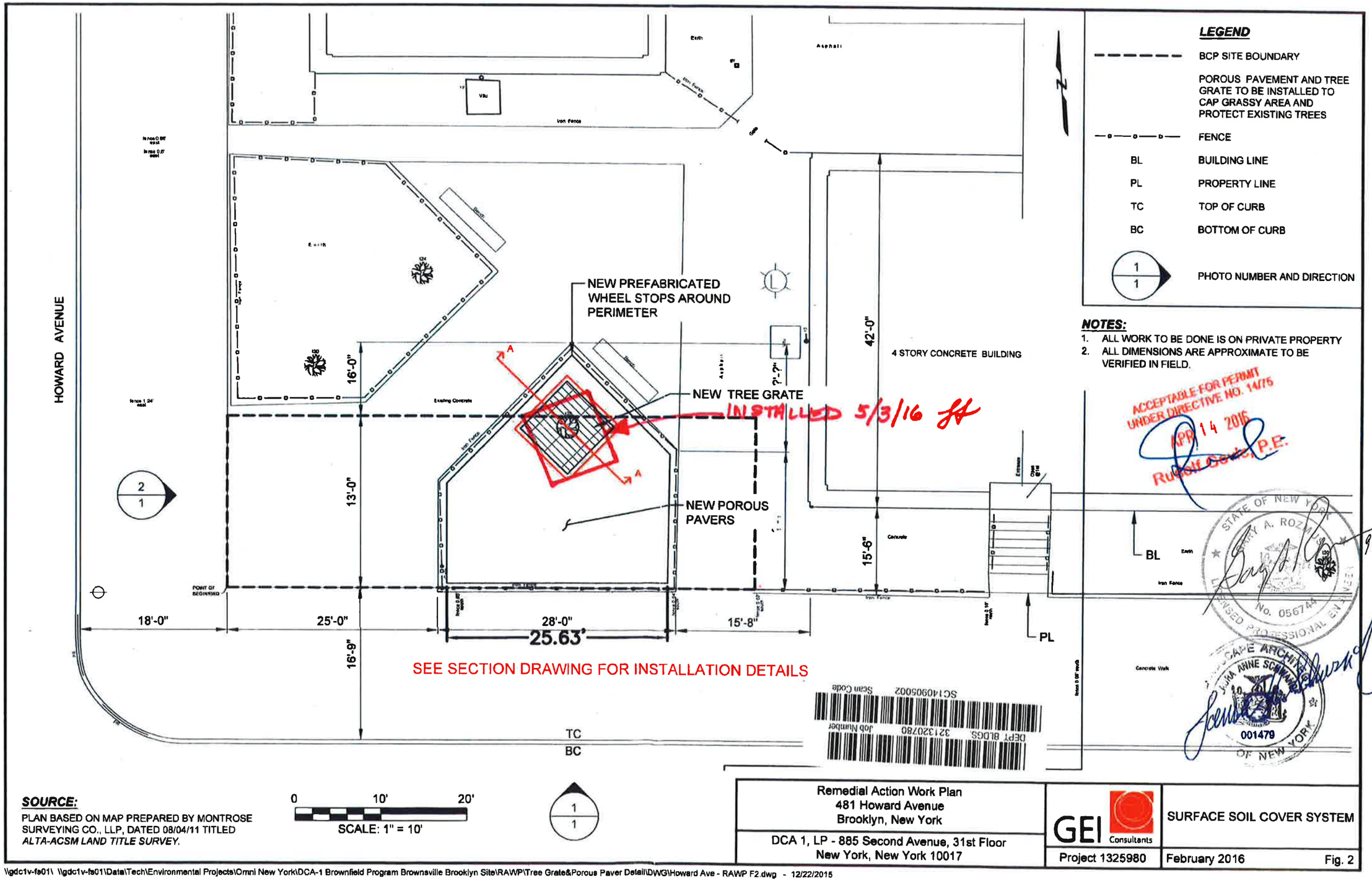
ALTERNATIVE TREE GRATE + POROUS PAVERS INSTALLED ON 5/3/16. SEE AS-BUILT MARK UPS ATTACHED.

