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SITE MANAGEMENT PLAN
THIRD STREET GOWANUS
125 3RD STREET
KINGS COUNTY
BROOKLYN, NEW YORK
BLOCK 462, LOT 6
NYSDEC BCP SITE NUMBER: C224346

Prepared by
H & A of New York Engineering and Geology, LLP
New York, New York

Prepared for
Third Street Gowanus Owner LLC and Third at Third LLC
Brooklyn, New York

File No. 0208545
August 2024

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Revisions to Final Approved Site Management Plan:

Revision No.	Date Submitted	Summary of Revision	NYSDEC Approval Date

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SIGNATURE PAGE FOR

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NYSDEC SITE #C224346

PREPARED FOR
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Certification Statement

I, Scott Underhill, certify that I am currently a NYS-registered Professional Engineer 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).

Scott Underhill, P.E.

August 9, 2024
Date

HALEY ALDRICH

Executive Summary

Third Street Gowanus Owner LLC and Third at Third LLC (collectively, the "Volunteer") have remediated a 0.47-acre (±20,300-square-foot) property known as the Third Street Gowanus Site (the "Site"), designated under Brownfield Cleanup Program (BCP) Site No. C224346. The Third Street Gowanus Site is situated at 125 Third Street in Kings County, New York on Lot 6, Block 462 of the New York City Tax Map. Site remediation addressing soil, groundwater, and soil vapor contamination was conducted per the November 2023 approved Remedial Action Work Plan (RAWP) and Decision Document and summarized in a Final Engineer Report (FER). Additional investigations, work plans, and reports were submitted to the New York State Department of Environmental Conservation (NYSDEC) between 2021 and 2024.

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

Site Identification: BCP Site #: C224346
Third Street Gowanus
125 3rd Street
Brooklyn, New York

Institutional Controls:	1. The property may be used for restricted residential, commercial, and industrial use.	
	2. Institutional Controls include an Environmental Easement and this Site Management Plan (SMP).	
	3. All Engineering Controls (ECs) must be inspected at a frequency and in a manner defined in the SMP.	
Engineering Controls:	1. Infiltration Gallery	
	2. Active Sub-Slab Depressurization System (SSDS)	
	3. Composite Cover System	
	4. Monitoring Wells	
Inspections:		Frequency:
1. Cover inspection		Annually
2. SSDS inspection		Per O&M Plan Requirements
Monitoring:		
1. Groundwater Monitoring Wells		Quarterly for one year post-remediation
2. Post-Mitigation Indoor Air Quality Sampling		Within one year of system startup during the heating season
Maintenance:		
1. SSDS System		As needed
2. Composite Cover System		As needed
Reporting:		
1. Groundwater Monitoring Data		Quarterly, for at least one year
2. Periodic Review Report		16 Months after Certificate of Completion is issued

Further descriptions of the above requirements are provided in detail in the latter sections of this SMP.

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µg/L	micrograms per liter
µg/m^3	micrograms per cubic meter
ACM	asbestos-containing material
AGV	Air Guidance Value
AIS	alarm indication station
ASTM	American Society for Testing and Materials
AWQS	Ambient Water Quality Standards
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
bgs	below ground surface
BMS	Building Management System
bpf	blows per foot
BTEX	benzene, toluene, ethylbenzene, and xylenes
C&D	construction and demolition
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CAMP	Community Air Monitoring Plan
CFR	Code of Federal Regulations
CHASP	Construction Health and Safety Plan
COC	Certificate of Completion
CP	Commissioner Policy
CVOC	chlorinated volatile organic compound
DER	Division of Environmental Remediation
Department	New York State Department of Environmental Conservation
DUSR	Data Usability Summary Report
EC	Engineering Control
ECL	Environmental Conservation Law
EE	Environmental Easement
El.	elevation
ELAP	Environmental Laboratory Approval Program
EWP	Excavation Work Plan
GV	Guidance Value

HASP	Health and Safety Plan
HVAC	heating, ventilation, and air conditioning
IC	Institutional Control
ISCO	in-situ chemical oxidation
Langan	Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C.
LBP	lead-based paint
MCL	Maximum Contaminant Level
NAVD88	North American Vertical Datum of 1988
NYCDEP	New York City Department of Environmental Protection
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYCRR	New York Codes, Rules, and Regulations
O&M	operations and maintenance
OM&M	operations, maintenance and monitoring
P.E. or PE	Professional Engineer
PCB	polychlorinated biphenyl
PCE	tetrachloroethene
PFAS	per- and polyfluoroalkyl substances
PFOA	perfluorooctanoic acid
PFOS	perfluorooctanesulfonic acid
PGHWSCO	Protection of Groundwater Soil Cleanup Objective
Phase I ESA	Phase I Environmental Site Assessment
PID	photoionization detector
ppm	parts per million
PRP	Potentially Responsible Party
PRR	Periodic Review Report
PVC	polyvinyl chloride
QA/QC	quality assurance/quality control
QAPP	Quality Assurance Project Plan
QEP	Qualified Environmental Professional
RAO	Remedial Action Objective
RAWP	Remedial Action Work Plan

RCA	recycled concrete aggregate
RCRA	Resource Conservation and Recovery Act
REC	recognized environmental condition
RI	Remedial Investigation
RP	Remedial Party
RRSCO	Restricted Residential Use Soil Cleanup Objective
RSO	Remedial System Optimization
RURR	Restricted Use Restricted Residential
SCG	Standards, Criteria, and Guidance
SCO	Soil Cleanup Objective
Site	Third Street Gowanus Site, Brooklyn, New York
SMD	sub-membrane depressurization
SMP	Site Management Plan
SOE	support of excavation
SPDES	State Pollutant Discharge Elimination System
SPT	Standard Penetration Test
sq ft	square foot/feet
SSDS	sub-slab depressurization system
SVE	soil vapor extraction
SVI	soil vapor intrusion
SVOC	semi-volatile organic compound
TCE	trichloroethene
TCLP	Toxicity Characteristic Leaching Procedure
TOGs	Technical and Operational Guidance Series
USEPA	United States Environmental Protection Agency
UST	underground storage tank
UUSCO	Unrestricted Use Soil Cleanup Objective
VCA	Voluntary Cleanup Agreement
VCP	Voluntary Cleanup Program
VOC	volatile organic compound
WOH	weight of hammer

1. Introduction

1.1 GENERAL

This Site Management Plan (SMP) is a required element of the remedial program for the Third Street Gowanus Site located in Brooklyn, New York (hereinafter referred to as the "Site"). See Figures 1 and 2. The Site is currently enrolled in the New York State (NYS) Brownfield Cleanup Program (BCP), Site No. C224346, which is administered by the New York State Department of Environmental Conservation (NYSDEC). The Site is located at 125 Third Street, Brooklyn New York, 11215, and is identified on the New York City Tax Map as Brooklyn borough Tax Block 462, Lot 6.

The Site was accepted into the NYSDEC BCP pursuant to a Brownfield Cleanup Agreement (BCA) between Third Street Gowanus Owner LLC, a Volunteer, and NYSDEC on 22 March 2022, and was assigned BCP Site No. C224346. A BCA Amendment was approved by NYSDEC on 10 July 2023 to add Third at Third LLC as an Applicant to the BCA. The BCA amendment was approved by NYSDEC on 21 August 2023 to add Third at Third LLC as an additional Applicant/Volunteer to the BCA (Third Street Gowanus Owner LLC and Third at Third LLC are collectively referred to hereinafter as the "Volunteer"). The Volunteer is enrolled in the BCP to investigate and remediate the 20,300-square-foot (sq ft) (0.47-acre) Site in conjunction with redevelopment.

A Site Location Map/Project Locus is provided as Figure 1. The boundaries of this Site are depicted 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 (EE) provided in Appendix A.

The Site was remediated to a Track 4 restricted use standard using generic Soil Cleanup Objectives (SCOs) to allow future restricted residential, commercial, and/or industrial uses. Redevelopment consists of a new 13-story mixed-use commercial/residential building encompassing 19,471 sq ft in the southwestern and central portion of the property and a one-story mixed-use residential/commercial building encompassing 4,522 sq ft on the northern region of the Site. After completion of the remedial work, some contamination was left at the Site, which is hereafter referred to as "remaining contamination." Institutional Controls (ICs), by the way of post-remedial groundwater sampling/monitoring, have been incorporated into the Site remedy to control exposure to remaining contamination to ensure protection of public health and the environment. The EE for the Site was filed with the Kings County Clerk on 5 August 2024 and assigned County Recording Identifier number 202408050073700 1001E9545. The EE will require compliance with this SMP and the ICs placed on the Site.

This SMP was prepared to manage remaining contamination at the Site until the EE is terminated in accordance with NYS Environmental Conservation Law (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 EE 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 EE. Failure to properly implement the SMP is a violation of the EE, which is grounds for revocation of the Certificate of Completion (COC); and
- Failure to comply with this SMP is also a violation of the ECL, 6 New York Codes, Rules, and Regulations (NYCRR) Part 375 and the BCA, (Index # C224346-03-22; Site No. C224346) for the Site, and is 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 NYS. A list of contacts for persons involved with the Site is provided in Tables I and II of this SMP.

This SMP was prepared by H & A of New York Engineering and Geology, LLP (Haley & Aldrich), on behalf of THIRD AT THIRD LLC and Third Street Gowanus Owner LLC (the Volunteer) 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 Environmental Controls (ECs) that are required by the EE for the site.

1.2 REVISIONS

Revisions to this plan will be proposed in writing to the NYSDEC's project manager. The NYSDEC can also make changes to the SMP or request revisions from the remedial party. Revisions will be necessary upon, but not limited to, the following occurring: a change in media monitoring requirements, upgrades to or shutdown of a remedial system, post-remedial removal of contaminated sediment or soil, or other significant change to the Site conditions. All approved alterations must conform with Article 145 Section 7209 of the Education Law regarding the application of professional seals and alterations. For example, any changes to as-built drawings must be stamped by a New York State Professional Engineer. In accordance with the EE for the Site, the NYSDEC project manager 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:

1. Sixty-day advance notice of any proposed changes in Site use that are required under the terms of the BCA, 6 NYCRR Part 375 and/or ECL.
2. Seven-day advance notice of any field activity associated with the remedial program.
3. Fifteen-day advance notice of any proposed ground-intrusive activity pursuant to the Excavation Work Plan (EWP). If the ground-intrusive activity qualifies as a change of use as defined in 6 NYCRR Part 375, the above-mentioned 60-day advance notice is also required.

4. 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.
5. Notice within 48 hours of any non-routine maintenance activities.
6. 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 seven days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.
7. 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:

1. 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 (RP) has been provided with a copy of the BCA, and all approved work plans and reports, including this SMP.
2. 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 I below includes contact information for the above notifications. The information on this table will be updated as necessary to provide accurate contact information. Site-related contact information is provided in Table II. A full listing of Site-related and adjacent property owner contact information is provided in Appendix B.

Table I: Notifications*

Regulator	Contact Name	Contact Title	Required Notification **	Contact Number	Contact Email
NYSDEC	Meghan Medwid	Project Manager	All Notifications	518.402.8610	meghan.medwid@dec.ny.gov
	Heide-Marie Dudek	Section Chief	All Notifications	518.402.0193	heidi.dudek@dec.ny.gov
	Kelly Lewandowski	Chief, Site Control	Notifications 1 and 8	518.402.9569	kelly.lewandowski@dec.ny.gov
NYSDOH	Steven Berninger	Project Manager	Notifications 4, 6, and 7	518.402.0443	beei@health.ny.gov

* Note: Notifications are subject to change and will be updated as necessary.
** Note: Numbers in this column reference the numbered bullets in the notification list in this section.

Table II: Site Contact List

Company	Contact Name	Title	Contact Number	Contact Email
H & A of New York Engineering and Geology, LLP	James Bellew	Principal	646.277.5686	jbellew@haleyaldrich.com
	Scott Underhill, P.E.	Remediation Engineer	518.396.7638	sunderhill@haleyaldrich.com
	Elizabeth Scheuerman	Project Manager	646.277.5692	escheuerman@haleyaldrich.com
	Sarah Commisso	Field Lead	646.277.5693	scommisso@haleyaldrich.com
THIRD AT THIRD LLC	Konstantin Gubareff	Member	917.846.1115	konstantin@prospectdg.com
Connell Foley LLC	George C. D. Duke	Attorney	212.307.3700	GDuke@connellfoley.com

2. Summary of Previous Investigations and Remedial Actions

2.1 SITE LOCATION AND DESCRIPTION

The Site is located in Brooklyn, Kings County, New York, and is identified as Section 3, Block 462, Lot 6 on the New York City Tax Map (see Figure 2). The Site is an irregularly shaped lot totaling approximately 20,300 square feet (sq ft) in size (approximately 0.47 acres). The Site is bound by 2nd Street, followed by mixed-use commercial and residential buildings to the north; vacant land, followed by the Gowanus Canal to the east; 3rd Street, followed by manufacturing buildings to the south; and mixed-use commercial and residential buildings to the west. (see Figure 2). The boundaries of the Site are more fully described in Appendix A – Environmental Easement. The owner of this Site parcel at the time of issuance of this SMP is THIRD AT THIRD LLC.

2.2 PHYSICAL SETTING

2.2.1 Land Use

The Site consists of a residential/commercial building that is under construction. The building encompasses approximately 96 percent of the lot footprint, which is approximately 19,471 sq ft. According to the New York City Planning Commission Zoning Map 16c, the Site is located within a residential and light industrial zoning district (M1-4/R7-2) which includes mixed-use residential/ commercial/industrial uses. The building will consist of a new 13-story mixed-use commercial/ residential building encompassing 19,471 sq ft in the southwestern and central portion of the property and a one-story mixed-use residential/commercial building encompassing 4,522 sq ft on the northern region of the Site. In accordance with zoning, the proposed development will include affordable housing. The Development use is consistent with existing zoning for the property.

The Site is in a mixed-use urban area with residential, commercial, and industrial properties. The Site is bound by 2nd Street to the north, followed by mixed-use commercial and residential buildings; vacant property followed by the Gowanus Canal to the east; 3rd Street, followed by manufacturing and industrial buildings to the south; and residential and mixed-use buildings to the west.

2.2.2 Geology

Based on field observations from the November 2022 Remedial Investigation (RI), the Site is underlain by a layer of urban fill predominantly consisting of dark gray to dark brown fine sand with varying proportions of silt, gravel, brick, coal, coal ash, mortar, wood construction debris, slag, asphalt, concrete, wood, glass, metal, and ceramics observed from Site grade to depths ranging from approximately 5 to 15 feet below ground surface (bgs) in each soil boring. The urban fill layer was underlain by an apparent native layer consisting of fine- to medium-grained sand with varying amounts of silt and gravel. The thickness of the sand, silt, and gravel layer ranges from approximately 2 to 7 feet across the Site. An impermeable organic clay layer with varying amounts of fibrous vegetation (marsh deposits) is below the sand layer. The top of the organic clay layer was found between approximately 10.5 and 20 feet bgs and was approximately 7 to 18.5 feet thick. A geologic cross-section is shown in Figure 3.

2.2.3 Hydrogeology

Based on Site-specific groundwater measurements, groundwater beneath the Site ranges from approximately 5.41 to 6.90 feet bgs. Based on the well gauging data collected on 2 May 2024, local groundwater beneath the Site appears to flow in an easterly direction, toward the Gowanus Canal, which is consistent with the assumed easterly flow direction of regional groundwater. A groundwater contour map is shown in Figure 4. Groundwater elevation data is provided in Table 1. Groundwater monitoring well construction logs are provided in Appendix C.

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 – References.

The following reports were prepared for the Site:

1. Subsurface Investigation Letter Report (Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C. [Langan], November 2021);
2. ASTM Phase I Environmental Site Assessment (Langan, December 2021);
3. Geotechnical Engineering Report (Langan, March 2022);
4. Brownfield Cleanup Agreement (NYSDEC/Third Street Gowanus Owner LLC, March 2022);
5. Draft Remedial Action Work Plan (Langan, November 2022);
6. Remedial Investigation Report (Langan, May 2023);
7. ASTM Phase I Environmental Site Assessment (Haley & Aldrich of New York, August 2023);
8. Brownfield Cleanup Agreement amendment (NYSDEC/Third Street Gowanus Owner LLC and THIRD AT THIRD LLC, August 2023);
9. Remedial Action Work Plan (Haley & Aldrich of New York, November 2023);
10. Decision Document (NYSDEC/Third Street Gowanus Owner LLC and THIRD AT THIRD LLC, December 2023);
11. Remedial Design Technical Memorandum (H & A of New York Engineering and Geology, LLP, February 2024); and
12. Final Engineering Report (H & A of New York Engineering and Geology, LLP, August 2024).

A summary of environmental findings of the investigation reports is provided below.

2.3.1 Subsurface Investigation Report Letter (Langan, November 2021)

Langan completed a subsurface investigation to: 1) satisfy the forthcoming hazmat E-designation; 2) support due diligence for the proposed redevelopment; and 3) evaluate Site eligibility for enrollment in the BCP.

The investigation was performed between 7 and 10 September 2021 and included installation of nine soil borings to a maximum of 16 feet below grade surface, installation of four sub-slab soil vapor points and three soil vapor points, installation of two permanent and three temporary groundwater monitoring wells, and collection of soil, groundwater, and soil vapor samples. Urban fill generally consisted of varying amounts of sand, silt, gravel, coal, coal ash, slag, and wood observed from surface grade to approximately 3 to 12 feet bgs in each soil boring. The urban fill layer was underlain by a potential native layer consisting of brown-gray medium- to fine-grained sand with varying amounts of gravel, followed by a layer of dark gray organic clay with varying amounts of organic material. Evidence of petroleum impacts (e.g., odors, staining, and photoionization detector [PID] readings of up to 408.8 parts per million [ppm]) was observed in SB05 from 0.5 to 1 feet bgs and SB08 from 1 to 8 feet bgs.

Semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), pesticides, and metals were identified in soil samples at concentrations above the Title 6 of the Official Compilation of the New York Codes, Rules and Regulations (6 NYCRR) Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs) and/or Restricted Residential Use Soil Cleanup Objectives (RRSCOs). Three samples were analyzed for Toxicity Characteristic Leaching Procedure (TCLP) arsenic because of elevated total arsenic levels. No samples were identified at concentrations above the United States Environmental Protection Agency (USEPA) Resource Conservation and Recovery Act (RCRA) Code of Federal Regulations (CFR) Part 261 Maximum Concentration of Contaminants for the Toxicity Characteristic.

Volatile organic compounds (VOCs), SVOCs, and metals (total and dissolved) in groundwater exceeded the NYSDEC Title 6 NYCRR Part 703.5 and the Technical and Operational Guidance Series (TOGs) 1.1.1 Ambient Water Quality Standards (AWQS) and Guidance Values for Class GA waters.

Petroleum-related compounds benzene, toluene, ethylbenzene, and xylenes (collectively referred to as “BTEX”) and chlorinated VOCs (CVOCs) were detected in soil vapor samples at concentrations above those detected in the ambient air sample. Soil vapor sample results were evaluated using the Decision Matrices and the Air Guideline Values (AGVs) in the New York State Department of Health (NYSDOH) Guidance for Evaluating Soil Vapor Intrusion. Four VOCs addressed by the NYSDOH Decision Matrices, 1,1,1-trichloroethane, methylene chloride, trichloroethene (TCE), and tetrachloroethene (PCE), were detected in soil vapor samples. TCE was detected at a concentration above the minimum concentration that recommends mitigation.

2.3.2 Phase I Environmental Site Assessment (Langan, December 2021)

Langan prepared a Phase I Environmental Site Assessment (Phase I ESA) in December 2021 for the Site to identify Recognized Environmental Conditions (RECs) in connection with the Site. As identified in the Phase I ESA, the Site was occupied by commercial and industrial facilities since the late 1800s.

The historical uses are listed below:

- Painting company (1886)
- Stone cutting facility and carpenter (1886)
- Mattress and quilt manufacturing facility (1904)
- Brewing and bottling company (1915 to 1938)
- Garage (1938 to 1950; 1977 to 2007)
- Waste paper and rag bailing company (1950)
- Freight depot (1969 to 2007)
- Unknown manufacturing (1977 to 2007)

The Phase I ESA identified the following REC associated with the Site:

- Documented Contamination at the Subject Property – A review of Sanborn Fire Insurance Maps (Sanborn Maps), City Directory abstracts, local agency records, and environmental database listings identified the following historical uses of environmental significance at the Site: a painting company (1886), a stone cutting facility and carpenter (1886), a mattress and quilt manufacturer (1904), a brewing a bottling company (1915 to 1938), a garage (1938 to 1950, 1977 to 2007), a waste paper and rag bailing company (1950), a freight depot (1969 to 2007), and unknown manufacturing (1977 to 2007; most likely associated with a fireproof door manufacturer). Historical uses of environmental significance at adjoining and surrounding properties included a lumber yard, a brewing facility, several major oil storage facilities, multiple coal yards, stone cutting, an asphalt factory, paint manufacturing, blacksmiths, a trucking and parking company, automotive repair garage, truck manufacturing, a machine shop, a chemical manufacturer, an electroplating facility, a wire and cable company, a drycleaner, waste paper storage, an automotive junk yard, and various unknown manufacturing facilities. The November 2021 Subsurface Investigation identified multiple contaminants in soil, groundwater, and/or soil vapor.

In addition, one Non-American Society for Testing and Materials (ASTM) Consideration was identified: since the Site buildings were constructed prior to 1955, they may contain asbestos-containing materials (ACMs), lead-based paint (LBP), and/or building materials containing PCBs.

2.3.3 Geotechnical Engineering Report (Langan, March 2022)

Langan completed a subsurface investigation at the Site from 7 to 23 September 2021 to investigate the subsurface conditions and present recommendations for foundations and other geotechnical aspects of design and construction. The geotechnical subsurface investigation tasks included:

- Installation of nine test borings (LB-1 through LB-9) to a depth of about 50 to 100 feet using a truck-mounted drill rig and track rig. Standard Penetration Tests (SPT) N-values were obtained continuously to about 12 feet bgs and at 5-foot intervals thereafter; and
- Installation of two permanent and two temporary groundwater observation wells for environmental purposes.

The following Site observations were made during the investigation:

- Site stratigraphy consists of fill underlain by native soil, clay, then lower sand. Fill predominantly consisted of dark brown to black dense to loose sand with varying proportions of silt, gravel, and brick encountered from Site grade to depths ranging from about 3 to 10 feet bgs. The SPT N-values in the fill were between weight of hammer (WOH) to 51 blows per foot (bpf), with an average of 20 bpf. Fill was underlain by a layer of loose to very dense sand with varying amounts of silt and gravel approximately 6 to 15 feet thick. The SPT N-values in the upper sand layer were between WHO to 45 bpf, with an average of 14 bpf. An impermeable organic clay layer with varying amounts of fibrous vegetation (marsh deposits) was below the upper sand layer. The top of the organic clay layer was found between about 10 and 20 feet bgs and was about 7 to 19 feet thick. The SPT N-values in this layer were between WHO to 50 bpf, with an average of 10 bpf, indicative of a very soft material. A layer of brown-gray medium- to fine-grained sand with varying amounts of silt and gravel was encountered below the compressible clay layer in all borings. The general top of the sand layer lies between 25 and 35 feet below existing grade, the SPT N-values in the lower sand layer were between 10 and 111 bpf, with an average of 35 bpf, indicative of medium to very dense material.
- Depth to groundwater ranged from about 2.5 feet bgs in TMW05 to 7 feet bgs in TMW03 (about elevation [El.] 3.5 to 5.0 feet [North American Vertical Datum of 1988] (NAVD88)]).

2.3.4 Remedial Investigation Report (Langan, May 2023)

Langan completed a RI sampling event at the Site from 9 November to 22 November 2022 and on 15 December 2022 to investigate and characterize soil, groundwater, and soil vapor quality beneath the Site. The tasks completed for the RI are described below:

- Subsurface utility clearance of soil boring locations by reviewing public utility mark-outs and private utility locations identified in the Geophysical Survey Engineering Report, dated 13 September 2021.
- Advancement of 14 soil borings (SB10 through SB23) to depths of about 16 to 20 feet bgs and collection of 42 soil samples (three soil samples from each boring) and associated quality assurance/quality control (QA/QC) samples (i.e., matrix spike/matrix spike duplicate, duplicates, and field blanks) for laboratory analysis.
- Advancement of three delineation soil borings (SB12, SB17, and SB18) to delineate petroleum impacts identified in SB05 (September 2021 Subsurface Investigation) and three soil borings (SB08N, SB08SE, and SB08SW) to delineate petroleum impacts identified in SB08 (September 2021 Subsurface Investigation). No evidence of impacts was observed; therefore, no soil samples were collected.
- Installation and development of five permanent groundwater monitoring wells (MW10, MW13, MW16, MW18, and MW23), and collection of seven groundwater samples (one groundwater sample from each newly installed monitoring well and two previously installed monitoring wells [MW01 and MW08]; September 2021 Subsurface Investigation) and QA/QC samples for laboratory analysis.
- Survey and gauging of monitoring wells to evaluate groundwater elevation and establish flow direction.

- Installation of two sub-slab vapor points (SSV17 and SSV20) immediately below the concrete building slab and collection of two sub-slab vapor samples and one QA/QC sample (ambient air sample) for laboratory analysis.

Recovered soil from each investigation was screened for visual, olfactory, and PID evidence of environmental impacts, and visually classified for soil type, grain size, texture, and moisture content.

The conclusions of the November 2022 RI include:

1. Stratigraphy: Site stratigraphy consisted of fill underlain by native soil. Fill predominantly consisted of dark gray to dark brown fine sand with varying proportions of silt, gravel, brick, coal, coal ash, mortar, wood construction debris, slag, asphalt, concrete, wood, glass, metal, and ceramics was encountered from Site grade to depths ranging from about 5 to 15 feet bgs. The fill layer is deeper in the northeastern, southwestern, and central regions of the Site (about 11 to 15 feet bgs), and shallower in the northwestern and southeastern regions of the Site (about 5 to 10 feet bgs). Fill is underlain by a layer of fine- to medium-grained sand with varying amounts of silt and gravel. The thickness of the sand, silt, and gravel layer ranges from about 2 to 7 feet across the Site. An impermeable organic clay layer with varying amounts of fibrous vegetation (marsh deposits) was below the sand layer. The top of the organic clay layer was encountered between approximately 10.5 and 20 feet bgs and was about 7 to 18.5 feet thick.
2. Hydrogeology: Groundwater depth at the Site ranges from 2.5 to 7 feet bgs. Synoptic groundwater depth measurements were collected on 15 December 2022 from seven monitoring wells (MW01, MW08, MW10, MW13, MW16, MW18, and MW23). Depth to groundwater ranged from about 3.5 feet bgs in MW23 to 7 feet bgs in MW13 (about elevation [El.] 3.20 to 4.21 [NAVD88]). Based on the well gauging results, groundwater appears to flow north. Regional groundwater flow is expected to be to the east toward the Gowanus Canal. Tidal influence, underground utilities, and other subsurface structures may locally influence the direction of groundwater flow.
3. Fill: Fill was encountered in all soil borings from surface grade to depths ranging from about 5 to 15 feet bgs. The fill layer contains SVOCs, pesticides, PCBs, metals, and per- and polyfluoroalkyl substances (PFAS) at concentrations above the Title 6 of the New York Codes, Rules, and Regulations (6 NYCRR) Part 375 UUSCOs, RRSCOs, and/or Protection of Groundwater Soil Cleanup Objectives (PGWSCOs). SVOCs, pesticides, total PCBs, and metals, including barium, cadmium, trivalent chromium, nickel, selenium, and zinc, are attributed to fill quality. Arsenic, copper, lead, hexavalent chromium, and mercury in soil may also be attributable to fill quality or historical Site uses. Fill impacts are delineated vertically by native material in November 2022 RI soil borings. Pesticides, PCBs, and PFAS were not detected at concentrations above UUSCOs from below the fill layer.
4. Petroleum-Impacts to Soil: During the November 2022 RI, no evidence of petroleum-impacts (e.g., petroleum-like staining, odors, or elevated PID readings) was observed in any soil borings. One soil sample (SB11_0-2) contained three petroleum-related SVOCs at concentrations above UUSCOs, RRSCOs, and/or PGWSCOs and include naphthalene, phenanthrene, and pyrene, which may be attributed to former Site use or fill quality. These constituents were not detected in deeper soil samples taken from SB11 and adjacent soil borings (SB10 and SB17). Petroleum-impacts to soil are localized and likely attributed to historical Site use as a car garage (former Lot 42) and manufacturer (former Lot 8).

5. Metals-Impacts to Soil: Arsenic, copper, lead, and mercury were detected at concentrations above UUSCOs, RRSCOs, and/or PGWSCOs in 15 or more soil samples across the Site. Hexavalent chromium was detected in three soil samples at concentrations exceeding the UUSCOs and in one soil sample exceeding the PGWSCOs. These metals may be attributed to coal and coal ash in fill or the historical usage of former Lot 44 (painting company, mattress and quilt manufacturer, wastepaper and rag bailing company, and a brewing and bottle company). Arsenic, mercury, and lead were identified at concentrations exceeding UUSCOs, RRSCOs, and/or PGWSCOs in native soil samples collected below the fill layer at three soil borings (SB13, SB17, and SB20). The maximum depth of exceedances detected in soil were arsenic at 10 to 12 feet bgs (SB20), mercury at 15 to 17 feet bgs (SB17), and lead at 15 to 17 feet bgs (SB17).
6. Arsenic-Impacts to Groundwater: Dissolved arsenic was detected in three groundwater samples at concentrations above the NYSDEC Title 6 NYCRR Part 703.5 and the TOGs 1.1.1 AWQS and Guidance Values for Class GA waters (MW08_112222, MW16_112222, and MW18_112222). The maximum concentration of dissolved arsenic detected in groundwater was 98.14 micrograms per liter (µg/L) at MW18_112222. Monitoring wells containing dissolved arsenic exceedances were located in the eastern, southwestern, and central parts of the Site (MW08 [former Lot 42], MW16 [former Lot 6], and MW18 [former Lot 44], respectively). Arsenic impacts in groundwater correlate with locations where, with the exception of the eastern part of the Site (MW08), arsenic was detected in soil samples collected from the groundwater interface at concentrations exceeding the PGWSCO. Arsenic impacts to groundwater are attributed to on-Site soil.
7. PFAS and 1,4-dioxane in Groundwater: PFAS- and 1,4-dioxane-impacted groundwater was identified at the Site. Perfluorooctanoic acid (PFOA) and/or perfluorooctanesulfonic acid (PFOS) were detected in groundwater samples above the PFAS Guidance Values (GVs) in all monitoring wells sampled during the November 2022 RI. The organic compound 1,4-dioxane was detected at concentrations above the Maximum Contaminant Level (MCL) of 1 µg/L in four monitoring wells (MW01, MW08, MW10, and MW18) across the Site. No on-Site source of PFOA, PFOS, or 1,4-dioxane was identified; therefore, the presence of PFAS compounds (PFOA and PFOS) and 1,4-dioxane is likely a regional condition and not attributed to an on-Site source.
8. Chlorinated and Petroleum VOCs in Soil Vapor: Twenty-one VOCs were detected in two sub-slab vapor samples collected during the November 2022 RI. Total VOC concentrations in sub-slab vapor samples SSV17_111122 and SSV20_111122 were 111.64 micrograms per cubic meter (µg/m^3) and 331.18 µg/m^3, respectively. One CVOC, TCE, was detected at a concentration at which mitigation is recommended for occupied structures by the Air GVs and Decision Matrices from the NYSDOH Guidance for Evaluating Soil Vapor Intrusion (NYSDOH Decision Matrices). TCE was detected at a concentration of 69.3 µg/m^3 in SSV20_111122. BTEX concentrations in the sub-slab vapor samples SSV17_111122 and SSV20_111122 were 10.3 µg/m^3 and 85.63 µg/m^3, respectively. VOCs, including TCE, in sub-slab vapor at the Site are not attributed to an on-Site source.

2.3.5 ASTM Phase I Environmental Assessment (Haley & Aldrich, August 2023)

Haley & Aldrich of New York prepared a Phase I ESA in August 2023 for the Site to identify RECs in connection with the Site. As identified in the Phase I ESA, In the late 1800s, the Site was developed with several low/mid-rise structures utilized for residential, commercial, and industrial purposes, including two-story dwellings, a painting shop, a carriage factory, a carpenter shop and a stone cutting facility, and a mattress and quilting manufacturer. By the late 1930s, structures in the western region of the Site

were razed and remaining structures in the eastern portion of the Site were occupied a wastepaper and rag bailing facility. From the late 1960s through the most recent Sanborn Map (dated 2019): the southwestern and northwestern regions of the Site remained undeveloped; the central/western region of the Site was developed with a one-story freight depot building, and; the buildings developed on the southern portion of the Site were utilized for manufacturing and as a garage.

The Phase I ESA identified the following RECs associated with the Site:

1. Known Contamination and Pending Remediation at Subject Property – Known contamination is present at the Site, predominantly including elevated metals and SVOCs in soil and groundwater, and VOCs, including CVOCs in soil vapor. On 22 March 2022, the subject property enrolled in the NYSDEC BCP as a Volunteer. In addition to the on-Site contamination identified, the following historical Site uses may have contributed to the basis for the Site's enrollment in the BCP: a painting company (1886), a stone cutting and carpentry facility (1886), a mattress and quilt manufacturer (1904), a brewing a bottling company (1915 to 1938), a waste paper and rag bailing company (1950), a freight depot (1969 to 2007), and unknown manufacturing (1977 to 2007). Regulatory records indicate that the remedial investigation stage of the BCP has been completed and remedial action is anticipated to commence once the Decision Document is received from the NYSDEC. The draft Remedial Action Work Plan (RAWP), submitted to the NYSDEC in May 2023, proposes Track 4 Remediation, including: excavation of contaminated soil exceeding Track 4 SCOs to depths ranging from 2 to 10 feet bgs Site-wide; in-situ chemical treatment of arsenic-impacted groundwater; installation of a composite cover system; installation of sub-membrane depressurization (SMD) system and vapor barrier below the Site building; establishment of ICs, and; publication of a long-term SMP. Due to the presence of known contamination in soil, groundwater, and soil vapor at the Site and pending remedial action, this is considered a REC.
2. Known Contamination and Pending Remediation at East-Adjacent Property (BCP Site ID #C224336) – In June 2021, contamination was identified at the east-adjacent property (141 3rd Street) during a subsurface investigation, including: VOCs, SVOCs, and PCBs in soil above restricted residential and commercial use SCOs; coal tar-related impacts in soil between 30 to 35 feet bgs, and; elevated concentrations of CVOCs (i.e., cis,1,2-dichloroethene, TCE, and vinyl chloride) in soil vapor. On 4 February 2022, this adjacent property enrolled in the NYSDEC BCP as a Volunteer. In addition to the contamination identified on this property, the following historical uses at this property may have contributed to the basis for this property's enrollment in the BCP: stone yard and grain and feed mill and woodworking facility from as early as 1886 until at least 1928, a coal company from as early as 1928 until at least 1950, a drum storage, wood furniture manufacturing, and truck body manufacturing facility from the 1950s until the early 1970s, and an automobile salvage yard from as early as 1977 until at least 1986. Regulatory records indicate that the remedial investigation stage of the BCP has been completed; however, the remedial investigation report was not posted in NYSDEC's environmental remediation database. Further, details regarding remediation were not provided. The known contamination in soil and soil vapor (specifically, CVOCs in soil vapor) coupled with the pending remedial status at this east-adjacent property, represents a REC.
3. Historical Contamination Identified at North-Adjacent Property (BCP Site ID # C224174) – In April 2014, a RI was conducted to investigate areas of concern and historical features at this north-

adjacent property. The following primary contaminants of concern were identified: benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, arsenic, lead, barium, mercury, xylenes, TCE, propylbenzene, tetrachloroethane, benzene, phenol, n-propylbenzene, and isopropylbenzene in soil; elevated VOCs, SVOCs, and metals in groundwater, and; elevated petroleum-related compounds and CVOCs in soil vapor. On 5 June 2013, this adjacent property enrolled in the NYSDEC BCP as a Volunteer. In addition to the contamination identified on this property, the following historical uses at the property may have contributed to the basis for this property's enrollment in the BCP: oil terminal (1886 through 1939); a building materials warehouse (1886 through 1915); a lumber company (1939); a paper products warehouse (1950); an electric wire and cable company (1969), and; a warehouse (1977 through 1986). Other recorded uses of the property include an automobile storage and repair facility and a drycleaning facility. Regulatory records indicate that remedial action stage of the program has been completed, which included implementation of interim remedial measures, excavation of contaminated soils, installation of a new bulkhead along the Gowanus Canal frontage, removal of seven underground storage tanks (USTs), and implementation of ICs and ECs. Although remedial activity has been completed, contaminated groundwater and/or soil vapor may have migrated off site prior to remediation. Due to the nature of contamination, coupled with the potential for contamination to have migrated off site and impacted the Site prior to remedial action, this is considered a REC.

In addition, one Other Finding was identified in connection to the known contamination and ongoing remediation at the Gowanus Canal.

2.4 REMEDIAL ACTION OBJECTIVES

The Remedial Action Objectives (RAOs) for the Site as listed in the RAWP are as follows:

2.4.1 Groundwater

- RAOs for Public Health Protection:

  Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.

- RAOs for Environmental Protection:
  - Restore groundwater aquifer to pre- disposal/pre-release conditions, to the extent practicable.
  - Remove the source of groundwater or surface water contamination.

2.4.2 Soil

- RAOs for Public Health Protection:

Prevent ingestion/direct contact with contaminated soil.

- RAOs for Environmental Protection:

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

2.4.3 Soil Vapor

RAOs for Public Health Protection:

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion (SVI) into building(s) at the Site.

2.5 SUMMARY OF REMEDIAL ACTIONS

Remedial actions were performed at the Site in accordance with the NYSDEC-approved RAWP prepared by Haley & Aldrich of New York, dated 14 November 2023; the Decision Document issued by the NYSDEC on 8 December 2023; the Remedial Design Technical Memorandum Remedial prepared by H & A of New York Engineering and Geology, LLP (Haley & Aldrich of New York), dated 23 February 2024, and; applicable federal, state, and local rules and regulations. Remedial activities commenced on 4 January 2024 and were completed on 17 May 2024.

The remedial actions performed at the Site included:

- Development and implementation of a Construction Health and Safety Plan (CHASP) and Community Air Monitoring Plan (CAMP) for the protection of on-Site workers, visitors, the community, and the environment during remediation and construction activities.
- To facilitate Site remediation, abatement of regulated building materials (i.e., ACM, LBP, or other universal waste) followed by demolition and removal of remnant foundation elements by the contractor as construction and demolition (C&D) debris in accordance with Part 360 and 361 regulations will be completed.
- Remedial excavation and off-Site disposal of fill would be conducted to remove contaminated material exceeding the Track 4 SCOs as described below and facilitate installation of ECs (Site-wide composite cover system and sub-slab depressurization system [SSDS]). Excavation would extend to:
    a. About 2 feet bgs in the northern portion of the Site;
    b. About 3 to 4 feet bgs in the southeastern region of the Site; and
    c. About 5 to 6 feet bgs (to groundwater) in the western region of the Site for removal of vadose zone soil.
- Installation of support of excavation (SOE) that is necessary to facilitate the remedial excavation.
- Screening for indications of contamination, by visual means, odor and monitoring with a PID (or equivalent), of all excavated soil during any intrusive Site work.
- Appropriate off-Site disposal of excavated material in accordance with federal, state, and local rules and regulations for handling, transport, and disposal.

- In-situ chemical treatment of arsenic-impacted groundwater in the southern region of the Site through direct injection and preparation of a Remedial Design Technical Memorandum that describes the in-situ treatment.
- Dewatering, as necessary, to allow for excavation below the water table and treatment and discharge of dewatering fluids in accordance with a New York City Department of Environmental Protection (NYCDEP) sewer discharge permit, NYSDEC State Pollution Discharge Elimination System (SPDES) permit, and/or a SPDES permit equivalent.
- Installation of an impermeable composite cover system consisting of a concrete building foundation slab or cement/concrete pavers and watertight subsurface utilities to prevent exposure to remaining contaminated soil/groundwater and mitigate stormwater infiltration into the subsurface, thereby reducing migration of metals contamination from unsaturated soil into groundwater.
- Decommissioning and removal of any encountered USTs, associated appurtenances (e.g., fill lines, vent line, and electrical conduit) or other potential sources and disposal off Site during Site redevelopment in accordance with DER-10, 6 NYCRR Part 613.9, NYSDEC Final Commissioner Policy (CP; CP-51), and other applicable NYSDEC UST closure requirements.
- Collection and analysis of excavation bottom and sidewall confirmation/documentation soil samples after the remedial excavation is complete.
- Import and placement of clean fill (virgin crushed stone, recycled concrete aggregate [RCA], and soil) meeting the lower of Part 375 Restricted Use Restricted Residential (RURR) and PGWSCOs, where testing is applicable. A demarcation barrier will be placed prior to backfill across the Site.
- Installation and operation of an active SSDS and vapor barrier below the Site building to mitigate the potential for vapor intrusion from contaminated off-Site soil vapor.
- Establishment of use restrictions (i.e., ICs), including prohibition of Site groundwater use and prohibitions on sensitive Site uses, such as farming or vegetable gardening, to eliminate or mitigate future potential exposure pathways.
- Recording of an EE referencing ECs and ICs to prevent future exposure to remaining contamination.
- Implementation of long-term ICs in the form of an EE and SMP which include “Notice of Use Restrictions” on the land and groundwater and long-term management of residual contamination as required by the EE, including plans for: 1) IC and EC implementation; 2) monitoring; 3) operations and maintenance [O&M]; and 4) reporting.

2.6 REMAINING CONTAMINATION

The Site remedy achieved a Track 4 cleanup; therefore, there is remaining contamination within the subsurface at the Site.