LANDSCAPE ARCHITECTURE
LAURA ANNE SCHWANOF
001470
STATE OF NEW YORK

IN ACCORDANCE WITH FEMA'S TECHNICAL BULLETIN 10-01 AND IN ACCORDANCE WITH ACCEPTED PROFESSIONAL PRACTICE, I, LAURA SCHWANOF, CERTIFY THAT THE DESIGN FOR THE AFOREMENTIONED DEVELOPMENT IS REASONABLY SAFE FROM FLOODING AND THAT THE DESIGN OF THE DEVELOPMENT WILL NOT INCREASE THE RISK OF FLOODING TO SURROUNDING AREAS. ADDITIONALLY, I CERTIFY THAT THE DESIGN COMPLIES WITH THE REQUIREMENTS OF APPENDIX G OF THE BUILDING CODE, AND THAT THE LEVEL OF COMPACTED FILL ADJACENT TO ALL STRUCTURES IN THE DEVELOPMENT, EXCLUSIVE OF UNCOMPACTED TOPSOIL, IS PROPOSED TO BE AT OR ABOVE THE BASE FLOOD ELEVATION. FURTHER, I CERTIFY THAT NO FILL IS PROPOSED TO BE PLACED IN THE REGULATORY FLOODWAY OR IN AN AREA DESIGNATED AS A V-ZONE. FURTHER I CERTIFY THAT ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS SHALL BE COMPLIED WITH, AND ALL FEDERAL, STATE, AND LOCAL PERMITS REQUIRED FOR THE PROPOSED WORK HAVE BEEN OBTAINED AND SUBMITTED INTO THE FOLDER FOR THIS JOB.

Remedial Action Work Plan 481 Howard Avenue Brooklyn, New York .	GEI Consultants	PROJECT LOCATION
DCA 1, LP - 885 Second Avenue, 31st Floor New York, New York 10017	Project 1325980	February 2016 Fig. 1

\\gdc1v-fs01\ \\gdc1v-fs01\Data\Tech\Environmental Projects\Omni New York\DCA-1 Brownfield Program Brownsville Brooklyn Site\RAWP\Tree Grate&Porous Paver Detail\DWG\Howard Ave - RAWP F1.dwg - 12/22/2015



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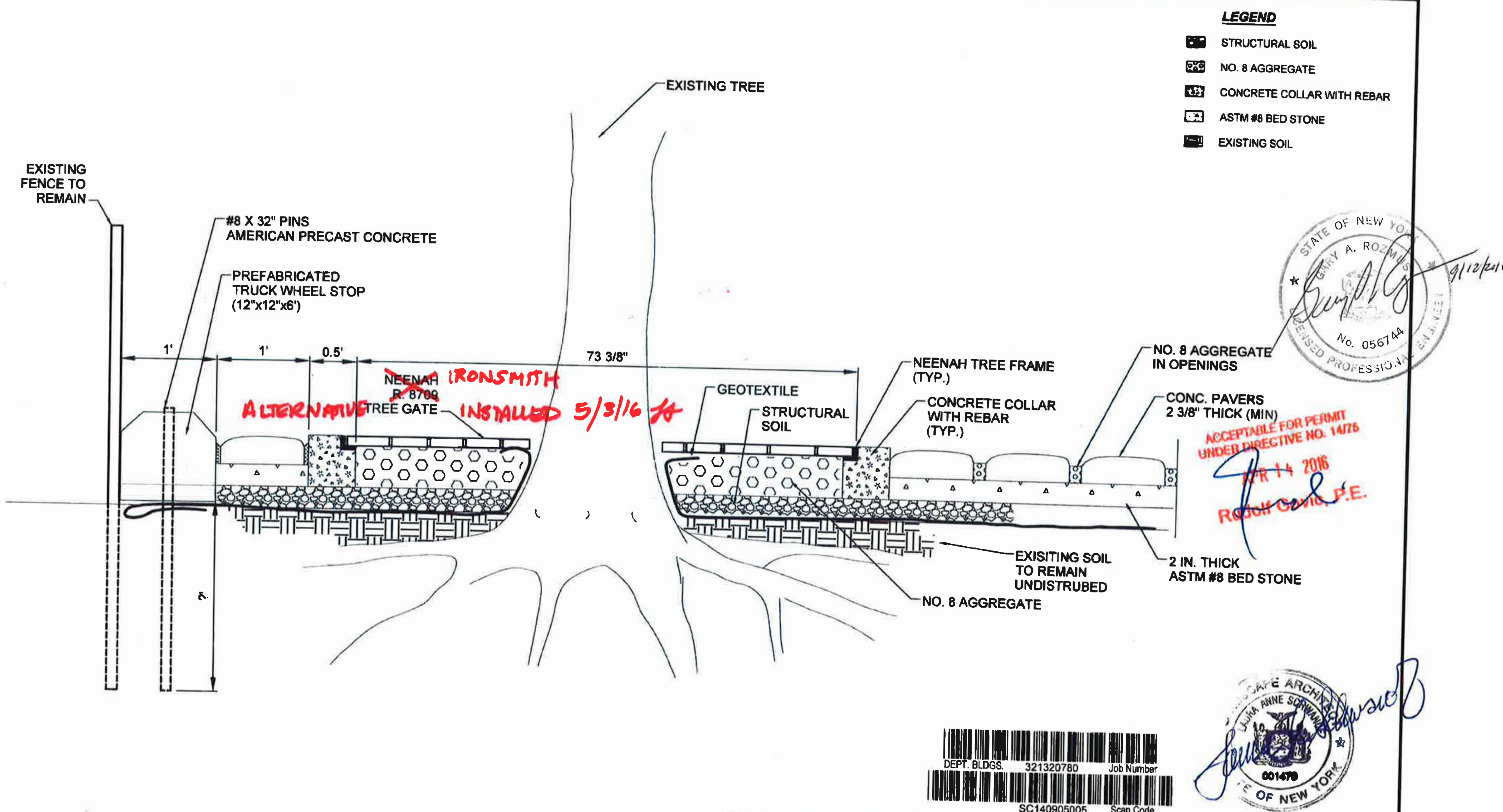


DEPT. BLDGS. 321320780 Job Number

SC140905005 Scan Code

0 0.5' 1' 2

SCALE: 1" = 1'

Remedial Action Work Plan
481 Howard Avenue
Brooklyn, New York

DCA 1, LP - 885 Second Avenue, 31st Floor
New York, New York 10017

GEI Consultants

Project 1325980

TREE GRATE, FRAME AND POROUS PAVER DETAIL

February 2016

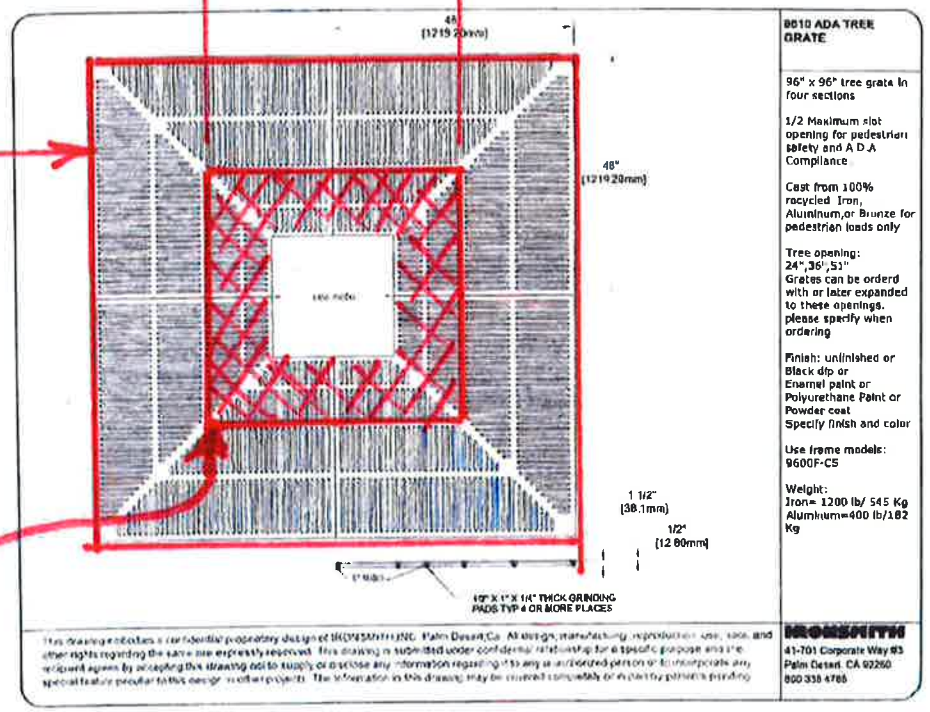
Fig. 3

\\gdc1v-fs01\ \\gdc1v-fs01\Data\Tech\Environmental Projects\Omni New York\DCA-1 Brownfield Program Brownsville Brooklyn Site\RAWP\Tree Grate&Porous Paver Detail\DWG\Howard Ave - RAWP F3.dwg - 12/22/2015