2.6.1 Soil

Soil chemistry was assessed during investigations performed prior to entering the BCP; then further investigated during the RI conducted as part of the BCP. During the RI, concentrations of SVOCs and metals were detected above RRSCOs in soil samples collected at surface grade, down to a maximum depth of 17 feet bgs. Therefore, excavation and off-Site disposal of soil was included as a component of the Decision Document. Soil excavation was completed to approximately 2 feet bgs in the northern region of the Site, approximately 4 feet bgs in the southeastern region of the Site, and to groundwater (approximately 5 to 10 feet bgs) in the western region of the Site to remove SVOC- and metal-impacted soil in the vadose zone. After remedial excavation depth was achieved and prior to placement of backfill material, a physical demarcation layer was placed over the graded soils to distinguish the top of the "Residuals Management Zone," the zone that requires adherence to special conditions for disturbance of contaminated residual soils. A figure showing the demarcation layer depth is shown in Figure 4.

Remaining contamination in soil includes SVOCs and metals primarily in the saturated zone above RRSCOs, and pesticides above UUSCOs.

Table 2 and Figure 5 summarize the results of the samples of soil that exceed the RRSCOs after completion of the remedial action.

2.6.2 Groundwater

Groundwater quality was assessed during investigations performed prior to entering the BCP; then further investigated during the RI conducted as part of the BCP. Groundwater samples collected during the RI contained concentrations of VOCs, SVOCs, pesticides, PCBs, total and dissolved metals (including dissolved arsenic), and PFAS above the AWQS. Due to the presence of elevated concentrations of dissolved arsenic in groundwater above the AWQS in the southern region of the Site, groundwater treatment was included as a component of the Decision Document. In-situ chemical injections of hydrogen peroxide and ferrous iron were performed in the southern region of the Site where the highest concentrations of dissolved arsenic in groundwater were identified. The objective was to reduce dissolved arsenic concentrations in groundwater from 10 to 15 feet bgs. Quarterly groundwater monitoring will be conducted to confirm the efficacy of the groundwater treatment. Groundwater use at the Site is also subject to the ICs documented within the EE and is restricted for use as a source of potable or process water without necessary water quality treatment as determined by NYSDOH.

The first round of post-remediation quarterly groundwater sampling took place on 20 June 2024. Analytical results are provided in Table 3 and the remaining contamination in groundwater at the Site is presented in Figure 6.

3. Institutional and Engineering Control Plan

3.1 GENERAL

Since remaining contamination exists at the Site, ICs and 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 project manager.

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 IC/ECs set forth in the EE;
- 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 EWP (as provided in Appendix D) for the proper handling of remaining contamination that may be disturbed during maintenance or redevelopment work on the Site; and,
- Any other provisions necessary to identify or establish methods for implementing the IC/ECs required by the Site remedy, as determined by the NYSDEC project manager.

3.2 INSTITUTIONAL CONTROLS

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

- The property may be used for restricted residential, commercial, and industrial uses only;
- All ECs must be operated and maintained as specified in this SMP;
- All ECs must be inspected at a frequency and in a manner defined in the SMP;
- The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;
- Groundwater and other environmental or public health monitoring must be performed as defined in this SMP;

- Data and information pertinent to Site management must be reported at the frequency and in a manner as defined in this SMP;
- All future activities that will disturb remaining contaminated material must be conducted in accordance with this SMP;
- Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this SMP;
- Operations, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this SMP;
- Access to the Site must be provided to agents, employees, or other representatives of the state of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the EE; and
- Vegetable gardens and farming on the Site are prohibited; and
- An evaluation shall be performed to determine the need for further investigation and remediation should large-scale redevelopment occur, if any of the existing structures are demolished, or if the subsurface is otherwise made accessible.

3.3 ENGINEERING CONTROLS

The Controlled Property (the Site) includes three primary ECs, including the following:

- An active SSDS;
- A Site-wide composite cover system; and
- A groundwater monitoring program.

3.3.1 Infiltration Gallery

As a contingency plan for further treatment of potentially residual dissolved-phase arsenic, an infiltration gallery was installed prior to installation of the building foundation. The infiltration gallery was constructed of 4-inch perforated schedule 40 polyvinyl chloride (PVC) pipe installed at the groundwater interface. Due to the presence of the elevator shaft, rainwater collection tank, and other foundational elements, the infiltration gallery was installed primarily in the eastern region of the Site. The infiltration gallery contains an injection port which will be accessible throughout building construction, as well as after construction is completed. While not anticipated, the infiltration gallery could be used to facilitate supplemental groundwater treatment without compromising the integrity of the composite cover system. The infiltration piping design is shown in Figure 7.

3.3.2 Sub-Slab Depressurization System (SSDS)

An active SSDS was installed to mitigate the potential for soil vapor intrusion by providing a pathway for soil vapor to vent to the atmosphere. Six sub-slab vapor monitoring points were installed in the permeable layer below the waterproofing/vapor barrier to allow for the collection of sub-slab vapor samples.

The major components of the SSDS include:

- One continuous, horizontal, perforated 4-inch PVC pipe with two termini, embedded within a permeable layer (minimum of 10 inches of 1 to 2.5-inch stone) beneath the composite cover, and overlain by a 20-mil-thick vapor barrier;
- Vertical riser penetrating the cover system through a sealed penetration; and
- The exhaust stack consisting of 4-inch-diameter cast iron riser pipe extending through the roof and terminating with a rooftop fan, at least 24 inches above the highest roof surface and at least 10 feet away from any adjacent building or heating, ventilation, and air conditioning (HVAC) intake.

The detention tank area and mechanical pit were not depressurized due to close proximity of groundwater to the base of these structures but included a waterproofing/vapor barrier. The SSDS layout is shown on Figure 8. Appendix E contains the as-built active SSDS system. The operations, maintenance, and monitoring (OM&M) requirements for the SSDS consist of initial startup testing, routine maintenance and monitoring activities, and non-routine maintenance activities. Procedures for operating and maintaining the SSDS are documented in the Operations and Maintenance Plan (Section 5.0 of this SMP).

3.3.3 Composite Cover System

A composite cover system was installed to prevent exposure to remaining contamination in soil/fill at the Site. This composite cover system consists of a 10-inch-thick reinforced concrete foundation slab and cement/concrete pavers and is underlain by a 20-mil waterproofing/vapor barrier and at least 2 feet of clean soil or gravel. Specifications for the waterproofing/vapor barrier are included in Appendix F. The EWP provided in Appendix D outlines the procedures required to be implemented in the event the cover system is breached, penetrated, or temporarily removed. Procedures for the inspection of this cover are provided in the Operations and Maintenance Plan included in Section 4.0 of this SMP.

3.3.4 Groundwater Monitoring Program

As part of the Track 4 remedy, groundwater within the treatment zone in the southern region of the Site will be monitored quarterly for at least one year to evaluate the overall performance and effectiveness of the remedy. Post-remediation groundwater results will be provided to the NYSDEC/NYSDOH and future groundwater monitoring will be performed at a frequency approved by NYSDEC/NYSDOH. The network of monitoring wells selected for inclusion at the start of Site management includes upgradient, downgradient, and cross-gradient locations to confirm groundwater conditions at the Site. The locations of the four groundwater monitoring wells are shown on Figures 4 and 6.

Groundwater monitoring will continue as determined in consultation with NYSDEC and NYSDOH until residual groundwater concentrations are found to be below NYSDEC standards or have become asymptotic over an extended period. The groundwater monitoring program will include quarterly gauging from all accessible monitoring wells to confirm groundwater flow elevations and inferred groundwater flow direction. Groundwater samples will be analyzed for total and dissolved arsenic and

will be compared to the AWQS. Sampling will be conducted as detailed in the Quality Assurance Project Plan (QAPP) included as Appendix G.

3.3.5 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial processes are considered completed when monitoring indicates that the remedy has achieved the RAOs identified by the Decision Document. The framework for determining when remedial processes are complete is provided in Section 6.4 of NYSDEC DER-10. Unless waived by the NYSDEC, confirmation samples of applicable environmental media are required before terminating any remedial actions at the Site. Confirmation samples require Category B deliverables and a Data Usability Summary Report (DUSR).

As discussed below, the NYSDEC may approve termination of a groundwater monitoring program. When a RP receives this approval, the RP will decommission all Site-related monitoring, injection, and recovery wells as per the NYSDEC CP-43 policy.

The RP will also conduct any needed Site restoration activities, such as concrete/asphalt patching and decommissioning treatment system equipment. In addition, the RP will conduct any necessary restoration of vegetation coverage, trees, and wetlands, and will comply with NYSDEC and United States Army Corps of Engineers regulations and guidance. Also, the RP will ensure that no ongoing erosion is occurring on the Site.

3.3.5.1 Sub-Slab Depressurization System (SSDS)

Monitoring and maintaining the active SSDS will not be discontinued unless prior written approval is granted by the NYSDEC and the NYSDOH project managers. If monitoring data indicates that the SSDS may no longer be required, a proposal to discontinue the SSDS will be submitted by the RP to the NYSDEC and NYSDOH project managers.

3.3.5.2 Composite Cover System

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

3.3.5.3 Groundwater Monitoring Wells

Groundwater monitoring activities to assess the in-situ chemical oxidation (ISCO) treatment will continue, as determined by the NYSDEC project manager in consultation with NYSDOH project manager, until residual groundwater concentrations are found to be consistently below AWQS or have become asymptotic at an acceptable level over an extended period. If monitoring data indicates that monitoring may no longer be required, a proposal to discontinue the remedy will be submitted by the RP. Monitoring will continue until permission to discontinue is granted in writing by the NYSDEC project manager. If groundwater contaminant levels become asymptotic at a level that is not acceptable to the NYSDEC, additional control measures will be evaluated.

4. Monitoring and Sampling Plan

4.1 GENERAL

This Monitoring and Sampling Plan describes the measures for evaluating the overall performance and effectiveness of the remedy. This Monitoring and Sampling Plan may only be revised with the approval of the NYSDEC project manager. Details regarding the sampling procedures, data quality usability objectives, analytical methods, etc. for all samples collected as part of Site management for the Site are included in the QAPP provided in Appendix G.

This Monitoring and Sampling Plan describes the methods to be used for:

- Sampling and analysis of all appropriate media (e.g., groundwater and indoor air);
- Assessing compliance with applicable NYSDEC Standards, Criteria, and Guidance (SCGs), particularly groundwater standards; and
- 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 and Sampling Plan provides information on:

- Sampling locations, protocol, and frequency;
- Information on all designed monitoring systems;
- Analytical sampling program requirements;
- Inspection and maintenance requirements for monitoring wells;
- Monitoring well decommissioning procedures; and
- 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 at a minimum of once per year. These periodic inspections must be conducted when the ground surface is visible (i.e., no snow cover). Site-wide inspections will be performed by a Qualified Environmental Professional (QEP) as defined in 6 NYCRR Part 375, a Professional Engineer (P.E.) who is licensed and registered in New York State, or a qualified person who directly reports to a P.E. who is licensed and registered in New York State. Modification to the frequency or duration of the inspections will require approval from the NYSDEC project manager. Site-wide inspections will also be performed after all severe weather conditions that may affect ECs or monitoring devices. During these inspections, an inspection form will be completed as provided in Appendix H – Site Management Forms. The form will compile sufficient information to assess the following:

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

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

Inspections of 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 (PRR). The inspections will determine and document the following:

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

Reporting requirements are outlined in Section 7.0 of this plan.

Inspections will also be performed in the event of an emergency. If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs that reduces or has the potential to reduce the effectiveness of ECs in place at the Site, verbal notice to the NYSDEC project manager 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 QEP, as defined in 6 NYCCR Part 375. Written confirmation must be provided to the NYSDEC project manager 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. The remedial party will submit follow-up status reports to the NYSDEC within 45 days of the event on actions taken to respond to any emergency event requiring ongoing responsive action, describing, and documenting actions taken to restore the effectiveness of the ECs.

4.3 TREATMENT SYSTEM MONITORING AND SAMPLING

Monitoring of the SSDS will be performed on a routine basis, as identified in the table below (Table III – Remedial System Monitoring Requirements and Schedule). The monitoring of remedial systems must be conducted by a QEP as defined in 6 NYCRR Part 375, a P.E. who is licensed and registered in New York State, or a qualified person who directly reports to a P.E. who is licensed and registered in New York State (depending on the need to evaluate ECs). Modification to the frequency or sampling requirements will require approval from the NYSDEC project manager. A visual inspection of the complete system will be conducted during each monitoring event. Unscheduled inspections and/or sampling may take place when a suspected failure of the SSDS system has been reported or an emergency occurs that is deemed likely to affect the operation of the system. SSDS system components to be monitored include, but are not limited to, the components included in Table III on the following page.

Table III – Remedial System Monitoring Requirements and Schedule

SSDS Component	Monitoring Parameter	Operating Range	Monitoring Schedule
Vacuum Monitoring Points	Functionality and Integrity	N/A	Quarterly
Vacuum Gauges	Vacuum Pressure	-30 inches of water column (maximum)	Quarterly
Exhaust Points	Motor Operation, Functionality, and Integrity	N/A	Quarterly
Alarm System	Functionality and Integrity	N/A	Quarterly
Suction Fans	Functionality and Integrity	N/A	Quarterly

A complete list of components to be inspected is provided in the Inspection Checklist, provided in Appendix H - Site Management Forms. If any equipment readings are not within their specified operation range, any equipment is observed to be malfunctioning, or the system is not performing within specifications; maintenance and repair, as per the O&M Plan, is required immediately.

4.4 POST-REMEDIATION MEDIA MONITORING AND SAMPLING

Groundwater samples shall be collected quarterly from all accessible on-Site monitoring wells for at least the first year post-remediation, and indoor air samples shall be collected during the heating season and within one year of SSDS startup. Sampling locations required, analytical parameters, and schedule are provided in the table below (Table IV). Modification to the frequency or sampling requirements will require approval from the NYSDEC project manager.

Table IV – Post-Remediation Sampling Requirements and Schedule

Sampling Location	Analytical Parameters		Schedule
	Total and Dissolved Arsenic (EPA Method 6010)	VOCs (EPA Method TO-15)	
Monitoring Well RW-1	X		Quarterly
Monitoring Well RW-2	X		Quarterly
Monitoring Well RW-3	X		Quarterly
Monitoring Well RW-4	X		Quarterly
Three Indoor and One Ambient Air Samples		X	Within One Year of SSDS Startup During the Heating Season

Field activities, including groundwater sampling and indoor air sampling, will be conducted as detailed in the QAPP, included as Appendix G. Following the low-flow purge, samples will be collected from monitoring wells for analysis of the analytes mentioned above. Groundwater sampling will be conducted at least one week after monitoring well development.

4.4.1 Groundwater Sampling

Groundwater monitoring will be performed quarterly to assess the performance of the remedy. Modification to the frequency or sampling requirements will require approval from the NYSDEC project manager.

The network of monitoring wells has been installed to monitor on-Site groundwater conditions, specifically within the groundwater treatment zone in the southern region of the Site, with wells located upgradient, cross-gradient, and downgradient to monitor groundwater conditions on the Site. The network of on-Site wells has been designed based on the following criteria:

Table V summarizes the wells' identification numbers, as well as the purpose, location, depths, diameter, and screened intervals of the wells. As part of the groundwater monitoring, one upgradient well, two cross-gradient wells, and one downgradient well are sampled to evaluate the effectiveness of the ISCO treatment. The remedial party will measure depth to the water table for each monitoring well in the network before sampling.

Monitoring wells will be sampled and analyzed for:

- Total and Dissolved Arsenic using EPA Method 6010;

Table V – Monitoring Well Construction Details

Monitoring Well ID	Well Purpose / Location	Coordinates (longitude/ latitude)	Well Diameter (inches)	Elevation (above mean sea level) – approximate until installed and surveyed			
				Casing Elevation	Screen Length	Screen Top (ft bgs)	Screen Bottom (ft bgs)
Monitoring Well RW-1	Post-Remediation Monitoring / On-Site	40°40'37.07''/ 73°59'29.74''	2	11.60	10	~5	~15
Monitoring Well RW-2	Remediation Monitoring / On-Site	40°40'37.17''/ 73°59'27.81''	2	7.74	10	~5	~15
Monitoring Well RW-3	Remediation Monitoring / On-Site	40°40'37.52''/ 73°59'28.92''	2	11.39	10	~5	~15
Monitoring Well RW-4	Remediation Monitoring / On-Site	40°40'36.29''/ 73°59'28.05''	2	10.69	10	~5	~15

Monitoring well construction logs are included in Appendix C of this document.

If biofouling or silt accumulation occurs in the on-Site monitoring wells, the wells will be physically agitated/surged and redeveloped. Additionally, monitoring wells will be properly decommissioned and replaced if an event renders the wells unusable.

Repairs and/or replacement of wells in the monitoring well network will be performed based on assessments of structural integrity and overall performance.

The NYSDEC project manager will be notified prior to any repair or decommissioning of any monitoring well for the purpose of replacement, and the repair or decommissioning and replacement process will be documented in the subsequent PRR. Well decommissioning without replacement will be done only with the prior approval of the NYSDEC project manager. Well abandonment will be performed in accordance with NYSDEC's guidance entitled "CP-43: Groundwater Monitoring Well Decommissioning Procedures." Monitoring wells that are decommissioned because they have been rendered unusable will be replaced in kind in the nearest available location, unless otherwise approved by the NYSDEC project manager.

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

Deliverables for the groundwater monitoring program are specified in Section 7.0 – Reporting Requirements.

4.4.2 Post-Mitigation Indoor Air Quality Sampling

Post-mitigation indoor air quality samples will be collected during the heating season within one year of SSDS startup. Modification to the frequency or sampling requirements will require approval from the NYSDEC. Three 8-hour duration indoor air samples and one 8-hour duration ambient air sample will be collected in laboratory-supplied individually certified-clean SUMMA canisters. After sample collection, the indoor air samples will be shipped overnight to a NYSDOH Environmental Laboratory Approval Program (ELAP)-certified laboratory for analysis for VOCs by USEPA Method TO-15.

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

Deliverables for the post-mitigation indoor air quality sampling program are specified in Section 7.0 – Reporting Requirements.

4.4.3 Monitoring and Sampling Protocol

All sampling activities will be recorded in a field book and associated sampling log as provided in Appendix H - Site Management Forms. Other observations (e.g., groundwater monitoring well integrity) will be noted on the sampling log. The sampling log will serve as the inspection form for the monitoring network. Additional detail regarding monitoring and sampling protocols are provided in the QAPP provided as Appendix G of this document.

5. Operations and Maintenance (O&M) Plan

5.1 GENERAL

This O&M Plan provides a brief description of the measures necessary to operate, monitor, and maintain the mechanical components of the remedy selected for the Site. This O&M Plan:

- Includes the procedures necessary to allow individuals unfamiliar with the Site to operate and maintain the active SSDS; and
- Will be updated periodically to reflect changes in Site conditions or the manner in which the active SSDS are operated and maintained.

Information on non-mechanical ECs (i.e., Site cover system) is provided in Section 3 – Engineering and Institutional Control Plan. Further detail regarding the O&M of the SSDS is provided in Appendix E – O&M Manual. A copy of this O&M Manual, along with the complete SMP, is to be maintained at the Site. This O&M Plan is not to be used as a stand-alone document, but as a component document of this SMP.

5.2 REMEDIAL SYSTEM PERFORMANCE CRITERIA

An active SSDS was installed at the Site to prevent the potential for vapor intrusion into the building. As-built drawings for the SSDS are included in Appendix E. Details pertaining to the performance monitoring of these ECs are outlined below.

5.3 OPERATION AND MAINTENANCE OF SSDS

The following sections provide a description of the operations and maintenance of the SSDS. Cut-sheets and as-built drawings for the SSDS are provided in Appendix E – O&M Manual.

5.3.1 SSDS Startup and Testing

This subsection outlines the procedures for confirming the effectiveness and proper installation of the SSDS prior to building occupancy and complies with the post mitigation/confirmation testing requirements of NYSDOH's Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York, dated October 2006 and is consistent with the NYSDEC-approved RAWP. The following actions will be performed following startup of the SSDS:

1. Negative Pressure of the sub-slab area relative to indoor air will be measured at each monitoring point utilizing an appropriate hand-held instrument. A negative differential pressure will be confirmed between the indoor and the sub-slab vapor spaces.
2. The operation of the warning device for low or no suction will be confirmed.

The system testing described above will be conducted if, in the course of the SSDS lifetime, significant changes are made to the system, and the system must be restarted. Additionally, startup testing will be

required if there is a change in building use or occupancy. NYSDEC and NYSDOH must be notified of any changes in the building use or occupancy. During construction close-out, the Building Management System (BMS) will be programmed to monitor the status of the SSDS on a continuous basis. In the interim, alarm indication stations (AISs) will be used to monitor the SSDS pressure switches installed in SSDS riser piping and provide an audible alarm when there is a low-suction condition. Subsequent to the initial startup testing, annual inspection and monitoring of the SSDS will be performed, as described below.

5.3.2 Routine System Operations and Maintenance

Routine operation involves the effective distribution of soil vapor from the subsurface, through the SSDS conduits, and out from the riser outlets. Routine inspection will be conducted by a qualified engineer or building personnel to ensure that components of the SSDS are operating properly and will continue until NYSDEC and NYSDOH have determined there is no need for such a system. The operation of the SSDSs will not be discontinued without written approval from the NYSDEC.

Personnel will continue routine maintenance on the SSDS quarterly and will include, at a minimum:

- Conduct a visual inspection of the complete system;
- Identification and repair of damage;
- Inspect the discharge location of the vent pipe to ensure that no new air intake or operable window is located nearby;
- Inspect the floor slab and foundation walls for evidence of cracks and/or holes, and repair of cracks and/or holes, if required; and
- Inspection of sealing around any monitoring wells and floor cleanout covers.

Appendix H contains a routine maintenance SSDS checklist.

The SSDS fans require routine and preventative maintenance for efficient operation. This maintenance shall be performed by qualified building personnel as required. NYSDOH and NYSDEC must be notified of any maintenance required as a result of the routine inspections. Appendix H contains a routine maintenance SSDS checklist and a manual for the SSDS suctions fans.

5.3.3 Non-Routine Operation and Maintenance

Non-routine maintenance would typically occur when the warning device indicates that the SSDS is not working properly, or the system becomes damaged. The scope of non-routine maintenance will vary depending upon the situation and the severity of the condition. A severe condition is defined as a condition where the system cannot be repaired by qualified building personnel.

If an emergency occurs, such as a natural disaster or an unforeseen failure of the ECs, which results in a severe condition, an inspection of the Site will be conducted by qualified building personnel immediately following the event and reported to NYSDEC and NYSDOH by noon the following day. If a severe condition is observed during a routine inspection, the NYSDEC and NYSDOH will be notified within 48 hours of the inspection. NYSDOH and NYSDEC must be notified of any maintenance required as a result

of the routine inspections.

5.3.4 System Monitoring Devices and Alarms

The SSDS has a warning device to indicate that the system is not generating suction. In the event that warning device is activated, applicable maintenance and repairs will be conducted, as specified in the O&M Plan, and the SSDS will be restarted. Operational problems will be noted in the PRR to be prepared for that reporting period.

6. Periodic Assessments/Evaluations

6.1 CLIMATE CHANGE VULNERABILITY ASSESSMENT

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

A vulnerability assessment will be conducted for the Site during periodic assessments to ensure resilience of ECs to severe storms/weather events and associated flooding.

6.2 GREEN REMEDIATION EVALUATION

NYSDEC's DER-31 Green Remediation requires that green remediation concepts and techniques be considered during all stages of the remedial program, including Site management, with the goal of improving the sustainability of the cleanup and summarizing the net environmental benefit of any implemented green technology. This SMP does not require any Green Remediation evaluations to be completed for the Site during Site management. Any updates or related Site improvements will be incorporated in the PRR.

6.2.1 Timing Of Green Remediation Evaluations

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

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

6.2.2 Remediation Systems

Remedial systems will be operated properly considering the current Site conditions to conserve materials and resources to the greatest extent possible. Consideration will be given to operating rates and use of reagents and consumables. Groundwater monitoring purge water will be sent for disposal, as appropriate.

6.2.3 Building Operations

Structures including buildings and sheds will be operated and maintained to provide for the most efficient operation of the remedy, while minimizing energy, waste generation, and water consumption.

6.2.4 Frequency of System Checks, Sampling and Other Periodic Activities

Transportation to and from the Site, use of consumables in relation to visiting the Site in order to conduct system checks and/or collect samples, and shipping samples to a laboratory for analyses have direct and/or inherent energy costs. The schedule and/or means of these periodic activities have been prepared so that these tasks can be accomplished in a manner that does not impact remedy protectiveness but reduces expenditure of energy or resources.

6.2.5 Metric and Reporting

As discussed in Section 7.0 and as shown in Appendix H – Site Management Forms, information on energy usage, solid waste generation, transportation and shipping, water usage, and land use and ecosystems will be recorded to facilitate and document consistent implementation of Green Remediation during Site management and to identify corresponding benefits.

6.3 REMEDIAL SYSTEM OPTIMIZATION (RSO)

A RSO study will be conducted any time that the NYSDEC project manager or the RP 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;
- Plume shift has potentially occurred;
- 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 RP 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.

7. Reporting Requirements

7.1 SITE MANAGEMENT REPORTS

All Site management inspection, maintenance, and monitoring events will be recorded on the appropriate Site management forms provided in Appendix H. These forms are subject to NYSDEC revision. All Site management inspection, maintenance, and monitoring events will be conducted by a QEP as defined in 6 NYCRR Part 375, a P.E .who is licensed and registered in New York State, or a qualified person who directly reports to a P.E. who is licensed and registered in New York State.

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

Table VI: Schedule of Interim Monitoring/Inspection Reports

Task/Report	Reporting Frequency*
Indoor Air Monitoring	Once, within one year of SSDS startup during the heating season
GW Monitoring	Quarterly
First Periodic Review Report	16 Months after approval of the SMP COC is issued
Follow-on Periodic Review Reports	TBD after submittal of the First PRRs Annually, or as otherwise determined by the NYSDEC

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

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

- Date of event or reporting period;
- Name, company, and position of person(s) conducting monitoring/inspection activities;
- Description of the activities performed;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet);
- Type of samples collected (e.g., sub-slab vapor, indoor air, and/or outdoor air);
- Copies of all field forms completed (e.g., well sampling logs and chain of custody documentation);
- Sampling results in comparison to appropriate standards/criteria;

- A figure illustrating sample type and sampling locations;
- Copies of all laboratory data sheets and the required laboratory data deliverables required for all points sampled (to be submitted electronically in the NYSDEC-identified format);
- Any observations, conclusions, or recommendations; and
- A determination as to whether contaminant conditions have changed since the last reporting event.

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

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

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

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

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

7.2 PERIODIC REVIEW REPORT

A PRR will be submitted to the NYSDEC project manager beginning 16 months after the COC is issued. After submittal of the initial PRR, the next PRR shall be submitted annually to the NYSDEC project manager, if needed, or at another frequency as may be required by the NYSDEC project manager. In the event that the Site is subdivided into separate parcels with different ownership, a single PRR will be prepared that addresses the Site described in Appendix A – Environmental Easement and Site Survey. The report will be prepared in accordance with NYSDEC's DER-10 and submitted within 30 days of the

end of each certification period. Media sampling results will also be incorporated into the PRR. 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, fire inspections, and severe condition inspections, if applicable.
- Description of any change of use, import of materials, or excavation that occurred during the certifying period.
- 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.
- Identification of any wastes generated during the reporting period, along with waste characterization data, manifests, and disposal documentation.
- A summary of any discharge monitoring data and/or information generated during the reporting period, with comments and conclusions.
- Data summary tables and graphical representations of contaminants of concern by media (groundwater, soil vapor, etc.), which include a listing of all compounds analyzed, along with the applicable standards, with all exceedances highlighted. These tables and figures will include a presentation of past data as part of an evaluation of contaminant concentration trends, including but not limited to:
  - Trend monitoring graphs that present groundwater contaminant levels from before the start of the remedy implementation to the most current sampling data;
  - Trend monitoring graphs depicting system influent analytical data on a per event and cumulative basis;
  - O&M data summary tables;
  - A current plume map for sites with remaining groundwater contamination; and
  - A groundwater elevation contour map for each gauging event.
- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted in digital format as determined by the NYSDEC. Currently, data is supplied electronically and submitted to the NYSDEC EQuIS™ database in accordance with the requirements found at this link: http://www.dec.ny.gov/chemical/62440.html.
- A Site evaluation, which includes the following:
  - The compliance of the remedy with the requirements of the Site-specific Decision Document;
  - The operation and the effectiveness of all treatment units, etc., including identification of any needed repairs or modifications;
  - Any new conclusions or observations regarding Site contamination based on inspections or data generated by the Monitoring and Sampling Plan for the media being monitored;

- Recommendations regarding any necessary changes to the remedy and/or Monitoring and Sampling Plan;
- An evaluation of trends in contaminant levels in the affected media to determine if the remedy continues to be effective in achieving remedial goals as specified by the Decision Document; and
- The overall performance and effectiveness of the remedy.

7.2.1 Certification of Institutional and Engineering Controls

Certification of IC/ECs will be included in the PRR.

Following the last inspection of the reporting period, a QEP or P.E. licensed to practice and registered in New York State will prepare, and include in the PRR, 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 IC/ECs required by the remedial program was performed under my direction;
- The IC/ECs 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 EE;
- 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;
- The information presented in this report is accurate and complete;
- No new information has come to my attention, including groundwater monitoring data from wells located at the Site boundary, if any, to indicate that the assumptions made in the qualitative exposure assessment of off-Site contamination are no longer valid; and
- The assumptions made in the qualitative exposure assessment remain valid.

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

The signed certification will be included in the PRR.

The PRR will be submitted, in electronic format, to the NYSDEC project manager and the NYSDOH project manager. The PRR may also need to be submitted in hard-copy format if 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 IC or EC or failure to conduct Site management activities, a Corrective Measures Work Plan will be submitted to the NYSDEC project manager 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 project manager.

7.4 REMEDIAL SYSTEM OPTIMIZATION (RSO) REPORT

If an RSO is to be performed (see Section 6.3), upon completion of the RSO, an RSO report must be submitted to the NYSDEC project manager for approval. 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, Health and Safety Plans (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 project manager and the NYSDOH project manager.

8. References

1. 6 NYCRR Part 375, Environmental Remediation Programs. 14 December 2006.

2. H & A of New York Engineering and Geology, LLP, 2023. Remedial Action Work Plan, Third Street Gowanus, 125 3rd Street, Brooklyn, New York. Prepared on behalf of Third at Third LLC, prepared for New York State Department of Environmental Conservation, 14 November.

3. H & A of New York Engineering and Geology, LLP, 2024. Remedial Design Technical Memorandum, 125 3rd Street, Brooklyn, New York. Prepared on behalf of Third at Third LLC, prepared for New York State Department of Environmental Conservation, 23 February.

4. H & A of New York Engineering and Geology, LLP, 2024. Final Engineering Report, 125 3rd Street, Brooklyn, New York. Prepared on behalf of Third at Third LLC, prepared for New York State Department of Environmental Conservation, August 2024.

5. Haley & Aldrich of New York, 2023. ASTM Phase I Environmental Site Assessment, 125 3rd Street, Brooklyn, New York. Prepared for Third at Third LLC, 1 August.

6. Langan Engineering, Environmental, Surveying Landscape Architecture, and Geology, D.P.C., 2022. Geotechnical Engineering Report, 129 Third Street and 130 Second Street, Brooklyn, New York. Prepared for Orange Management, March.

7. Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C. Singer Environmental Group, Ltd., 2021a. Subsurface Investigation Report, 125 3rd Street, Brooklyn, New York. Prepared for Third Street Gowanus Owner LLC c/o Orange Management Inc., 1 November.

8. Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C. Singer Environmental Group, Ltd., 2021b. ASTM Phase I Environmental Site Assessment, 125 3rd Street, Brooklyn, New York. Prepared for Third Street Gowanus Owner LLC c/o Orange Management Inc., 9 December.

9. Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C. Singer Environmental Group, Ltd., 2023. Remedial Investigation Report, 125 3rd Street, Brooklyn, New York. Prepared on behalf of Third Street Gowanus Owner LLC c/o Orange Management Inc, Prepared for New York State Department of Environmental Conservation, May.

10. New York State Department of Environmental Conservation, 1998. Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations Division of Water Technical and Operational Guidance Series (TOGSs) 1.1.1. June (April 2000 addendum).

11. New York State Department of Environmental Conservation, 2023. Decision Document, Third Street Gowanus Site, 125 3rd Street, Brooklyn, New York, Prepared for Third at Third LLC, December.

12. New York State Department of Environmental Conservation. NYSDEC DER-10 – “Technical Guidance for Site Investigation and Remediation.”

https://haleyaldrich.sharepoint.com/sites/UptonMetropolitanLLC/Shared Documents/0208545.125 3rd Street (Gowanus)/Deliverables/15. SMP/2024-0809-Third Street Gowanus (C224346)-SMP-F.docx

TABLES

Groundwater Elevation Data

PROJECT	Third Street Gowanus Site
LOCATION	125 3rd Street, Brooklyn, New York
CLIENT	THIRD STREET GOWANUS OWNER LLC and THIRD AT THIRD LLC
H&A FILE NO.	0208545
PROJECT MANAGER	E. Scheuerman
FIELD REP.	H. Russell, G. Poulton
GAUGING DATE	5/2/2024

MONITORING WELL ID	TIME	DEPTH TO WATER (FT BELOW TOC)	TOP OF CASING ELEVATION (FT)	GROUNDWATER ELEVATION (FT)
RW-1	13:57	6.9	11.6	4.70
RW-2	12:13	5.41	7.74	2.33
RW-3	10:33	5.81	11.39	5.58
RW-4	16:06	7.71	10.69	2.98

Comments:

1. Monitoring wells RW-01 through RW-04 were surveyed by DPK Land Surveying LLC on 2 May 2024

2. Wells were gauged on 3 April 2024

3. Elevation refers to the North American Vertical Datum of 1988 (NAVD88).

4. All dimensions are in US survey feet.

TABLE 2
REMAINING CONTAMINATION IN SOIL
125 3RD STREET
BROOKLYN, NEW YORK
FILE NO. 0208545

Precharacterization Grid	Action Level									
Location Name	Restricted Use	NY Part 375	EP-1	EP-2	EP-2	EP-3	EP-4	EP-5	EP-6	EP-7
Sample Name	Soil Cleanup	Unrestricted	EP-1_2	EP-2_2	DUP-031224	EP-3_2	EP-4_5	EP-5_5	EP-6_5	EP-7_5
Sample Date	Objectives -	Use	03/12/2024	03/12/2024	03/12/2024	03/12/2024	04/22/2024	04/22/2024	04/22/2024	04/22/2024
Lab Sample ID	Protection of	Soil Cleanup	L2413309-01	L2413309-02	L2413309-04	L2413309-03	L2421980-01	L2421980-02	L2421980-03	L2421980-04
Sample Depth (bgs)	Groundwater	Objectives	2 - 2.5 (ft)	2 - 2.5 (ft)	2 - 2.5 (ft)	2 - 2.5 (ft)	5 - 5.5 (ft)	5 - 5.5 (ft)	5 - 5.5 (ft)	5 - 5.5 (ft)
Volatile Organic Compounds (mg/kg)										
1,1,1,2-Tetrachloroethane	NA	NA	ND (0.00052)	ND (0.00058) J	ND (0.00052)	ND (0.00055)	ND (0.00057)	ND (0.00041)	ND (0.00073)	ND (0.00058)
1,1,1-Trichloroethane	0.68	0.68	ND (0.00052)	ND (0.00058)	ND (0.00052)	ND (0.00055)	ND (0.00057)	ND (0.00041)	ND (0.00073)	ND (0.00058)
1,1,2,2-Tetrachloroethane	NA	NA	ND (0.00052)	0.00058 R	ND (0.00052)	ND (0.00055)	ND (0.00057)	ND (0.00041)	ND (0.00073)	ND (0.00058)
1,1,2-Trichloroethane	NA	NA	ND (0.001)	ND (0.0012) J	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.00083)	ND (0.0014)	ND (0.0012)
1,1-Dichloroethane	0.27	0.27	ND (0.001)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.00083)	ND (0.0014)	ND (0.0012)
1,1-Dichloroethene	0.33	0.33	ND (0.001)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.00083)	ND (0.0014)	ND (0.0012)
1,1-Dichloropropene	NA	NA	ND (0.00052)	ND (0.00058)	ND (0.00052)	ND (0.00055)	ND (0.00057)	ND (0.00041)	ND (0.00073)	ND (0.00058)
1,2,3-Trichlorobenzene	NA	NA	ND (0.0021)	0.0023 R	ND (0.0021)	ND (0.0022)	ND (0.0023)	ND (0.0016)	ND (0.0029)	ND (0.0023)
1,2,3-Trichloropropane	NA	NA	ND (0.0021)	ND (0.0023) J	ND (0.0021)	ND (0.0022)	ND (0.0023)	ND (0.0016)	ND (0.0029)	ND (0.0023)
1,2,4,5-Tetramethylbenzene	NA	NA	ND (0.0021)	ND (0.0023) J	ND (0.0021)	ND (0.0022)	ND (0.0023)	ND (0.0016)	ND (0.0029)	ND (0.0023)
1,2,4-Trichlorobenzene	NA	NA	ND (0.0021)	0.0023 R	ND (0.0021)	ND (0.0022)	ND (0.0023)	ND (0.0016)	ND (0.0029)	ND (0.0023)
1,2,4-Trimethylbenzene	3.6	3.6	ND (0.0021)	ND (0.0023) J	ND (0.0021)	ND (0.0022)	ND (0.0023)	ND (0.0016)	ND (0.0029)	ND (0.0023)
1,2-Dibromo-3-chloropropane (DBCP)	NA	NA	ND (0.0031)	ND (0.0035) J	ND (0.0031)	ND (0.0033)	ND (0.0034)	ND (0.0025)	ND (0.0044)	ND (0.0035)
1,2-Dibromoethane (Ethylene Dibromide)	NA	NA	ND (0.001)	ND (0.0012) J	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.00083)	ND (0.0014)	ND (0.0012)
1,2-Dichlorobenzene	1.1	1.1	ND (0.0021)	ND (0.0023) J	ND (0.0021)	ND (0.0022)	ND (0.0023)	ND (0.0016)	ND (0.0029)	ND (0.0023)
1,2-Dichloroethane	0.02	0.02	ND (0.001)	ND (0.0012) J	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.00083)	ND (0.0014)	ND (0.0012)
1,2-Dichloroethene (total)	NA	NA	ND (0.001)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.00083)	ND (0.0014)	ND (0.0012)
1,2-Dichloropropane	NA	NA	ND (0.001)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.00083)	ND (0.0014)	ND (0.0012)
1,3,5-Trimethylbenzene	8.4	8.4	ND (0.0021)	ND (0.0023) J	ND (0.0021)	0.00021 J	ND (0.0023)	ND (0.0016)	ND (0.0029)	ND (0.0023)
1,3-Dichlorobenzene	2.4	2.4	ND (0.0021)	ND (0.0023) J	ND (0.0021)	ND (0.0022)	ND (0.0023)	ND (0.0016)	ND (0.0029)	ND (0.0023)
1,3-Dichloropropane	NA	NA	ND (0.0021)	ND (0.0023) J	ND (0.0021)	ND (0.0022)	ND (0.0023)	ND (0.0016)	ND (0.0029)	ND (0.0023)
1,3-Dichloropropene	NA	NA	ND (0.00052)	ND (0.00058)	ND (0.00052)	ND (0.00055)	ND (0.00057)	ND (0.00041)	ND (0.00073)	ND (0.00058)
1,4-Dichlorobenzene	1.8	1.8	ND (0.0021)	ND (0.0023) J	ND (0.0021)	ND (0.0022)	ND (0.0023)	ND (0.0016)	ND (0.0029)	ND (0.0023)
1,4-Diethylbenzene	NA	NA	0.00025 J	ND (0.0023) J	0.00027 J	0.00056 J	ND (0.0023)	ND (0.0016)	ND (0.0029)	ND (0.0023)
1,4-Dioxane	0.1	0.1	ND (0.082)	ND (0.093)	ND (0.084)	ND (0.088)	ND (0.091)	ND (0.066)	ND (0.12)	ND (0.092)
2,2-Dichloropropane	NA	NA	ND (0.0021)	ND (0.0023)	ND (0.0021)	ND (0.0022)	ND (0.0023)	ND (0.0016)	ND (0.0029)	ND (0.0023)
2-Butanone (Methyl Ethyl Ketone)	0.12	0.12	ND (0.01) J	ND (0.012) J	ND (0.01) J	ND (0.011) J	ND (0.011) J	0.0023 J	ND (0.014) J	ND (0.012) J
2-Chlorotoluene	NA	NA	ND (0.0021)	ND (0.0023) J	ND (0.0021)	ND (0.0022)	ND (0.0023)	ND (0.0016)	ND (0.0029)	ND (0.0023)
2-Hexanone (Methyl Butyl Ketone)	NA	NA	ND (0.01) J	ND (0.012) J	ND (0.01) J	ND (0.011) J	ND (0.011) J	ND (0.0083) J	ND (0.014) J	ND (0.012) J
2-Phenylbutane (sec-Butylbenzene)	11	11	ND (0.001)	ND (0.0012) J	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.00083)	ND (0.0014)	ND (0.0012)
4-Chlorotoluene	NA	NA	ND (0.0021)	ND (0.0023) J	ND (0.0021)	ND (0.0022)	ND (0.0023)	ND (0.0016)	ND (0.0029)	ND (0.0023)
4-Ethyltoluene (1-Ethyl-4-Methylbenzene)	NA	NA	ND (0.0021)	ND (0.0023) J	ND (0.0021)	ND (0.0022)	ND (0.0023)	ND (0.0016)	ND (0.0029)	ND (0.0023)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	NA	NA	ND (0.01)	ND (0.012) J	ND (0.01)	ND (0.011)	ND (0.011)	ND (0.0083)	ND (0.014)	ND (0.012)
Acetone	0.05	0.05	ND (0.01)	ND (0.012)	ND (0.01)	ND (0.011)	ND (0.011)	0.012	0.016	0.024
Acrylonitrile	NA	NA	ND (0.0041) J	ND (0.0046) J	ND (0.0042) J	ND (0.0044) J	ND (0.0046) J	ND (0.0033) J	ND (0.0058) J	ND (0.0046) J
Benzene	0.06	0.06	ND (0.00052)	0.0002 J	ND (0.00052)	ND (0.00055)	ND (0.00057)	ND (0.00041)	ND (0.00073)	ND (0.00058)
Bromobenzene	NA	NA	ND (0.0021)	ND (0.0023) J	ND (0.0021)	ND (0.0022)	ND (0.0023)	ND (0.0016)	ND (0.0029)	ND (0.0023)
Bromodichloromethane	NA	NA	ND (0.00052)	ND (0.00058) J	ND (0.00052)	ND (0.00055)	ND (0.00057)	ND (0.00041)	ND (0.00073)	ND (0.00058)
Bromoform	NA	NA	ND (0.0041)	ND (0.0046) J	ND (0.0042)	ND (0.0044)	ND (0.0046)	ND (0.0033)	ND (0.0058)	ND (0.0046)
Bromomethane (Methyl Bromide)	NA	NA	ND (0.0021)	ND (0.0023)	ND (0.0021)	ND (0.0022)	ND (0.0023)	ND (0.0016)	ND (0.0029)	ND (0.0023)
Carbon disulfide	NA	NA	ND (0.01)	ND (0.012)	ND (0.01)	ND (0.011)	ND (0.011)	ND (0.0083)	ND (0.014)	ND (0.012)
Carbon tetrachloride	0.76	0.76	ND (0.001)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.00083)	ND (0.0014)	ND (0.0012)
Chlorobenzene	1.1	1.1	ND (0.00052)	ND (0.00058) J	ND (0.00052)	ND (0.00055)	ND (0.00057)	ND (0.00041)	ND (0.00073)	ND (0.00058)
Chlorobromomethane	NA	NA	ND (0.0021)	ND (0.0023) J	ND (0.0021)	ND (0.0022)	ND (0.0023)	ND (0.0016)	ND (0.0029)	ND (0.0023)
Chloroethane	NA	NA	ND (0.0021)	ND (0.0023)	ND (0.0021)	ND (0.0022)	ND (0.0023)	ND (0.0016)	ND (0.0029)	ND (0.0023)
Chloroform (Trichloromethane)	0.37	0.37	ND (0.0015)	ND (0.0017)	ND (0.0016)	ND (0.0016)	ND (0.0017)	ND (0.0012)	ND (0.0022)	ND (0.0017)
Chloromethane (Methyl Chloride)	NA	NA	ND (0.0041)	ND (0.0046)	ND (0.0042)	ND (0.0044)	ND (0.0046)	ND (0.0033)	ND (0.0058)	ND (0.0046)
cis-1,2-Dichloroethene	0.25	0.25	ND (0.001)	ND (0.0012) J	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.00083)	ND (0.0014)	ND (0.0012)
cis-1,3-Dichloropropene	NA	NA	ND (0.00052)	ND (0.00058) J	ND (0.00052)	ND (0.00055)	ND (0.00057)	ND (0.00041)	ND (0.00073)	ND (0.00058)
Cymene (p-Isopropyltoluene)	NA	NA	ND (0.001)	ND (0.0012) J	ND (0.001)	0.00015 J	ND (0.0011)	ND (0.00083)	ND (0.0014)	ND (0.0012)
Dibromochloromethane	NA	NA	ND (0.001)	ND (0.0012) J	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.00083)	ND (0.0014)	ND (0.0012)
Dibromomethane	NA	NA	ND (0.0021)	ND (0.0023) J	ND (0.0021)	ND (0.0022)	ND (0.0023)	ND (0.0016)	ND (0.0029)	ND (0.0023)
Dichlorodifluoromethane (CFC-12)	NA	NA	ND (0.01)	ND (0.012)	ND (0.01)	ND (0.011)	ND (0.011)	ND (0.0083)	ND (0.014)	ND (0.012)
Ethyl Ether	NA	NA	ND (0.0021)	ND (0.0023)	ND (0.0021)	ND (0.0022)	ND (0.0023)	ND (0.0016)	ND (0.0029)	ND (0.0023)
Ethylbenzene	1	1	ND (0.001)	ND (0.0012) J	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.00083)	ND (0.0014)	ND (0.0012)
Hexachlorobutadiene	NA	NA	ND (0.0041)	ND (0.0046) J	ND (0.0042)	ND (0.0044)	ND (0.0046)	ND (0.0033)	ND (0.0058)	ND (0.0046)
Isopropylbenzene (Cumene)	NA	NA	ND (0.001)	ND (0.0012) J	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.00083)	ND (0.0014)	ND (0.0012)
m,p-Xylenes	NA	NA	ND (0.0021)	ND (0.0023) J	ND (0.0021)	ND (0.0022)	ND (0.0023)	ND (0.0016)	ND (0.0029)	ND (0.0023)
Methyl Tert Butyl Ether (MTBE)	0.93	0.93	ND (0.0021)	ND (0.0023)	ND (0.0021)	ND (0.0022)	ND (0.0023)	ND (0.0016)	ND (0.0029)	ND (0.0023)
Methylene chloride (Dichloromethane)	0.05	0.05	ND (0.0052)	ND (0.0058) J	ND (0.0052)	ND (0.0055)	ND (0.0057)	ND (0.0041)	ND (0.0073)	ND (0.0058)
Naphthalene	12	12	0.0025 J	0.0011 J	0.00077 J	0.0008 J	ND (0.0046)	ND (0.0033)	ND (0.0058)	ND (0.0046)
n-Butylbenzene	12	12	ND (0.001)	ND (0.0012) J	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.00083)	ND (0.0014)	ND (0.0012)
n-Propylbenzene	3.9	3.9	ND (0.001)	ND (0.0012) J	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.00083)	ND (0.0014)	ND (0.0012)
o-Xylene	NA	NA	ND (0.001)	ND (0.0012) J	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.00083)	ND (0.0014)	ND (0.0012)
Styrene	NA	NA	ND (0.001)	ND (0.0012) J	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.00083)	ND (0.0014)	ND (0.0012)
tert-Butylbenzene	5.9	5.9	ND (0.0021)	ND (0.0023) J	ND (0.0021)	ND (0.0022)	ND (0.0023)	ND (0.0016)	ND (0.0029)	ND (0.0023)
Tetrachloroethene	1.3	1.3	ND (0.00052)	ND (0.00058) J	ND (0.00052)	ND (0.00055)	ND (0.00057)	ND (0.00041)	ND (0.00073)	ND (0.00058)
Toluene	0.7	0.7	ND (0.001)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.00083)	ND (0.0014)	ND (0.0012)
trans-1,2-Dichloroethene	0.19	0.19	ND (0.0015)	ND (0.0017) J	ND (0.0016)	ND (0.0016)	ND (0.0017)	ND (0.0012)	ND (0.0022)	ND (0.0017)
trans-1,3-Dichloropropene	NA	NA	ND (0.001)	ND (0.0012) J	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.00083)	ND (0.0014)	ND (0.0012)
trans-1,4-Dichloro-2-butene	NA	NA	ND (0.0052)	ND (0.0058) J	ND (0.0052)	ND (0.0055)	ND (0.0057)	ND (0.0041)	ND (0.0073)	ND (0.0058)
Trichloroethene	0.47	0.47	ND (0.00052)	ND (0.00058)	ND (0.00052)	ND (0.00055)	ND (0.00057)	ND (0.00041)	ND (0.00073)	ND (0.00058)
Trichlorofluoromethane (CFC-11)	NA	NA	ND (0.0041)	ND (0.0046)	ND (0.0042)	ND (0.0044)	ND (0.0046)	ND (0.0033)	ND (0.0058)	ND (0.0046)
Vinyl acetate	NA	NA	ND (0.01)	0.012 R	ND (0.01)	ND (0.011)	ND (0.011)	ND (0.0083)	ND (0.014)	ND (0.012)
Vinyl chloride	0.02	0.02	ND (0.001)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.00083)	ND (0.0014)	ND (0.0012)
Xylene (Total)	1.6	0.26	ND (0.001)	ND (0.0012) J	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.00083)	ND (0.0014)	ND (0.0012)

Location Name	EP-8	EP-9	EP-10	EP-11	EP-12	EP-13	EP-14	EP-15	EP-16	EP-17	EP-18	EP-19	EP-19
Sample Name	EP-8_5	EP-9_8	EP-10_10	EP-11_8	EP-12_10	EP-13_8	EP-14_5	EP-15_4	EP-16_4	EP-17_5	EP-18_4	EP-19_4	DUP-012324
Sample Date	04/22/2024	03/22/2024	03/22/2024	03/22/2024	03/22/2024	03/22/2024	01/30/2024	01/30/2024	01/30/2024	01/30/2024	01/30/2024	01/23/2024	01/23/2024
Lab Sample ID	L2421980-05	L2415818-01	L2415818-02	L2415818-03	L2415818-04	L2415818-05	L2405088-01	L2405088-02	L2405088-03	L2405088-04	L2405088-05	L2403857-01	L2403857-05
Sample Depth (bgs)	5 - 5.5 (ft)	8 - 8.5 (ft)	10 - 10.5 (ft)	8 - 8.5 (ft)	10 - 10.5 (ft)	8 - 8.5 (ft)	5 - 5.5 (ft)	4 - 4.5 (ft)	4 - 4.5 (ft)	5 - 5.5 (ft)	4 - 4.5 (ft)	4 (ft)	4 (ft)
Volatile Organic Compounds (mg/kg)													
1,1,1,2-Tetrachloroethane	ND (0.00051)	ND (0.00052)	ND (0.00059)	ND (0.00049)	ND (0.00055)	ND (0.00053)	ND (0.00056)	ND (0.00056)	ND (0.00044)	ND (0.00056)	ND (0.0005)	ND (0.00059)	ND (0.00064)
1,1,1-Trichloroethane	ND (0.00051)	ND (0.00052)	ND (0.00059)	ND (0.00049)	ND (0.00055)	ND (0.00053)	ND (0.00056)	ND (0.00056)	ND (0.00044)	ND (0.00056)	ND (0.0005)	ND (0.00059)	ND (0.00064)
1,1,2,2-Tetrachloroethane	ND (0.00051)	ND (0.00052)	ND (0.00059)	ND (0.00049)	ND (0.00055)	ND (0.00053)	ND (0.00056)	ND (0.00056)	ND (0.00044)	ND (0.00056)	ND (0.0005)	ND (0.00059)	ND (0.00064)
1,1,2-Trichloroethane	ND (0.001)	ND (0.001)	ND (0.0012)	ND (0.00098)	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.00087)	ND (0.0011)	ND (0.00099)	ND (0.0012)	ND (0.0013)
1,1-Dichloroethane	ND (0.001)	ND (0.001)	ND (0.0012)	ND (0.00098)	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.00087)	ND (0.0011)	ND (0.00099)	ND (0.0012)	ND (0.0013)
1,1-Dichloroethene	ND (0.001)	ND (0.001) J	ND (0.0012) J	ND (0.00098) J	ND (0.0011) J	ND (0.001) J	ND (0.0011)	ND (0.0011)	ND (0.00087)	ND (0.0011)	ND (0.00099)	ND (0.0012)	ND (0.0013)
1,1-Dichloropropene	ND (0.00051)	ND (0.00052)	ND (0.00059)	ND (0.00049)	ND (0.00055)	ND (0.00053)	ND (0.00056)	ND (0.00056)	ND (0.00044)	ND (0.00056)	ND (0.0005)	ND (0.00059)	ND (0.00064)
1,2,3-Trichlorobenzene	ND (0.002)	ND (0.0021)	ND (0.0024)	ND (0.002)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0022)	ND (0.0017)	ND (0.0022)	ND (0.002)	ND (0.0024)	ND (0.0025)
1,2,3-Trichloropropane	ND (0.002)	ND (0.0021)	ND (0.0024)	ND (0.002)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0022)	ND (0.0017)	ND (0.0022)	ND (0.002)	ND (0.0024)	ND (0.0025)
1,2,4,5-Tetramethylbenzene	ND (0.002)	ND (0.0021)	0.00066 J	0.00098 J	0.00069 J	0.00087 J	ND (0.0022)	ND (0.0022)	ND (0.0017)	ND (0.0022)	ND (0.002)	ND (0.0024)	ND (0.0025)
1,2,4-Trichlorobenzene	ND (0.002)	ND (0.0021)	ND (0.0024)	ND (0.002)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0022)	ND (0.0017)	ND (0.0022)	ND (0.002)	ND (0.0024)	ND (0.0025)
1,2,4-Trimethylbenzene	ND (0.002)	ND (0.0021)	0.0009 J	0.0012 J	0.00041 J	0.00094 J	ND (0.0022)	ND (0.0022)	ND (0.0017)	ND (0.0022)	ND (0.002)	ND (0.0024)	ND (0.0025)
1,2-Dibromo-3-chloropropane (DBCP)	ND (0.0031)	ND (0.0031)	ND (0.0035)	ND (0.0029)	ND (0.0033)	ND (0.0032)	ND (0.0033) J	ND (0.0034) J	ND (0.0026) J	ND (0.0033) J	ND (0.003) J	ND (0.0036)	ND (0.0038)
1,2-Dibromoethane (Ethylene Dibromide)	ND (0.001)	ND (0.001)	ND (0.0012)	ND (0.00098)	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.00087)	ND (0.0011)	ND (0.00099)	ND (0.0012)	ND (0.0013)
1,2-Dichlorobenzene	ND (0.002)	ND (0.0021)	ND (0.0024)	ND (0.002)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0022)	ND (0.0017)	ND (0.0022)	ND (0.002)	ND (0.0024)	ND (0.0025)
1,2-Dichloroethane	ND (0.001)	ND (0.001)	ND (0.0012)	ND (0.00098)	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.00087)	ND (0.0011)	ND (0.00099)	ND (0.0012)	ND (0.0013)
1,2-Dichloroethene (total)	ND (0.001)	ND (0.001)	ND (0.0012)	ND (0.00098)	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.00087)	ND (0.0011)	ND (0.00099)	ND (0.0012)	ND (0.0013)
1,2-Dichloropropane	ND (0.001)	ND (0.001)	ND (0.0012)	ND (0.00098)	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.00087)	ND (0.0011)	ND (0.00099)	ND (0.0012)	ND (0.0013)
1,3,5-Trimethylbenzene	ND (0.002)	ND (0.0021)	0.0009 J	0.00074 J	0.0006 J	0.00061 J	ND (0.0022)	ND (0.0022)	ND (0.0017)	ND (0.0022)	ND (0.002)	ND (0.0024)	ND (0.0025)
1,3-Dichlorobenzene	ND (0.002)	ND (0.0021)	ND (0.0024)	ND (0.002)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0022)	ND (0.0017)	ND (0.0022)	ND (0.002)	ND (0.0024)	ND (0.0025)
1,3-Dichloropropane	ND (0.002)	ND (0.0021)	ND (0.0024)	ND (0.002)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0022)	ND (0.0017)	ND (0.0022)	ND (0.002)	ND (0.0024)	ND (0.0025)
1,3-Dichloropropene	ND (0.00051)	ND (0.00052)	ND (0.00059)	ND (0.00049)	ND (0.00055)	ND (0.00053)	ND (0.00056)	ND (0.00056)	ND (0.00044)	ND (0.00056)	ND (0.0005)	ND (0.00059)	ND (0.00064)
1,4-Dichlorobenzene	ND (0.002)	ND (0.0021)	ND (0.0024)	ND (0.002)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0022)	ND (0.0017)	ND (0.0022)	ND (0.002)	ND (0.0024)	ND (0.0025)
1,4-Diethylbenzene	ND (0.002)	ND (0.0021)	0.0013 J	0.0014 J	0.0011 J	ND (0.0021)	ND (0.0022)	ND (0.0022)	ND (0.0017)	ND (0.0022)	0.00022 J	ND (0.0024)	ND (0.0025)
1,4-Dioxane	ND (0.082)	ND (0.083) J	ND (0.094) J	ND (0.078) J	ND (0.088) J	ND (0.084) J	ND (0.089) J	ND (0.09) J	ND (0.07) J	ND (0.089) J	ND (0.079) J	ND (0.095) J	ND (0.1) J
2,2-Dichloropropane	ND (0.002)	ND (0.0021)	ND (0.0024)	ND (0.002)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0022)	ND (0.0017)	ND (0.0022)	ND (0.002)	ND (0.0024)	ND (0.0025)
2-Butanone (Methyl Ethyl Ketone)	ND (0.01) J	ND (0.01)	ND (0.012)	ND (0.0098)	ND (0.011)	ND (0.01)	ND (0.011)	ND (0.011)	ND (0.0087)	0.0045 J	ND (0.0099)	ND (0.012)	ND (0.013)
2-Chlorotoluene	ND (0.002)	ND (0.0021)	ND (0.0024)	ND (0.002)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0022)	ND (0.0017)	ND (0.0022)	ND (0.002)	ND (0.0024)	ND (0.0025)
2-Hexanone (Methyl Butyl Ketone)	ND (0.01) J	ND (0.01)	ND (0.012)	ND (0.0098)	ND (0.011)	ND (0.01)	ND (0.011)	ND (0.011)	ND (0.0087)	ND (0.011)	ND (0.0099)	ND (0.012)	ND (0.013)
2-Phenylbutane (sec-Butylbenzene)	ND (0.001)	ND (0.001)	ND (0.0012)	ND (0.00098)	ND (0.0011)	0.00024 J	ND (0.0011)	ND (0.0011)	ND (0.00087)	ND (0.0011)	ND (0.00099)	ND (0.0012)	ND (0.0013)
4-Chlorotoluene	ND (0.002)	ND (0.0021)	ND (0.0024)	ND (0.002)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0022)	ND (0.0017)	ND (0.0022)	ND (0.002)	ND (0.0024)	ND (0.0025)
4-Ethyltoluene (1-Ethyl-4-Methylbenzene)	ND (0.002)	ND (0.0021)	0.00074 J	0.0007 J	ND (0.0022)	0.00089 J	ND (0.0022)	ND (0.0022)	ND (0.0017)	ND (0.0022)	ND (0.002)	ND (0.0024)	ND (0.0025)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND (0.01)	ND (0.01)	ND (0.012)	ND (0.0098)	ND (0.011)	ND (0.01)	ND (0.011)	ND (0.011)	ND (0.0087)	ND (0.011)	ND (0.0099)	ND (0.012)	ND (0.013)
Acetone	ND (0.01)	ND (0.01)	0.03	0.0087 J	0.027	0.016	0.0054 J	ND (0.011)	ND (0.0087)	0.02	0.0081 J	ND (0.012)	ND (0.013)
Acrylonitrile	ND (0.0041) J	ND (0.0041)	ND (0.0047)	ND (0.0039)	ND (0.0044)	ND (0.0042)	ND (0.0044)	ND (0.0045)	ND (0.0035)	ND (0.0044)	ND (0.004)	ND (0.0047)	ND (0.0051)
Benzene	ND (0.00051)	ND (0.00052)	ND (0.00059)	0.00034 J	ND (0.00055)	ND (0.00053)	ND (0.00056)	ND (0.00056)	ND (0.00044)	ND (0.00056)	ND (0.0005)	ND (0.00059)	ND (0.00064)
Bromobenzene	ND (0.002)	ND (0.0021)	ND (0.0024)	ND (0.002)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0022)	ND (0.0017)	ND (0.0022)	ND (0.002)	ND (0.0024)	ND (0.0025)
Bromodichloromethane	ND (0.00051)	ND (0.00052)	ND (0.00059)	ND (0.00049)	ND (0.00055)	ND (0.00053)	ND (0.00056)	ND (0.00056)	ND (0.00044)	ND (0.00056)	ND (0.0005)	ND (0.00059)	ND (0.00064)
Bromoform	ND (0.0041)	ND (0.0041)	ND (0.0047)	ND (0.0039)	ND (0.0044)	ND (0.0042)	ND (0.0044)	ND (0.0045)	ND (0.0035)	ND (0.0044)	ND (0.004)	ND (0.0047)	ND (0.0051)
Bromomethane (Methyl Bromide)	ND (0.002)	ND (0.0021) J	ND (0.0024) J	ND (0.002) J	ND (0.0022) J	ND (0.0021) J	ND (0.0022)	ND (0.0022)	ND (0.0017)	ND (0.0022)	ND (0.002)	ND (0.0024)	ND (0.0025)
Carbon disulfide	ND (0.01)	ND (0.01)	ND (0.012)	ND (0.0098)	ND (0.011)	ND (0.01)	ND (0.011)	ND (0.011)	ND (0.0087)	ND (0.011)	ND (0.0099)	ND (0.012)	ND (0.013)
Carbon tetrachloride	ND (0.001)	ND (0.001)	ND (0.0012)	ND (0.00098)	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.00087)	ND (0.0011)	ND (0.00099)	ND (0.0012)	ND (0.0013)
Chlorobenzene	ND (0.00051)	ND (0.00052)	ND (0.00059)	ND (0.00049)	ND (0.00055)	ND (0.00053)	ND (0.00056)	ND (0.00056)	ND (0.00044)	ND (0.00056)	ND (0.0005)	ND (0.00059)	ND (0.00064)
Chlorobromomethane	ND (0.002)	ND (0.0021)	ND (0.0024)	ND (0.002)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0022)	ND (0.0017)	ND (0.0022)	ND (0.002)	ND (0.0024)	ND (0.0025)
Chloroethane	ND (0.002)	ND (0.0021)	ND (0.0024)	ND (0.002)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0022)	ND (0.0017)	ND (0.0022)	ND (0.002)	ND (0.0024)	ND (0.0025)
Chloroform (Trichloromethane)	ND (0.0015)	ND (0.0015)	ND (0.0018)	ND (0.0015)	ND (0.0016)	ND (0.0016)	ND (0.0017)	ND (0.0017)	ND (0.0013)	ND (0.0017)	ND (0.0015)	ND (0.0018)	ND (0.0019)
Chloromethane (Methyl Chloride)	ND (0.0041)	ND (0.0041)	ND (0.0047)	ND (0.0039)	ND (0.0044)	ND (0.0042)	ND (0.0044)	ND (0.0045)	ND (0.0035)	ND (0.0044)	ND (0.004)	ND (0.0047)	ND (0.0051)
cis-1,2-Dichloroethene	ND (0.001)	ND (0.001)	ND (0.0012)	ND (0.00098)	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.00087)	ND (0.0011)	ND (0.00099)	ND (0.0012)	ND (0.0013)
cis-1,3-Dichloropropene	ND (0.00051)	ND (0.00052)	ND (0.00059)	ND (0.00049)	ND (0.00055)	ND (0.00053)	ND (0.00056)	ND (0.00056)	ND (0.00044)	ND (0.00056)	ND (0.0005)	ND (0.00059)	ND (0.00064)
Cymene (p-Isopropyltoluene)	ND (0.001)	ND (0.001)	0.0011 J	0.0021	0.001 J	0.014	ND (0.0011)	ND (0.0011)	ND (0.00087)	ND (0.0011)	0.00027 J	ND (0.0012)	ND (0.0013)
Dibromochloromethane	ND (0.001)	ND (0.001)	ND (0.0012)	ND (0.00098)	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.00087)	ND (0.0011)	ND (0.00099)	ND (0.0012)	ND (0.0013)
Dibromomethane	ND (0.002)	ND (0.0021)	ND (0.0024)	ND (0.002)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0022)	ND (0.0017)	ND (0.0022)	ND (0.002)	ND (0.0024)	ND (0.0025)
Dichlorodifluoromethane (CFC-12)	ND (0.01)	ND (0.01)	ND (0.012)	ND (0.0098)	ND (0.011)	ND (0.01)	ND (0.011)	ND (0.011)	ND (0.0087)	ND (0.011)	ND (0.0099)	ND (0.012)	ND (0.013)
Ethyl Ether	ND (0.002)	ND (0.0021)	ND (0.0024)	ND (0.002)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0022)	ND (0.0017)	ND (0.0022)	ND (0.002)	ND (0.0024)	ND (0.0025)
Ethylbenzene	ND (0.001)	0.00037 J	0.00029 J	0.00039 J	0.00019 J	0.00087 J	ND (0.0011)	ND (0.0011)	ND (0.00087)	ND (0.0011)	ND (0.00099)	ND (0.0012)	ND (0.0013)
Hexachlorobutadiene	ND (0.0041)	ND (0.0041)	ND (0.0047)	ND (0.0039)	ND (0.0044)	ND (0.0042)	ND (0.0044)	ND (0.0045)	ND (0.0035)	ND (0.0044)	ND (0.004)	ND (0.0047)	ND (0.0051)
Isopropylbenzene (Cumene)	ND (0.001)	ND (0.001)	ND (0.0012)	ND (0.00098)	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.00087)	ND (0.0011)	ND (0.00099)	ND (0.0012)	ND (0.0013)
m,p-Xylenes	ND (0.002)	0.0012 J	0.00075 J	0.00075 J	ND (0.0022)	0.002 J	ND (0.0022)	ND (0.0022)	ND (0.0017)	ND (0.0022)	ND (0.002)	ND (0.0024)	ND (0.0025)
Methyl Tert Butyl Ether (MTBE)	ND (0.002)	ND (0.0021)	ND (0.0024)	ND (0.002)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0022)	ND (0.0017)	ND (0.0022)	ND (0.002)	ND (0.0024)	ND (0.0025)
Methylene chloride (Dichloromethane)	ND (0.0051)	ND (0.0052)	ND (0.0059)	ND (0.0049)	ND (0.0055)	ND (0.0053)	ND (0.0056)	ND (0.0056)	ND (0.0044)	ND (0.0056)	ND (0.005)	ND (0.0059)	ND (0.0064)
Naphthalene	0.0025 J	ND (0.0041)	0.065	0.062	0.019	0.027	ND (0.0044)	ND (0.0045)	ND (0.0035)	ND (0.0044)	0.0056	ND (0.0047)	ND (0.0051)
n-Butylbenzene	ND (0.001)	ND (0.001)	ND (0.0012)	ND (0.00098)	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.00087)	ND (0.0011)	ND (0.00099)	ND (0.0012)	ND (0.0013)
n-Propylbenzene	ND (0.001)	ND (0.001)	ND (0.0012)	ND (0.00098)	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.00087)	ND (0.0011)	ND (0.00099)	ND (0.0012)	ND (0.0013)
o-Xylene	ND (0.001)	0.00039 J	0.0005 J	0.00054 J	ND (0.0011)	0.0011	ND (0.0011)	ND (0.0011)	ND (0.00087)	ND (0.0011)	ND (0.00099)	ND (0.0012)	ND (0.0013)
Styrene	ND (0.001)	ND (0.001)	ND (0.0012)	ND (0.00098)	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.00087)	ND (0.0011)	ND (0.00099)	ND (0.0012)	ND (0.0013)
tert-Butylbenzene	ND (0.002)	ND (0.0021)	ND (0.0024)	ND (0.002)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0022)	ND (0.0017)	ND (0.0022)	ND (0.002)	ND (0.0024)	ND (0.0025)
Tetrachloroethene	0.0007	ND (0.00052)	ND (0.00059)	ND (0.00049)	ND (0.00055)	ND (0.00053)	ND (0.00056)	ND (0.00056)	ND (0.00044)	ND (0.00056)	ND (0.0005)	ND (0.00059)	ND (0.00064)
Toluene	ND (0.001)	ND (0.001)	ND (0.0012)	0.00058 J	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.00087)	ND (0.0011)	ND (0.00099)	ND (0.0012)	ND (0.0013)
trans-1,2-Dichloroethene	ND (0.0015)	ND (0.0015)	ND (0.0018)	ND (0.0015)	ND (0.0016)	ND (0.0016)	ND (0.0017)	ND (0.0017)	ND (0.0013)	ND (0.0017)	ND (0.0015)	ND (0.0018)	ND (0.0019)
trans-1,3-Dichloropropene	ND (0.001)	ND (0.001)	ND (0.0012)	ND (0.00098)	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.00087)	ND (0.0011)	ND (0.00099)	ND (0.0012)	ND (0.0013)
trans-1,4-Dichloro-2-butene	ND (0.0051)	ND (0.0052)	ND (0.0059)	ND (0.0049)	ND (0.0055)	ND (0.0053)	ND (0.0056)	ND (0.0056)	ND (0.0044)	ND (0.0056)	ND (0.005)	ND (0.0059)	ND (0.0064)
Trichloroethene	ND (0.00051)	ND (0.00052)	ND (0.00059)	ND (0.00049)	ND (0.00055)	ND (0.00053)	ND (0.00056)	ND (0.00056)	ND (0.00044)	ND (0.00056)	ND (0.0005)	ND (0.00059)	ND (0.00064)
Trichlorofluoromethane (CFC-11)	ND (0.0041)	ND (0.0041) J	ND (0.0047) J	ND (0.0039) J	ND (0.0044) J	ND (0.0042) J	ND (0.0044)	ND (0.0045)	ND (0.0035)	ND (0.0044)	ND (0.004)	ND (0.0047)	ND (0.0051)
Vinyl acetate	ND (0.01)	ND (0.01)	ND (0.012)	ND (0.0098)	ND (0.011)	ND (0.01)	ND (0.011)	ND (0.011)	ND (0.0087)	ND (0.011)	ND (0.0099)	ND (0.012)	ND (0.013)
Vinyl chloride	ND (0.001)	ND (0.001)	ND (0.0012)	ND (0.00098)	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.00087)	ND (0.0011)	ND (0.00099)	ND (0.0012)	ND (0.0013)
Xylene (Total)	ND (0.001)	0.0016 J	0.0013 J	0.0013 J	ND (0.0011)	0.0031 J	ND (0.0011)	ND (0.0011)	ND (0.00087)	ND (0.0011)	ND (0.00099)	ND (0.0012)	ND (0.0013)