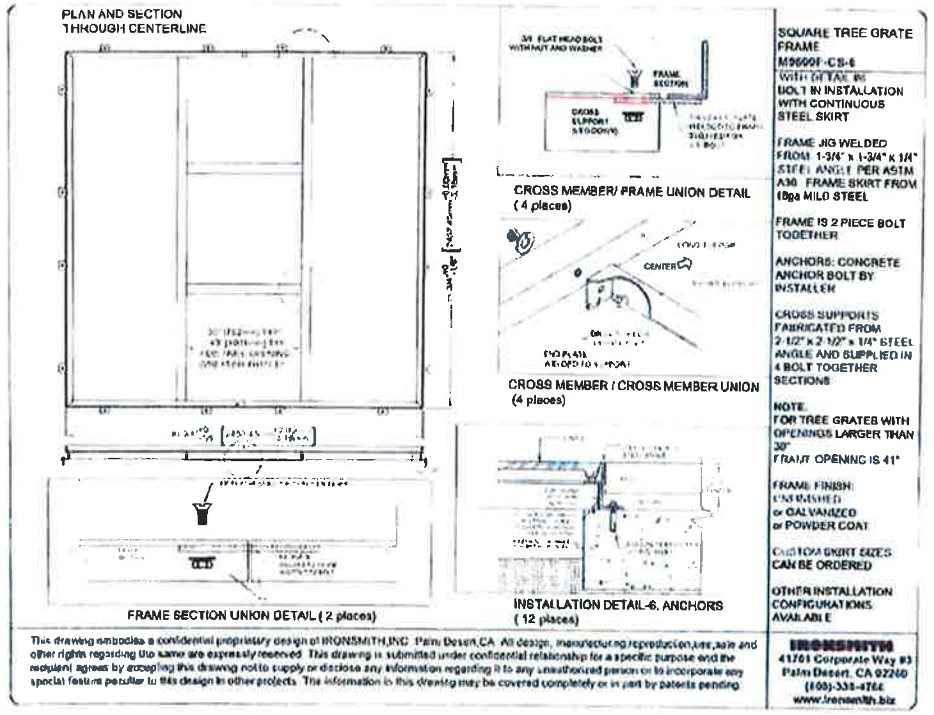
OPENING

IRONSMITH TREE GRATE & FRAME & STAKES INSTALLED 5/3/16

CENTER SCREEN REMOVED TO ACCOMODATE TREE TRUNK

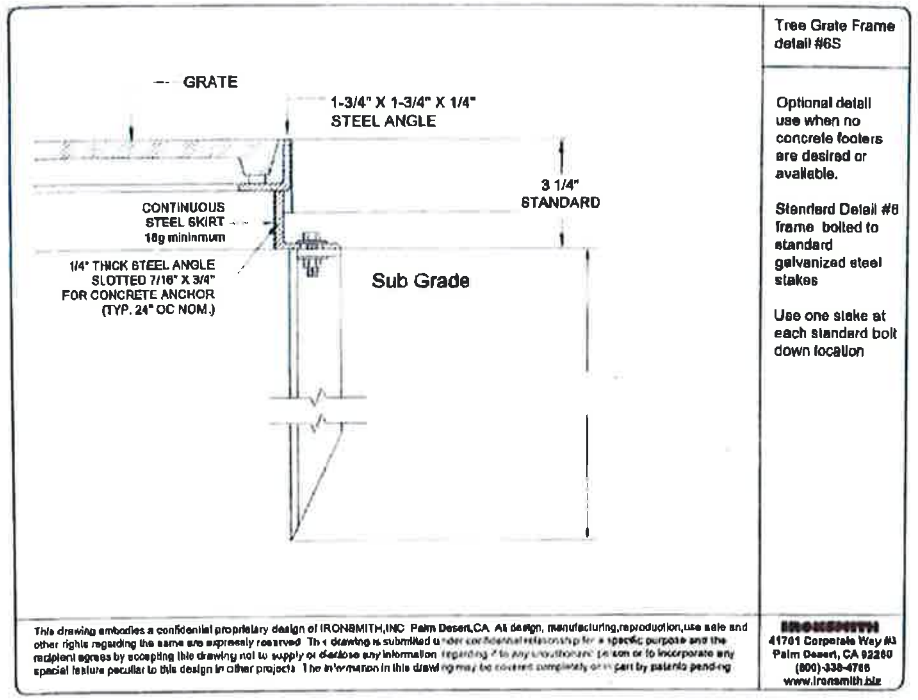


9610 ADA TREE GRATE
96" x 96" tree grate in four sections
1/2 Maximum slot opening for pedestrian safety and A.D.A Compliance
Cast from 100% recycled Iron, Aluminum,or Bronze for pedestrian loads only
Tree opening: 24",36",51" Grates can be orderd with or later expanded to these openings, please specify when ordering
Finish: unfinished or Black dip or Enamel paint or Polyurethane Paint or Powder coat Specify finish and color
Use frame models: 9600F-CS
Weight: Iron= 1200 lb/ 545 Kg Aluminum=400 lb/182 Kg
IRONSMITH

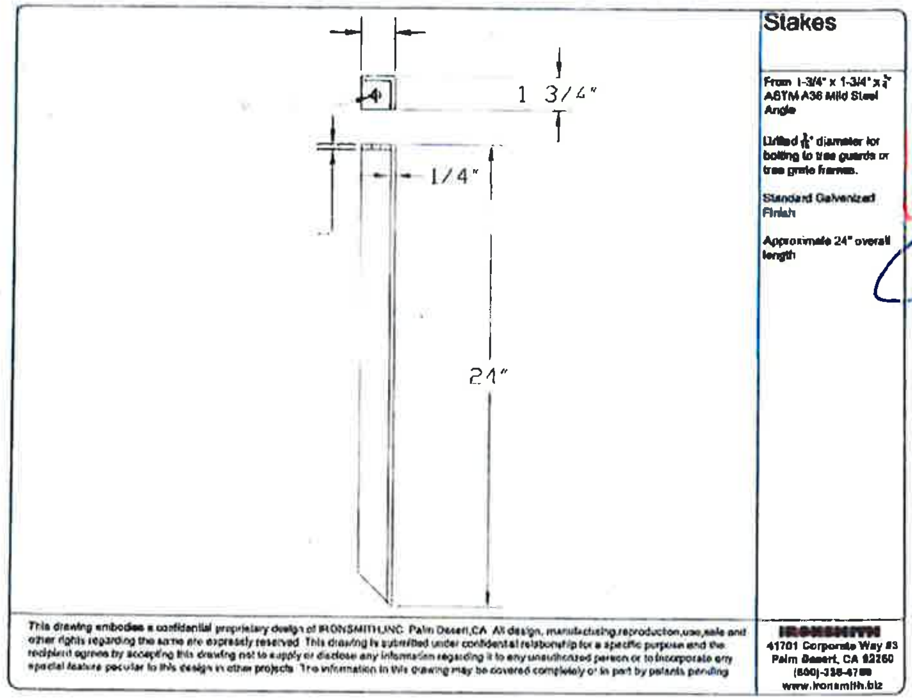


PLAN AND SECTION THROUGH CENTERLINE
CROSS MEMBER/ FRAME UNION DETAIL (4 places)
CROSS MEMBER / CROSS MEMBER UNION (4 places)
FRAME SECTION UNION DETAIL (2 places)
INSTALLATION DETAIL-6, ANCHORS (12 places)
SQUARE TREE GRATE FRAME M9600F-CS-6
FRAME IS 2 PIECE BOLT TOGETHER
ANCHORS: CONCRETE ANCHOR BOLT BY INSTALLER
FRAME FINISH: UNFINISHED or GALVANIZED or POWDER COAT
CUSTOM SKIRT SIZES CAN BE ORDERED
OTHER INSTALLATION CONFIGURATIONS AVAILABLE
IRONSMITH
41701 Corporate Way #3 Palm Desert, CA 92260 (800)-338-4766 www.ironsmith.biz