TABLE 2
REMAINING CONTAMINATION IN SOIL
125 3RD STREET
BROOKLYN, NEW YORK
FILE NO. 0208545

Precharacterization Grid	Action Level																					
Location Name	Restricted Use	NY Part 375	EP-1	EP-2	EP-2	EP-3	EP-4	EP-5	EP-6	EP-7	EP-8	EP-9	EP-10	EP-11	EP-12	EP-13	EP-14	EP-15	EP-16	EP-17	EP-18	EP-19	EP-19
Sample Name	Soil Cleanup	Unrestricted	EP-1_2	EP-2_2	DUP-031224	EP-3_2	EP-4_5	EP-5_5	EP-6_5	EP-7_5	EP-8_5	EP-9_8	EP-10_10	EP-11_8	EP-12_10	EP-13_8	EP-14_5	EP-15_4	EP-16_4	EP-17_5	EP-18_4	EP-19_4	DUP-012324
Sample Date	Objectives -	Use	03/12/2024	03/12/2024	03/12/2024	03/12/2024	04/22/2024	04/22/2024	04/22/2024	04/22/2024	04/22/2024	03/22/2024	03/22/2024	03/22/2024	03/22/2024	03/22/2024	01/30/2024	01/30/2024	01/30/2024	01/30/2024	01/30/2024	01/23/2024	01/23/2024
Lab Sample ID	Protection of	Soil Cleanup	L2413309-01	L2413309-02	L2413309-04	L2413309-03	L2421980-01	L2421980-02	L2421980-03	L2421980-04	L2421980-05	L2415818-01	L2415818-02	L2415818-03	L2415818-04	L2415818-05	L2405088-01	L2405088-02	L2405088-03	L2405088-04	L2405088-05	L2403857-01	L2403857-05
Sample Depth (bgs)	Groundwater	Objectives	2 - 2.5 (ft)	2 - 2.5 (ft)	2 - 2.5 (ft)	2 - 2.5 (ft)	5 - 5.5 (ft)	5 - 5.5 (ft)	5 - 5.5 (ft)	5 - 5.5 (ft)	5 - 5.5 (ft)	8 - 8.5 (ft)	10 - 10.5 (ft)	8 - 8.5 (ft)	10 - 10.5 (ft)	8 - 8.5 (ft)	5 - 5.5 (ft)	4 - 4.5 (ft)	4 - 4.5 (ft)	5 - 5.5 (ft)	4 - 4.5 (ft)	4 (ft)	4 (ft)
Semi-Volatile Organic Compounds (mg/kg)																							
1,2,4,5-Tetrachlorobenzene	NA	NA	ND (0.18)	ND (0.96)	ND (0.2)	ND (0.2)	ND (0.21)	ND (0.19)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.21)	ND (0.21)	ND (0.96)	ND (0.19)	ND (0.2)	ND (0.21)	ND (0.21)	ND (0.2)	ND (0.2)	ND (0.22)	ND (0.22)	ND (0.21)
1,2,4-Trichlorobenzene	NA	NA	ND (0.18)	ND (0.96)	ND (0.2)	ND (0.2)	ND (0.21)	ND (0.19)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.21)	ND (0.21)	ND (0.96)	ND (0.19)	ND (0.2)	ND (0.21)	ND (0.21)	ND (0.2)	ND (0.2)	ND (0.22)	ND (0.22)	ND (0.21)
1,2-Dichlorobenzene	1.1	1.1	ND (0.18)	ND (0.96)	ND (0.2)	ND (0.2)	ND (0.21)	ND (0.19)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.21)	ND (0.21)	ND (0.96)	ND (0.19)	ND (0.2)	ND (0.21)	ND (0.21)	ND (0.2)	ND (0.2)	ND (0.22)	ND (0.22)	ND (0.21)
1,3-Dichlorobenzene	2.4	2.4	ND (0.18)	ND (0.96)	ND (0.2)	ND (0.2)	ND (0.21)	ND (0.19)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.21)	ND (0.21)	ND (0.96)	ND (0.19)	ND (0.2)	ND (0.21)	ND (0.21)	ND (0.2)	ND (0.2)	ND (0.22)	ND (0.22)	ND (0.21)
1,4-Dichlorobenzene	1.8	1.8	ND (0.18)	ND (0.96)	ND (0.2)	ND (0.2)	ND (0.21)	ND (0.19)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.21)	ND (0.21)	ND (0.96)	ND (0.19)	ND (0.2)	ND (0.21)	ND (0.21)	ND (0.2)	ND (0.2)	ND (0.22)	ND (0.22)	ND (0.21)
1,4-Dioxane	0.1	0.1	ND (0.027)	ND (0.14)	ND (0.03)	ND (0.03)	ND (0.032)	ND (0.029)	ND (0.029)	ND (0.029)	ND (0.029)	ND (0.032) J	ND (0.032) J	ND (0.14) J	ND (0.029) J	ND (0.029) J	ND (0.032)	ND (0.032)	ND (0.03)	ND (0.03)	ND (0.033)	ND (0.032)	ND (0.031)
2,2'-oxybis(1-Chloropropane)	NA	NA	ND (0.22)	ND (1.2)	ND (0.24)	ND (0.24)	ND (0.26)	ND (0.23)	ND (0.24)	ND (0.23)	ND (0.23)	ND (0.26)	ND (0.25)	ND (1.2)	ND (0.23)	ND (0.24)	ND (0.25)	ND (0.26)	ND (0.24)	ND (0.24)	ND (0.26)	ND (0.26)	ND (0.25)
2,4,5-Trichlorophenol	NA	NA	ND (0.18)	ND (0.96)	ND (0.2)	ND (0.2)	ND (0.21)	ND (0.19)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.21)	ND (0.21)	ND (0.96)	ND (0.19)	ND (0.2)	ND (0.21)	ND (0.21)	ND (0.2)	ND (0.2)	ND (0.22)	ND (0.22)	ND (0.21)
2,4,6-Trichlorophenol	NA	NA	ND (0.11)	ND (0.58)	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.13)	ND (0.58)	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.13)	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.13)	ND (0.12)
2,4-Dichlorophenol	NA	NA	ND (0.16)	ND (0.87)	ND (0.18)	ND (0.18)	ND (0.19)	ND (0.17)	ND (0.18)	ND (0.17)	ND (0.17)	ND (0.19)	ND (0.19)	ND (0.87)	ND (0.17)	ND (0.18)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.2)	ND (0.19)	ND (0.19)
2,4-Dimethylphenol	NA	NA	0.06 J	ND (0.96)	ND (0.2)	ND (0.2)	ND (0.21)	ND (0.19)	ND (0.2)	0.14 J	ND (0.19)	ND (0.21)	0.16 J	1.3	0.075 J	0.14 J	ND (0.21)	ND (0.21)	ND (0.2)	ND (0.2)	ND (0.22)	0.075 J	ND (0.21)
2,4-Dinitrophenol	NA	NA	ND (0.88)	ND (4.6)	ND (0.96)	ND (0.95)	ND (1)	ND (0.93)	ND (0.94)	ND (0.93)	ND (0.92)	ND (1)	ND (1)	ND (4.6)	ND (0.92)	ND (0.94)	ND (1)	ND (1)	ND (0.94)	ND (0.98)	ND (1)	ND (1)	ND (1)
2,4-Dinitrotoluene	NA	NA	ND (0.18)	ND (0.96)	ND (0.2)	ND (0.2)	ND (0.21)	ND (0.19)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.21)	ND (0.21)	ND (0.96)	ND (0.19)	ND (0.2)	ND (0.21)	ND (0.21)	ND (0.2)	ND (0.2)	ND (0.22)	ND (0.22)	ND (0.21)
2,6-Dinitrotoluene	NA	NA	ND (0.18)	ND (0.96)	ND (0.2)	ND (0.2)	ND (0.21)	ND (0.19)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.21)	ND (0.21)	ND (0.96)	ND (0.19)	ND (0.2)	ND (0.21)	ND (0.21)	ND (0.2)	ND (0.2)	ND (0.22)	ND (0.22)	ND (0.21)
2-Chloronaphthalene	NA	NA	ND (0.18)	ND (0.96)	ND (0.2)	ND (0.2)	ND (0.21)	ND (0.19)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.21)	ND (0.21)	ND (0.96)	ND (0.19)	ND (0.2)	ND (0.21)	ND (0.21)	ND (0.2)	ND (0.2)	ND (0.22)	ND (0.22)	ND (0.21)
2-Chlorophenol	NA	NA	ND (0.18)	ND (0.96)	ND (0.2)	ND (0.2)	ND (0.21)	ND (0.19)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.21)	ND (0.21)	ND (0.96)	ND (0.19)	ND (0.2)	ND (0.21)	ND (0.21)	ND (0.2)	ND (0.2)	ND (0.22)	ND (0.22)	ND (0.21)
2-Methylnaphthalene	NA	NA	0.55	17 J	0.18 J	0.23 J	0.057 J	0.038 J	0.055 J	1.1	0.63	ND (0.26)	1.2	9.1	1.1	1.2	ND (0.25)	ND (0.26)	0.045 J	ND (0.24)	0.25 J	2 J	0.74 J
2-Methylphenol (o-Cresol)	0.33	0.33	ND (0.18)	ND (0.96)	ND (0.2)	ND (0.2)	ND (0.21)	ND (0.19)	ND (0.2)	0.11 J	0.039 J	ND (0.21)	0.069 J	***0.66 J***	ND (0.19)	0.062 J	ND (0.21)	ND (0.21)	ND (0.2)	ND (0.2)	ND (0.22)	0.068 J	0.056 J
2-Nitroaniline	NA	NA	ND (0.18)	ND (0.96)	ND (0.2)	ND (0.2)	ND (0.21)	ND (0.19)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.21)	ND (0.21)	ND (0.96)	ND (0.19)	ND (0.2)	ND (0.21)	ND (0.21)	ND (0.2)	ND (0.2)	ND (0.22)	ND (0.22)	ND (0.21)
2-Nitrophenol	NA	NA	ND (0.39)	ND (2.1)	ND (0.43)	ND (0.43)	ND (0.46)	ND (0.42)	ND (0.42)	ND (0.42)	ND (0.42)	ND (0.46)	ND (0.46)	ND (2.1)	ND (0.41)	ND (0.42)	ND (0.46)	ND (0.46)	ND (0.42)	ND (0.44)	ND (0.47)	ND (0.46)	ND (0.45)
3&4-Methylphenol	NA	NA	0.066 J	ND (1.4)	0.034 J	0.036 J	ND (0.31)	ND (0.28)	ND (0.28)	0.35	0.11 J	ND (0.31)	0.28 J	2	0.11 J	0.22 J	ND (0.3)	ND (0.31)	ND (0.28)	ND (0.29)	0.05 J	0.22 J	0.18 J
3,3'-Dichlorobenzidine	NA	NA	ND (0.18)	ND (0.96)	ND (0.2)	ND (0.2)	ND (0.21)	ND (0.19)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.21)	ND (0.21)	ND (0.96)	ND (0.19)	ND (0.2)	ND (0.21)	ND (0.21)	ND (0.2)	ND (0.2)	ND (0.22)	ND (0.22)	ND (0.21)
3-Nitroaniline	NA	NA	ND (0.18)	ND (0.96)	ND (0.2)	ND (0.2)	ND (0.21)	ND (0.19)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.21)	ND (0.21)	ND (0.96)	ND (0.19)	ND (0.2)	ND (0.21)	ND (0.21)	ND (0.2)	ND (0.2)	ND (0.22)	ND (0.22)	ND (0.21)
4,6-Dinitro-2-methylphenol	NA	NA	ND (0.47)	ND (2.5)	ND (0.52)	ND (0.51)	ND (0.56)	ND (0.5)	ND (0.51)	ND (0.5)	ND (0.5)	ND (0.55)	ND (0.55)	ND (2.5)	ND (0.5)	ND (0.51)	ND (0.55)	ND (0.56)	ND (0.51)	ND (0.53)	ND (0.57)	ND (0.56)	ND (0.54)
4-Bromophenyl phenyl ether (BDE-3)	NA	NA	ND (0.18)	ND (0.96)	ND (0.2)	ND (0.2)	ND (0.21)	ND (0.19)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.21)	ND (0.21)	ND (0.96)	ND (0.19)	ND (0.2)	ND (0.21)	ND (0.21)	ND (0.2)	ND (0.2)	ND (0.22)	ND (0.22)	ND (0.21)
4-Chloro-3-methylphenol	NA	NA	ND (0.18)	ND (0.96)	ND (0.2)	ND (0.2)	ND (0.21)	ND (0.19)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.21)	ND (0.21)	ND (0.96)	ND (0.19)	ND (0.2)	ND (0.21)	ND (0.21)	ND (0.2)	ND (0.2)	ND (0.22)	ND (0.22)	ND (0.21)
4-Chloroaniline	NA	NA	ND (0.18)	ND (0.96)	ND (0.2)	ND (0.2)	ND (0.21)	ND (0.19)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.21)	ND (0.21)	ND (0.96)	ND (0.19)	ND (0.2)	ND (0.21) J	ND (0.21) J	ND (0.2) J	ND (0.2) J	ND (0.22) J	ND (0.22)	ND (0.21)
4-Chlorophenyl phenyl ether	NA	NA	ND (0.18)	ND (0.96)	ND (0.2)	ND (0.2)	ND (0.21)	ND (0.19)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.21)	ND (0.21)	ND (0.96)	ND (0.19)	ND (0.2)	ND (0.21)	ND (0.21)	ND (0.2)	ND (0.2)	ND (0.22)	ND (0.22)	ND (0.21)
4-Nitroaniline	NA	NA	ND (0.18)	ND (0.96)	ND (0.2)	ND (0.2)	ND (0.21)	ND (0.19)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.21)	ND (0.21)	ND (0.96)	ND (0.19)	ND (0.2)	ND (0.21)	ND (0.21)	ND (0.2)	ND (0.2)	ND (0.22)	ND (0.22)	ND (0.21)
4-Nitrophenol	NA	NA	ND (0.26)	ND (1.4)	ND (0.28)	ND (0.28)	ND (0.3)	ND (0.27)	ND (0.27)	ND (0.27)	ND (0.27)	ND (0.3)	ND (0.3)	ND (1.3)	ND (0.27)	ND (0.28)	ND (0.3)	ND (0.3)	ND (0.28)	ND (0.28)	ND (0.31)	ND (0.3)	ND (0.29)
Acenaphthene	98	20	3.6	1.7 J	0.48	0.66	0.17	0.1 J	0.25	2.8	1.9	ND (0.17)	2.5	15	1.8	2.7	ND (0.17)	ND (0.17)	0.15 J	ND (0.16)	0.46	3.1 J	1.7 J
Acenaphthylene	107	100	0.47	ND (0.77)	0.2	0.28	0.16 J	ND (0.15)	ND (0.16)	1.9	0.58	ND (0.17)	0.52	2.9	0.31	0.64	ND (0.17)	ND (0.17)	ND (0.16)	ND (0.16)	0.11 J	1.4	1.3
Acetophenone	NA	NA	ND (0.18)	ND (0.96)	ND (0.2)	ND (0.2)	ND (0.21)	ND (0.19)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.21)	ND (0.21)	ND (0.96)	ND (0.19)	ND (0.2)	ND (0.21)	ND (0.21)	ND (0.2)	ND (0.2)	ND (0.22)	ND (0.22)	ND (0.21)
Anthracene	1000	100	5.4	1.2 J	1.1	1.5	0.45	0.2	0.41	11	4	ND (0.13)	4.4	28	3.8	5.4	ND (0.13)	ND (0.13)	0.39	0.051 J	0.88	5.2	3.7
Benzo(a)anthracene	1	1	***6***	***1.6 J***	***2.6***	***3.5***	***1.6***	0.43	0.52	***12***	***9.7***	ND (0.13)	***5.8***	***32***	***6.4***	***12***	0.088 J	0.046 J	0.75	0.15	***1.8***	***14***	***11***
Benzo(a)pyrene	22	1	5.5	1.4 J	2.1	2.8	1.6	0.39	0.41	10	9.5	ND (0.17)	4.6	***24***	4.4	7.8	0.091 J	ND (0.17)	0.77	0.16	1.8	13	10
Benzo(b)fluoranthene	1.7	1	***6.9***	***1.8 J***	***2.6***	***3.4***	***2.1***	0.51	0.49	***12***	***12***	ND (0.13)	***5.5***	***29***	***5.4***	***13***	0.1 J	0.05 J	0.85	0.18	***2.1***	***17***	***13***
Benzo(g,h,i)perylene	1000	100	3.2	0.81 J	1.3	1.7	1	0.23	0.17	4.1	5.3	ND (0.17)	2.5	12	2.7	4.7	0.046 J	ND (0.17)	0.36	0.083 J	0.86	6.6	5.3
Benzo(k)fluoranthene	1.7	0.8	***2.1***	0.5 J	0.86	1.2	0.57	0.13	0.13	***3.2***	***2.8***	ND (0.13)	***1.8***	***9.1***	1.3	***1.9***	ND (0.13)	ND (0.13)	0.25	0.062 J	0.57	***3.8***	***3.8***
Benzoic acid	NA	NA	ND (0.59)	ND (3.1)	ND (0.65)	ND (0.64)	ND (0.69)	ND (0.63)	ND (0.64)	ND (0.63)	ND (0.62)	ND (0.69)	ND (0.68)	ND (3.1)	ND (0.62)	ND (0.64)	ND (0.68)	ND (0.69)	ND (0.64)	ND (0.66)	ND (0.71)	ND (0.7)	ND (0.67)
Benzyl Alcohol	NA	NA	ND (0.18)	ND (0.96)	ND (0.2)	ND (0.2)	ND (0.21)	ND (0.19)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.21)	ND (0.21)	ND (0.96)	ND (0.19)	ND (0.2)	ND (0.21)	ND (0.21)	ND (0.2)	ND (0.2)	ND (0.22)	ND (0.22)	ND (0.21)
Biphenyl	NA	NA	0.33 J	2.3	0.059 J	0.069 J	ND (0.49)	ND (0.44)	ND (0.45)	0.56	0.17 J	ND (0.49)	0.29 J	1.9 J	0.24 J	0.28 J	ND (0.48)	ND (0.49)	ND (0.45)	ND (0.46)	0.071 J	0.74	0.27 J
bis(2-Chloroethoxy)methane	NA	NA	ND (0.2)	ND (1)	ND (0.22)	ND (0.21)	ND (0.23)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.23)	ND (0.23)	ND (1)	ND (0.21)	ND (0.21)	ND (0.23)	ND (0.23)	ND (0.21)	ND (0.22)	ND (0.24)	ND (0.23)	ND (0.22)
bis(2-Chloroethyl)ether	NA	NA	ND (0.16)	ND (0.87)	ND (0.18)	ND (0.18)	ND (0.19)	ND (0.17)	ND (0.18)	ND (0.17)	ND (0.17)	ND (0.19)	ND (0.19)	ND (0.87)	ND (0.17)	ND (0.18)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.2)	ND (0.19)	ND (0.19)
bis(2-Ethylhexyl)phthalate	NA	NA	0.58	0.64 J	ND (0.2)	ND (0.2)	ND (0.21)	ND (0.19)	ND (0.2)	0.077 J	0.32	ND (0.21)	ND (0.21)	ND (0.96)	ND (0.19)	ND (0.2)	ND (0.21)	ND (0.21)	ND (0.2)	ND (0.2)	ND (0.22)	ND (0.22)	ND (0.21)
Butyl benzylphthalate (BBP)	NA	NA	ND (0.18)	ND (0.96)	ND (0.2)	ND (0.2)	ND (0.21)	ND (0.19)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.21)	ND (0.21)	ND (0.96)	ND (0.19)	ND (0.2)	ND (0.21)	ND (0.21)	ND (0.2)	ND (0.2)	0.078 J	ND (0.22)	ND (0.21)
Carbazole	NA	NA	1.6	0.49 J	0.5	0.56	0.19 J	0.098 J	0.13 J	1.7	1.9	ND (0.21) J	1.9 J	12 J	1 J	2.1 J	ND (0.21)	ND (0.21)	0.11 J	0.029 J	0.42	2.2	1.6
Chrysene	1	1	***6.2***	***1.5 J***	***2.5***	***3.2***	***1.6***	0.37	0.44	***12***	***9.3***	ND (0.13)	***5.5***	***30***	***6.1***	***12***	0.081 J	0.044 J	0.69	0.15	***1.8***	***16***	***12***
Dibenz(a,h)anthracene	1000	0.33	0.8	0.2 J	0.32	0.42	0.24	0.051 J	0.055 J	1.1	1.2	ND (0.13)	0.7	3.8	0.71	1.2	ND (0.13)	ND (0.13)	0.097 J	ND (0.12)	0.24	1.9	1.6
Dibenzofuran	210	7	2.6	1.1	0.38	0.43	0.099 J	0.062 J	0.12 J	3.6	1.2	ND (0.21)	2	13	1	2	ND (0.21)	ND (0.21)	0.11 J	ND (0.2)	0.34	3 J	1.5 J
Diethyl phthalate	NA	NA	ND (0.18)	ND (0.96)	ND (0.2)	ND (0.2)	ND (0.21)	ND (0.19)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.21)	ND (0.21)	ND (0.96)	ND (0.19)	ND (0.2)	ND (0.21)	ND (0.21)	ND (0.2)	ND (0.2)	ND (0.22)	ND (0.22)	ND (0.21)
Dimethyl phthalate	NA	NA	ND (0.18)	ND (0.96)	ND (0.2)	ND (0.2)	ND (0.21)	ND (0.19)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.21)	ND (0.21)	ND (0.96)	ND (0.19)	ND (0.2)	ND (0.21)	ND (0.21)	ND (0.2)	ND (0.2)	ND (0.22)	ND (0.22)	ND (0.21)
Di-n-butylphthalate (DBP)	NA	NA	0.12 J	ND (0.96)	ND (0.2)	ND (0.2)	ND (0.21)	ND (0.19)	ND (0.2)	ND (0.19)	0.12 J	ND (0.21)	ND (0.21)	ND (0.96)	ND (0.19)	ND (0.2)	ND (0.21)	ND (0.21)	ND (0.2)	ND (0.2)	ND (0.22)	ND (0.22)	ND (0.21)
Di-n-octyl phthalate (DnOP)	NA	NA	ND (0.18)	ND (0.96)	ND (0.2)	ND (0.2)	ND (0.21)	ND (0.19)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.21)	ND (0.21)	ND (0.96)	ND (0.19)	ND (0.2)	ND (0.21)	ND (0.21)	ND (0.2)	ND (0.2)	ND (0.22)	ND (0.22)	ND (0.21)
Fluoranthene	1000	100	17	3.9 J	5.7	7	3.4	0.97	1.2	33	23	0.038 J	20	110	17	30	0.2	0.1 J	1.7	0.4	4.5	36	29
Fluorene	386	30	4.2	0.86 J	0.45	0.62	0.16 J	0.1 J	0.24	4.8	1.8	ND (0.21)	2.8	18	1.8	2.7	ND (0.21)	ND (0.21)	0.14 J	0.021 J	0.38	2.3	1.6
Hexachlorobenzene	3.2	0.33	ND (0.11)	ND (0.58)	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.13)	ND (0.58)	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.13)	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.13)	ND (0.12)
Hexachlorobutadiene	NA	NA	ND (0.18)	ND (0.96)	ND (0.2)	ND (0.2)	ND (0.21)	ND (0.19)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.21)	ND (0.21)	ND (0.96)	ND (0.19)	ND (0.2)	ND (0.21)	ND (0.21)	ND (0.2)	ND (0.2)	ND (0.22)	ND (0.22)	ND (0.21)
Hexachlorocyclopentadiene	NA	NA	ND (0.52)	ND (2.8)	ND (0.58)	ND (0.56)	ND (0.61)	ND (0.55)	ND (0.56)	ND (0.56)	ND (0.55)	ND (0.61)	ND (0.6)	ND (2.8)	ND (0.55)	ND (0.56)	ND (0.6)	ND (0.61)	ND (0.56)	ND (0.58)	ND (0.63)	ND (0.62)	ND (0.6)
Hexachloroethane	NA	NA	ND (0.14)	ND (0.77)	ND (0.16)	ND (0.16)	ND (0.17)	ND (0.15)	ND (0.16)	ND (0.16)	ND (0.15)	ND (0.17)	ND (0.17)	ND (0.77)	ND (0.15)	ND (0.16)	ND (0.17)	ND (0.17)	ND (0.16)	ND (0.16)	ND (0.18)	ND (0.17)	ND (0.17)
Indeno(1,2,3-cd)pyrene	8.2	0.5	3.2	0.82 J	1.3	1.8	1	0.24	0.19	4.5	5.4	ND (0.17)	2.6	***13***	2.5	4.8	0.043 J	ND (0.17)	0.33	0.075 J	0.81	6.3	5.4
Isophorone	NA	NA	ND (0.16)	ND (0.87)	ND (0.18)	ND (0.18)	ND (0.19)	ND (0.17)	ND (0.18)	ND (0.17)	ND (0.17)	ND (0.19)	ND (0.19)	ND (0.87)	ND (0.17)	ND (0.18)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.2)	ND (0.19)	ND (0.19)
Naphthalene	12	12	0.83	4.4 J	0.35 J	0.41	0.14 J	0.11 J	0.059 J	1.7	1.7	ND (0.21)	2.9	***16***	1.7	2.4	ND (0.21)	ND (0.21)	0.065 J	0.026 J	0.55	2.3 J	0.98 J
Nitrobenzene	NA	NA	ND (0.16)	ND (0.87)	ND (0.18)	ND (0.18)	ND (0.19)	ND (0.17)	ND (0.18)	ND (0.17)	ND (0.17)	ND (0.19)	ND (0.19)	ND (0.87)	ND (0.17)	ND (0.18)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.2)	ND (0.19)	ND (0.19)
N-Nitrosodi-n-propylamine	NA	NA	ND (0.18)	ND (0.96)	ND (0.2)	ND (0.2)	ND (0.21)	ND (0.19)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.21)	ND (0.21)	ND (0.96)	ND (0.19)	ND (0.2)	ND (0.21)	ND (0.21)	ND (0.2)	ND (0.2)	ND (0.22)	ND (0.22)	ND (0.21)
N-Nitrosodiphenylamine	NA	NA	ND (0.14)	ND (0.77)	ND (0.16)	ND (0.16)	ND (0.17)	ND (0.15)	ND (0.16)	ND (0.16)	ND (0.15)	ND (0.17)	ND (0.17)	ND (0.77)	ND (0.15)	ND (0.16)	ND (0.17)	ND (0.17)	ND (0.16)	ND (0.16)	ND (0.18)	ND (0.17)	ND (0.17)
Pentachlorophenol	0.8	0.8	ND (0.14)	ND (0.77)	ND (0.16)	ND (0.16)	ND (0.17)	ND (0.15)	ND (0.16)	ND (0.16)	ND (0.15)	ND (0.17)	ND (0.17)	ND (0.77)	ND (0.15)	ND (0.16)	ND (0.17)	ND (0.17)	ND (0.16)	ND (0.16)	ND (0.18)	ND (0.17)	ND (0.17)
Phenanthrene	1000	100	16	7.9	4.9	5.6	2	0.76	1.3	35	18	ND (0.13)	22	130	25	27	0.14	0.06 J	1.5	0.27	4.4	34	25
Phenol	0.33	0.33	0.036 J	ND (0.96)	ND (0.2)	ND (0.2)	ND (0.21)	ND (0.19)	ND (0.2)	0.22 J+	0.06 J+	ND (0.21)	0.11 J	***0.85 J***	0.046 J	0.1 J	ND (0.21)	ND (0.21)	ND (0.2)	ND (0.2)	ND (0.22)	0.13 J	0.11 J
Pyrene	1000	100	14	4 J	4.7	5.7	2.9	0.78	0.95	27	19	0.032 J	16	89	19	26	0.18	0.094 J	1.4	0.32	3.9	31	24

TABLE 2
REMAINING CONTAMINATION IN SOIL
125 3RD STREET
BROOKLYN, NEW YORK
FILE NO. 0208545

Precharacterization Grid	Action Level																					
Location Name	Restricted Use	NY Part 375	EP-1	EP-2	EP-2	EP-3	EP-4	EP-5	EP-6	EP-7	EP-8	EP-9	EP-10	EP-11	EP-12	EP-13	EP-14	EP-15	EP-16	EP-17	EP-18	EP-19	EP-19
Sample Name	Soil Cleanup	Unrestricted	EP-1_2	EP-2_2	DUP-031224	EP-3_2	EP-4_5	EP-5_5	EP-6_5	EP-7_5	EP-8_5	EP-9_8	EP-10_10	EP-11_8	EP-12_10	EP-13_8	EP-14_5	EP-15_4	EP-16_4	EP-17_5	EP-18_4	EP-19_4	DUP-012324
Sample Date	Objectives -	Use	03/12/2024	03/12/2024	03/12/2024	03/12/2024	04/22/2024	04/22/2024	04/22/2024	04/22/2024	04/22/2024	03/22/2024	03/22/2024	03/22/2024	03/22/2024	03/22/2024	01/30/2024	01/30/2024	01/30/2024	01/30/2024	01/30/2024	01/23/2024	01/23/2024
Lab Sample ID	Protection of	Soil Cleanup	L2413309-01	L2413309-02	L2413309-04	L2413309-03	L2421980-01	L2421980-02	L2421980-03	L2421980-04	L2421980-05	L2415818-01	L2415818-02	L2415818-03	L2415818-04	L2415818-05	L2405088-01	L2405088-02	L2405088-03	L2405088-04	L2405088-05	L2403857-01	L2403857-05
Sample Depth (bgs)	Groundwater	Objectives	2 - 2.5 (ft)	2 - 2.5 (ft)	2 - 2.5 (ft)	2 - 2.5 (ft)	5 - 5.5 (ft)	5 - 5.5 (ft)	5 - 5.5 (ft)	5 - 5.5 (ft)	5 - 5.5 (ft)	8 - 8.5 (ft)	10 - 10.5 (ft)	8 - 8.5 (ft)	10 - 10.5 (ft)	8 - 8.5 (ft)	5 - 5.5 (ft)	4 - 4.5 (ft)	4 - 4.5 (ft)	5 - 5.5 (ft)	4 - 4.5 (ft)	4 (ft)	4 (ft)
Inorganic Compounds (mg/kg)																							
Aluminum	NA	NA	5890 J-	4390 J-	4470 J-	4190 J-	5370	4200	5060	5320	4640	5610	5160	5000	4900	5420	7880 J-	8220 J-	2770 J-	8210 J-	5080 J-	3910	5810
Antimony	NA	NA	ND (10.9)	1.22 J	ND (12.1)	ND (11.7)	2.19 J	ND (4.66)	ND (4.71)	2.21 J	0.878 J	ND (5.12)	0.733 J	1.41 J	1.05 J	1.42 J	ND (4.86)	2.65 J+	10.2 J+	1.45 J+	4.01 J+	1.87 J+	2.29 J+
Arsenic	16	13	14.9 J	14.6 J+	***19 J***	15.3 J	***26.6 J***	6.94 J	4.27 J	***18.6 J***	8.48 J	***20.1 J***	***17.3 J***	***36.8 J***	***35.6 J***	***64 J***	15.4 J-	***262 J***	***301 J***	10.9 J	***246 J***	***138 J***	***112 J***
Barium	820	350	173 J	182 J+	304 J	290 J	398 J	62.6 J	46 J	213 J	66.6 J	20.1 J	187 J	188 J	277 J	458 J	88.9 J	198 J	156 J	98.2 J	153 J	79.2 J	93 J
Beryllium	47	7.2	0.382 J	1.02 J	0.346 J	0.314 J	0.419 J	0.383 J	0.505	0.42 J	0.305 J	0.38 J	0.377 J	0.36 J	0.347 J	0.409 J	0.65	0.751	0.272 J	0.697	0.447 J	0.362 J	0.459 J
Cadmium	7.5	2.5	0.365 J+	1 J+	0.52 J+	0.439 J+	1.2 J+	0.171 J+	ND (0.942)	0.658 J+	0.205 J+	ND (1.02)	0.221 J+	0.342 J+	0.423 J+	0.656 J+	0.176 J+	ND (1)	0.126 J+	0.114 J+	0.41 J+	ND (1.02)	ND (0.988)
Calcium	NA	NA	11200 J-	21400 J-	13800 J-	9700 J-	4830 J-	2800 J-	4160 J-	7750 J-	3630 J-	901 J-	6650 J-	9670 J-	11200 J-	17100 J-	14400 J-	15200 J-	5440 J-	11200 J-	13800 J-	3890 J-	4420 J-
Chromium	NA	NA	19.9 J+	18.9 J+	16.8 J+	19.2 J+	19.7 J+	8.46 J+	11.7 J+	16.1 J+	12.8 J+	9.34 J+	12.3 J+	14.3 J+	13.3 J+	17.1 J+	20.3 J+	20.5 J+	12 J+	20.2 J+	18.8 J+	14 J+	20 J+
Cobalt	NA	NA	6.04	5.32	6.97	5.75	5.36	3.53	5.54	6.31	4.8	4.5	5.04	5.22	4.77	5.08	7.81	7.98	3.94	8.63	7.28	4.25	6.85
Copper	1720	50	79 J	73.4 J	123 J	168 J	128 J	22.8 J	17.3 J	84.5 J	30 J	10.9 J	44.8 J	57 J	34.7 J	45.4 J	21.9 J	22.1 J	35.6 J	22.4 J	70.9 J	21.7 J	23.1 J
Iron	NA	NA	14100	22300	13500	12800	14400	8920	13000	18100	13600	12400	12400	13100	11500	14300	16100	17000	12000	16300	17500	12400	14700
Lead	450	63	390 J	***459 J***	***974 J***	***914 J***	***1390 J***	143 J	54.9 J	***634 J***	155 J	18.6 J	404 J	446 J	***611 J***	***836 J***	13.6 J-	60.1 J	424 J	37.4 J	444 J	***913 J***	***726 J***
Magnesium	NA	NA	2500 J+	2660 J+	3010 J+	3000 J+	1620 J+	1220 J+	2210 J+	2780 J+	2560 J+	1530 J+	2390 J+	2240 J+	2550 J+	3250 J+	7190 J+	7330 J+	2190 J+	7780 J+	4380 J+	3260 J+	7770 J+
Manganese	2000	1600	370 J-	283 J-	569 J-	219 J-	210 J-	105 J-	185 J-	287 J-	317 J-	94.8 J-	200 J-	193 J-	198 J-	227 J-	462 J-	393 J-	173 J-	393 J-	298 J-	221 J-	226 J-
Mercury	0.73	0.18	0.634	0.546 J	***1.33 J***	***1.18***	***2.51***	0.17	0.183	***1.5***	0.644	0.054 J	***2.3***	***2.54***	***1.81***	***2.4***	ND (0.089)	0.669	***10.7***	0.078 J	***2.8***	***1.78***	***2.08***
Nickel	130	30	24.2 J+	20.1 J+	33.9 J+	26.7 J+	24.6 J+	10.2 J+	18.4 J+	24.8 J+	18 J+	11.8 J+	18.6 J+	16.3 J+	16.8 J+	19 J+	24 J+	30.3 J+	9.15 J+	32.2 J+	23 J+	11.8 J+	38 J+
Potassium	NA	NA	809 J+	728 J+	655 J+	732 J+	563 J+	395 J+	594 J+	940 J+	779 J+	540 J+	814 J+	784 J+	810 J+	1050 J+	2190 J+	2100 J+	617 J+	2660 J+	1350 J+	958 J+	1600 J+
Selenium	4	3.9	0.594 J	ND (4.71)	1.08 J	1.1 J	1.27 J	1.01 J	1.72 J	0.656 J	ND (1.78)	0.377 J	0.428 J	0.638 J	0.256 J	ND (1.87)	0.258 J	0.36 J	0.951 J	0.598 J	0.932 J	ND (2.04)	ND (1.98)
Silver	8.3	2	ND (1.09)	ND (1.18)	ND (1.21)	ND (1.17)	0.799	ND (0.466)	ND (0.471)	0.271 J	ND (0.444)	ND (0.512)	ND (0.5)	0.309 J	0.359 J	0.349 J	ND (0.486)	ND (0.503)	ND (0.466)	ND (0.49)	ND (0.518)	ND (0.51)	ND (0.494)
Sodium	NA	NA	260 J+	219 J+	156 J+	152 J+	108 J+	98.3 J+	71.3 J+	173 J+	155 J+	286 J+	143 J+	207 J+	146 J+	236 J+	355 J+	228 J+	233 J+	261 J+	341 J+	616 J+	712 J+
Thallium	NA	NA	ND (4.36)	ND (4.71)	ND (4.83)	ND (4.69)	ND (2)	ND (1.86)	ND (1.88)	ND (1.79)	ND (1.78)	ND (2.05)	0.419 J	0.436 J	0.353 J	0.409 J	0.709 J	0.749 J	ND (1.86)	0.755 J	0.415 J	0.442 J	0.445 J
Vanadium	NA	NA	18.9	18.8	24.2	19.2	20.6	13.7	35.1	20.8	19.2	17.6	16.3	17.6	16.2	17.4	24.6	26.2	14.6	23.8	18.8	16.3	21.2
Zinc	2480	109	318 J	417 J	454 J	488 J	630 J	78.2 J	64.6 J	336 J	93.8 J	38.8 J	161 J	248 J	245 J	352 J	50.9 J	64.2 J	278 J	50.6 J	231 J	76.8 J	96.6 J
PCBs (mg/kg)																							
Aroclor-1016 (PCB-1016)	NA	NA	ND (0.0526)	ND (0.0572)	ND (0.0581)	ND (0.0595)	ND (0.0608)	ND (0.0574)	ND (0.058)	ND (0.0572)	ND (0.054)	ND (0.0622)	ND (0.0598)	ND (0.0566)	ND (0.0554)	ND (0.059)	ND (0.0596)	ND (0.0623)	ND (0.0566)	ND (0.0611) J	ND (0.061)	ND (0.0614)	ND (0.0623)
Aroclor-1221 (PCB-1221)	NA	NA	ND (0.0526)	ND (0.0572)	ND (0.0581)	ND (0.0595)	ND (0.0608)	ND (0.0574)	ND (0.058)	ND (0.0572)	ND (0.054)	ND (0.0622)	ND (0.0598)	ND (0.0566)	ND (0.0554)	ND (0.059)	ND (0.0596)	ND (0.0623)	ND (0.0566)	ND (0.0611) J	ND (0.061)	ND (0.0614)	ND (0.0623)
Aroclor-1232 (PCB-1232)	NA	NA	ND (0.0526)	ND (0.0572)	ND (0.0581)	ND (0.0595)	ND (0.0608)	ND (0.0574)	ND (0.058)	ND (0.0572)	ND (0.054)	ND (0.0622)	ND (0.0598)	ND (0.0566)	ND (0.0554)	ND (0.059)	ND (0.0596)	ND (0.0623)	ND (0.0566)	ND (0.0611) J	ND (0.061)	ND (0.0614)	ND (0.0623)
Aroclor-1242 (PCB-1242)	NA	NA	ND (0.0526)	ND (0.0572)	ND (0.0581)	ND (0.0595)	ND (0.0608)	ND (0.0574)	ND (0.058)	ND (0.0572)	ND (0.054)	ND (0.0622)	ND (0.0598)	ND (0.0566)	ND (0.0554)	ND (0.059)	ND (0.0596)	ND (0.0623)	ND (0.0566)	ND (0.0611) J	ND (0.061)	ND (0.0614)	ND (0.0623)
Aroclor-1248 (PCB-1248)	NA	NA	ND (0.0526)	ND (0.0572)	ND (0.0581)	ND (0.0595)	ND (0.0608)	ND (0.0574)	ND (0.058)	ND (0.0572)	ND (0.054)	ND (0.0622)	ND (0.0598)	ND (0.0566)	ND (0.0554)	ND (0.059)	ND (0.0596)	ND (0.0623)	ND (0.0566)	ND (0.0611) J	ND (0.061)	ND (0.0614)	ND (0.0623)
Aroclor-1254 (PCB-1254)	NA	NA	ND (0.0526)	ND (0.0572)	ND (0.0581)	ND (0.0595)	ND (0.0608)	ND (0.0574)	ND (0.058)	ND (0.0572)	0.0332 J	ND (0.0622)	ND (0.0598)	ND (0.0566)	ND (0.0554)	ND (0.059)	ND (0.0596)	ND (0.0623)	ND (0.0566)	ND (0.0611) J	ND (0.061)	ND (0.0614)	ND (0.0623)
Aroclor-1260 (PCB-1260)	NA	NA	0.0174 J	0.0238 J	ND (0.0581)	ND (0.0595)	ND (0.0608)	ND (0.0574)	ND (0.058)	ND (0.0572)	0.0121 J	ND (0.0622)	ND (0.0598)	ND (0.0566)	ND (0.0554)	ND (0.059)	ND (0.0596)	ND (0.0623)	ND (0.0566)	ND (0.0611) J	ND (0.061)	ND (0.0614)	ND (0.0623)
Aroclor-1262 (PCB-1262)	NA	NA	ND (0.0526)	ND (0.0572)	ND (0.0581)	ND (0.0595)	ND (0.0608)	ND (0.0574)	ND (0.058)	ND (0.0572)	ND (0.054)	ND (0.0622)	ND (0.0598)	ND (0.0566)	ND (0.0554)	ND (0.059)	ND (0.0596)	ND (0.0623)	ND (0.0566)	ND (0.0611) J	ND (0.061)	ND (0.0614)	ND (0.0623)
Aroclor-1268 (PCB-1268)	NA	NA	0.00815 J	0.0166 J	ND (0.0581)	ND (0.0595)	ND (0.0608)	ND (0.0574)	ND (0.058)	ND (0.0572)	ND (0.054)	ND (0.0622)	ND (0.0598)	ND (0.0566)	0.00805 J	0.00639 J	ND (0.0596)	ND (0.0623)	ND (0.0566)	ND (0.0611) J	ND (0.061)	ND (0.0614)	ND (0.0623)
Polychlorinated biphenyls (PCBs)	3.2	0.1	0.0256 J	0.0404 J	ND (0.0581)	ND (0.0595)	ND (0.0608)	ND (0.0574)	ND (0.058)	ND (0.0572)	0.0453 J	ND (0.0622)	ND (0.0598)	ND (0.0566)	0.00805 J	0.00639 J	ND (0.0596)	ND (0.0623)	ND (0.0566)	ND (0.0611) J	ND (0.061)	ND (0.0614)	ND (0.0623)
Other																							
Total Solids (%)	NA	NA	89	83.6	81.9	82.3	77.4	84	84	85.6	85.2	77.2	77.8	85.6	84.6	82.3	78.6	76.3	83.3	80.9	75	75.9	78.1
Pesticides (mg/kg)																							
4,4'-DDD	14	0.0033	ND (0.00178) J	ND (0.00189)	ND (0.00186)	ND (0.00182)	ND (0.00197)	ND (0.00187)	ND (0.0018)	ND (0.00177)	ND (0.00182)	ND (0.00204)	ND (0.00194)	ND (0.00177)	ND (0.00184)	ND (0.00187)	0.00237 J+	ND (0.00206)	ND (0.00186)	ND (0.00195)	ND (0.00589)	ND (0.00202)	ND (0.00197)
4,4'-DDE	17	0.0033	0.00718	ND (0.00189)	ND (0.00186) J	ND (0.00182)	ND (0.00197)	ND (0.00187) J	ND (0.0018)	ND (0.00177)	0.00385	ND (0.00204)	0.00424 J	ND (0.00177)	0.00754 J+	ND (0.00187)	ND (0.00201)	ND (0.00206)	ND (0.00186)	ND (0.00195)	0.01	ND (0.00202)	ND (0.00197)
4,4'-DDT	136	0.0033	0.0208	ND (0.00189)	0.00181 J	ND (0.00182)	ND (0.00197)	ND (0.00187)	ND (0.0018)	0.00903	0.0117	ND (0.00204)	0.00666	ND (0.00177)	0.0134	ND (0.00187)	ND (0.00201)	ND (0.00206)	0.00838	ND (0.00195)	0.0376	ND (0.00202)	ND (0.00197)
Aldrin	0.19	0.005	ND (0.00178)	ND (0.00189)	ND (0.00186)	ND (0.00182)	ND (0.00197)	ND (0.00187)	ND (0.0018)	ND (0.00177)	ND (0.00182)	ND (0.00204)	ND (0.00194)	ND (0.00177)	ND (0.00184)	ND (0.00187)	ND (0.00201)	ND (0.00206)	ND (0.00186)	ND (0.00195)	ND (0.00589)	ND (0.00202)	ND (0.00197)
alpha-BHC	0.02	0.02	ND (0.000743)	ND (0.000788)	ND (0.000777)	ND (0.00076)	ND (0.000819)	ND (0.00078)	ND (0.000749)	ND (0.000739)	ND (0.000758)	ND (0.000851)	ND (0.000808)	ND (0.000737)	ND (0.000769)	ND (0.000778)	ND (0.000836)	ND (0.000858)	ND (0.000777)	ND (0.000814)	ND (0.00246)	ND (0.000842)	ND (0.00082)
alpha-Chlordane (cis)	2.9	0.094	0.0328	ND (0.00236) J	0.0124 J	0.00821	0.0026 J	0.00384 J	ND (0.00225)	0.23 J	0.0344	ND (0.00255)	ND (0.00242)	0.00124 J+	ND (0.00231)	ND (0.00233)	ND (0.00251)	ND (0.00257)	ND (0.00233)	ND (0.00244)	ND (0.00737)	ND (0.00253)	ND (0.00246)
beta-BHC	0.09	0.036	ND (0.00178)	ND (0.00189)	ND (0.00186)	ND (0.00182)	ND (0.00197)	ND (0.00187)	ND (0.0018)	ND (0.00177)	ND (0.00182)	ND (0.00204)	ND (0.00194)	ND (0.00177)	ND (0.00184)	ND (0.00187)	ND (0.00201)	ND (0.00206)	ND (0.00186)	ND (0.00195)	ND (0.00589)	ND (0.00202)	ND (0.00197)
Chlordane	NA	NA	0.211	ND (0.0158) J	0.0822 J	0.0584	ND (0.0164)	0.0572	ND (0.015)	2.66	ND (0.0152)	ND (0.017)	ND (0.0162)	ND (0.0147)	ND (0.0154)	ND (0.0156)	ND (0.0167)	ND (0.0172)	ND (0.0155)	ND (0.0163)	ND (0.0491)	ND (0.0168)	ND (0.0164)
delta-BHC	0.25	0.04	ND (0.00178)	ND (0.00189)	ND (0.00186)	ND (0.00182)	ND (0.00197)	ND (0.00187)	ND (0.0018)	ND (0.00177)	ND (0.00182)	ND (0.00204)	ND (0.00194)	ND (0.00177)	ND (0.00184)	ND (0.00187)	ND (0.00201)	ND (0.00206)	ND (0.00186)	ND (0.00195)	ND (0.00589)	ND (0.00202)	ND (0.00197)
Dieldrin	0.1	0.005	ND (0.00111)	ND (0.00118)	ND (0.00116)	ND (0.00114)	ND (0.00123)	ND (0.00117)	ND (0.00112)	ND (0.00111)	ND (0.00114)	ND (0.00128)	ND (0.00121)	ND (0.0011)	ND (0.00115)	ND (0.00117)	ND (0.00125)	ND (0.00129)	ND (0.00116)	ND (0.00122)	ND (0.00368)	ND (0.00126)	ND (0.00123)
Endosulfan I	102	2.4	ND (0.00178)	ND (0.00189)	ND (0.00186)	ND (0.00182)	ND (0.00197)	ND (0.00187)	ND (0.0018)	ND (0.00177)	ND (0.00182)	ND (0.00204)	ND (0.00194)	ND (0.00177)	ND (0.00184)	ND (0.00187)	ND (0.00201)	ND (0.00206)	ND (0.00186)	ND (0.00195)	ND (0.00589)	ND (0.00202)	ND (0.00197)
Endosulfan II	102	2.4	ND (0.00178)	ND (0.00189)	ND (0.00186)	ND (0.00182)	ND (0.00197)	ND (0.00187)	ND (0.0018)	ND (0.00177)	ND (0.00182)	ND (0.00204)	ND (0.00194)	ND (0.00177)	ND (0.00184)	ND (0.00187)	ND (0.00201)	ND (0.00206)	ND (0.00186)	ND (0.00195)	ND (0.00589)	ND (0.00202)	ND (0.00197)
Endosulfan sulfate	1000	2.4	ND (0.000743)	ND (0.000788)	ND (0.000777)	ND (0.00076)	ND (0.000819)	ND (0.00078)	ND (0.000749)	ND (0.000739)	ND (0.000758)	ND (0.000851)	ND (0.000808)	ND (0.000737)	ND (0.000769)	ND (0.000778)	ND (0.000836)	ND (0.000858)	ND (0.000777)	ND (0.000814)	ND (0.00246)	ND (0.000842)	ND (0.00082)
Endrin	0.06	0.014	ND (0.000743)	ND (0.000788)	ND (0.000777)	ND (0.00076)	ND (0.000819)	ND (0.00078)	ND (0.000749)	ND (0.000739)	ND (0.000758)	ND (0.000851)	ND (0.000808)	ND (0.000737)	ND (0.000769)	ND (0.000778)	ND (0.000836)	ND (0.000858)	ND (0.000777)	ND (0.000814)	ND (0.00246)	ND (0.000842)	ND (0.00082)
Endrin aldehyde	NA	NA	ND (0.00223)	ND (0.00236)	ND (0.00233)	ND (0.00228)	ND (0.00246)	ND (0.00234)	ND (0.00225)	ND (0.00222)	ND (0.00227)	ND (0.00255)	ND (0.00242)	ND (0.00221)	ND (0.00231)	ND (0.00233)	ND (0.00251)	ND (0.00257)	ND (0.00233)	ND (0.00244)	ND (0.00737)	ND (0.00253)	ND (0.00246)
Endrin ketone	NA	NA	ND (0.00178)	ND (0.00189)	ND (0.00186)	ND (0.00182)	ND (0.00197)	ND (0.00187)	ND (0.0018)	ND (0.00177)	ND (0.00182)	ND (0.00204)	ND (0.00194)	ND (0.00177)	ND (0.00184)	ND (0.00187)	ND (0.00201)	ND (0.00206)	ND (0.00186)	ND (0.00195)	ND (0.00589)	ND (0.00202)	ND (0.00197)
gamma-BHC (Lindane)	0.1	0.1	ND (0.000743)	ND (0.000788)	ND (0.000777)	ND (0.00076)	ND (0.000819)	ND (0.00078)	ND (0.000749)	ND (0.000739)	ND (0.000758)	ND (0.000851)	ND (0.000808)	ND (0.000737)	ND (0.000769)	ND (0.000778)	ND (0.000836)	ND (0.000858)	ND (0.000777)	ND (0.000814)	ND (0.00246)	ND (0.000842)	ND (0.00082)
gamma-Chlordane (trans)	NA	NA	0.0282	ND (0.00236) J	0.0146 J	0.00674 J	0.00324 J	0.00401 J	ND (0.00225)	0.235	0.023	ND (0.00255)	ND (0.00242)	0.00176 J	ND (0.00231)	ND (0.00233)	ND (0.00251)	ND (0.00257)	ND (0.00233)	ND (0.00244)	0.025	ND (0.00253)	ND (0.00246)
Heptachlor	0.38	0.042	0.00648	ND (0.000946)	0.00211 J	0.00176 J	ND (0.000983)	0.00174	ND (0.000899)	0.0318	ND (0.00091)	ND (0.00102)	ND (0.000969)	ND (0.000884)	ND (0.000923)	ND (0.000933)	ND (0.001)	ND (0.00103)	ND (0.000932)	ND (0.000976)	ND (0.00295)	ND (0.00101)	ND (0.000984)
Heptachlor epoxide	NA	NA	0.00101 J	ND (0.00354)	ND (0.0035)	ND (0.00342)	ND (0.00369)	ND (0.00351)	ND (0.00337)	0.045	ND (0.00341)	ND (0.00383)	ND (0.00364)	ND (0.00332)	ND (0.00346)	ND (0.0035)	ND (0.00376)	ND (0.00386)	ND (0.0035)	ND (0.00366)	ND (0.011)	ND (0.00379)	ND (0.00369)
Methoxychlor	NA	NA	ND (0.00334)	ND (0.00354)	ND (0.0035)	ND (0.00342)	ND (0.00369)	ND (0.00351)	ND (0.00337)	ND (0.00332)	ND (0.00341)	ND (0.00383)	ND (0.00364)	ND (0.00332)	ND (0.00346)	ND (0.0035)	ND (0.00376)	ND (0.00386)	ND (0.0035)	ND (0.00366)	ND (0.011)	ND (0.00379)	ND (0.00369)
Toxaphene	NA	NA	ND (0.0334)	ND (0.0354)	ND (0.035)	ND (0.0342)	ND (0.0369)	ND (0.0351)	ND (0.0337)	ND (0.0332)	ND (0.0341)	ND (0.0383)	ND (0.0364)	ND (0.0332)	ND (0.0346)	ND (0.035)	ND (0.0376)	ND (0.0386)	ND (0.035)	ND (0.0366)	ND (0.11)	ND (0.0379)	ND (0.0369)