STATE OF NEW YORK GARY A. ROZMUS No. 056744 LICENSED PROFESSIONAL ENGINEER 5/12/2016



Tree Grate Frame detail #6S
GRATE
1-3/4" X 1-3/4" X 1/4" STEEL ANGLE
3 1/4" STANDARD
CONTINUOUS STEEL SKIRT 18g minimum
1/4" THICK STEEL ANGLE SLOTTED 7/16" X 3/4" FOR CONCRETE ANCHOR (TYP. 24" OC NOM.)
Sub Grade
Optional detail use when no concrete footers are desired or available.
Standard Detail #6 frame bolted to standard galvanized steel stakes
Use one stake at each standard bolt down location
IRONSMITH
41701 Corporate Way #3 Palm Desert, CA 92260 (800)-338-4766 www.ironsmith.biz



ACCEPTABLE FOR PERMIT UNDER DIRECTIVE NO. 14/75 APR 14 2016 Rudolf Govic R.E.

STATE OF NEW YORK REGISTERED ARCHITECT LAURA ANNE SCHWANOF 001479

DEPT. BLDGS. 321320780 Job Number

SC140905006 Scan Code

Remedial Action Work Plan 481 Howard Avenue Brooklyn, New York	GEI Consultants	ALTERNATIVE TREE GRATE AND STAKES DETAIL
DCA 1, LP - 885 Second Avenue, 31st Floor New York, New York 10017	Project 1325980	February 2016 Fig. 4

\\gdc1v-fs01\Data\Tech\Environmental Projects\Omni New York\DCA-1 Brownfield Program Brownsville Brooklyn Site\RAWP\Tree Grate&Porous Paver Detail\DWG\Howard Ave - RAWP F4.dwg - 12/23/2015

TENANTS' PROTECTION PLAN NOTES:

1. GENERAL - ALL WORK TO BE COMPLETED IN ACCORDANCE WITH NYC 2008 BUILDING CODE (SEC 28-104.8.4) AND REGULATIONS AND ALL OTHER AGENCIES HAVING JURISDICTION.

2. EGRESS - AT ALL TIME IN THE COURSE OF CONSTRUCTION PROVISIONS SHALL BE MADE FOR ADEQUATE EGRESS AS REQUIRED BY THIS CODE AND THE TENANT PROTECTION PLAN SHALL IDENTIFY THE EGRESS THAT WILL BE PROVIDED. REQUIRED EGRESS SHALL NOT BE OBSTRUCTED AT ANY TIME EXCEPT WHERE APPROVED BY THE COMMISSIONER.