TABLE 2
REMAINING CONTAMINATION IN SOIL
125 3RD STREET
BROOKLYN, NEW YORK
FILE NO. 0208545

Precharacterization Grid	Action Level																					
Location Name	Restricted Use	NY Part 375	EP-1	EP-2	EP-2	EP-3	EP-4	EP-5	EP-6	EP-7	EP-8	EP-9	EP-10	EP-11	EP-12	EP-13	EP-14	EP-15	EP-16	EP-17	EP-18	EP-19	EP-19
Sample Name	Soil Cleanup	Unrestricted	EP-1_2	EP-2_2	DUP-031224	EP-3_2	EP-4_5	EP-5_5	EP-6_5	EP-7_5	EP-8_5	EP-9_8	EP-10_10	EP-11_8	EP-12_10	EP-13_8	EP-14_5	EP-15_4	EP-16_4	EP-17_5	EP-18_4	EP-19_4	DUP-012324
Sample Date	Objectives -	Use	03/12/2024	03/12/2024	03/12/2024	03/12/2024	04/22/2024	04/22/2024	04/22/2024	04/22/2024	04/22/2024	03/22/2024	03/22/2024	03/22/2024	03/22/2024	03/22/2024	01/30/2024	01/30/2024	01/30/2024	01/30/2024	01/30/2024	01/23/2024	01/23/2024
Lab Sample ID	Protection of	Soil Cleanup	L2413309-01	L2413309-02	L2413309-04	L2413309-03	L2421980-01	L2421980-02	L2421980-03	L2421980-04	L2421980-05	L2415818-01	L2415818-02	L2415818-03	L2415818-04	L2415818-05	L2405088-01	L2405088-02	L2405088-03	L2405088-04	L2405088-05	L2403857-01	L2403857-05
Sample Depth (bgs)	Groundwater	Objectives	2 - 2.5 (ft)	2 - 2.5 (ft)	2 - 2.5 (ft)	2 - 2.5 (ft)	5 - 5.5 (ft)	5 - 5.5 (ft)	5 - 5.5 (ft)	5 - 5.5 (ft)	5 - 5.5 (ft)	8 - 8.5 (ft)	10 - 10.5 (ft)	8 - 8.5 (ft)	10 - 10.5 (ft)	8 - 8.5 (ft)	5 - 5.5 (ft)	4 - 4.5 (ft)	4 - 4.5 (ft)	5 - 5.5 (ft)	4 - 4.5 (ft)	4 (ft)	4 (ft)
PFAS (ng/g)																							
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	NA	NA	ND (0.798)	ND (0.793)	ND (0.794)	ND (0.749)	ND (0.794)	ND (0.795)	ND (0.792)	ND (0.795)	ND (0.792)	ND (0.792)	ND (0.791)	ND (0.793)	ND (0.796)	ND (0.798)	ND (0.8)	ND (0.797)	ND (0.795)	ND (0.8)	ND (0.795)	ND (0.774)	ND (0.772)
2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA)	NA	NA	ND (4.99)	ND (4.96)	ND (4.96)	ND (4.68)	ND (4.96)	ND (4.97)	ND (4.95)	ND (4.97)	ND (4.95)	ND (4.95)	ND (4.94)	ND (4.96)	ND (4.97)	ND (4.99)	ND (5)	ND (4.98)	ND (4.97)	ND (5)	ND (4.97)	ND (4.84)	ND (4.83)
3-(Perfluoroheptyl)propanoic acid (7:3 FTCA)	NA	NA	ND (4.99)	ND (4.96)	ND (4.96)	ND (4.68)	ND (4.96)	ND (4.97)	ND (4.95)	ND (4.97)	ND (4.95)	ND (4.95)	ND (4.94)	ND (4.96)	ND (4.97)	ND (4.99)	ND (5)	ND (4.98)	ND (4.97)	ND (5)	ND (4.97)	ND (4.84)	ND (4.83)
3:3 Fluorotelomer carboxylic acid (3:3 FTCA)	NA	NA	ND (0.998)	ND (0.992)	ND (0.993)	ND (0.936)	ND (0.992)	ND (0.994)	ND (0.99)	ND (0.993)	ND (0.99)	ND (0.99)	ND (0.989)	ND (0.992)	ND (0.995)	ND (0.998)	ND (1)	ND (0.996)	ND (0.994)	ND (1)	ND (0.994)	ND (0.967)	ND (0.966)
4,8-Dioxa-3H-Perfluorononanoic Acid (ADONA)	NA	NA	ND (0.798)	ND (0.793)	ND (0.794)	ND (0.749)	ND (0.794)	ND (0.795)	ND (0.792)	ND (0.795)	ND (0.792)	ND (0.792)	ND (0.791)	ND (0.793)	ND (0.796)	ND (0.798)	ND (0.8)	ND (0.797)	ND (0.795)	ND (0.8)	ND (0.795)	ND (0.774)	ND (0.772)
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	NA	NA	ND (0.798)	ND (0.793)	ND (0.794)	ND (0.749)	ND (0.794)	ND (0.795)	ND (0.792)	ND (0.795)	ND (0.792)	ND (0.792) J	ND (0.791) J	ND (0.793) J	ND (0.796)	ND (0.798) J	ND (0.8)	ND (0.797)	ND (0.795)	ND (0.8)	ND (0.795)	ND (0.774)	ND (0.772)
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	NA	NA	ND (0.798)	ND (0.793)	ND (0.794)	ND (0.749)	ND (0.794)	ND (0.795)	ND (0.792)	ND (0.795)	ND (0.792)	ND (0.792) J	ND (0.791) J	ND (0.793) J	ND (0.796)	ND (0.798)	ND (0.8)	ND (0.797)	ND (0.795)	ND (0.8)	ND (0.795)	ND (0.774)	ND (0.772)
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	NA	NA	ND (0.798)	ND (0.793)	ND (0.794)	ND (0.749)	ND (0.794)	ND (0.795)	ND (0.792)	ND (0.795)	ND (0.792)	ND (0.792)	ND (0.791)	ND (0.793)	ND (0.796)	ND (0.798)	ND (0.8)	ND (0.797)	ND (0.795)	ND (0.8)	ND (0.795)	ND (0.774)	ND (0.772)
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	NA	NA	ND (0.798)	ND (0.793)	ND (0.794)	ND (0.749)	ND (0.794)	ND (0.795)	ND (0.792)	ND (0.795)	ND (0.792)	ND (0.792)	ND (0.791)	ND (0.793)	ND (0.796)	ND (0.798)	ND (0.8)	ND (0.797)	ND (0.795)	ND (0.8)	ND (0.795)	ND (0.774)	ND (0.772)
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	NA	NA	ND (0.2)	ND (0.198)	ND (0.198)	ND (0.187)	ND (0.198)	ND (0.199)	ND (0.198)	ND (0.199)	ND (0.198)	ND (0.198) J	ND (0.198)	ND (0.198)	ND (0.199)	ND (0.2)	ND (0.2)	ND (0.199)	ND (0.199)	ND (0.2)	ND (0.199)	ND (0.193)	ND (0.193)
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	NA	NA	ND (0.2) J	ND (0.198) J	ND (0.198) J	ND (0.187) J	ND (0.198)	ND (0.199)	ND (0.198)	ND (0.199)	ND (0.198)	ND (0.198) J	ND (0.198) J	ND (0.198) J	ND (0.199) J	ND (0.2) J	ND (0.2) J	ND (0.199) J	ND (0.199) J	ND (0.2) J	ND (0.199) J	ND (0.193)	ND (0.193)
N-Ethylperfluorooctane sulfonamidoethanol (N-EtFOSE)	NA	NA	ND (2)	ND (1.98)	ND (1.98)	ND (1.87)	ND (1.98)	ND (1.99)	ND (1.98)	ND (1.99)	ND (1.98)	ND (1.98) J	ND (1.98) J	ND (1.98) J	ND (1.99) J	ND (2) J	ND (2)	ND (1.99)	ND (1.99)	ND (2)	ND (1.99)	ND (1.93)	ND (1.93)
N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	NA	NA	ND (0.2)	ND (0.198)	ND (0.198)	ND (0.187)	ND (0.198)	ND (0.199)	ND (0.198)	ND (0.199)	ND (0.198)	ND (0.198)	ND (0.198)	ND (0.198)	ND (0.199)	ND (0.2)	ND (0.2)	ND (0.199)	ND (0.199)	ND (0.2)	ND (0.199)	ND (0.193)	ND (0.193)
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	NA	NA	ND (0.2) J	ND (0.198) J	ND (0.198) J	ND (0.187) J	ND (0.198)	ND (0.199)	ND (0.198)	ND (0.199)	ND (0.198)	ND (0.198) J	ND (0.198) J	ND (0.198) J	ND (0.199) J	ND (0.2) J	ND (0.2)	ND (0.199)	ND (0.199)	ND (0.2)	ND (0.199)	ND (0.193)	ND (0.193)
N-Methylperfluorooctane sulfonamidoethanol (N-MeFOSE)	NA	NA	ND (2)	ND (1.98)	ND (1.98)	ND (1.87)	ND (1.98)	ND (1.99)	ND (1.98)	ND (1.99)	ND (1.98)	ND (1.98) J	ND (1.98) J	ND (1.98) J	ND (1.99) J	ND (2) J	ND (2)	ND (1.99)	ND (1.99)	ND (2)	ND (1.99)	ND (1.93)	ND (1.93)
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	NA	NA	ND (0.399)	ND (0.397)	ND (0.397)	ND (0.374)	ND (0.397)	ND (0.397)	ND (0.396)	ND (0.397)	ND (0.396)	ND (0.396)	ND (0.395)	ND (0.397)	ND (0.398)	ND (0.399)	ND (0.4)	ND (0.398)	ND (0.398)	ND (0.4)	ND (0.397)	ND (0.387)	ND (0.386)
Perfluoro(2-ethoxyethane) sulphonic acid (PFEESA)	NA	NA	ND (0.399)	ND (0.397)	ND (0.397)	ND (0.374)	ND (0.397)	ND (0.397)	ND (0.396)	ND (0.397)	ND (0.396)	ND (0.396)	ND (0.395)	ND (0.397)	ND (0.398)	ND (0.399)	ND (0.4)	ND (0.398)	ND (0.398)	ND (0.4)	ND (0.397)	ND (0.387)	ND (0.386)
Perfluoro(4-methoxybutanoic) acid (PFMBA)	NA	NA	ND (0.399)	ND (0.397)	ND (0.397)	ND (0.374)	ND (0.397)	ND (0.397)	ND (0.396)	ND (0.397)	ND (0.396)	ND (0.396)	ND (0.395)	ND (0.397)	ND (0.398)	ND (0.399)	ND (0.4)	ND (0.398)	ND (0.398)	ND (0.4)	ND (0.397)	ND (0.387)	ND (0.386)
Perfluoro-2-propoxypropanoic acid (PFPrOPrA)(GenX) (HFPO-DA)	NA	NA	ND (0.798)	ND (0.793)	ND (0.794)	ND (0.749)	ND (0.794)	ND (0.795)	ND (0.792)	ND (0.795)	ND (0.792)	ND (0.792)	ND (0.791)	ND (0.793)	ND (0.796)	ND (0.798)	ND (0.8)	ND (0.797)	ND (0.795)	ND (0.8)	ND (0.795)	ND (0.774)	ND (0.772)
Perfluoro-3-methoxypropanoic acid (PFMPA)	NA	NA	ND (0.399)	ND (0.397)	ND (0.397)	ND (0.374)	ND (0.397)	ND (0.397)	ND (0.396)	ND (0.397)	ND (0.396)	ND (0.396)	ND (0.395)	ND (0.397)	ND (0.398)	ND (0.399)	ND (0.4)	ND (0.398)	ND (0.398)	ND (0.4)	ND (0.397)	ND (0.387)	ND (0.386)
Perfluorobutanesulfonic acid (PFBS)	NA	NA	ND (0.2)	ND (0.198)	ND (0.198)	ND (0.187)	ND (0.198)	ND (0.199)	ND (0.198)	ND (0.199)	ND (0.198)	ND (0.198)	ND (0.198)	ND (0.198)	ND (0.199)	ND (0.2)	ND (0.2)	ND (0.199)	ND (0.199)	ND (0.2)	ND (0.199)	ND (0.193)	ND (0.193)
Perfluorobutanoic acid (PFBA)	NA	NA	ND (0.798)	ND (0.793)	ND (0.794)	ND (0.749)	0.11 J	0.068 J	ND (0.792)	ND (0.795)	ND (0.792)	ND (0.792)	ND (0.791)	ND (0.793)	ND (0.796)	ND (0.798)	ND (0.8)	ND (0.797)	ND (0.795)	ND (0.8)	ND (0.795)	ND (0.774)	ND (0.772)
Perfluorodecanesulfonic acid (PFDS)	NA	NA	ND (0.2)	ND (0.198)	ND (0.198)	ND (0.187)	ND (0.198)	ND (0.199)	ND (0.198)	ND (0.199)	ND (0.198)	ND (0.198)	ND (0.198)	ND (0.198)	ND (0.199)	ND (0.2)	ND (0.2)	ND (0.199)	ND (0.199)	ND (0.2)	ND (0.199)	ND (0.193)	ND (0.193)
Perfluorodecanoic acid (PFDA)	NA	NA	ND (0.2)	ND (0.198)	ND (0.198)	ND (0.187)	0.148 J	ND (0.199)	ND (0.198)	ND (0.199)	ND (0.198)	ND (0.198)	ND (0.198)	ND (0.198)	ND (0.199)	ND (0.2)	ND (0.2)	ND (0.199)	ND (0.199)	ND (0.2)	ND (0.199)	ND (0.193)	ND (0.193)
Perfluorododecane sulfonic acid (PFDoDS)	NA	NA	ND (0.2)	ND (0.198)	ND (0.198)	ND (0.187)	ND (0.198)	ND (0.199)	ND (0.198)	ND (0.199)	ND (0.198)	ND (0.198) J	ND (0.198) J	ND (0.198) J	ND (0.199) J	ND (0.2) J	ND (0.2)	ND (0.199)	ND (0.199)	ND (0.2)	ND (0.199)	ND (0.193)	ND (0.193)
Perfluorododecanoic acid (PFDoDA)	NA	NA	ND (0.2)	ND (0.198)	ND (0.198)	ND (0.187)	ND (0.198)	ND (0.199)	ND (0.198)	ND (0.199)	ND (0.198)	ND (0.198)	ND (0.198) J	ND (0.198)	ND (0.199)	ND (0.2)	ND (0.2)	ND (0.199)	ND (0.199)	ND (0.2)	ND (0.199)	ND (0.193)	ND (0.193)
Perfluoroheptanesulfonic acid (PFHpS)	NA	NA	ND (0.2)	ND (0.198)	ND (0.198)	ND (0.187)	ND (0.198)	ND (0.199)	ND (0.198)	ND (0.199)	ND (0.198)	ND (0.198)	ND (0.198)	ND (0.198)	ND (0.199)	ND (0.2)	ND (0.2)	ND (0.199)	ND (0.199)	ND (0.2)	ND (0.199)	ND (0.193)	ND (0.193)
Perfluoroheptanoic acid (PFHpA)	NA	NA	ND (0.2)	ND (0.198)	0.037 J	0.033 J	0.078 J	0.029 J	ND (0.198)	ND (0.199)	0.044 J	ND (0.198)	ND (0.198) J	ND (0.198)	ND (0.199)	ND (0.2)	ND (0.2)	ND (0.199)	ND (0.199)	ND (0.2)	ND (0.199)	ND (0.193)	ND (0.193)
Perfluorohexanesulfonic acid (PFHxS)	NA	NA	ND (0.2)	ND (0.198)	ND (0.198)	ND (0.187)	ND (0.198)	ND (0.199)	ND (0.198)	ND (0.199)	ND (0.198)	ND (0.198)	ND (0.198)	ND (0.198)	ND (0.199)	ND (0.2)	0.182 J	ND (0.199)	ND (0.199)	ND (0.2)	ND (0.199)	ND (0.193)	ND (0.193)
Perfluorohexanoic acid (PFHxA)	NA	NA	ND (0.2)	ND (0.198)	ND (0.198)	ND (0.187)	0.093 J	0.054 J	ND (0.198)	ND (0.199)	0.055 J	ND (0.198)	ND (0.198)	ND (0.198)	ND (0.199)	ND (0.2)	ND (0.2)	ND (0.199)	ND (0.199)	ND (0.2)	ND (0.199)	ND (0.193)	ND (0.193)
Perfluorononane sulfonic acid (PFNS)	NA	NA	ND (0.2)	ND (0.198)	ND (0.198)	ND (0.187)	ND (0.198)	ND (0.199)	ND (0.198)	ND (0.199)	ND (0.198)	ND (0.198)	ND (0.198)	ND (0.198)	ND (0.199)	ND (0.2)	ND (0.2)	ND (0.199)	ND (0.199)	ND (0.2)	ND (0.199)	ND (0.193)	ND (0.193)
Perfluorononanoic acid (PFNA)	NA	NA	ND (0.2)	ND (0.198)	0.164 J	0.108 J	0.255	ND (0.199)	ND (0.198)	ND (0.199)	ND (0.198)	ND (0.198)	ND (0.198)	ND (0.198)	ND (0.199)	ND (0.2)	0.825	0.288	0.08 J	ND (0.2)	ND (0.199)	ND (0.193)	ND (0.193)
Perfluorooctane sulfonamide (PFOSA)	NA	NA	ND (0.2)	ND (0.198)	ND (0.198)	ND (0.187)	ND (0.198)	ND (0.199)	ND (0.198)	ND (0.199)	ND (0.198)	ND (0.198) J	ND (0.198) J	ND (0.198) J	ND (0.199)	ND (0.2)	ND (0.2)	ND (0.199)	ND (0.199)	ND (0.2)	ND (0.199)	ND (0.193)	ND (0.193)
Perfluorooctanesulfonic acid (PFOS)	1	0.88	0.186 J	0.538 J	0.538 J	0.332 J	***1.42***	0.104 J	ND (0.198)	0.544	0.35	ND (0.198)	0.479	0.57	0.429	0.796	0.533	0.304	0.521	ND (0.2)	0.154 J	0.081 J	ND (0.193)
Perfluorooctanoic acid (PFOA)	0.8	0.66	0.053 J	0.247 J	0.364 J	0.272 J	0.273	0.149 J	0.12 J	0.172 J	0.456	0.078 J	0.106 J	0.157 J	0.085 J	0.152 J	ND (0.2)	ND (0.199)	0.06 J	ND (0.2)	0.076 J	ND (0.193)	0.159 J
Perfluoropentanesulfonic acid (PFPeS)	NA	NA	ND (0.2)	ND (0.198)	ND (0.198)	ND (0.187)	ND (0.198)	ND (0.199)	ND (0.198)	ND (0.199)	ND (0.198)	ND (0.198)	ND (0.198)	ND (0.198)	ND (0.199)	ND (0.2)	ND (0.2)	ND (0.199)	ND (0.199)	ND (0.2)	ND (0.199)	ND (0.193)	ND (0.193)
Perfluoropentanoic acid (PFPeA)	NA	NA	ND (0.399)	ND (0.397)	ND (0.397)	ND (0.374)	0.127 J	0.068 J	ND (0.396)	ND (0.397)	ND (0.396)	ND (0.396)	ND (0.395)	ND (0.397)	ND (0.398)	ND (0.399)	ND (0.4)	ND (0.398)	ND (0.398)	ND (0.4)	ND (0.397)	ND (0.387)	ND (0.386)
Perfluorotetradecanoic acid (PFTeDA)	NA	NA	ND (0.2)	ND (0.198)	ND (0.198)	ND (0.187)	ND (0.198)	ND (0.199)	ND (0.198)	ND (0.199)	ND (0.198)	ND (0.198) J	ND (0.198) J	ND (0.198)	ND (0.199)	ND (0.2) J	ND (0.2)	ND (0.199)	ND (0.199)	ND (0.2)	ND (0.199)	ND (0.193)	ND (0.193)
Perfluorotridecanoic acid (PFTrDA)	NA	NA	ND (0.2)	ND (0.198)	ND (0.198)	ND (0.187)	ND (0.198)	ND (0.199)	ND (0.198)	ND (0.199)	ND (0.198)	ND (0.198) J	ND (0.198) J	ND (0.198)	ND (0.199)	ND (0.2) J	0.192 J	0.053 J	ND (0.199)	ND (0.2)	ND (0.199)	ND (0.193)	ND (0.193)
Perfluoroundecanoic acid (PFUnDA)	NA	NA	ND (0.2)	ND (0.198)	ND (0.198)	ND (0.187)	ND (0.198)	ND (0.199)	ND (0.198)	ND (0.199)	ND (0.198)	ND (0.198)	ND (0.198)	ND (0.198)	ND (0.199)	ND (0.2)	0.522	0.159 J	ND (0.199)	ND (0.2)	ND (0.199)	ND (0.193)	ND (0.193)

Notes and Abbreviations:
mg/kg: milligram per kilogram
ng/g: nanogram per gram

-: Not Analyzed
bgs: below ground surface
ft: feet
J: Value is estimated.
J+: Value is estimated, high bias.
J-: Value is estimated, low bias.
R: Rejected
ND (2.5): Not detected, number in parentheses is the laboratory reporting limit
NA: Not Applicable

- For test methods used, see the laboratory data sheets.
- Soil analytical results are compared to the New York State Department of Environmental Conservation (NYSDEC) Title 6 of the Official Compilation of New York Codes, Rules, and Regulations (NYCRR) Part 375 Unrestricted Use Soil Cleanup Objectives (SCO) and Protection of Groundwater SCO's.
*- **Bold italic** values indicate an exceedance of the Protection of Groundwater Criteria.*
- Grey shading indicates an exceedance of the Unrestricted Use Soil Cleanup Objectives.

TABLE 2
REMAINING CONTAMINATION IN SOIL
125 3RD STREET
BROOKLYN, NEW YORK
FILE NO. 0208545

Precharacterization Grid	Action Level					
Location Name	Restricted Use	NY Part 375	EP-20	EP-21	EP-22	EP-23
Sample Name	Soil Cleanup	Unrestricted	EP-20_4	EP-21_4	EP-22_4	EP-23_4
Sample Date	Objectives -	Use	01/23/2024	01/23/2024	01/23/2024	01/23/2024
Lab Sample ID	Protection of	Soil Cleanup	L2403857-02	L2403857-07	L2403857-03	L2403857-04
Sample Depth (bgs)	Groundwater	Objectives	4 (ft)	4 (ft)	4 (ft)	4 (ft)
Volatile Organic Compounds (mg/kg)						
1,1,1,2-Tetrachloroethane	NA	NA	ND (0.00054)	ND (0.00052)	ND (0.00062)	ND (0.00048) J
1,1,1-Trichloroethane	0.68	0.68	ND (0.00054)	ND (0.00052)	0.00094	0.0013
1,1,2,2-Tetrachloroethane	NA	NA	ND (0.00054)	ND (0.00052)	ND (0.00062)	ND (0.00048)
1,1,2-Trichloroethane	NA	NA	ND (0.0011)	ND (0.001)	ND (0.0012)	ND (0.00095)
1,1-Dichloroethane	0.27	0.27	ND (0.0011)	ND (0.001)	ND (0.0012)	ND (0.00095)
1,1-Dichloroethene	0.33	0.33	ND (0.0011)	ND (0.001)	ND (0.0012)	ND (0.00095)
1,1-Dichloropropene	NA	NA	ND (0.00054)	ND (0.00052)	ND (0.00062)	ND (0.00048)
1,2,3-Trichlorobenzene	NA	NA	ND (0.0022)	ND (0.0021)	ND (0.0025)	ND (0.0019) J
1,2,3-Trichloropropane	NA	NA	ND (0.0022)	ND (0.0021)	ND (0.0025)	ND (0.0019)
1,2,4,5-Tetramethylbenzene	NA	NA	ND (0.0022)	ND (0.0021)	0.0072	0.013 J
1,2,4-Trichlorobenzene	NA	NA	ND (0.0022)	ND (0.0021)	ND (0.0025)	ND (0.0019) J
1,2,4-Trimethylbenzene	3.6	3.6	ND (0.0022)	ND (0.0021)	0.00065 J+	0.0033 J+
1,2-Dibromo-3-chloropropane (DBCP)	NA	NA	ND (0.0032)	ND (0.0031)	ND (0.0037)	ND (0.0029)
1,2-Dibromoethane (Ethylene Dibromide)	NA	NA	ND (0.0011)	ND (0.001)	ND (0.0012)	ND (0.00095) J
1,2-Dichlorobenzene	1.1	1.1	ND (0.0022)	ND (0.0021)	ND (0.0025)	ND (0.0019) J
1,2-Dichloroethane	0.02	0.02	ND (0.0011)	ND (0.001)	ND (0.0012)	ND (0.00095)
1,2-Dichloroethene (total)	NA	NA	ND (0.0011)	ND (0.001)	ND (0.0012)	ND (0.00095)
1,2-Dichloropropane	NA	NA	ND (0.0011)	ND (0.001)	ND (0.0012)	ND (0.00095)
1,3,5-Trimethylbenzene	8.4	8.4	ND (0.0022)	ND (0.0021)	0.00027 J+	0.0012 J+
1,3-Dichlorobenzene	2.4	2.4	ND (0.0022)	ND (0.0021)	ND (0.0025)	ND (0.0019) J
1,3-Dichloropropane	NA	NA	ND (0.0022)	ND (0.0021)	ND (0.0025)	ND (0.0019)
1,3-Dichloropropene	NA	NA	ND (0.00054)	ND (0.00052)	ND (0.00062)	ND (0.00048)
1,4-Dichlorobenzene	1.8	1.8	ND (0.0022)	ND (0.0021)	ND (0.0025)	ND (0.0019) J
1,4-Diethylbenzene	NA	NA	ND (0.0022)	ND (0.0021)	0.00077 J	0.0051 J
1,4-Dioxane	0.1	0.1	ND (0.086) J	ND (0.083) J	ND (0.1) J	ND (0.076)
2,2-Dichloropropane	NA	NA	ND (0.0022)	ND (0.0021)	ND (0.0025)	ND (0.0019)
2-Butanone (Methyl Ethyl Ketone)	0.12	0.12	ND (0.011)	ND (0.01)	ND (0.012)	ND (0.0095)
2-Chlorotoluene	NA	NA	ND (0.0022)	ND (0.0021)	ND (0.0025)	ND (0.0019) J
2-Hexanone (Methyl Butyl Ketone)	NA	NA	ND (0.011)	ND (0.01)	ND (0.012)	ND (0.0095)
2-Phenylbutane (sec-Butylbenzene)	11	11	ND (0.0011)	ND (0.001)	0.0047 J+	0.0081 J+
4-Chlorotoluene	NA	NA	ND (0.0022)	ND (0.0021)	ND (0.0025)	ND (0.0019) J
4-Ethyltoluene (1-Ethyl-4-Methylbenzene)	NA	NA	ND (0.0022)	ND (0.0021)	ND (0.0025)	0.0014 J
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	NA	NA	ND (0.011)	ND (0.01)	ND (0.012)	ND (0.0095)
Acetone	0.05	0.05	ND (0.011)	ND (0.01)	0.006 J	0.01
Acrylonitrile	NA	NA	ND (0.0043)	ND (0.0041)	ND (0.005)	ND (0.0038)
Benzene	0.06	0.06	ND (0.00054)	ND (0.00052)	ND (0.00062)	ND (0.00048)
Bromobenzene	NA	NA	ND (0.0022)	ND (0.0021)	ND (0.0025)	ND (0.0019) J
Bromodichloromethane	NA	NA	ND (0.00054)	ND (0.00052)	ND (0.00062)	ND (0.00048)
Bromoform	NA	NA	ND (0.0043)	ND (0.0041)	ND (0.005)	ND (0.0038) J
Bromomethane (Methyl Bromide)	NA	NA	ND (0.0022)	ND (0.0021)	ND (0.0025)	ND (0.0019)
Carbon disulfide	NA	NA	ND (0.011)	ND (0.01)	ND (0.012)	ND (0.0095)
Carbon tetrachloride	0.76	0.76	ND (0.0011)	ND (0.001)	ND (0.0012)	ND (0.00095)
Chlorobenzene	1.1	1.1	ND (0.00054)	ND (0.00052)	ND (0.00062)	ND (0.00048) J
Chlorobromomethane	NA	NA	ND (0.0022)	ND (0.0021)	ND (0.0025)	ND (0.0019)
Chloroethane	NA	NA	ND (0.0022)	ND (0.0021)	ND (0.0025)	ND (0.0019)
Chloroform (Trichloromethane)	0.37	0.37	ND (0.0016)	ND (0.0016)	ND (0.0019)	ND (0.0014)
Chloromethane (Methyl Chloride)	NA	NA	ND (0.0043)	ND (0.0041)	ND (0.005)	ND (0.0038)
cis-1,2-Dichloroethene	0.25	0.25	ND (0.0011)	ND (0.001)	ND (0.0012)	ND (0.00095)
cis-1,3-Dichloropropene	NA	NA	ND (0.00054)	ND (0.00052)	ND (0.00062)	ND (0.00048)
Cymene (p-Isopropyltoluene)	NA	NA	ND (0.0011)	ND (0.001)	0.0012 J+	0.0056 J+
Dibromochloromethane	NA	NA	ND (0.0011)	ND (0.001)	ND (0.0012)	ND (0.00095)
Dibromomethane	NA	NA	ND (0.0022)	ND (0.0021)	ND (0.0025)	ND (0.0019)
Dichlorodifluoromethane (CFC-12)	NA	NA	ND (0.011)	ND (0.01)	ND (0.012)	ND (0.0095)
Ethyl Ether	NA	NA	ND (0.0022)	ND (0.0021)	ND (0.0025)	ND (0.0019)
Ethylbenzene	1	1	ND (0.0011)	0.00025 J	ND (0.0012)	ND (0.00095) J
Hexachlorobutadiene	NA	NA	ND (0.0043)	ND (0.0041)	ND (0.005)	ND (0.0038) J
Isopropylbenzene (Cumene)	NA	NA	ND (0.0011)	ND (0.001)	0.00058 J+	0.0026 J+
m,p-Xylenes	NA	NA	ND (0.0022)	0.00097 J	ND (0.0025)	0.00071 J+
Methyl Tert Butyl Ether (MTBE)	0.93	0.93	ND (0.0022)	ND (0.0021)	ND (0.0025)	ND (0.0019)
Methylene chloride (Dichloromethane)	0.05	0.05	ND (0.0054)	ND (0.0052)	ND (0.0062)	ND (0.0048)
Naphthalene	12	12	ND (0.0043)	ND (0.0041)	0.0042 J+	0.0029 J+
n-Butylbenzene	12	12	ND (0.0011)	ND (0.001)	0.00075 J+	0.0017 J+
n-Propylbenzene	3.9	3.9	ND (0.0011)	ND (0.001)	0.00097 J+	0.0036 J+
o-Xylene	NA	NA	ND (0.0011)	0.00048 J	ND (0.0012)	0.00036 J+
Styrene	NA	NA	ND (0.0011)	ND (0.001)	ND (0.0012)	ND (0.00095) J
tert-Butylbenzene	5.9	5.9	ND (0.0022)	ND (0.0021)	0.0022 J+	0.0031 J+
Tetrachloroethene	1.3	1.3	ND (0.00054)	ND (0.00052)	0.00076	0.0007 J
Toluene	0.7	0.7	ND (0.0011)	ND (0.001)	ND (0.0012)	ND (0.00095) J
trans-1,2-Dichloroethene	0.19	0.19	ND (0.0016)	ND (0.0016)	ND (0.0019)	ND (0.0014)
trans-1,3-Dichloropropene	NA	NA	ND (0.0011)	ND (0.001)	ND (0.0012)	ND (0.00095) J
trans-1,4-Dichloro-2-butene	NA	NA	ND (0.0054)	ND (0.0052)	ND (0.0062)	ND (0.0048) J
Trichloroethene	0.47	0.47	ND (0.00054)	ND (0.00052)	ND (0.00062)	0.003
Trichlorofluoromethane (CFC-11)	NA	NA	ND (0.0043)	ND (0.0041)	ND (0.005)	ND (0.0038)
Vinyl acetate	NA	NA	ND (0.011)	ND (0.01)	ND (0.012)	ND (0.0095) J
Vinyl chloride	0.02	0.02	ND (0.0011)	ND (0.001)	ND (0.0012)	ND (0.00095)
Xylene (Total)	1.6	0.26	ND (0.0011)	0.0015 J	ND (0.0012)	0.0011 J+

TABLE 2
REMAINING CONTAMINATION IN SOIL
125 3RD STREET
BROOKLYN, NEW YORK
FILE NO. 0208545

Precharacterization Grid	Action Level					
Location Name	Restricted Use	NY Part 375	EP-20	EP-21	EP-22	EP-23
Sample Name	Soil Cleanup	Unrestricted	EP-20_4	EP-21_4	EP-22_4	EP-23_4
Sample Date	Objectives -	Use	01/23/2024	01/23/2024	01/23/2024	01/23/2024
Lab Sample ID	Protection of	Soil Cleanup	L2403857-02	L2403857-07	L2403857-03	L2403857-04
Sample Depth (bgs)	Groundwater	Objectives	4 (ft)	4 (ft)	4 (ft)	4 (ft)
Semi-Volatile Organic Compounds (mg/kg)						
1,2,4,5-Tetrachlorobenzene	NA	NA	ND (0.2)	ND (0.19)	ND (0.2)	ND (0.19)
1,2,4-Trichlorobenzene	NA	NA	ND (0.2)	ND (0.19)	ND (0.2)	ND (0.19)
1,2-Dichlorobenzene	1.1	1.1	ND (0.2)	ND (0.19)	ND (0.2)	ND (0.19)
1,3-Dichlorobenzene	2.4	2.4	ND (0.2)	ND (0.19)	ND (0.2)	ND (0.19)
1,4-Dichlorobenzene	1.8	1.8	ND (0.2)	ND (0.19)	ND (0.2)	ND (0.19)
1,4-Dioxane	0.1	0.1	ND (0.03)	ND (0.029)	ND (0.03)	ND (0.028) J
2,2'-oxybis(1-Chloropropane)	NA	NA	ND (0.24)	ND (0.23)	ND (0.24)	ND (0.23) J
2,4,5-Trichlorophenol	NA	NA	ND (0.2)	ND (0.19)	ND (0.2)	ND (0.19)
2,4,6-Trichlorophenol	NA	NA	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.11)
2,4-Dichlorophenol	NA	NA	ND (0.18)	ND (0.17)	ND (0.18)	ND (0.17)
2,4-Dimethylphenol	NA	NA	ND (0.2)	ND (0.19)	ND (0.2)	ND (0.19)
2,4-Dinitrophenol	NA	NA	ND (0.96)	ND (0.93)	ND (0.97)	0.91 R
2,4-Dinitrotoluene	NA	NA	ND (0.2)	ND (0.19)	ND (0.2)	ND (0.19)
2,6-Dinitrotoluene	NA	NA	ND (0.2)	ND (0.19)	ND (0.2)	ND (0.19)
2-Chloronaphthalene	NA	NA	ND (0.2)	ND (0.19)	ND (0.2)	ND (0.19)
2-Chlorophenol	NA	NA	ND (0.2)	ND (0.19)	ND (0.2)	ND (0.19)
2-Methylnaphthalene	NA	NA	0.1 J	ND (0.23)	0.2 J	0.5 J
2-Methylphenol (o-Cresol)	0.33	0.33	ND (0.2)	ND (0.19)	ND (0.2)	ND (0.19)
2-Nitroaniline	NA	NA	ND (0.2)	ND (0.19)	ND (0.2)	ND (0.19)
2-Nitrophenol	NA	NA	ND (0.43)	ND (0.42)	ND (0.44)	ND (0.41)
3&4-Methylphenol	NA	NA	ND (0.29)	ND (0.28)	ND (0.29)	0.062 J
3,3'-Dichlorobenzidine	NA	NA	ND (0.2)	ND (0.19)	ND (0.2)	ND (0.19) J
3-Nitroaniline	NA	NA	ND (0.2)	ND (0.19)	ND (0.2)	ND (0.19)
4,6-Dinitro-2-methylphenol	NA	NA	ND (0.52)	ND (0.5)	ND (0.53)	0.49 R
4-Bromophenyl phenyl ether (BDE-3)	NA	NA	ND (0.2)	ND (0.19)	ND (0.2)	ND (0.19)
4-Chloro-3-methylphenol	NA	NA	ND (0.2)	ND (0.19)	ND (0.2)	ND (0.19)
4-Chloroaniline	NA	NA	ND (0.2)	ND (0.19)	ND (0.2)	ND (0.19) J
4-Chlorophenyl phenyl ether	NA	NA	ND (0.2)	ND (0.19)	ND (0.2)	ND (0.19)
4-Nitroaniline	NA	NA	ND (0.2)	ND (0.19)	ND (0.2)	ND (0.19)
4-Nitrophenol	NA	NA	ND (0.28)	ND (0.27)	ND (0.28)	ND (0.26)
Acenaphthene	98	20	0.22	0.043 J	0.52	1.1 J
Acenaphthylene	107	100	0.057 J	ND (0.15)	0.25	0.44 J
Acetophenone	NA	NA	ND (0.2)	ND (0.19)	ND (0.2)	ND (0.19)
Anthracene	1000	100	0.46	0.088 J	1.2	2.5 J
Benzo(a)anthracene	1	1	***1.2***	0.24	***2.6***	***5.2 J***
Benzo(a)pyrene	22	1	1.6	0.25	2.7	5.4 J
Benzo(b)fluoranthene	1.7	1	***1.9***	0.31	***3.2***	***6.3***
Benzo(g,h,i)perylene	1000	100	0.78	0.12 J	1.5	3.2 J
Benzo(k)fluoranthene	1.7	0.8	0.44	0.08 J	0.88	1.6 J
Benzoic acid	NA	NA	ND (0.65)	ND (0.63)	ND (0.66)	0.61 R
Benzyl Alcohol	NA	NA	ND (0.2)	ND (0.19)	ND (0.2)	ND (0.19)
Biphenyl	NA	NA	0.037 J	ND (0.44)	0.07 J	0.18 J
bis(2-Chloroethoxy)methane	NA	NA	ND (0.22)	ND (0.21)	ND (0.22)	ND (0.2)
bis(2-Chloroethyl)ether	NA	NA	ND (0.18)	ND (0.17)	ND (0.18)	ND (0.17)
bis(2-Ethylhexyl)phthalate	NA	NA	ND (0.2)	0.07 J	ND (0.2)	ND (0.19)
Butyl benzylphthalate (BBP)	NA	NA	ND (0.2)	ND (0.19)	ND (0.2)	ND (0.19)
Carbazole	NA	NA	0.41	0.051 J	0.53	1.2 J
Chrysene	1	1	***1.4***	0.25	***2.5***	***5.2 J***
Dibenz(a,h)anthracene	1000	0.33	0.17	0.033 J	0.34	0.74 J
Dibenzofuran	210	7	0.28	0.03 J	0.41	1 J
Diethyl phthalate	NA	NA	ND (0.2)	ND (0.19)	ND (0.2)	ND (0.19)
Dimethyl phthalate	NA	NA	ND (0.2)	ND (0.19)	ND (0.2)	ND (0.19)
Di-n-butylphthalate (DBP)	NA	NA	ND (0.2)	ND (0.19)	ND (0.2)	ND (0.19)
Di-n-octyl phthalate (DnOP)	NA	NA	ND (0.2)	ND (0.19)	ND (0.2)	ND (0.19)
Fluoranthene	1000	100	4.1	0.61	6.9	13
Fluorene	386	30	0.21	0.038 J	0.47	1.2 J
Hexachlorobenzene	3.2	0.33	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.11)
Hexachlorobutadiene	NA	NA	ND (0.2)	ND (0.19)	ND (0.2)	ND (0.19)
Hexachlorocyclopentadiene	NA	NA	ND (0.57)	ND (0.55)	ND (0.58)	ND (0.54) J
Hexachloroethane	NA	NA	ND (0.16)	ND (0.15)	ND (0.16)	ND (0.15) J
Indeno(1,2,3-cd)pyrene	8.2	0.5	0.7	0.11 J	1.3	2.9 J
Isophorone	NA	NA	ND (0.18)	ND (0.17)	ND (0.18)	ND (0.17)
Naphthalene	12	12	0.2	0.024 J	0.32	1.1 J
Nitrobenzene	NA	NA	ND (0.18)	ND (0.17)	ND (0.18)	ND (0.17)
N-Nitrosodi-n-propylamine	NA	NA	ND (0.2)	ND (0.19)	ND (0.2)	ND (0.19)
N-Nitrosodiphenylamine	NA	NA	ND (0.16)	ND (0.15)	ND (0.16)	ND (0.15)
Pentachlorophenol	0.8	0.8	ND (0.16)	ND (0.15)	ND (0.16)	ND (0.15)
Phenanthrene	1000	100	3.8	0.45	5.7	13
Phenol	0.33	0.33	ND (0.2)	ND (0.19)	ND (0.2)	ND (0.19)
Pyrene	1000	100	3.4	0.53	6	12

TABLE 2
REMAINING CONTAMINATION IN SOIL
125 3RD STREET
BROOKLYN, NEW YORK
FILE NO. 0208545

Precharacterization Grid	Action Level					
Location Name	Restricted Use	NY Part 375	EP-20	EP-21	EP-22	EP-23
Sample Name	Soil Cleanup	Unrestricted	EP-20_4	EP-21_4	EP-22_4	EP-23_4
Sample Date	Objectives -	Use	01/23/2024	01/23/2024	01/23/2024	01/23/2024
Lab Sample ID	Protection of	Soil Cleanup	L2403857-02	L2403857-07	L2403857-03	L2403857-04
Sample Depth (bgs)	Groundwater	Objectives	4 (ft)	4 (ft)	4 (ft)	4 (ft)
Inorganic Compounds (mg/kg)						
Aluminum	NA	NA	2470	2320	4080	3900
Antimony	NA	NA	1.2 J+	0.903 J+	2.21 J+	0.97 J+
Arsenic	16	13	***196 J***	2.77 J	***36 J***	8.2 J+
Barium	820	350	61.4 J	19.8 J	81 J	70.3 J
Beryllium	47	7.2	0.24 J	0.211 J	0.368 J	0.294 J
Cadmium	7.5	2.5	0.102 J+	ND (0.925)	0.217 J+	0.302 J+
Calcium	NA	NA	4840 J-	1930 J-	14500 J-	16300 J-
Chromium	NA	NA	9.96 J+	7.79 J+	16.3 J+	18.2 J+
Cobalt	NA	NA	3.02	3	4.54	4.96
Copper	1720	50	22.7 J	21.1 J	55.2 J	61.9 J+
Iron	NA	NA	10000	7250	12000	13800
Lead	450	63	184 J	45.9 J	232 J	167 J+
Magnesium	NA	NA	2180 J+	1760 J+	2920 J+	2300 J+
Manganese	2000	1600	154 J-	103 J-	213 J-	180 J-
Mercury	0.73	0.18	***0.939***	0.106	***0.959***	***0.965***
Nickel	130	30	7.78 J+	6.52 J+	17.1 J+	18.4 J+
Potassium	NA	NA	587 J+	359 J+	760 J+	660 J+
Selenium	4	3.9	0.337 J	2.02	0.512 J	0.239 J
Silver	8.3	2	ND (0.477)	ND (0.462)	ND (0.49)	ND (0.444)
Sodium	NA	NA	279 J+	60.3 J+	277 J+	187 J+
Thallium	NA	NA	ND (1.91)	ND (1.85)	0.33 J	ND (1.78)
Vanadium	NA	NA	13.9	12	17.5	17.6
Zinc	2480	109	69.6 J	33 J	98 J	170 J+
PCBs (mg/kg)						
Aroclor-1016 (PCB-1016)	NA	NA	ND (0.0565)	ND (0.0578)	ND (0.0578)	ND (0.054)
Aroclor-1221 (PCB-1221)	NA	NA	ND (0.0565)	ND (0.0578)	ND (0.0578)	ND (0.054)
Aroclor-1232 (PCB-1232)	NA	NA	ND (0.0565)	ND (0.0578)	ND (0.0578)	ND (0.054)
Aroclor-1242 (PCB-1242)	NA	NA	ND (0.0565)	ND (0.0578)	ND (0.0578)	ND (0.054)
Aroclor-1248 (PCB-1248)	NA	NA	ND (0.0565)	ND (0.0578)	0.0137 J	ND (0.054)
Aroclor-1254 (PCB-1254)	NA	NA	ND (0.0565)	0.0141 J	0.0156 J	ND (0.054)
Aroclor-1260 (PCB-1260)	NA	NA	ND (0.0565)	ND (0.0578)	ND (0.0578)	0.0107 J
Aroclor-1262 (PCB-1262)	NA	NA	ND (0.0565)	ND (0.0578)	ND (0.0578)	ND (0.054)
Aroclor-1268 (PCB-1268)	NA	NA	ND (0.0565)	ND (0.0578)	0.00651 J	0.0175 J
Polychlorinated biphenyls (PCBs)	3.2	0.1	ND (0.0565)	0.0141 J	0.0358 J	0.0282 J
Other						
Total Solids (%)	NA	NA	82.2	84.1	81.3	87
Pesticides (mg/kg)						
4,4'-DDD	14	0.0033	ND (0.00185)	ND (0.00185)	ND (0.00187)	ND (0.00178)
4,4'-DDE	17	0.0033	ND (0.00185)	ND (0.00185)	0.000945 J	ND (0.00178)
4,4'-DDT	136	0.0033	ND (0.00185)	ND (0.00185)	0.00325	ND (0.00178)
Aldrin	0.19	0.005	ND (0.00185)	ND (0.00185)	ND (0.00187)	ND (0.00178)
alpha-BHC	0.02	0.02	ND (0.000772)	ND (0.000772)	ND (0.000779)	ND (0.000742)
alpha-Chlordane (cis)	2.9	0.094	ND (0.00232)	ND (0.00231)	ND (0.00234)	ND (0.00223)
beta-BHC	0.09	0.036	ND (0.00185)	ND (0.00185)	ND (0.00187)	ND (0.00178)
Chlordane	NA	NA	ND (0.0154)	ND (0.0154)	ND (0.0156)	ND (0.0148)
delta-BHC	0.25	0.04	ND (0.00185)	ND (0.00185)	ND (0.00187)	ND (0.00178)
Dieldrin	0.1	0.005	ND (0.00116)	ND (0.00116)	ND (0.00117)	ND (0.00111)
Endosulfan I	102	2.4	ND (0.00185)	ND (0.00185)	ND (0.00187)	ND (0.00178)
Endosulfan II	102	2.4	ND (0.00185)	ND (0.00185)	ND (0.00187)	ND (0.00178)
Endosulfan sulfate	1000	2.4	ND (0.000772)	ND (0.000772)	ND (0.000779)	ND (0.000742)
Endrin	0.06	0.014	ND (0.000772)	ND (0.000772)	ND (0.000779)	ND (0.000742)
Endrin aldehyde	NA	NA	ND (0.00232)	ND (0.00231)	ND (0.00234)	ND (0.00223)
Endrin ketone	NA	NA	ND (0.00185)	ND (0.00185)	ND (0.00187)	ND (0.00178)
gamma-BHC (Lindane)	0.1	0.1	ND (0.000772)	ND (0.000772)	ND (0.000779)	ND (0.000742)
gamma-Chlordane (trans)	NA	NA	ND (0.00232)	ND (0.00231)	ND (0.00234)	ND (0.00223)
Heptachlor	0.38	0.042	ND (0.000926)	ND (0.000926)	ND (0.000935)	ND (0.000891)
Heptachlor epoxide	NA	NA	ND (0.00347)	ND (0.00347)	ND (0.00351)	ND (0.00334)
Methoxychlor	NA	NA	ND (0.00347)	ND (0.00347)	ND (0.00351)	ND (0.00334)
Toxaphene	NA	NA	ND (0.0347)	ND (0.0347)	ND (0.0351)	ND (0.0334)

TABLE 2
REMAINING CONTAMINATION IN SOIL
125 3RD STREET
BROOKLYN, NEW YORK
FILE NO. 0208545

Precharacterization Grid	Action Level					
Location Name	Restricted Use	NY Part 375	EP-20	EP-21	EP-22	EP-23
Sample Name	Soil Cleanup	Unrestricted	EP-20_4	EP-21_4	EP-22_4	EP-23_4
Sample Date	Objectives -	Use	01/23/2024	01/23/2024	01/23/2024	01/23/2024
Lab Sample ID	Protection of	Soil Cleanup	L2403857-02	L2403857-07	L2403857-03	L2403857-04
Sample Depth (bgs)	Groundwater	Objectives	4 (ft)	4 (ft)	4 (ft)	4 (ft)
PFAS (ng/g)						
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	NA	NA	ND (0.791)	ND (0.782)	ND (0.771)	ND (0.764)
2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA)	NA	NA	ND (4.94)	ND (4.89)	ND (4.82)	ND (4.77)
3-(Perfluoroheptyl)propanoic acid (7:3 FTCA)	NA	NA	ND (4.94)	ND (4.89)	ND (4.82)	ND (4.77)
3:3 Fluorotelomer carboxylic acid (3:3 FTCA)	NA	NA	ND (0.989)	ND (0.978)	ND (0.964)	ND (0.955)
4,8-Dioxa-3H-Perfluorononanoic Acid (ADONA)	NA	NA	ND (0.791)	ND (0.782)	ND (0.771)	ND (0.764)
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	NA	NA	ND (0.791)	ND (0.782)	ND (0.771)	ND (0.764)
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	NA	NA	ND (0.791)	ND (0.782)	ND (0.771)	ND (0.764)
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	NA	NA	ND (0.791)	ND (0.782)	ND (0.771)	ND (0.764)
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	NA	NA	ND (0.791)	ND (0.782)	ND (0.771)	ND (0.764)
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	NA	NA	ND (0.198)	0.118 J	0.399	ND (0.191)
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	NA	NA	ND (0.198)	0.125 J	ND (0.193) J	ND (0.191)
N-Ethylperfluorooctane sulfonamidoethanol (N-EtFOSE)	NA	NA	ND (1.98)	ND (1.96)	ND (1.93) J	ND (1.91)
N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	NA	NA	ND (0.198)	ND (0.196)	ND (0.193)	ND (0.191)
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	NA	NA	ND (0.198)	0.11 J	ND (0.193) J	ND (0.191)
N-Methylperfluorooctane sulfonamidoethanol (N-MeFOSE)	NA	NA	ND (1.98)	ND (1.96)	ND (1.93)	ND (1.91)
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	NA	NA	ND (0.396)	ND (0.391)	ND (0.386)	ND (0.382)
Perfluoro(2-ethoxyethane) sulphonic acid (PFEESA)	NA	NA	ND (0.396)	ND (0.391)	ND (0.386)	ND (0.382)
Perfluoro(4-methoxybutanoic) acid (PFMBA)	NA	NA	ND (0.396)	ND (0.391)	ND (0.386)	ND (0.382)
Perfluoro-2-propoxypropanoic acid (PFPrOPrA)(GenX) (HFPO-DA)	NA	NA	ND (0.791)	ND (0.782)	ND (0.771)	ND (0.764)
Perfluoro-3-methoxypropanoic acid (PFMPA)	NA	NA	ND (0.396)	ND (0.391)	ND (0.386)	ND (0.382)
Perfluorobutanesulfonic acid (PFBS)	NA	NA	ND (0.198)	ND (0.196)	ND (0.193)	ND (0.191)
Perfluorobutanoic acid (PFBA)	NA	NA	ND (0.791)	ND (0.782)	ND (0.771)	ND (0.764)
Perfluorodecanesulfonic acid (PFDS)	NA	NA	ND (0.198)	ND (0.196)	ND (0.193)	ND (0.191)
Perfluorodecanoic acid (PFDA)	NA	NA	ND (0.198)	ND (0.196)	ND (0.193)	ND (0.191)
Perfluorododecane sulfonic acid (PFDoDS)	NA	NA	ND (0.198)	ND (0.196)	ND (0.193)	ND (0.191)
Perfluorododecanoic acid (PFDoDA)	NA	NA	ND (0.198)	ND (0.196)	ND (0.193)	ND (0.191)
Perfluoroheptanesulfonic acid (PFHpS)	NA	NA	ND (0.198)	ND (0.196)	ND (0.193)	ND (0.191)
Perfluoroheptanoic acid (PFHpA)	NA	NA	ND (0.198)	ND (0.196)	ND (0.193)	ND (0.191)
Perfluorohexanesulfonic acid (PFHxS)	NA	NA	ND (0.198)	ND (0.196)	ND (0.193)	ND (0.191)
Perfluorohexanoic acid (PFHxA)	NA	NA	ND (0.198)	0.045 J	0.052 J	ND (0.191)
Perfluorononane sulfonic acid (PFNS)	NA	NA	ND (0.198)	ND (0.196)	ND (0.193)	ND (0.191)
Perfluorononanoic acid (PFNA)	NA	NA	ND (0.198)	ND (0.196)	ND (0.193)	ND (0.191)
Perfluorooctane sulfonamide (PFOSA)	NA	NA	ND (0.198)	0.221 J	ND (0.193) J	ND (0.191)
Perfluorooctanesulfonic acid (PFOS)	1	0.88	0.117 J	***2.02 J***	***1.11 J***	0.089 J
Perfluorooctanoic acid (PFOA)	0.8	0.66	0.097 J	0.058 J	0.183 J	0.487
Perfluoropentanesulfonic acid (PFPeS)	NA	NA	ND (0.198)	ND (0.196)	ND (0.193)	ND (0.191)
Perfluoropentanoic acid (PFPeA)	NA	NA	ND (0.396)	0.056 J	ND (0.386)	ND (0.382)
Perfluorotetradecanoic acid (PFTeDA)	NA	NA	ND (0.198) J	ND (0.196)	ND (0.193)	ND (0.191) J
Perfluorotridecanoic acid (PFTrDA)	NA	NA	ND (0.198)	ND (0.196)	ND (0.193)	ND (0.191)
Perfluoroundecanoic acid (PFUnDA)	NA	NA	ND (0.198)	ND (0.196)	ND (0.193)	ND (0.191)

Notes and Abbreviations:
mg/kg: milligram per kilogram
ng/g: nanogram per gram

-: Not Analyzed
bgs: below ground surface
ft: feet
J: Value is estimated.
J+: Value is estimated, high bias.
J-: Value is estimated, low bias.
R: Rejected
ND (2.5): Not detected, number in parentheses is the laboratory reporting limit
NA: Not Applicable

- For test methods used, see the laboratory data sheets.
- Soil analytical results are compared to the New York State Department of Environmental Conservation (NYSDEC) Title 6 of the Official Compilation of New York Codes, Rules, and Regulations (NYCRR) Part 375 Unrestricted Use Soil Cleanup Objectives (SCO) and Protection of Groundwater SCO's.
*- **Bold italic** values indicate an exceedance of the Protection of Groundwater Criteria.*
- Grey shading indicates an exceedance of the Unrestricted Use Soil Cleanup Objectives.

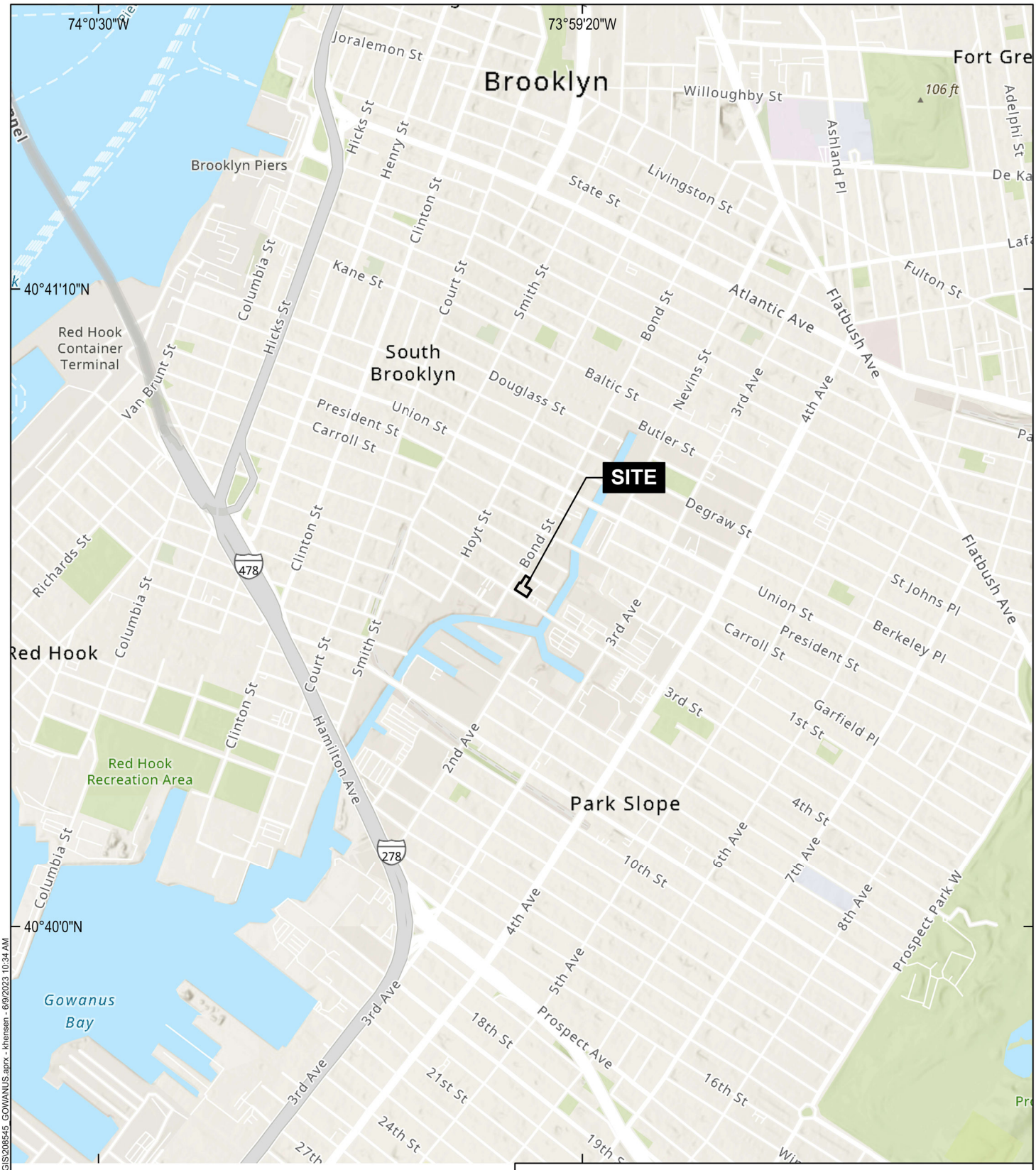
TABLE 3
REMAINING CONTAMINATION IN GROUNDWATER
125 3RD STREET
BROOKLYN, NEW YORK
FILE NO. 0208545

			Location	RW-1				RW-2		RW-3						RW-4					
			Sampling Event	BASELINE		Q1		BASELINE		BASELINE				Q1		BASELINE		Q1			
			Sample Name	RW-1		RW-01_20240620		RW-2		RW-3		DUP-01_20240226		RW-03_20240620		RW-4		RW-04_20240620		DUP1_20240620	
			Sample Date	2/26/2024		6/20/2024		2/26/2024		2/26/2024		2/26/2024		6/20/2024		2/26/2024		6/20/2024		6/20/2024	
			Lab Sample ID	L2410279-01		L2435033-03		L2410279-02		L2410279-03		L2410279-05		L2435033-01		L2410279-04		L2435033-02		L2435033-04	
	NY-AWQS	**Units**		**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**
Dissolved Metals																					
Arsenic, Dissolved	25	ug/l		223.8		31.59		8.04		8.21		8.36		14.9		13.79		8.59		9.95	
Total Metals																					
Arsenic, Total	25	ug/l		189.5		177.4		24.73		15.37		15.12		15.77		26.56		159.2		141.4	

Notes and Abbreviations:

- Groundwater analytical results are compared to the New York TOGS 111 Ambient Water Quality Standards criteria reflects all addendum to criteria through June 2004 (NY-AWQS).
- Yellow shading indicates an exceedance of the AWQS
- ug/L: micrograms per liter

FIGURES



GIS: \\haleyaldrich.com\share\CF\Projects\0208545\GIS\208545_GOWANUS.aprx - khensen - 6/9/2023 10:34 AM

MAP SOURCE: ESRI
SITE COORDINATES: 40°40'37"N, 73°59'29"W

HALEY ALDRICH

125 3RD STREET
BROOKLYN, NEW YORK

PROJECT LOCUS

APPROXIMATE SCALE: 1 IN = 2000 FT
JUNE 2023

FIGURE 1

LEGEND

SUBJECT SITE BOUNDARY

PARCEL BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

2. ASSESSOR PARCEL DATA SOURCE: NEW YORK STATE GIS CLEARINGHOUSE

3. AERIAL IMAGERY SOURCE: NEARMAP, 28 MAY 2023.

N

0 30 60

SCALE IN FEET

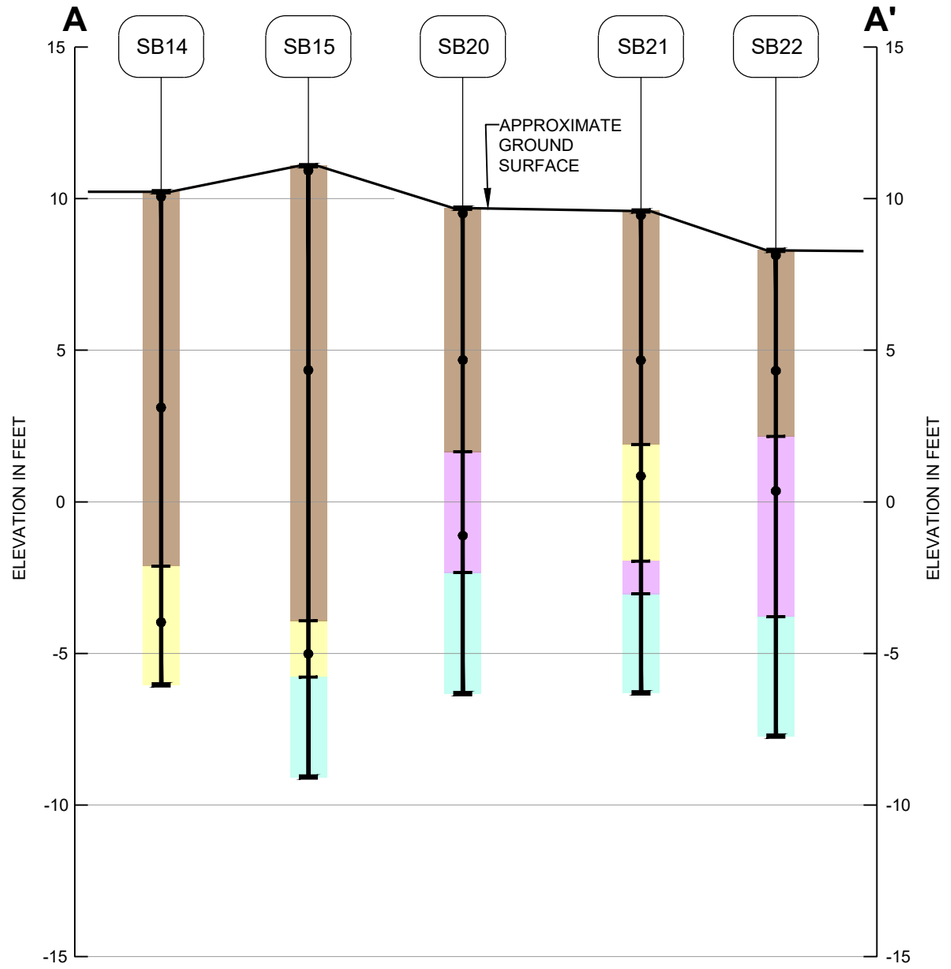
HALEY ALDRICH

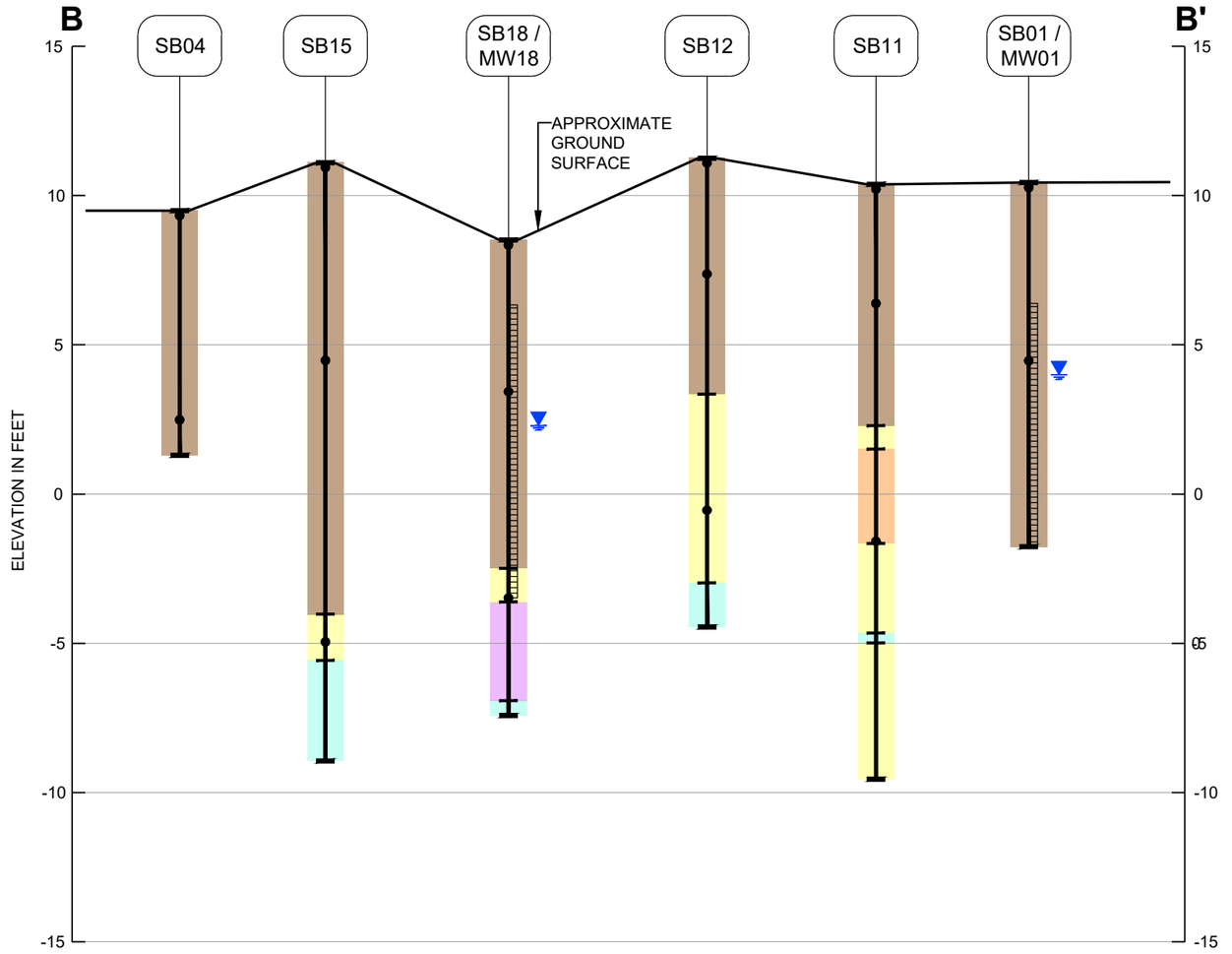
125 3RD STREET
BROOKLYN, NEW YORK

SITE PLAN

JUNE 2024

FIGURE 2





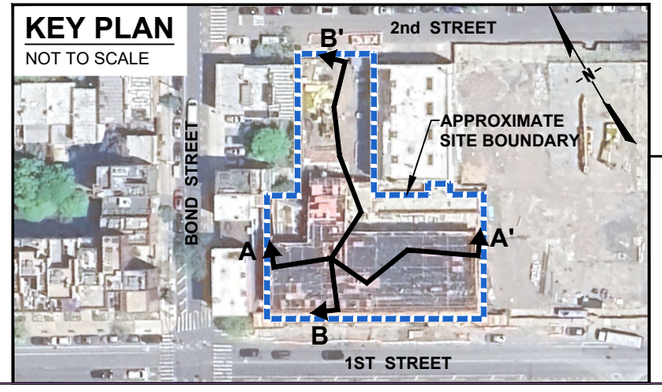
LEGEND

SB14 — EXPLORATION DESIGNATION

- INDICATES SAMPLE COLLECTED
- INTERPRETED GEOLOGIC STRATUM INTERFACE
- GROUNDWATER WATER LEVEL
- MONITORING WELL SCREEN INTERVAL
- BOTTOM OF EXPLORATION

GEOLOGY KEY

- FILL
- CLAY
- SILT
- SAND
- GRAVEL



HORIZ. 0 30 60
VERT. 0 5 10
SCALE IN FEET

HALEY ALDRICH

125 3RD STREET
BROOKLYN, NEW YORK

GEOLOGIC CROSS SECTION A-A' AND B-B'

SCALE: AS SHOWN
JUNE 2024

FIGURE 3

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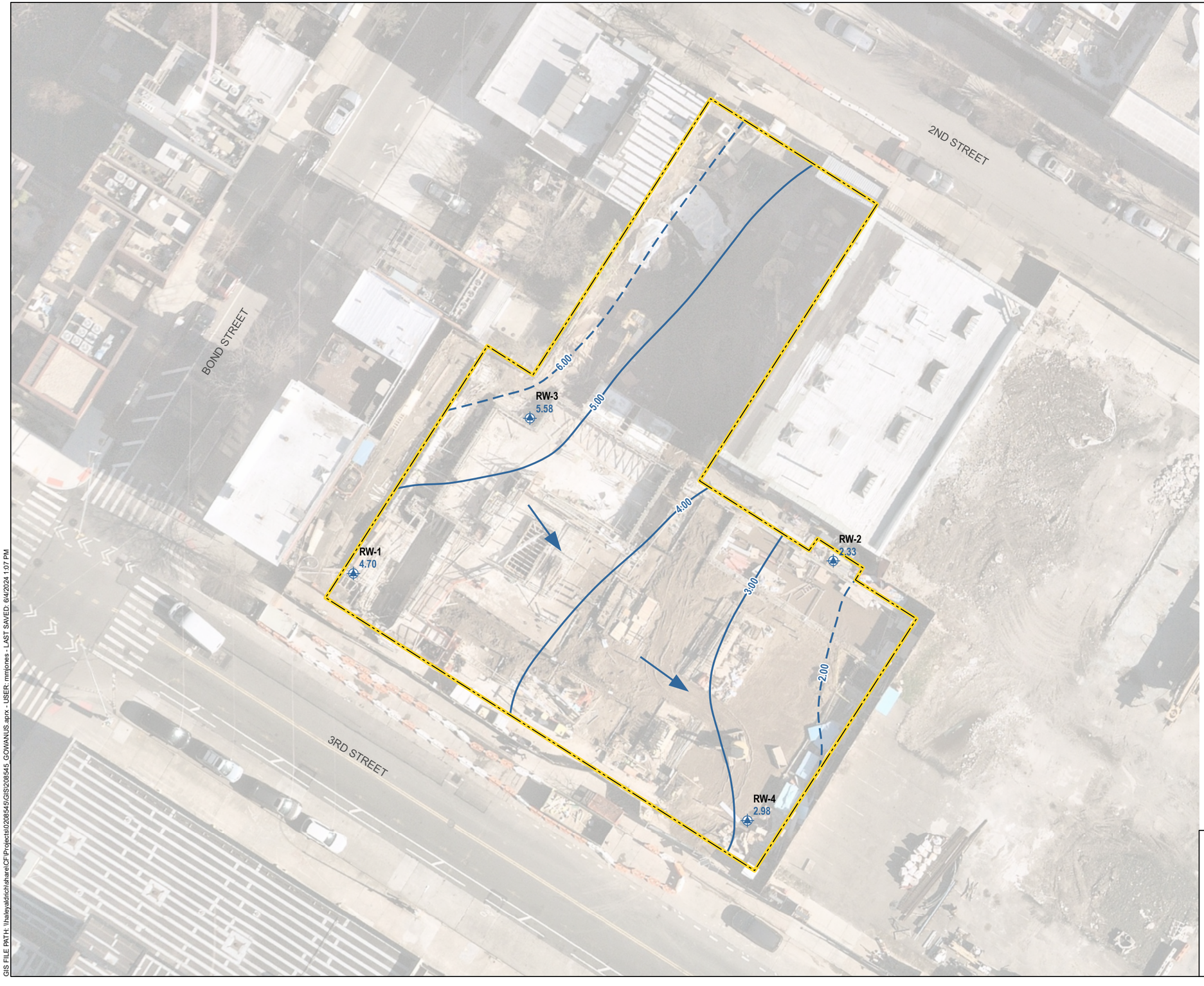

LEGEND

- POST REMEDIATION GROUNDWATER MONITORING WELL WITH **GROUNDWATER ELEVATION** IN FEET
- GROUNDWATER ELEVATION CONTOUR, 1 FOOT INTERVAL, DASHED WHERE INFERRED
- GROUNDWATER FLOW ARROW
- SITE BOUNDARY
- PARCEL BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. GROUNDWATER ELEVATIONS WERE MEASURED IN MAY 2024.
3. ASSESSOR PARCEL DATA SOURCE: NEW YORK STATE GIS CLEARINGHOUSE
4. AERIAL IMAGERY SOURCE: NEARMAP, 8 MARCH 2024

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SCALE IN FEET

HALEY ALDRICH

125 3RD STREET
BROOKLYN, NEW YORK

GROUNDWATER CONTOUR MAP

JUNE 2024

FIGURE 4

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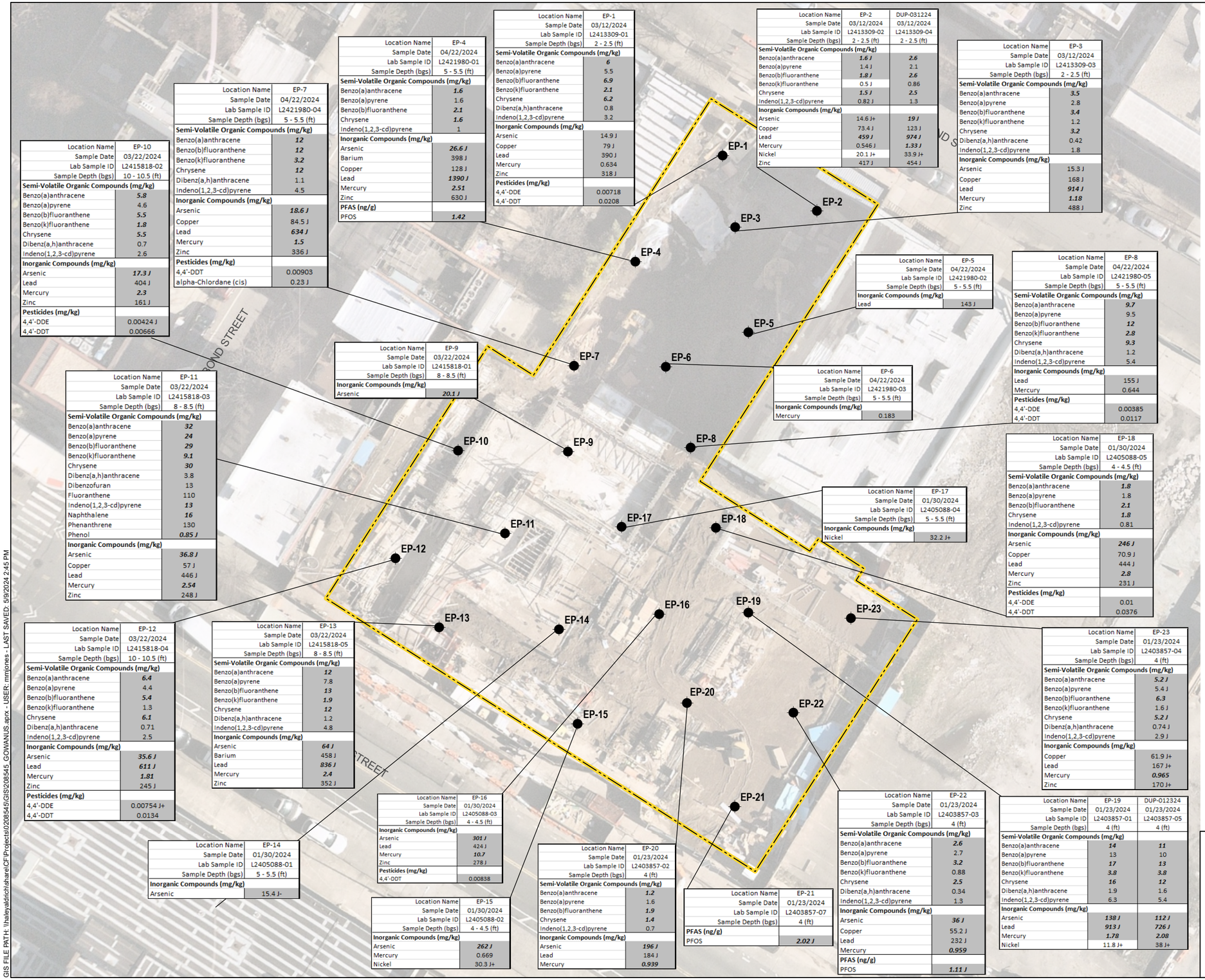

Location Name	EP-1
Sample Date	03/12/2024
Lab Sample ID	L2413309-01
Sample Depth (bgs)	2 - 2.5 (ft)
Semi-Volatile Organic Compounds (mg/kg)	
Benzo(a)anthracene	***6***
Benzo(a)pyrene	5.5
Benzo(b)fluoranthene	***6.9***
Benzo(k)fluoranthene	***2.1***
Chrysene	***6.2***
Dibenz(a,h)anthracene	0.8
Indeno(1,2,3-cd)pyrene	3.2
Inorganic Compounds (mg/kg)	
Arsenic	14.9 J
Copper	79 J
Lead	390 J
Mercury	0.634
Zinc	318 J
Pesticides (mg/kg)	
4,4'-DDE	0.00718
4,4'-DDT	0.0208

Location Name	EP-2	DUP-031224
Sample Date	03/12/2024	03/12/2024
Lab Sample ID	L2413309-02	L2413309-04
Sample Depth (bgs)	2 - 2.5 (ft)	2 - 2.5 (ft)
Semi-Volatile Organic Compounds (mg/kg)		
Benzo(a)anthracene	***1.6 J***	***2.6***
Benzo(a)pyrene	1.4 J	2.1
Benzo(b)fluoranthene	***1.8 J***	***2.6***
Benzo(k)fluoranthene	0.5 J	0.86
Chrysene	***1.5 J***	***2.5***
Indeno(1,2,3-cd)pyrene	0.82 J	1.3
Inorganic Compounds (mg/kg)		
Arsenic	14.6 J+	***19 J***
Copper	73.4 J	123 J
Lead	***459 J***	***974 J***
Mercury	0.546 J	***1.33 J***
Nickel	20.1 J+	33.9 J+
Zinc	417 J	454 J

Location Name	EP-3
Sample Date	03/12/2024
Lab Sample ID	L2413309-03
Sample Depth (bgs)	2 - 2.5 (ft)
Semi-Volatile Organic Compounds (mg/kg)	
Benzo(a)anthracene	***3.5***
Benzo(a)pyrene	2.8
Benzo(b)fluoranthene	***3.4***
Benzo(k)fluoranthene	1.2
Chrysene	***3.2***
Dibenz(a,h)anthracene	0.42
Indeno(1,2,3-cd)pyrene	1.8
Inorganic Compounds (mg/kg)	
Arsenic	15.3 J
Copper	168 J
Lead	***914 J***
Mercury	***1.18***
Zinc	488 J

Location Name	EP-4
Sample Date	04/22/2024
Lab Sample ID	L2421980-01
Sample Depth (bgs)	5 - 5.5 (ft)
Semi-Volatile Organic Compounds (mg/kg)	
Benzo(a)anthracene	***1.6***
Benzo(a)pyrene	1.6
Benzo(b)fluoranthene	***2.1***
Chrysene	***1.6***
Indeno(1,2,3-cd)pyrene	1
Inorganic Compounds (mg/kg)	
Arsenic	***26.6 J***
Barium	398 J
Copper	128 J
Lead	***1390 J***
Mercury	***2.51***
Zinc	630 J
PFAS (ng/g)	
PFOS	***1.42***

Location Name	EP-7
Sample Date	04/22/2024
Lab Sample ID	L2421980-04
Sample Depth (bgs)	5 - 5.5 (ft)
Semi-Volatile Organic Compounds (mg/kg)	
Benzo(a)anthracene	***12***
Benzo(b)fluoranthene	***12***
Benzo(k)fluoranthene	***3.2***
Chrysene	***12***
Dibenz(a,h)anthracene	1.1
Indeno(1,2,3-cd)pyrene	4.5
Inorganic Compounds (mg/kg)	
Arsenic	***18.6 J***
Copper	84.5 J
Lead	***634 J***
Mercury	***1.5***
Zinc	336 J
Pesticides (mg/kg)	
4,4'-DDT	0.00903
alpha-Chlordane (cis)	0.23 J

Location Name	EP-10
Sample Date	03/22/2024
Lab Sample ID	L2415818-02
Sample Depth (bgs)	10 - 10.5 (ft)
Semi-Volatile Organic Compounds (mg/kg)	
Benzo(a)anthracene	***5.8***
Benzo(a)pyrene	4.6
Benzo(b)fluoranthene	***5.5***
Benzo(k)fluoranthene	***1.8***
Chrysene	***5.5***
Dibenz(a,h)anthracene	0.7
Indeno(1,2,3-cd)pyrene	2.6
Inorganic Compounds (mg/kg)	
Arsenic	***17.3 J***
Lead	404 J
Mercury	***2.3***
Zinc	161 J
Pesticides (mg/kg)	
4,4'-DDE	0.00424 J
4,4'-DDT	0.00666

Location Name	EP-5
Sample Date	04/22/2024
Lab Sample ID	L2421980-02
Sample Depth (bgs)	5 - 5.5 (ft)
Inorganic Compounds (mg/kg)	
Lead	143 J

Location Name	EP-8
Sample Date	04/22/2024
Lab Sample ID	L2421980-05
Sample Depth (bgs)	5 - 5.5 (ft)
Semi-Volatile Organic Compounds (mg/kg)	
Benzo(a)anthracene	***9.7***
Benzo(a)pyrene	9.5
Benzo(b)fluoranthene	***12***
Benzo(k)fluoranthene	***2.8***
Chrysene	***9.3***
Dibenz(a,h)anthracene	1.2
Indeno(1,2,3-cd)pyrene	5.4
Inorganic Compounds (mg/kg)	
Lead	155 J
Mercury	0.644
Pesticides (mg/kg)	
4,4'-DDE	0.00385
4,4'-DDT	0.0117

Location Name	EP-9
Sample Date	03/22/2024
Lab Sample ID	L2415818-01
Sample Depth (bgs)	8 - 8.5 (ft)
Inorganic Compounds (mg/kg)	
Arsenic	***20.1 J***

Location Name	EP-6
Sample Date	04/22/2024
Lab Sample ID	L2421980-03
Sample Depth (bgs)	5 - 5.5 (ft)
Inorganic Compounds (mg/kg)	
Mercury	0.183

Location Name	EP-11
Sample Date	03/22/2024
Lab Sample ID	L2415818-03
Sample Depth (bgs)	8 - 8.5 (ft)
Semi-Volatile Organic Compounds (mg/kg)	
Benzo(a)anthracene	***32***
Benzo(a)pyrene	***24***
Benzo(b)fluoranthene	***29***
Benzo(k)fluoranthene	***9.1***
Chrysene	***30***
Dibenz(a,h)anthracene	3.8
Dibenzofuran	13
Fluoranthene	110
Indeno(1,2,3-cd)pyrene	***13***
Naphthalene	***16***
Phenanthrene	130
Phenol	***0.85 J***
Inorganic Compounds (mg/kg)	
Arsenic	***36.8 J***
Copper	57 J
Lead	446 J
Mercury	***2.54***
Zinc	248 J