3. FIRE SAFETY - ALL NECESSARY LAW AND CONTROLS, INCLUDING THOSE WITH RESPECT TO OCCUPIED DWELLINGS, AS WELL AS ADDITIONAL SAFETY MEASURES NECESSITATED BY THE CONSTRUCTION SHALL BE STRICTLY OBSERVED.
   A. ALL BUILDING MATERIALS OR TENANT ITEMS WHICH ARE STORED AT THE LOCATION OF CONTRACTOR'S OPERATIONS WITHIN THE BUILDING ARE TO BE REMOVED AND STORED IN A LOCKED AREA. ACCESS TO THE AREA TO BE CONTROLLED BY THE OWNER OR THE GENERAL CONTRACTOR.
   B. ALL MATERIALS TO BE STORED IN AN ORDERLY FASHION.
   C. ALL FLAMMABLE MATERIALS TO BE KEPT TIGHTLY SEALED AND IN THEIR RESPECTIVE MANUFACTURER'S CONTAINERS. SUCH MATERIALS ARE TO BE KEPT AWAY FROM HEAT.
   D. ALL FLAMMABLE MATERIALS TO BE USED AND STORED IN AN ADEQUATELY VENTILATED SPACE. PROVIDE TEMPORARY FRESH AIR AS REQUIRED.
   E. ALL ELECTRICAL POWER TO BE SHUT OFF WHERE THERE ARE EXPOSED CONDUITS.
   F. ALL TEMPORARY ELECTRICAL POWER IN THE CONSTRUCTION AREA TO BE SHUT OFF AFTER WORKING HOURS.
   G. CONTRACTOR SHALL PERIODICALLY ENSURE THAT THERE IS NO NATURAL GAS LEAKAGE IN THE BUILDING OR AT ANY FLAMMABLE GAS STORAGE TANKS TO BE USED DURING CONSTRUCTION.
   H. EVERY PRECAUTION SHALL BE TAKEN IN THE BUILDING TO MAINTAIN FIRE SAFETY, FIRE ACCESS OR EGRESS BEFORE, DURING AND AFTER CONSTRUCTION PERIOD.
   I. OPERATION OF ALL WELDING AND OTHER SIMILAR OPEN-FLAME DEVICES SHALL BE BY NEW YORK STATE AND NEW YORK CITY CERTIFIED LICENSED PERSONNEL.
   J. CONTRACTOR SHALL MAINTAIN AT LEAST FOUR (4) ACTIVE AND CURRENT U.L.-APPROVED FIRE EXTINGUISHERS AT THE SITE. THE UNITS SHALL REMAIN AT THE SITE DURING AND AFTER HOURS.

4. HEALTH REQUIREMENTS - SPECIFICATION OF METHODS TO BE USED FOR CONTROL OF DUST, DISPOSAL OF CONSTRUCTION DEBRIS, PEST CONTROL AND MAINTENANCE OF SANITARY FACILITIES, AND LIMITATION OF NOISE TO ACCEPTABLE LEVELS SHALL BE INCLUDED.
   A. DEBRIS, DIRT AND DUST ARE TO BE KEPT TO A MINIMUM AND CONFINED TO THE IMMEDIATE CONSTRUCTION AREA.
   B. CONTRACTOR IS TO ISOLATE THE CONSTRUCTION AREA FROM OCCUPIED BUILDING AREA BY MEANS OF TEMPORARY PARTITIONS OR HEAVYWEIGHT DROP CLOTHS.
   C. DEBRIS, DIRT AND DUST ARE TO BE CLEANED UP AND CLEARED FOR THE BUILDING SITE PERIODICALLY TO AVOID EXCESSIVE ACCUMULATION AND RELATED HAZARDS.
   D. CUTTING OF MASONRY SHALL BE PERFORMED USING VACUUM PUMPS.

5. COMPLIANCE WITH HOUSING STANDARD - THE REQUIREMENTS OF THE NEW YORK CITY HOUSING MAINTENANCE CODE, AND, WHERE APPLICABLE, THE NEW YORK STATE MULTIPLE DWELLING LAW SHALL BE STRICTLY OBSERVED.

6. STRUCTURAL SAFETY - NO STRUCTURAL WORK SHALL BE DONE THAT MAY ENDANGER THE OCCUPANTS.

7. NOISE RESTRICTIONS - WHERE HOURS OF THE DAY OR DAYS OF THE WEEK IN WHICH CONSTRUCTION WORK MAY BE UNDERTAKEN ARE LIMITED PURSUANT TO THE NEW YORK CITY NOISE CONTROL CODE, SUCH LIMITATIONS SHALL BE STATED
   A. CONSTRUCTION OPERATIONS WILL BE CONFINED TO NORMAL WORKING HOURS; 8 A.M. TO 5 P.M., MONDAY TO FRIDAY, EXCEPT LEGAL HOLIDAYS, OR AS AGREED TO BETWEEN THE OWNER/AGENT AND CONTRACTOR.
   B. CONTRACTOR MUST OBTAIN WRITTEN PERMISSION FROM ALL AFFECTED PARTIES TO WORK OTHER THAN REGULAR HOURS.
   C. ABNORMAL CONSTRUCTION NOISE WILL BE KEPT TO A MINIMUM DURING AUTHORIZED SPECIFIC TIMES AND SHALL CEASE DURING NORMAL WORK HOURS WHEN DIRECTED BY THE OWNER.