Location Name	EP-18
Sample Date	01/30/2024
Lab Sample ID	L2405088-05
Sample Depth (bgs)	4 - 4.5 (ft)
Semi-Volatile Organic Compounds (mg/kg)	
Benzo(a)anthracene	***1.8***
Benzo(a)pyrene	1.8
Benzo(b)fluoranthene	***2.1***
Chrysene	***1.8***
Indeno(1,2,3-cd)pyrene	0.81
Inorganic Compounds (mg/kg)	
Arsenic	***246 J***
Copper	70.9 J
Lead	444 J
Mercury	***2.8***
Zinc	231 J
Pesticides (mg/kg)	
4,4'-DDE	0.01
4,4'-DDT	0.0376

Location Name	EP-17
Sample Date	01/30/2024
Lab Sample ID	L2405088-04
Sample Depth (bgs)	5 - 5.5 (ft)
Inorganic Compounds (mg/kg)	
Nickel	32.2 J+

Location Name	EP-12
Sample Date	03/22/2024
Lab Sample ID	L2415818-04
Sample Depth (bgs)	10 - 10.5 (ft)
Semi-Volatile Organic Compounds (mg/kg)	
Benzo(a)anthracene	***6.4***
Benzo(a)pyrene	4.4
Benzo(b)fluoranthene	***5.4***
Benzo(k)fluoranthene	1.3
Chrysene	***6.1***
Dibenz(a,h)anthracene	0.71
Indeno(1,2,3-cd)pyrene	2.5
Inorganic Compounds (mg/kg)	
Arsenic	***35.6 J***
Lead	***611 J***
Mercury	***1.81***
Zinc	245 J
Pesticides (mg/kg)	
4,4'-DDE	0.00754 J+
4,4'-DDT	0.0134

Location Name	EP-13
Sample Date	03/22/2024
Lab Sample ID	L2415818-05
Sample Depth (bgs)	8 - 8.5 (ft)
Semi-Volatile Organic Compounds (mg/kg)	
Benzo(a)anthracene	***12***
Benzo(a)pyrene	7.8
Benzo(b)fluoranthene	***13***
Benzo(k)fluoranthene	***1.9***
Chrysene	***12***
Dibenz(a,h)anthracene	1.2
Indeno(1,2,3-cd)pyrene	4.8
Inorganic Compounds (mg/kg)	
Arsenic	***64 J***
Barium	458 J
Lead	***836 J***
Mercury	***2.4***
Zinc	352 J

Location Name	EP-23
Sample Date	01/23/2024
Lab Sample ID	L2403857-04
Sample Depth (bgs)	4 (ft)
Semi-Volatile Organic Compounds (mg/kg)	
Benzo(a)anthracene	***5.2 J***
Benzo(a)pyrene	5.4 J
Benzo(b)fluoranthene	***6.3***
Benzo(k)fluoranthene	1.6 J
Chrysene	***5.2 J***
Dibenz(a,h)anthracene	0.74 J
Indeno(1,2,3-cd)pyrene	2.9 J
Inorganic Compounds (mg/kg)	
Copper	61.9 J+
Lead	167 J+
Mercury	***0.965***
Zinc	170 J+

Location Name	EP-14
Sample Date	01/30/2024
Lab Sample ID	L2405088-01
Sample Depth (bgs)	5 - 5.5 (ft)
Inorganic Compounds (mg/kg)	
Arsenic	15.4 J-

Location Name	EP-16
Sample Date	01/30/2024
Lab Sample ID	L2405088-03
Sample Depth (bgs)	4 - 4.5 (ft)
Inorganic Compounds (mg/kg)	
Arsenic	***301 J***
Lead	424 J
Mercury	***10.7***
Zinc	278 J
Pesticides (mg/kg)	
4,4'-DDT	0.00838

Location Name	EP-15
Sample Date	01/30/2024
Lab Sample ID	L2405088-02
Sample Depth (bgs)	4 - 4.5 (ft)
Inorganic Compounds (mg/kg)	
Arsenic	***262 J***
Mercury	0.669
Nickel	30.3 J+

Location Name	EP-20
Sample Date	01/23/2024
Lab Sample ID	L2403857-02
Sample Depth (bgs)	4 (ft)
Semi-Volatile Organic Compounds (mg/kg)	
Benzo(a)anthracene	***1.2***
Benzo(a)pyrene	1.6
Benzo(b)fluoranthene	***1.9***
Chrysene	***1.4***
Indeno(1,2,3-cd)pyrene	0.7
Inorganic Compounds (mg/kg)	
Arsenic	***196 J***
Lead	184 J
Mercury	***0.939***

Location Name	EP-21
Sample Date	01/23/2024
Lab Sample ID	L2403857-07
Sample Depth (bgs)	4 (ft)
PFAS (ng/g)	
PFOS	***2.02 J***

Location Name	EP-22
Sample Date	01/23/2024
Lab Sample ID	L2403857-03
Sample Depth (bgs)	4 (ft)
Semi-Volatile Organic Compounds (mg/kg)	
Benzo(a)anthracene	***2.6***
Benzo(a)pyrene	2.7
Benzo(b)fluoranthene	***3.2***
Benzo(k)fluoranthene	0.88
Chrysene	***2.5***
Dibenz(a,h)anthracene	0.34
Indeno(1,2,3-cd)pyrene	1.3
Inorganic Compounds (mg/kg)	
Arsenic	***36 J***
Copper	55.2 J
Lead	232 J
Mercury	***0.959***
PFAS (ng/g)	
PFOS	***1.11 J***

Location Name	EP-19	DUP-012324
Sample Date	01/23/2024	01/23/2024
Lab Sample ID	L2403857-01	L2403857-05
Sample Depth (bgs)	4 (ft)	4 (ft)
Semi-Volatile Organic Compounds (mg/kg)		
Benzo(a)anthracene	***14***	***11***
Benzo(a)pyrene	13	10
Benzo(b)fluoranthene	***17***	***13***
Benzo(k)fluoranthene	***3.8***	***3.8***
Chrysene	***16***	***12***
Dibenz(a,h)anthracene	1.9	1.6
Indeno(1,2,3-cd)pyrene	6.3	5.4
Inorganic Compounds (mg/kg)		
Arsenic	***138 J***	***112 J***
Lead	***913 J***	***726 J***
Mercury	***1.78***	***2.08***
Nickel	11.8 J+	38 J+

LEGEND

- ENDPOINT SAMPLE
- SITE BOUNDARY
- PARCEL BOUNDARY

	Restricted Use Soil Cleanup Objectives - Protection of Groundwater	NY Part 375 Restricted Residential Use Soil Cleanup Objectives	NY Part 375 Unrestricted Use Soil Cleanup Objectives
Semi-Volatile Organic Compounds (mg/kg)			
Benzo(a)anthracene	1	1	1
Benzo(a)pyrene	22	1	1
Benzo(b)fluoranthene	1.7	1	1
Benzo(k)fluoranthene	1.7	3.9	0.8
Chrysene	1	3.9	1
Dibenz(a,h)anthracene	1000	0.33	0.33
Dibenzofuran	210	59	7
Fluoranthene	1000	100	100
Indeno(1,2,3-cd)pyrene	8.2	0.5	0.5
Naphthalene	44	100	44
Phenanthrene	1000	100	100
Phenol	0.33	100	0.33
Inorganic Compounds (mg/kg)			
Arsenic	16	16	13
Barium	820	400	350
Copper	1720	270	50
Lead	450	400	63
Mercury	0.73	0.81	0.18
Nickel	130	310	30
Zinc	2480	10000	109
Pesticides (mg/kg)			
4,4'-DDE	17	8.9	0.0033
4,4'-DDT	136	7.9	0.0033
alpha-Chlordane (cis)	2.9	4.2	0.094
PFAS (ng/g)			
Perfluorooctanesulfonic acid (PFOS)	1	44	0.88

NOTES:

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: NEW YORK STATE GIS CLEARINGHOUSE
3. AERIAL IMAGERY SOURCE: NEARMAP, 8 MARCH 2024
4. SOIL ANALYTICAL RESULTS ARE COMPARED TO THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC) TITLE 6 OF THE OFFICIAL COMPILATION OF NEW YORK CODES, RULES, AND REGULATIONS (NYCRR) PART 375 UNRESTRICTED USE SOIL CLEANUP OBJECTIVES (SCO) AND PROTECTION OF GROUNDWATER SCO'S.
5. BOLD ITALIC VALUES INDICATE AN EXCEEDANCE OF THE PROTECTION OF GROUNDWATER CRITERIA.
6. GREY SHADING INDICATES AN EXCEEDANCE OF THE UNRESTRICTED USE SOIL CLEANUP OBJECTIVES.
7. PFOS: PERFLUOROOCTANESULFONIC ACID
8. NG/G: NANOGRAM PER GRAM
9. MG/KG: MILLIGRAM PER KILOGRAM
10. J: VALUE IS ESTIMATED.
11. J+: VALUE IS ESTIMATED, HIGH BIAS.

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SCALE IN FEET

HALEY ALDRICH

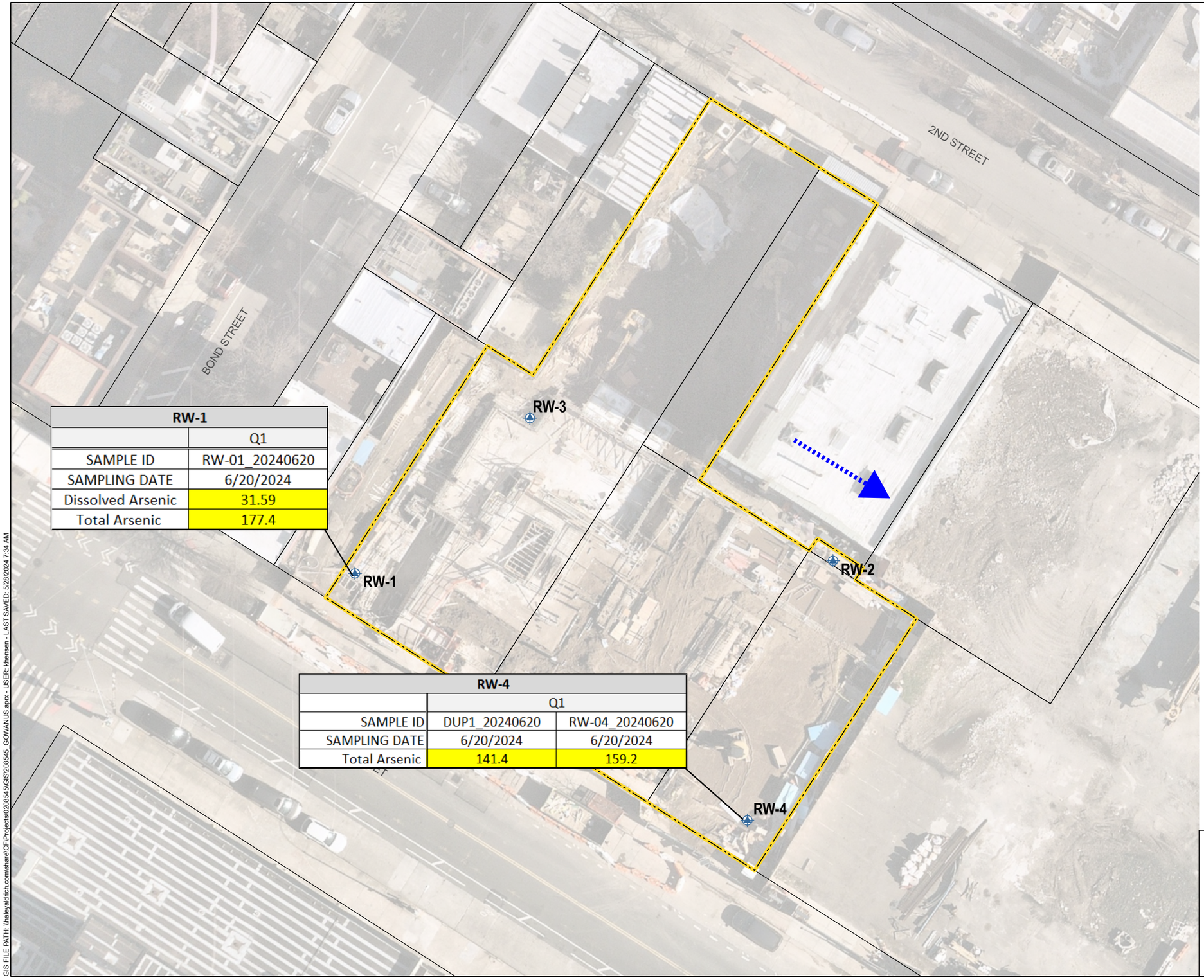
125 3RD STREET
BROOKLYN, NEW YORK

REMAINING CONTAMINATION IN SOIL

JUNE 2024

FIGURE 5

GIS FILE PATH: \\haleyaldrich\share\CFP\projects\0208545\GIS\208545_GOWANUS.aprx - USER: mmjones - LAST SAVED: 5/9/2024 2:45 PM



RW-1	
	Q1
SAMPLE ID	RW-01_20240620
SAMPLING DATE	6/20/2024
Dissolved Arsenic	31.59
Total Arsenic	177.4

RW-4		
	Q1	
SAMPLE ID	DUP1_20240620	RW-04_20240620
SAMPLING DATE	6/20/2024	6/20/2024
Total Arsenic	141.4	159.2

LEGEND

- POST REMEDIATION GROUNDWATER MONITORING WELL
- SITE BOUNDARY
- PARCEL BOUNDARY
- GROUNDWATER FLOW DIRECTION

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: NEW YORK STATE GIS CLEARINGHOUSE
3. AERIAL IMAGERY SOURCE: NEARMAP, 8 MARCH 2024
4. AWQS - NEW YORK TOGS 111 AMBIENT WATER QUALITY STANDARDS CRITERIA (JUNE 2004).
5. YELLOW SHADED RESULTS INDICATE AN EXCEEDANCE OF THE AWQS FOR TOTAL/DISSOLVED ARSENIC (25 ug/L).
6. RW-2 WAS DECOMMISSIONED AS PART OF FOUNDATION CONSTRUCTION AND COULD NOT BE SAMPLED AS PART OF THE JUNE 2024 QUARTERLY EVENT (Q1).
7. ARSENIC CONCENTRATION AT RW-3 WAS BELOW THE AWQS.
8. RESULTS ARE DISPLAYED IN MICROGRAMS PER LITER (ug/L)

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SCALE IN FEET

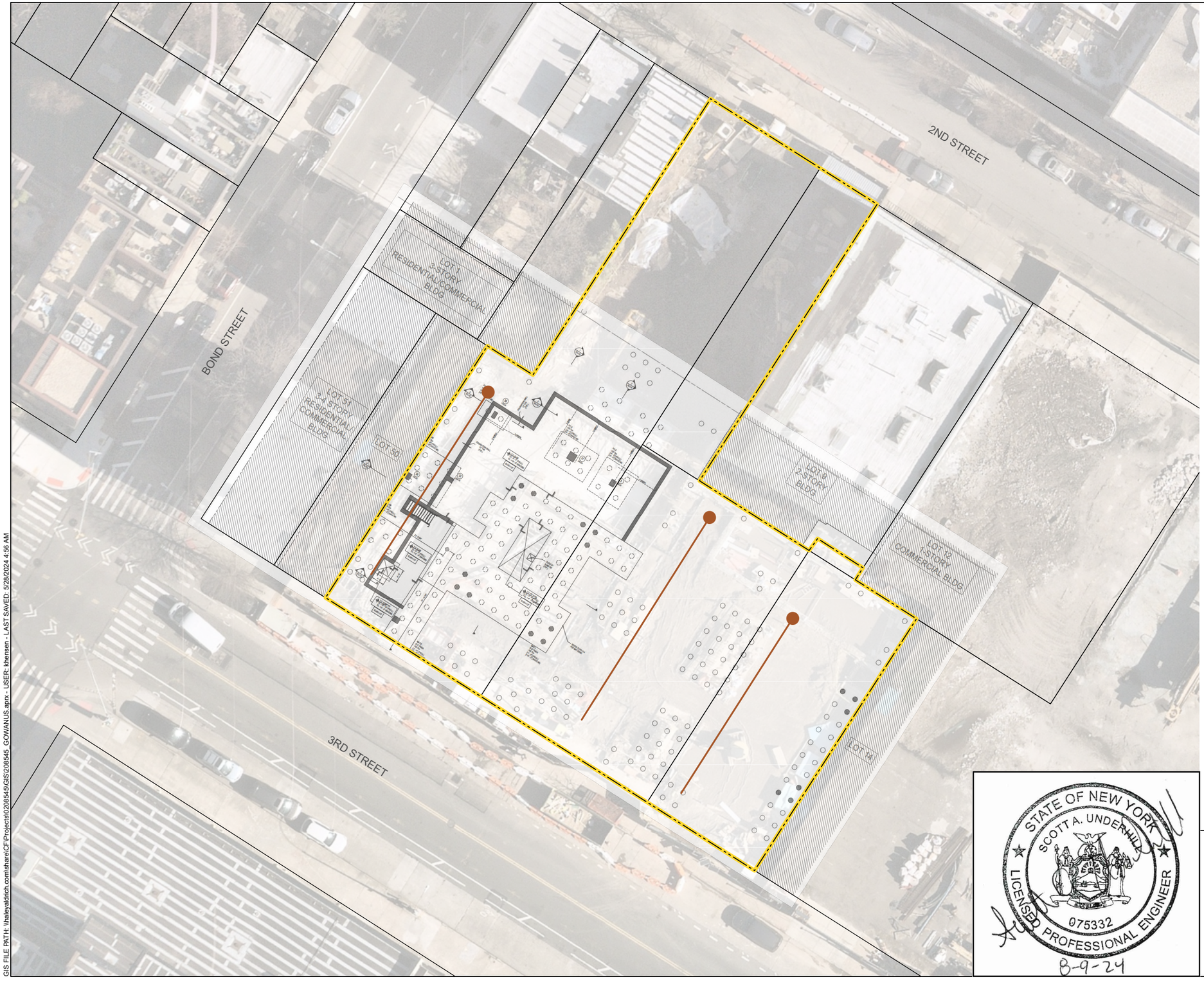
HALEY ALDRICH

125 3RD STREET
BROOKLYN, NEW YORK

REMAINING CONTAMINATION IN GROUNDWATER

AUGUST 2024

FIGURE 6



LEGEND

- INJECTION PORT LOCATION
- INJECTION GALLERY PIPING
- SITE BOUNDARY
- PARCEL BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: NEW YORK STATE GIS CLEARINGHOUSE
3. BASE MAP SOURCE: FOGARTY FINGER, CELLAR FLOOR FOUNDATION FRAMING PLAN, 21 APRIL 2023
4. AERIAL IMAGERY SOURCE: NEARMAP, 8 MARCH 2024

N

0 30 60

SCALE IN FEET

STATE OF NEW YORK
SCOTT A. UNDERHILL
075332
LICENSED PROFESSIONAL ENGINEER
8-9-24

HALEY ALDRICH

125 3RD STREET
BROOKLYN, NEW YORK

INJECTION GALLERY AS-BUILT

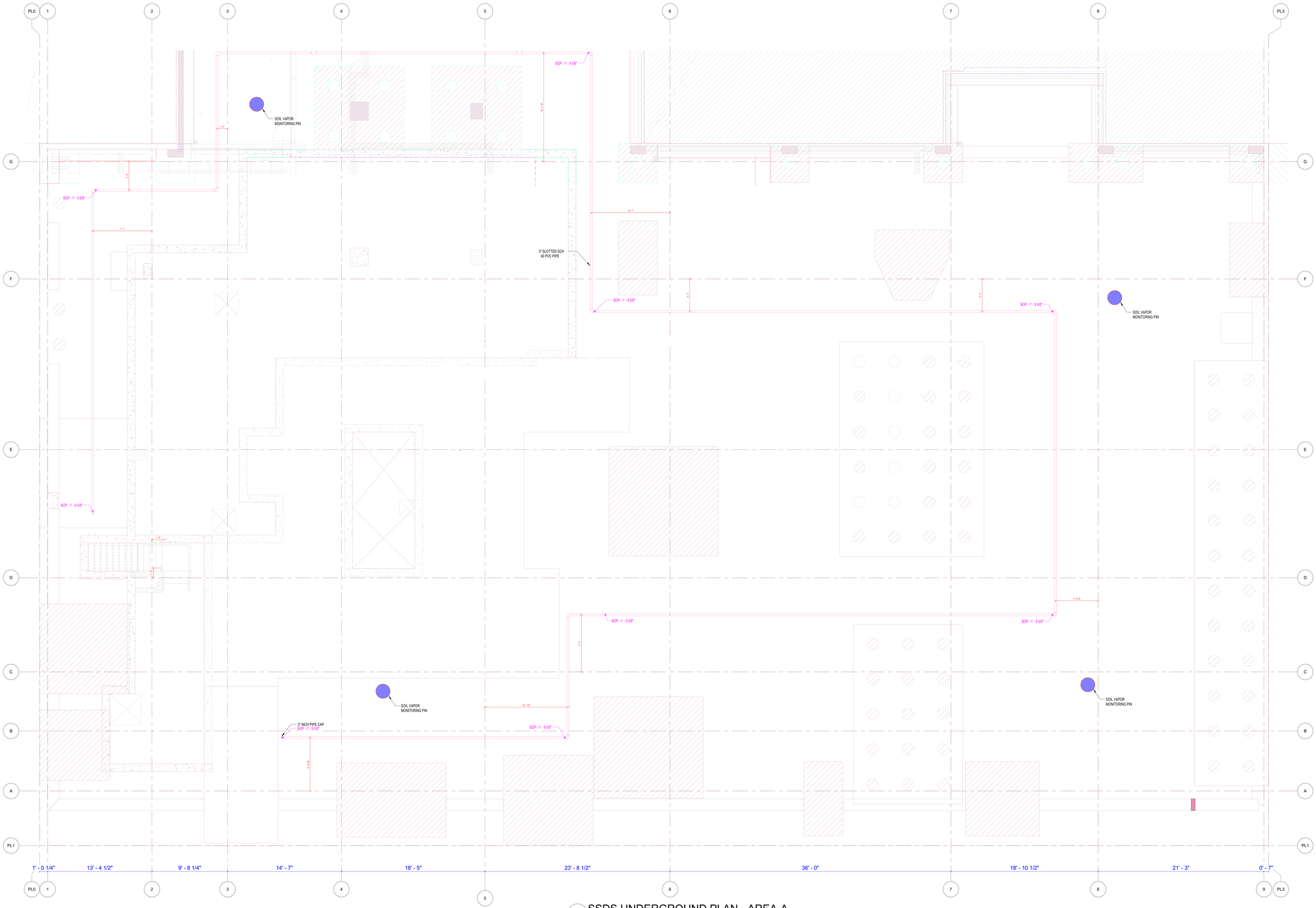
JUNE 2024

FIGURE 7

GIS FILE PATH: \\haleyaldrich.com\share\CF\Projects\0208545\GIS\208545_GOWANUS.aprx - USER: khensen - LAST SAVED: 5/28/2024 4:56 AM

NOTES

1. THIS SUB-SLAB DEPRESSURIZATION SYSTEM (SSDS) DESIGN HAS BEEN REVIEWED AND CERTIFIED BY HALEY & ALDRICH OF NEW YORK ENGINEERING AND GEOLOGY, LLP (HALEY & ALDRICH OF NEW YORK) AND HAS BEEN INCORPORATED INTO THE REMEDIAL ACTION WORK PLAN (RAWP) SUBMISSION TO THE NEW YORK STATE DEPARTMENT OF ENVIRONMTNAL CONSERVATION (NYSDEC).
2. HALEY & ALDRICH OF NEW YORK WILL NOTIFY THE NYSDEC OF ANY DEVIATIONS FROM THIS SSDS PLAN PRIOR TO INSTALLATION.
3. HALEY & ALDRICH OF NEW YORK WILL BE RESPONSIBLE FOR IMPLEMENTING THE OVERALL REMEDY AND SSDS INSTALLATION AT THE SITE AND WILL CERTIFY THE FINAL ENGINEERING REPORT.
4. ALL DIMENSIONS AND LOCATIONS ARE APPROXIMATE.



1 SSDS UNDERGROUND PLAN - AREA-A
1/4" = 1'-0"

HALEY ALDRICH

HALEY & ALDRICH OF NEW YORK
213 W 35th Street, 7th Floor
New York, New York 10001
Tel: 646.277.5685
www.haleyaldrich.com

LEGEND:

- APPROXIMATE SITE BOUNDARY
- MP-01 ▲ DIFFERENTIAL PRESSURE MONITORING POINTS
- SUB-SLAB SOLID PIPING
- AREA NOT DEPRESSURIZED
- PIPE SLEEVE THROUGH FOUNDATION ELEMENT

NOTES:

1. BACKGROUNDS ADAPTED FROM 2024-02-07 PLUMBING UNDERGROUND PLAN -AREA-A P-101A BY FOGARTY FINGER ARCHITECTURE/INTERIORS
2. RISER LOCATIONS COORDINATED WITH ARCHITECT IN JULY 2023, FINAL LOCATIONS SHALL BE CONFIRMED.
3. ALL PIPE PENETRATIONS THROUGH FOUNDATION, UTILITY PITS, AND SLAB PENETRATIONS SHALL BE COORDINATED WITH ARCHITECT, STRUCTURAL ENGINEER, AND MEP ENGINEERS.
4. THE LOCATIONS OF DIFFERENTIAL PRESSURE MONITORING POINTS SHALL BE COORDINATED WITH ARCHITECT AND PENETRATIONS COORDINATED WITH STRUCTURAL ENGINEER. MONITORING POINTS MUST REMAIN ACCESSIBLE AFTER CONSTRUCTION.
5. AREAS NOT DEPRESSURIZED DUE TO DEPTH OF DETENTION TANK, MECHANICAL CELLAR, AND FOUNDATION MAT SLAB SHALL BE REASSESSED BY THE ENGINEER PRIOR TO FINALIZING CONSTRUCTION DOCUMENTS.

Project No.:	0208545
Scale:	AS SHOWN
Date:	MAY 2024
Drawn By:	
Designed By:	HALEY & ALDRICH OF NEW YORK
Checked By:	HALEY & ALDRICH OF NEW YORK
Approved By:	
Stamp:	

STATE OF NEW YORK · SCOTT A. UNDERWOOD · 070332 · LICENSED PROFESSIONAL ENGINEER
6-17-24

Rev.	Description	By	Date

125 3RD STREET
BLOCK NO. 462, LOT NO. 6
BROOKLYN, NEW YORK
JOB # B00621533-Z7

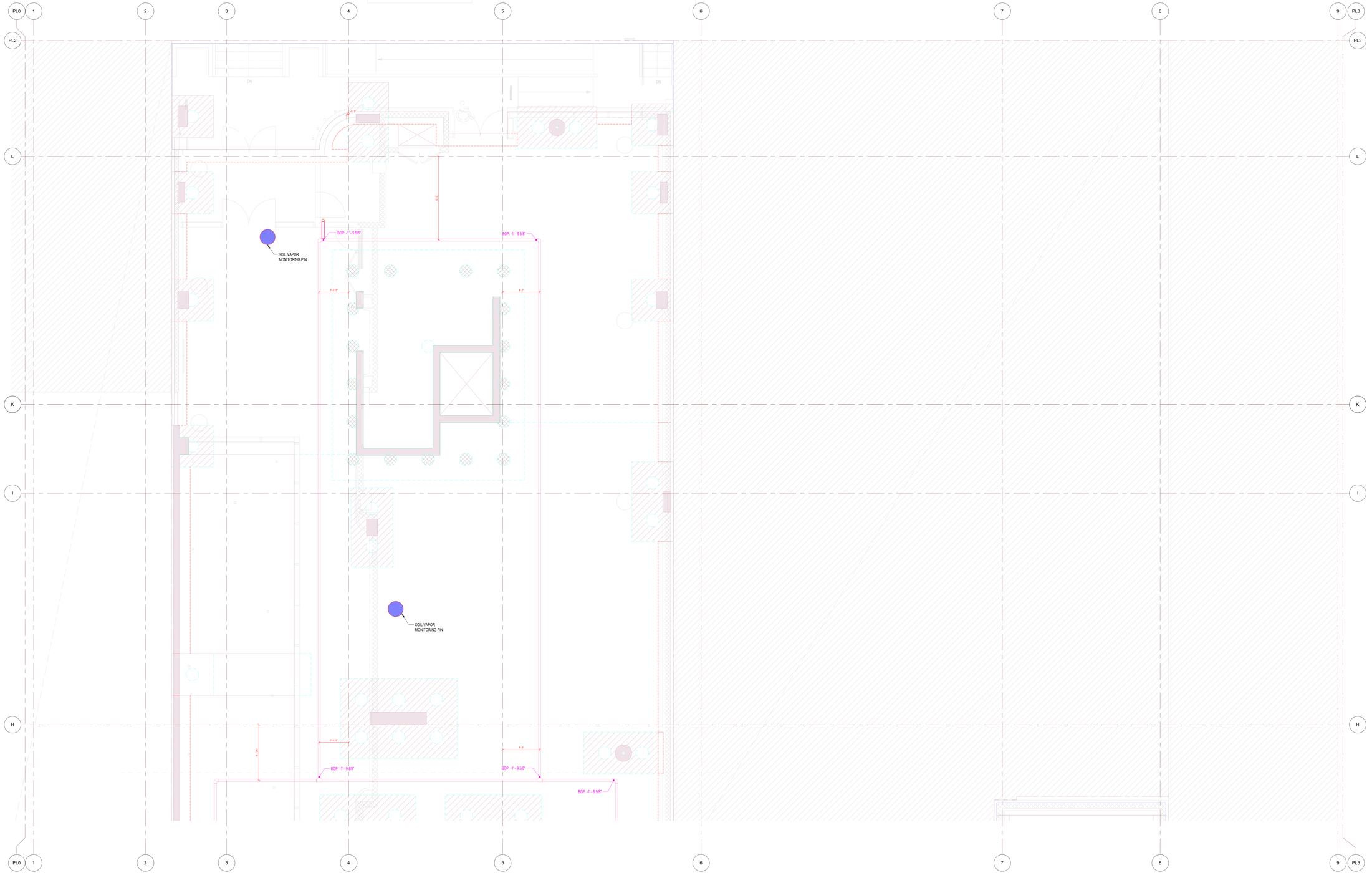
SUB-SLAB DEPRESSURIZATION SYSTEM PLAN

M-101.00

Sheet: 1 of 2

NOTES

1. THIS SUB-SLAB DEPRESSURIZATION SYSTEM (SSDS) DESIGN HAS BEEN REVIEWED AND CERTIFIED BY HALEY & ALDRICH OF NEW YORK ENGINEERING AND GEOLOGY, LLP (HALEY & ALDRICH OF NEW YORK) AND HAS BEEN INCORPORATED INTO THE REMEDIAL ACTION WORK PLAN (RAWP) SUBMISSION TO THE NEW YORK STATE DEPARTMENT OF ENVIRONMTNAL CONSERVATION (NYSDEC).
2. HALEY & ALDRICH OF NEW YORK WILL NOTIFY THE NYSDEC OF ANY DEVIATIONS FROM THIS SSDS PLAN PRIOR TO INSTALLATION.
3. HALEY & ALDRICH OF NEW YORK WILL BE RESPONSIBLE FOR IMPLEMENTING THE OVERALL REMEDY AND SSDS INSTALLATION AT THE SITE AND WILL CERTIFY THE FINAL ENGINEERING REPORT.
4. ALL DIMENSIONS AND LOCATIONS ARE APPROXIMATE.



1 SSDS UNDERGROUND PLAN - AREA-B
1/4" = 1'-0"

HALEY & ALDRICH OF NEW YORK
213 W 35th Street, 7th Floor
New York, New York 10001
Tel: 646.277.5685
www.haleyaldrich.com

LEGEND:

- APPROXIMATE SITE BOUNDARY
- MP-01 ▲ DIFFERENTIAL PRESSURE MONITORING POINTS
- SUB-SLAB SOLID PIPING
- AREA NOT DEPRESSURIZED
- PIPE SLEEVE THROUGH FOUNDATION ELEMENT

NOTES:

1. BACKGROUNDS ADAPTED FROM 2024-02-07 PLUMBING UNDERGROUND PLAN- AREA-A P-101A BY FOGARTY FINGER ARCHITECTURE/INTERIORS
2. RISER LOCATIONS COORDINATED WITH ARCHITECT IN JULY 2023, FINAL LOCATIONS SHALL BE CONFIRMED.
3. ALL PIPE PENETRATIONS THROUGH FOUNDATION, UTILITY PITS, AND SLAB PENETRATIONS SHALL BE COORDINATED WITH ARCHITECT, STRUCTURAL ENGINEER, AND MEP ENGINEERS.
4. THE LOCATIONS OF DIFFERENTIAL PRESSURE MONITORING POINTS SHALL BE COORDINATED WITH ARCHITECT AND PENETRATIONS COORDINATED WITH STRUCTURAL ENGINEER. MONITORING POINTS MUST REMAIN ACCESSIBLE AFTER CONSTRUCTION.
5. AREAS NOT DEPRESSURIZED DUE TO DEPTH OF DETENTION TANK, MECHANICAL CELLAR, AND FOUNDATION MAT SLAB SHALL BE REASSESSED BY THE ENGINEER PRIOR TO FINALIZING CONSTRUCTION DOCUMENTS.

Project No.:	0208545
Scale:	AS SHOWN
Date:	MAY 2024
Drawn By:	
Designed By:	HALEY & ALDRICH OF NEW YORK
Checked By:	HALEY & ALDRICH OF NEW YORK
Approved By:	
Stamp:	

STATE OF NEW YORK · SCOTT A. UNDERWOOD · 070332 · LICENSED PROFESSIONAL ENGINEER
8-9-24

Rev.	Description	By	Date

125 3RD STREET
BLOCK NO. 462, LOT NO. 6
BROOKLYN, NEW YORK
JOB # B00621533-Z7

SUB-SLAB DEPRESSURIZATION SYSTEM PLAN

M-101.00

Sheet: 2 of 2

APPENDIX A
Environmental Easement (EE) and Site Survey

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.

2024080500737001001E9545

RECORDING AND ENDORSEMENT COVER PAGE **PAGE 1 OF 10**

Document ID: 2024080500737001 Document Date: 07-10-2024 Preparation Date: 08-05-2024
Document Type: EASEMENT
Document Page Count: 9

PRESENTER:
BETTER RECORDINGS, LLC
1 PARAGON DRIVE - RA-REC-53129
SUITE 150B
MONTVALE, NJ 07645
REC@BETTERTITLERESEARCH.COM

RETURN TO:
BETTER RECORDINGS, LLC
1 PARAGON DRIVE - RA-REC-53129
SUITE 150B
MONTVALE, NJ 07645
REC@BETTERTITLERESEARCH.COM

PROPERTY DATA

Borough	Block	Lot	Unit	Address
BROOKLYN	462	6	Entire Lot	125 3RD STREET

Property Type: OTHER Easement

CROSS REFERENCE DATA

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

PARTIES

GRANTOR/SELLER:
THIRD AT THIRD LLC
84 14TH STREET
BROOKLYN, NY 11215

GRANTEE/BUYER:
N.Y.S. DEPARTMENT OF ENVIRONMENTAL CONSERVATION
625 BROADWAY
ALBANY, NY 12233

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:	$	82.00
Affidavit Fee:	$	0.00

Filing Fee: $ 100.00

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 08-06-2024 10:29
City Register File No.(CRFN): **2024000202103**

City Register Official Signature

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

THIS INDENTURE made this as of 10th day of July, 2024 between Owner, Third At Third LLC, having an office at 84 14th Street, Brooklyn, County of Kings, State of New York (the "Grantor"), and The People of the State of New York (the "Grantee"), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

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

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

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

WHEREAS, Grantor, is the owner of real property located at the address of 125 3rd Street a/k/a 130-132 2nd Street in the City of New York, County of Kings and State of New York, known and designated on the tax map of the New York City Department of Finance as tax map parcel number: Block 462 Lot 6, being the same as that property conveyed to Grantor by deed dated September 12, 2023 and recorded in the City Register of the City of New York in City Register File No. 2023000247152. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 0.4678 +/- acres, and is hereinafter more fully described in the Land Title Survey dated May 2, 2024 prepared by Tomasz Suwala, 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: C224346-03-22, 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 by the NYSDEC and that all controls are in the Department-approved format; and

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

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

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

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

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

(7) the information presented is accurate and complete.

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

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

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

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

5. Enforcement

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

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

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

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

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

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

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

Parties shall address correspondence to:

Site Number: C224346
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.

11. Consistency with the SMP. To the extent there is any conflict or inconsistency between the terms of this Environmental Easement and the SMP, regarding matters specifically addressed by the SMP, the terms of the SMP will control.

Remainder of Page Intentionally Left Blank

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

Third At Third LLC:

By: _____

Print Name: Joel Wertzberger

Title: Auth. Sign. Date: 6.26.2024

Grantor's Acknowledgment

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

On the 26 day of June, in the year 2024 before me, the undersigned, personally appeared Joel Wertzberger 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

JEANETTE ELIZA VENEGAS
Notary Public, State of New York
Registration #01VE6372833
Qualified in Queens County
Commission Expires Nov 26, 2026

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: _____
Andrew O. Guglielmi, Director
Division of Environmental Remediation

Grantee's Acknowledgment

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

On the 10th day of July, in the year 2024, before me, the undersigned, personally appeared Andrew O. Guglielmi, 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

Cheryl A. Salem
Notary Public State of New York
Registration No. 01SA0002177
Qualified in Albany County
My Commission Expires March 3, 2027

SCHEDULE "A" PROPERTY DESCRIPTION

ENVIRONMENTAL EASEMENT DESCRIPTION
ALL that certain plot, 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 a point in the northerly side of 3rd Street, distant 42 feet 6 inches easterly from the corner formed by the intersection of the northerly side of 3rd Street, with the easterly side of Bond Street;

RUNNING THENCE northerly parallel with Bond Street, 90 feet;

THENCE easterly parallel with 3rd Street, 17 feet 6 inches;

THENCE northerly again parallel with Bond Street, 100 feet to a point on the southerly side of 2nd Street;

THENCE easterly along the southerly side of 2nd Street, 60 feet;

THENCE southerly parallel with Bond Street, 100 feet;

THENCE easterly parallel with 2nd Street, 38 feet 3-1/2 inches;

THENCE northerly again parallel with Bond Street, 9 feet 3-1/2 inches;

THENCE easterly parallel with 2nd Street, 2 feet 9 inches;

THENCE northerly again parallel with Bond Street, 0 feet 5 inches;

THENCE easterly again parallel with 2nd Street, 18 feet 1-1/2 inches;

THENCE southerly again parallel with Bond Street, 9 feet 8-1/2 inches;

THENCE easterly parallel with 3rd Street, 20 feet 10 inches;

THENCE southerly again parallel with Bond Street, 90 feet to a point on the northerly side of 3rd Street;

THENCE running westerly, along the northerly side of 3rd Street, 157 feet 6 inches, to the point and place of BEGINNING.

CONTAINING WITHIN SAID BOUNDS 0.4678 ACRES OR 20,376.5 SQUARE FEET

APPENDIX B
List of Site Contacts

Company	Contact Name	Title	Contact Number	Contact Email
Haley & Aldrich of New York	James Bellew	Principal	646-277-5686	jbellew@haleyaldrich.com
	Scott Underhill, P.E.	Remediation Engineer	518-396-7638	sunderhill@haleyaldrich.com
	Elizabeth Scheuerman	Project Manager	646-277-5692	escheuerman@haleyaldrich.com
	Sarah Commisso	Field Lead	646-277-5693	scommisso@haleyaldrich.com
THIRD AT THIRD LLC	Konstatin Gubareff	Member	917-846-1115	konstantin@prospectdg.com
Connell Foley LLP	George C. D. Duke	Remedial Party's Attorney	212-307-3700	GDuke@connellfoley.com
Third Street Owner LLC	Nicholas Lembo 142 2nd Street	Adjacent Property Owner	Unknown	Unknown
Third Street Holdings LLC	Unknown 132 2nd Street	Adjacent Property Owner	Unknown	Unknown
LSG 365 Bond Street LLC	Unknown 365 Bond Street	Adjacent Property Owner	Unknown	Unknown mailto:hello@bushburg.com
N/A	Clarina, Bezzola 128 2nd Street	Adjacent Property Owner	Unknown	Unknown
121 3rd Street LLC	Luis Di Benedetto 123 3rd Street	Adjacent Property Owner	Unknown	Unknown
130 Third Street Owner LLC	Unknown 130 3rd Street	Adjacent Property Owner	Unknown	Unknown

APPENDIX C
Monitoring Well Construction Logs

PERMANENT WELL INSTALLATION REPORT

Well No. RW-1
Boring No.

PROJECT	125 3rd Street	**H&A FILE NO.**	0208545
LOCATION	125 3rd Street, Brooklyn, NY	**PROJECT MGR.**	E. Scheuerman
CLIENT	Third at Third LLC	**FIELD REP.**	G. Poulton
CONTRACTOR	Coastal Environmental Solutions Inc.	**DATE INSTALLED**	4/2/2024
DRILLER	M. Morgenstern	**WATER LEVEL**	7.01 ft

Ground El.	**4.7** ft	**Location**	125 3rd Street, Brooklyn	**Drilling Equipment**	Geoprobe 54 DT
El. Datum	**NAVD**			**Guard Pipe** ☐	**Roadway Box** ☑

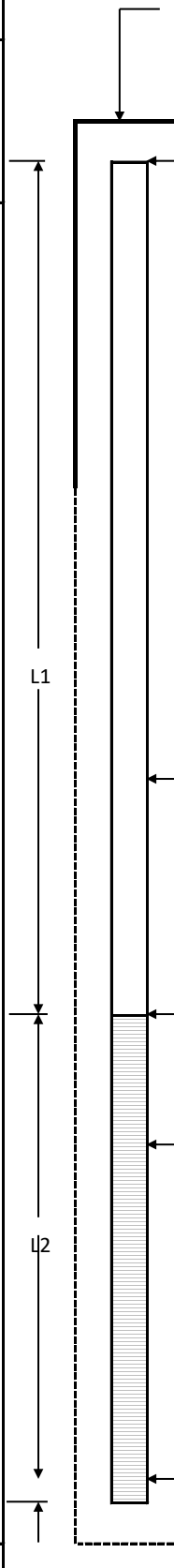
CONDITIONS

0

Urban Fill

15 ft

(Bottom of Exploration)
(Numbers refer to depth from ground surface in feet)



(Not to Scale)

Type of protective cover/lock (circle one): (Pent.bolt) 9/16" hex. 1/2" hex. 7/10" hex.
Padlock key no._____

Height/Depth of top of guard pipe/roadway box above/below ground surface 0.0 ft

Height/Depth of top of riser pipe above/below ground surface 0.5 ft

Depth of bottom of guard pipe/roadway box 1.0 ft

Type of riser pipe: Solid PVC
Inside diameter of riser pipe 2.0 in
Type of backfill around riser #0 Filter Sand

Depth to top of well screen 5.0 ft

Type of screen Machine Slotted PVC
Screen gauge or size of openings 0.010 in
Diameter of screen 2.0 in

Depth of bottom of well screen 15 ft

Depth of bottom of borehole 15.0 ft

5 ft	+	10 ft	=	15 ft
Riser Pay Length (L1)		Length of Screen (L2)		Pay length

COMMENTS:

PERMANENT WELL INSTALLATION REPORT

Well No. RW-2
Boring No.