8. BUILDING SERVICES - CONSTRUCTION WILL NOT INVOLVE INTERRUPTION OF HEATING, WATER, ELECTRICAL, GAS, SPRINKLER SERVICES OR THE WEATHER SEAL UNLESS PRIOR NOTIFICATION IS MADE TO THE OWNER AND APPROVAL SECURED FROM BUILDING MANAGEMENT, AND, IF REQUIRED, ANY GOVERNING AGENCY.

9. WORK STIPULATIONS:
   A. CONSTRUCTION WORK SHALL NOT CREATE DUST, DIRT OR OTHER SUCH INCONVENIENCES TO OCCUPIED AREAS WITHIN THE BUILDING, EXCEPT WHERE SPECIFICALLY AGREED TO.
   B. THE SUPERVISING ENGINEER FOR THE CONTRACTOR SHALL CONTINUALLY MONITOR EXISTING BUILDING STRUCTURE, INCLUDING CONCRETE SLABS AND MASONRY, ETC., THROUGHOUT THE REMOVAL AND INSTALLATION PROCESS. SHOULD ANY UNWARRANTED MOVEMENT, DISPLACEMENT, DETERIORATION, AND/OR SETTLEMENT BE OBSERVED/DOCUMENTED, THEN THE CONTRACTOR SHALL IMMEDIATELY STOP WORK AND PERFORM ANY MANDATORY/REQUIRED SHORING, BRACING, OR ANY OTHER PRUDENT WORK REQUIREMENTS.

STATE OF NEW YORK
GARY A. ROSENTHAL
No. 056744
LICENSED PROFESSIONAL ENGINEER
9/12/2016

ACCEPTABLE FOR PERMIT
UNDER DIRECTIVE NO. 14/75
APR 14 2016
Rudolf Gouge, P.E.

LANDSCAPE ARCHITECT
LAURA ANNE SCHWANKE
001470
OF NEW YORK

DEPT BLDGS Job No. 321320780
Scan Code ESHS1986808

Remedial Action Work Plan 481 Howard Avenue Brooklyn, New York	GEI Consultants	TENANTS PROTECTION PLAN NOTES
DCA 1, LP - 885 Second Avenue, 31st Floor New York, New York 10017	Project 1325980	February 2016 Fig. 5

\\gdc1v-fs01\ \\gdc1v-fs01\Data\Tech\Environmental Projects\Omni New York\DCA-1 Brownfield Program Brownsville Brooklyn Site\RAWP\Tree Grate&Porous Paver Detail\DWG\Howard Ave - RAWP F5.dwg - 4/5/2016

APPENDIX F – SITE MANAGEMENT FORMS

Site Inspection Form

DCA- 1 Apartments Site C224162

General Information			
Project Name	**DCA-1 Apartments**		
Site No.	**C224262**	Location	**495 Howard Ave Brooklyn, NY**
Date of Inspection		**Start/End Time**	
Inspector's Name(s)			
Inspector's Title(s)			
Inspector's Contact Information			
Inspector's Qualifications			
Describe present state of site			
Type of Inspection: ❑ Regular ❑ Other			
Weather Information			
Weather at time of this inspection? ❑ Clear ❑Cloudy ❑ Rain ❑ Sleet ❑ Fog ❑ Snowing ❑ High Winds ❑ Other: Temperature:			

Overall Site Issues

	Activity	Corrective Action Needed and Notes
1	Is the site cover system consisting of the concrete pavers in place?	
2	Is the metal tree grate in place?	
3	Are perimeter controls curbing and fencing adequately installed (keyed into curb blocks) and maintained?	
4	Has there been any observations of disturbance or damage to the surface cover system?	
5	Is there evidence of past invasive construction or excavation activity on site?	
6	Is storm-water properly draining through the porous pavers?	

Non-Compliance

Describe any incidents of non-compliance not described above:

CERTIFICATION STATEMENT

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Print name and title: _____

Signature:_____ Date:_____