PROJECT	125 3rd Street	**H&A FILE NO.**	0208545
LOCATION	125 3rd Street, Brooklyn, NY	**PROJECT MGR.**	E. Scheuerman
CLIENT	Third at Third LLC	**FIELD REP.**	Y. Lin
CONTRACTOR	Coastal Environmental Solutions Inc.	**DATE INSTALLED**	2/20/2024
DRILLER	M. Morgenstern	**WATER LEVEL**	4.9 ft

Ground El.	**2.33** ft	**Location**	125 3rd Street, Brooklyn	**Drilling Equipment**	Geoprobe 54 DT
El. Datum	**NAVD**				

Guard Pipe ☐
Roadway Box ☑

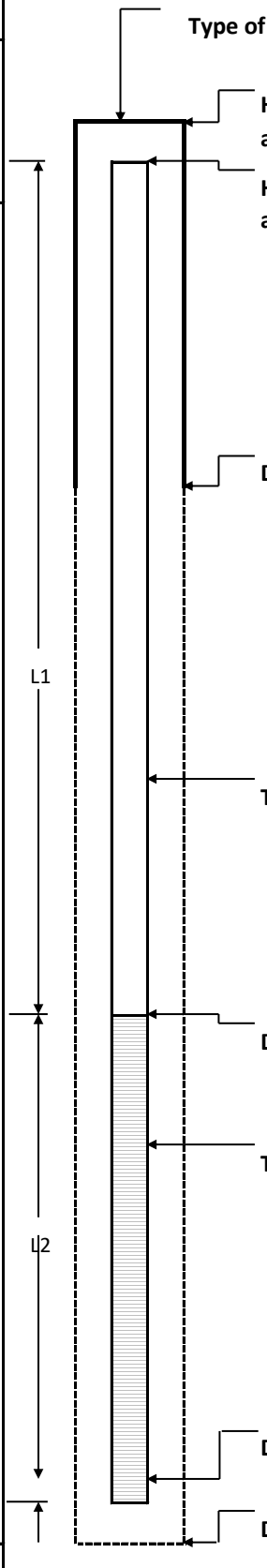
CONDITIONS

0

Urban Fill

15 ft

(Bottom of Exploration)
(Numbers refer to depth from ground surface in feet)



(Not to Scale)

Type of protective cover/lock (circle one): (Pent.bolt) 9/16" hex. 1/2" hex. 7/10" hex.
Padlock key no._____

Height/Depth of top of guard pipe/roadway box above/below ground surface 0.0 ft

Height/Depth of top of riser pipe above/below ground surface 0.5 ft

Depth of bottom of guard pipe/roadway box 1.0 ft

Type of riser pipe: Solid PVC
Inside diameter of riser pipe 2.0 in
Type of backfill around riser #0 Filter Sand

Depth to top of well screen 5.0 ft

Type of screen Machine Slotted PVC
Screen gauge or size of openings 0.010 in
Diameter of screen 2.0 in

Depth of bottom of well screen 15 ft

Depth of bottom of borehole 15.0 ft

5 ft	+	10 ft	=	15 ft
Riser Pay Length (L1)		Length of Screen (L2)		Pay length

COMMENTS:

PERMANENT WELL INSTALLATION REPORT

Well No. RW-3
Boring No.

PROJECT	125 3rd Street	**H&A FILE NO.**	0208545
LOCATION	125 3rd Street, Brooklyn, NY	**PROJECT MGR.**	E. Scheuerman
CLIENT	Third at Third LLC	**FIELD REP.**	G. Poulton
CONTRACTOR	Coastal Environmental Solutions Inc.	**DATE INSTALLED**	4/2/2024
DRILLER	M. Morgenstern	**WATER LEVEL**	5.42 ft

Ground El.	**5.58** ft	**Location**	125 3rd Street, Brooklyn	**Drilling Equipment**	Geoprobe 54 DT
El. Datum	**NAVD**			**Guard Pipe** ☐	**Roadway Box** ☑

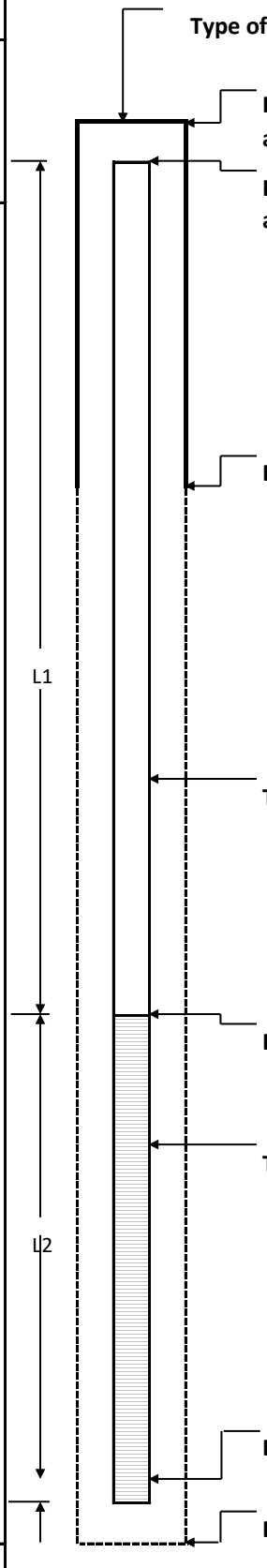
CONDITIONS

0

Urban Fill

15 ft

(Bottom of Exploration)
(Numbers refer to depth from ground surface in feet)



(Not to Scale)

Type of protective cover/lock (circle one): (Pent.bolt) 9/16" hex. 1/2" hex. 7/10" hex.
Padlock key no._____

Height/Depth of top of guard pipe/roadway box above/below ground surface 0.0 ft

Height/Depth of top of riser pipe above/below ground surface 0.5 ft

Depth of bottom of guard pipe/roadway box 1.0 ft

Type of riser pipe: Solid PVC
Inside diameter of riser pipe 2.0 in
Type of backfill around riser #0 Filter Sand

Depth to top of well screen 5.0 ft

Type of screen Machine Slotted PVC
Screen gauge or size of openings 0.010 in
Diameter of screen 2.0 in

Depth of bottom of well screen 15 ft

Depth of bottom of borehole 15.0 ft

5 ft	+	10 ft	=	15 ft
Riser Pay Length (L1)		Length of Screen (L2)		Pay length

COMMENTS:

PERMANENT WELL INSTALLATION REPORT

Well No. RW-4
Boring No.

PROJECT	125 3rd Street	**H&A FILE NO.**	0208545
LOCATION	125 3rd Street, Brooklyn, NY	**PROJECT MGR.**	E. Scheuerman
CLIENT	Third at Third LLC	**FIELD REP.**	G. Poulton
CONTRACTOR	Coastal Environmental Solutions Inc.	**DATE INSTALLED**	4/2/2024
DRILLER	M. Morgenstern	**WATER LEVEL**	6.90 ft

Ground El.	**2.98** ft	**Location**	125 3rd Street, Brooklyn	**Drilling Equipment**	Geoprobe 54 DT
El. Datum	**NAVD**			**Guard Pipe** ☐	**Roadway Box** ☑

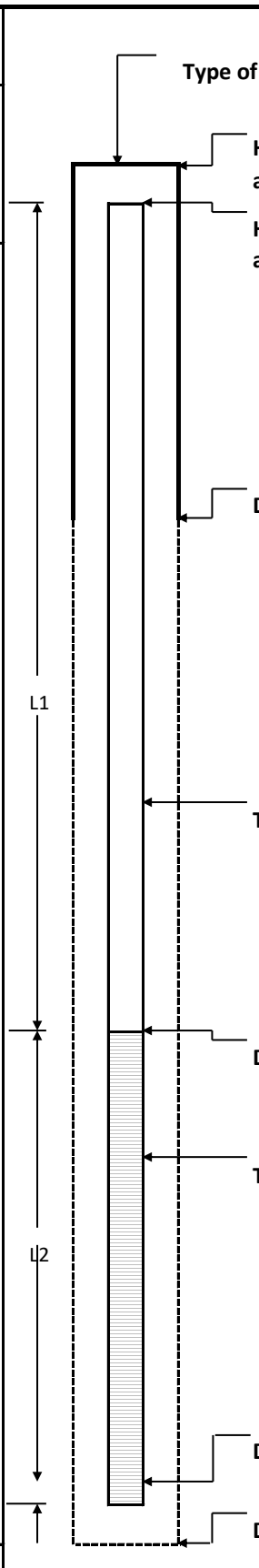
CONDITIONS

0

Urban Fill

15 ft

(Bottom of Exploration)
(Numbers refer to depth from ground surface in feet)



(Not to Scale)

Type of protective cover/lock (circle one): (Pent.bolt) 9/16" hex. 1/2" hex. 7/10" hex.
Padlock key no._____

Height/Depth of top of guard pipe/roadway box above/below ground surface 0.0 ft

Height/Depth of top of riser pipe above/below ground surface 0.5 ft

Depth of bottom of guard pipe/roadway box 1.0 ft

Type of riser pipe: Solid PVC
Inside diameter of riser pipe 2.0 in
Type of backfill around riser #0 Filter Sand

Depth to top of well screen 5.0 ft

Type of screen Machine Slotted PVC
Screen gauge or size of openings 0.010 in
Diameter of screen 2.0 in

Depth of bottom of well screen 15 ft

Depth of bottom of borehole 15.0 ft

5 ft	+	10 ft	=	15 ft
Riser Pay Length (L1)		Length of Screen (L2)		Pay length

COMMENTS:

APPENDIX D
Excavation Work Plan (EWP)

APPENDIX D – EXCAVATION WORK PLAN (EWP)

D-1 Notification

At least 15 days prior to the start of any activity that is anticipated to encounter remaining contamination or breach or alter the Site's cover system, the Site owner or their representative will notify the NYSDEC contacts listed in the table below. Table I 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 of this SMP.

Table I: Notifications*

Meghan Medwid, NYSDEC Project Manager	518.402.8610, meghan.medwid@dec.ny.gov
Heidi-Marie Dudek, NYSDEC Supervisor	518.402.0193, heidi.dudek@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.*

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, any modifications of truck routes, 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, and submittals (e.g., reports) to the NYSDEC documenting the completed intrusive work;
- A summary of the applicable components of this EWP;
- A statement that the work will be performed in compliance with this EWP, 29 CFR 1910.120 and 29 CFR 1926 Subpart P;
- A copy of the contractor's health and safety plan (HASP), in electronic format, if it differs from the HASP provided in Appendix J of this SMP;
- Identification of disposal facilities for potential waste streams; and
- Identification of sources of any anticipated backfill, along with the required request to import form and all supporting documentation including, but not limited to, chemical testing results.

The NYSDEC project manager will review the notification and may impose additional requirements for the excavation that are not listed in this EWP. The alteration, restoration and modification of engineering controls must conform with Article 145 Section 7209 of the Education Law regarding the application professional seals and alterations.

D-2 Soil Screening Methods

Visual, olfactory, and instrument-based (e.g., photoionization detector) soil screening will be performed during all excavations into known or potentially contaminated material (remaining contamination) or a breach of the cover system. A qualified environmental professional as defined in 6 NYCRR Part 375, a P.E. who is licensed and registered in New York State, or a qualified person who directly reports to a P.E. who is licensed and registered in New York State will perform the screening. 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 D-6 and D-7 of this Appendix.

D-3 Soil Staging Methods

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

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

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

D-4 Materials Excavation and Load-Out

A qualified environmental professional as defined in 6 NYCRR Part 375, a P.E. who is licensed and registered in New York State, or a qualified person who directly reports to a P.E. who is licensed and registered in New York State 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. A Site utility stakeout will be completed for all utilities prior to any ground-intrusive activities at 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). Trucks transporting contaminated soil must have either tight-fitting opaque covers that are secured on the sides and/or back, or opaque covers that are locked on all sides.

A truck wash will be operated on-Site, as appropriate. The qualified environmental professional will be responsible for ensuring that all outbound trucks will be washed at the truck wash before leaving the Site

until the activities performed under this section are complete. Truck wash waters will be collected and disposed of off-Site in an appropriate manner.

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

The qualified environmental professional will be responsible for ensuring that all egress points for truck and equipment transport from the site are clean of dirt and other materials derived from the site during intrusive excavation activities. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to site-derived materials. Material accumulated from the street cleaning and egress cleaning activities will be disposed off-site at a permitted landfill facility in accordance with all applicable local, state, and federal regulations.

D-5 Materials Transport Off Site

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

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

Truck transport routes are as follows: Trucks will enter the Site from the south side on Third Street and exit by turning right onto Third Street from the designated point of egress along the southern boundary of the Site. All trucks loaded with site materials will exit the vicinity of the site using this approved truck route. This is the most appropriate route and takes into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off- site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport. A figure depicting the approved-truck route is provided in this EWP as Figure 1.

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

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

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

D-6 Materials Disposal Off Site

All material excavated and removed from the Site will be treated as contaminated and regulated material and will be transported and disposed off-Site in a permitted facility in accordance with all local, state 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 project manager. Unregulated off-Site management of materials from this Site will not occur without formal NYSDEC project manager 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, (e.g. hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, C&D debris recovery facility) Actual disposal quantities and associated documentation will be reported to the NYSDEC in the Periodic Review Report. This documentation will include, but will not be limited to: 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 consistent with 6 NYCRR Parts 360, 361, 362, 363, 364 and 365. Material that does not meet Unrestricted SCOs is prohibited from being taken to a New York State C&D debris recovery facility (6 NYCRR Subpart 360-15 registered or permitted facility).

D-7 Materials Reuse On Site

The qualified environmental professional as defined in 6 NYCRR part 375 will ensure that procedures defined for materials reuse in this SMP are followed and that unacceptable material (i.e. contaminated) 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.

Proposed materials for reuse on-Site must be sampled for full suite analytical parameters including per- and polyfluoroalkyl substances (PFAS) and 1,4-dioxane. The sampling frequency will be in accordance with DER-10 Table 5.4(e)10 unless prior approval is obtained from the NYSDEC project manager for modification of the sampling frequency. The analytical results of soil/fill material testing must meet the site use criteria presented in NYSDEC DER-10 Appendix 5 – Allowable Constituent Levels for Imported Fill or Soil for all constituents listed, and the NYSDEC Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances April 2023 guidance values. Approvals for modifications to the analytical parameters must be obtained from the NYSDEC project manager prior to the sampling event.

Soil/fill material for reuse on-Site will be segregated and staged as described in Sections D-2 and D-3 of this EWP. The anticipated size and location of stockpiles will be provided in the 15-day notification to the NYSDEC project manager. Stockpile locations will be based on the location of site excavation activities and proximity to nearby site features. Material reuse on-site will comply with requirements of NYSDEC DER-10 Section 5.4(e)4. Any modifications to the requirements of DER-10 Section 5.4(e)4 must be approved by the NYSDEC project manager.

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

D-8 Fluids Management

All liquids to be removed from the Site, including but not limited to, excavation dewatering, decontamination waters and groundwater monitoring well purge and development waters, will be handled, transported, and disposed off-Site at a permitted facility in accordance with applicable local, state, and federal regulations. Dewatering, purge, and development fluids will not be recharged back to

the land surface or subsurface of the Site, and will be managed off-Site, unless prior approval is obtained from NYSDEC.

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

D-9 Backfill from Off-Site Sources

All materials proposed for import onto the Site will be approved by the qualified environmental professional, as defined in 6 NYCRR Part 375, 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. A copy of the form is presented in Appendix H of this SMP.

Material from industrial sites, spill sites, 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 6 NYCRR 375-6.7(d) and DER-10 Appendix 5 for residential use. Based on an evaluation of the land use, protection of groundwater and protection of ecological resources criteria, the resulting soil quality standards meet Track 4 Restricted Residential Use Soil Cleanup Objectives. Soils that meet 'general' fill requirements under 6 NYCRR Part 360.13, but do not meet backfill or cover soil objectives for this site, will not be imported onto the site without prior approval by NYSDEC project manager. Soil material will be sampled for the full suite of analytical parameters, including PFAS and 1, 4-dioxane. Solid waste will not be imported onto the site.

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

D-10 Stormwater Pollution Prevention

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

Accumulated sediments will be removed as required to keep the barrier and hay bale check functional. All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials. Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

Erosion and sediment control measures identified in the SMP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Silt fencing or hay bales will be installed around the entire perimeter of the construction area.

D-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. The NYSDEC project manager will be promptly notified of the discovery.

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 (including 1,4-dioxane), TCL pesticides and PCBs, and PFAS], unless the Site history and previous sampling results provide sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC project manager for approval prior to sampling. Any tanks will be closed as per NYSDEC regulations and guidance.

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

D-12 Community Air Monitoring Plan

A figure showing the location of air sampling stations based on generally prevailing wind conditions is provided in this EWP as Figure 2. These locations will be adjusted on a daily or more frequent basis based on actual wind directions to provide an upwind and at least one downwind monitoring station.

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

D-13 Special Requirements for Work Within 20 Feet of Potentially Exposed Individuals or Structures

When work areas are within 20 feet of potentially exposed populations or occupied structures, the continuous monitoring locations for VOCs and particulates must reflect the nearest potentially exposed individuals and the location of ventilation system intakes for nearby structures. The use of engineering controls such as vapor/dust barriers, temporary negative-pressure enclosures, or special ventilation devices should be considered to prevent exposures related to the work activities and to control dust and odors. Consideration should be given to implementing the planned activities when potentially exposed populations are at a minimum, such as during weekends or evening hours in non-residential settings.

- If total VOC concentrations opposite the walls of occupied structures or next to intake vents exceed 1 part-per-million (ppm), monitoring should occur within the occupied structure(s). Depending upon the nature of contamination, chemical-specific colorimetric tubes of sufficient sensitivity may be necessary for comparing the exposure point concentrations with appropriate pre-determined response levels (response actions should also be pre-determined). Background readings in the occupied spaces must be taken prior to commencement of the planned work. Any

unusual background readings should be discussed with NYSDOH prior to commencement of the work.

- If total particulate concentrations opposite the walls of occupied structures or next to intake vents exceed 150 micrograms per cubic meter, work activities should be suspended until controls are implemented and are successful in reducing the total particulate concentration to 150 micrograms per cubic meter or less at the monitoring point.
- Depending upon the nature of contamination and remedial activities, other parameters (e.g., explosivity, oxygen, hydrogen sulfide, carbon monoxide) may also need to be monitored. Response levels and actions should be pre-determined, as necessary, for each site.

D-14 Odor Control Plan

This odor control plan is capable of controlling emissions of nuisance odors on-Site and off-Site. 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.

D-15 Dust Control Plan

Particulate monitoring must be conducted according to the Community Air Monitoring Plan (CAMP) provided in Section D-12. If particulate levels at the Site exceed the thresholds listed in the CAMP or if airborne dust is observed on the Site or leaving the Site, the dust suppression techniques listed below will be employed. The remedial party will also take measures listed below to prevent dust production on the site.

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 for road wetting. The truck will be equipped with a water cannon capable of spraying water directly onto off-road areas including excavations and stockpiles.

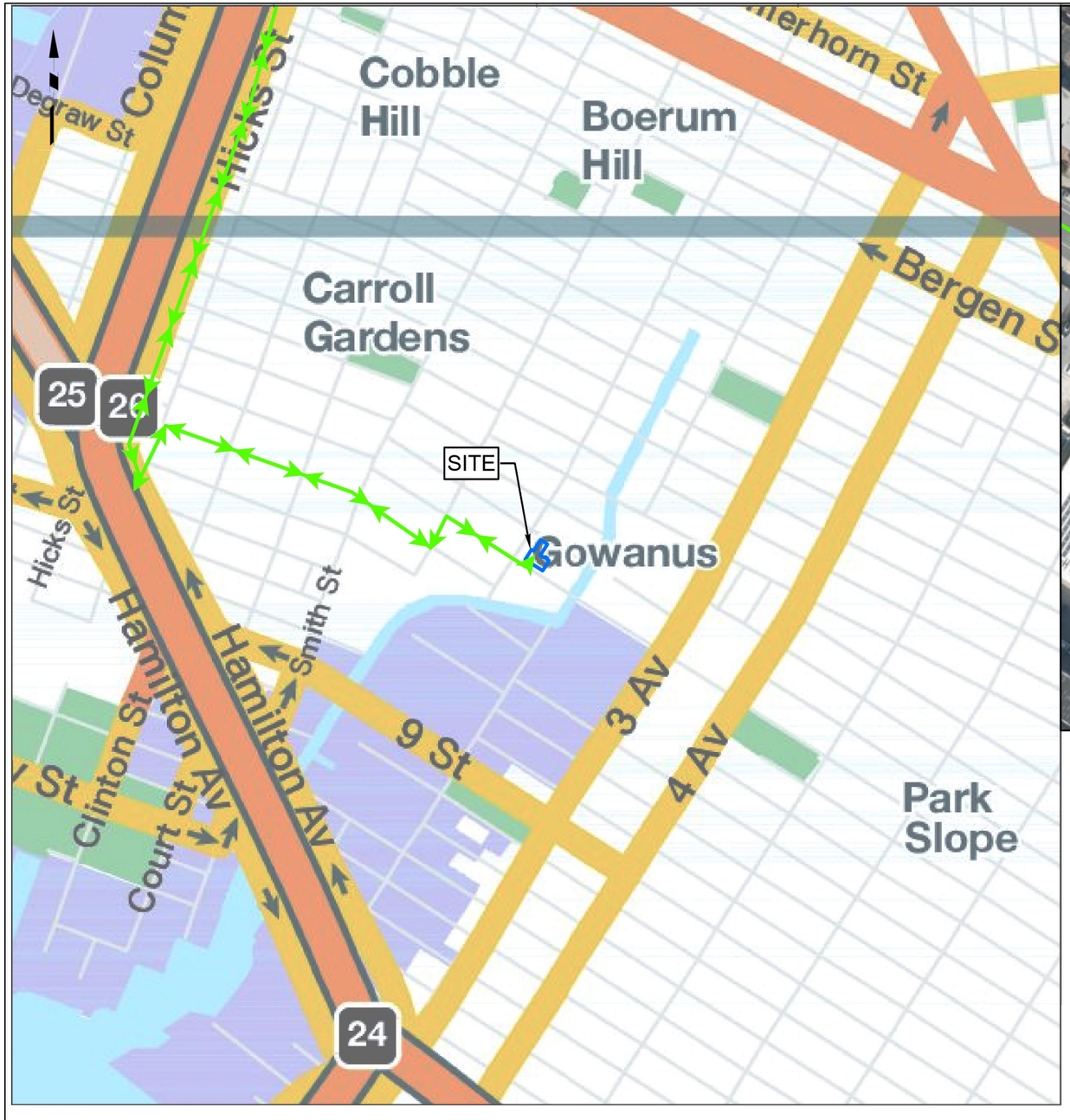
- Clearing and grubbing of larger sites will be done in stages to limit the area of exposed, unvegetated soils vulnerable to dust production.
- Gravel will be used on roadways to provide a clean and dust-free road surface.
- On-site roads will be limited in total area to minimize the area required for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

D-16 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.

FIGURES



Legend

Local Truck Route
Trucks with an origin or destination for the purpose of delivery, loading or servicing within the respective Borough, shall only operate on designated local routes, except that an operator may operate on a non-designated street for the purpose of arriving at his/her destination. This shall be accomplished by leaving a designated truck route at the intersection that is nearest to their destination, proceeding by the most direct route, and then returning to the nearest designated truck route by the most direct route. If the operator has additional destinations in the same general area, he/she may proceed by the most direct route to his/her next destination without returning to a designated truck route, provided that the operator's next destination does not require that he/she cross a designated truck route.

Through Truck Route
Trucks having neither an origin nor a destination within the respective Borough shall restrict the operation of such vehicles to those street segments designated as Through Truck Routes.

Through Truck Route on Expressway

Through Truck Route on Tunnel

Exception 53' Trailers Allowed
For definition see information on reverse side.

Industrial Business Zones (IBZ)

Parks and Open Spaces

29A **Highway Exit**

Commercial Vehicles Prohibited

Low Vertical Clearance Area

Legend

Approximate Site Boundary

Proposed Truck Route

NOTES:
1. BASEMAP TAKEN FROM THE 2015 NEW YORK CITY DEPARTMENT OF TRANSPORTATION "NEW YORK CITY TRUCK ROUTE MAP."
2. SITE ENTRANCE LOCATION MAY CHANGE BASED ON CONSTRUCTION LOGISTICS.
3. WORLD AERIAL IMAGERY BASEMAP IS PROVIDED THROUGH LANGAN'S ESRI ARCGIS SOFTWARE LICENSING AND ARCGIS ONLINE.

HALEY ALDRICH

125 3RD STREET
BROOKLYN, NEW YORK

TRUCK ROUTE MAP

JUNE 2024

FIGURE 1

LEGEND

- SITE BOUNDARY
- PARCEL BOUNDARY
- POTENTIAL COMMUNITY AIR MONITORING STATION LOCATION

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: NEW YORK STATE GIS CLEARINGHOUSE.
3. AERIAL IMAGERY SOURCE: NEARMAP, 28 MAY 2023.

N

0 30 60

SCALE IN FEET

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125 3RD STREET
BROOKLYN, NEW YORK

COMMUNITY AIR MONITORING STATION LOCATIONS

JUNE 2024

FIGURE 2

APPENDIX E
Operations and Maintenance (O&M) Manual for Sub-Slab Depressurization System (SSDS)

H & A OF NEW YORK ENGINEERING
AND GEOLOGY, LLP
213 W. 35th Street
7th Floor
New York, NY 10001
646.277.5685

OPERATIONS AND MAINTENANCE PLAN
THIRD STREET GOWANUS SITE
KINGS COUNTY
BROOKLYN, NEW YORK
BLOCK 462 LOT 6
NYSDEC BCP SITE NUMBER: C224346

Prepared by
H & A of New York Engineering and Geology, LLP
New York, New York

Prepared for
THIRD AT THIRD LLC
Brooklyn, New York

File No. 0208545
August 2024

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HALEY ALDRICH

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1. Introduction

On behalf of THIRD AT THIRD LLC, H & A of New York Engineering and Geology, LLP (Haley & Aldrich of New York) has prepared this Operations and Maintenance (O&M) Manual for the Sub-Slab Depressurization System (SSDS) at the Third Street Gowanus Site (Site) located at 125 3rd Street, Brooklyn, New York.

The SSDS has been implemented as part of the remedial action to mitigate the potential for soil vapor intrusion into the Site building. The SSDS has been designed and installed in accordance with the approved Remedial Action Work Plan (RAWP) dated November 2023 and Decision Document (DD) dated December 2024.

1.1 GENERAL PROCESS DESCRIPTION

The SSDS remedial technology involves using a fan to create a pressure gradient across the subgrade of a building to mitigate the potential for vapor intrusion from the subsurface into the building. Depressurizing the soils below the building slab creates low pressure that alters the direction of soil gas flow (via horizontal piping connected to a riser pipe extending above the roof of the building) to mitigate soil vapor intrusion.

1.2 SITE CONTACTS

A list of Site-related contact information is provided below in Table I.

Table I: Site Contact List

Company	Contact Name	Title	Contact Number	Contact Email
H & A of New York Engineering and Geology, LLP	James Bellew	Principal	646.277.5686	jbellew@haleyaldrich.com
	Scott Underhill, P.E.	Remedial Engineer	518.396.7638	sunderhill@haleyaldrich.com
	Elizabeth Scheuerman	Project Manager	646.277.5692	escheuerman@haleyaldrich.com
	Sarah Commisso	Field Lead	646.277.5693	scommisso@haleyaldrich.com
Third at Third LLC	Konstantin Gubareff	Member	212.335.0993	konstantin@prospectdg.com
Connell Foley LLP	George Duke	Attorney	212.542.3772	gduke@connellfoley.com

2. System Components

In general, the SSDS includes the following components:

- One continuous perforated 4-inch polyvinyl chloride (PVC) perforated horizontal pipe, embedded within a permeable layer (1- to 2.5-inch washed aggregate).
- One SSDS vertical riser connecting the SSDS horizontal piping to one rooftop fan. The vertical riser will include a check valve and rain cap.
- The complete blower assembly includes the blower, motor, baseplate, control panel, remote visual alarm, valves, gauges, filter, and flexible hose.
- A remote alarm located within the building consists of a warning light and associated relays that will activate if the blower stops operating.
- Six monitoring points (MP-1 through MP-6) installed in the permeable layer below the waterproofing/vapor barrier allow for collection of post-mitigation sub-slab vapor samples and additional system monitoring as needed.

The SSDS layout is provided in Figure 1 and the SSDS monitoring point construction details are provided in Appendix A.

2.1 SSDS SYSTEM CONFIGURATION

The SSDS consists of a horizontal perforated piping installed in a permeable layer under the composite cover system. The permeable layer is a minimum of 10 inches thick with 1 to 2 ½ inches of washed aggregate. The horizontal piping consists of 4-inch-diameter perforated schedule 40 PVC pipes connecting to the vertical riser. The vertical PVC riser penetrates the cover system through sealed penetration prior to transitioning to a solid steel pipe riser. Once installed, the exhaust point of the riser will be at least 12 inches above the highest roof surface, at least 10 feet away from any adjacent building or heating, ventilating, and air conditioning (HVAC) intakes, and completed with a check valve to prevent air flow into the SSDS and a rain cap. Six sub-slab vapor monitoring points are installed in the permeable layer below the waterproofing/vapor barrier to allow for the collection of sub-slab vapor samples and additional system monitoring. The monitoring points were installed using 4-inch-diameter, flush-mounted covers.

During operation, the SSDS blower assembly for the south loop will provide at continuous operation a minimum of 87 cubic feet per minute (cfm) flow rate at 15 inches of water column vacuum at the vacuum blower. Blower assembly for the northern loop will provide at continuous operation a minimum of 31 cfm at 15 inches of water column vacuum at the vacuum blower.

3. Standard Operating Procedures and Monitoring Plan

This System Operating Procedures Monitoring Plan should be followed in all normal operating circumstances. If circumstances arise while operating the system which are not covered in this O&M Manual, the Remediation Engineer and Project Manager should be notified. This section discusses step-by-step procedures for operating and monitoring the system in a safe manner.

The initial startup period is anticipated to last for approximately three days. Following the startup, monthly visits will be performed to confirm system operations.

The following tasks will be conducted during routine Site visits:

- Inspect the rooftop piping and blower for functionality and integrity.
- Inspect vacuum monitoring points for functionality and integrity.
- Inspect the alarm system for functionality and integrity.
- Log the vacuum gauge readings at the SSDS riser and vacuum gauge reading at the SSDS blower.
- Identify any maintenance or repair activity that could affect the lowest-level slabs-on-grade, SSDS piping, or rooftop components. Note that the New York State Department of Health (NYSDOH) and the New York State Department of Environmental Conservation (NYSDEC) must be notified of any maintenance required as a result of routine inspections.
- Corrective actions will be taken in the event that cracks, new utilities, pits, etc. are identified in the lowest-level slab.
- Log the information in the logbook and monthly inspection form.

3.1 SSDS BLOWER

Model No.: Airtech 3BA1400 (A161)
Year Installed: 2024

The blower will be installed within a sound enclosure. Blower specifications are included in Appendix B.

3.2 SYSTEM READINGS

Collect vacuum pressure readings at vacuum gauges. Record readings on the SSDS Inspection Forms provided in Appendix C.

3.3 ROUTINE AND PREVENTATIVE MAINTENANCE

The SSDS fan requires routine and preventative maintenance for efficient operation. A maintenance checklist is presented in Appendix C. This maintenance shall be performed by the qualified building personnel as required and at a minimum of twice per year; a copy of each completed checklist must be filed in this report for review by the independent Professional Engineer annually basis. Note that

NYSDOH and NYSDEC must be notified of any maintenance required as a result of the routine inspections.

3.4 REMOTE ALARM SYSTEM

The electrical panel for the blower includes an auxiliary contact for the remote alarm and will be mounted on the exterior of the sound enclosure. The remote alarm system will be in a location that is easily accessible. The alarm will consist of a warning light and associated relays. The remote alarm and control panel will be configured, such that if the blower stops operating, the remote alarm system will be activated.

The location of the remote alarm system is depicted on the system details provided in Appendix A of this Plan.

3.5 ALARM FOLLOW-UP

The following task is to be performed by qualified building personnel:

- In the event of an alarm, clear immediately.
- Upon clearing the alarm, investigate the problem immediately following the steps outlined in the Routine/Preventative Maintenance Checklist in Appendix C.
- If system restart or repair is expected to require more than 8 hours, notify NYSDEC and NYSDOH.

4. Equipment Maintenance Requirements

The SVE system includes the following components which will require routine maintenance:

- SSDS Blower

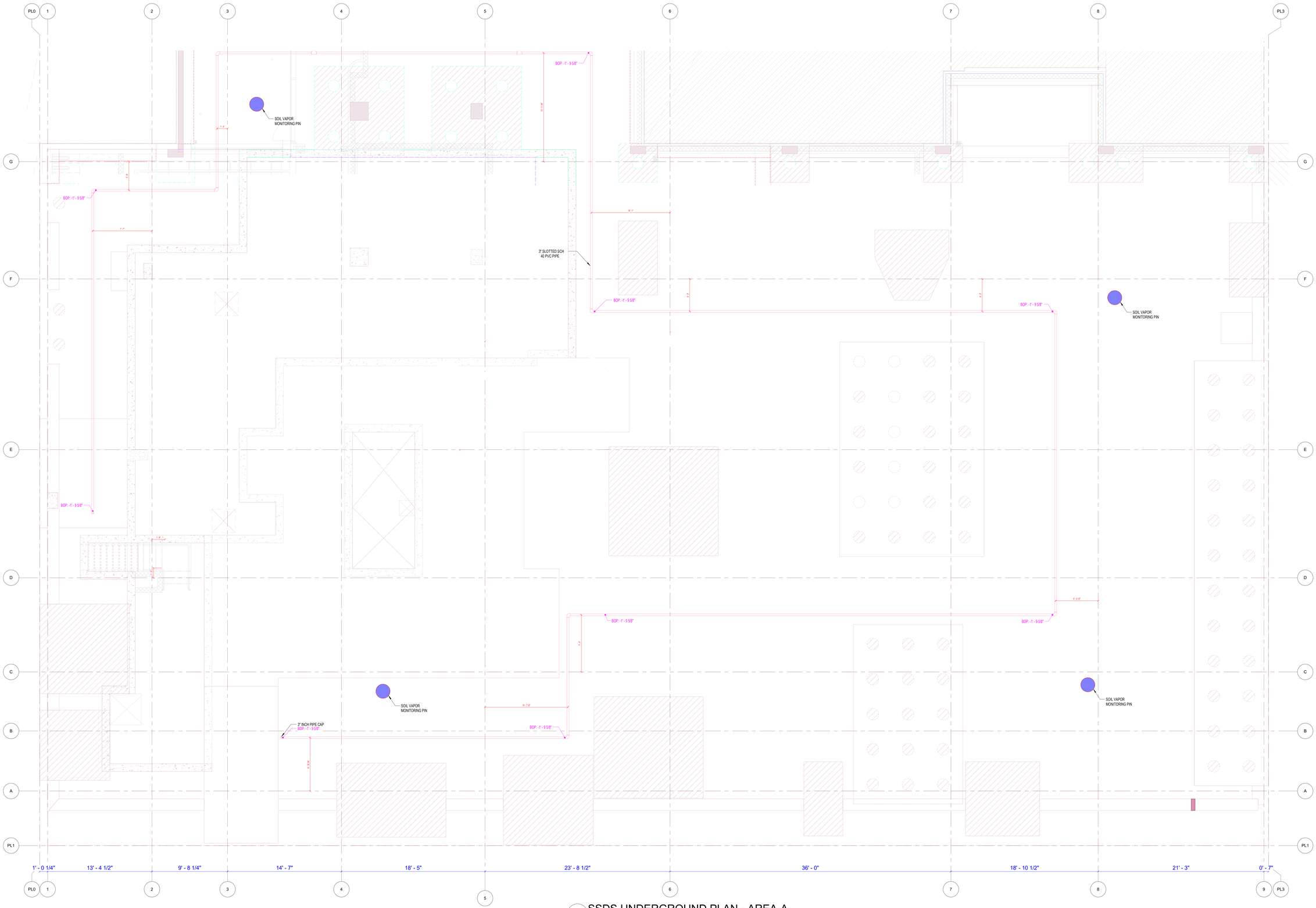
4.1 SVE BLOWER

Blower-specific operations and maintenance, such as blower lubrications or flow meter replacement, will be conducted per the manufacturer's requirements. SSDS blowers create excessive noise when in operation. When the blower is operating, all personnel must wear hearing protection at all times when inside the system trailer.

FIGURES

NOTES

1. THIS SUB-SLAB DEPRESSURIZATION SYSTEM (SSDS) DESIGN HAS BEEN REVIEWED AND CERTIFIED BY HALEY & ALDRICH OF NEW YORK ENGINEERING AND GEOLOGY, LLP (HALEY & ALDRICH OF NEW YORK) AND HAS BEEN INCORPORATED INTO THE REMEDIAL ACTION WORK PLAN (RAWP) SUBMISSION TO THE NEW YORK STATE DEPARTMENT OF ENVIRONMTNAL CONSERVATION (NYSDEC).
2. HALEY & ALDRICH OF NEW YORK WILL NOTIFY THE NYSDEC OF ANY DEVIATIONS FROM THIS SSDS PLAN PRIOR TO INSTALLATION.
3. HALEY & ALDRICH OF NEW YORK WILL BE RESPONSIBLE FOR IMPLEMENTING THE OVERALL REMEDY AND SSDS INSTALLATION AT THE SITE AND WILL CERTIFY THE FINAL ENGINEERING REPORT.
4. ALL DIMENSIONS AND LOCATIONS ARE APPROXIMATE.



1 SSDS UNDERGROUND PLAN - AREA-A
1/4" = 1'-0"

HALEY & ALDRICH OF NEW YORK
213 W 35th Street, 7th Floor
New York, New York 10001
Tel: 646.277.5685
www.haleyaldrich.com

LEGEND:

- APPROXIMATE SITE BOUNDARY
- MP-01 ▲ DIFFERENTIAL PRESSURE MONITORING POINTS
- SUB-SLAB SOLID PIPING
- AREA NOT DEPRESSURIZED
- PIPE SLEEVE THROUGH FOUNDATION ELEMENT

NOTES:

1. BACKGROUNDS ADAPTED FROM 2024-02-07 PLUMBING UNDERGROUND PLAN- AREA A P-101A BY FOGARTY FINGER ARCHITECTURE/INTERIORS
2. RISER LOCATIONS COORDINATED WITH ARCHITECT IN JULY 2023, FINAL LOCATIONS SHALL BE CONFIRMED.
3. ALL PIPE PENETRATIONS THROUGH FOUNDATION, UTILITY PITS, AND SLAB PENETRATIONS SHALL BE COORDINATED WITH ARCHITECT, STRUCTURAL ENGINEER, AND MEP ENGINEERS.
4. THE LOCATIONS OF DIFFERENTIAL PRESSURE MONITORING POINTS SHALL BE COORDINATED WITH ARCHITECT AND PENETRATIONS COORDINATED WITH STRUCTURAL ENGINEER. MONITORING POINTS MUST REMAIN ACCESSIBLE AFTER CONSTRUCTION.
5. AREAS NOT DEPRESSURIZED DUE TO DEPTH OF DETENTION TANK, MECHANICAL CELLAR, AND FOUNDATION MAT SLAB SHALL BE REASSESSED BY THE ENGINEER PRIOR TO FINALIZING CONSTRUCTION DOCUMENTS.

Project No.:	0208545
Scale:	AS SHOWN
Date:	MAY 2024
Drawn By:	
Designed By:	HALEY & ALDRICH OF NEW YORK
Checked By:	HALEY & ALDRICH OF NEW YORK
Approved By:	
Stamp:	

Rev.	Description	By	Date

125 3RD STREET
BLOCK NO. 462, LOT NO. 6
BROOKLYN, NEW YORK
JOB # B00621533-Z7

SUB-SLAB DEPRESSURIZATION SYSTEM PLAN

M-101.00

Sheet: 1 of 2

NOTES

1. THIS SUB-SLAB DEPRESSURIZATION SYSTEM (SSDS) DESIGN HAS BEEN REVIEWED AND CERTIFIED BY HALEY & ALDRICH OF NEW YORK ENGINEERING AND GEOLOGY, LLP (HALEY & ALDRICH OF NEW YORK) AND HAS BEEN INCORPORATED INTO THE REMEDIAL ACTION WORK PLAN (RAWP) SUBMISSION TO THE NEW YORK STATE DEPARTMENT OF ENVIRONMTNAL CONSERVATION (NYSDEC).
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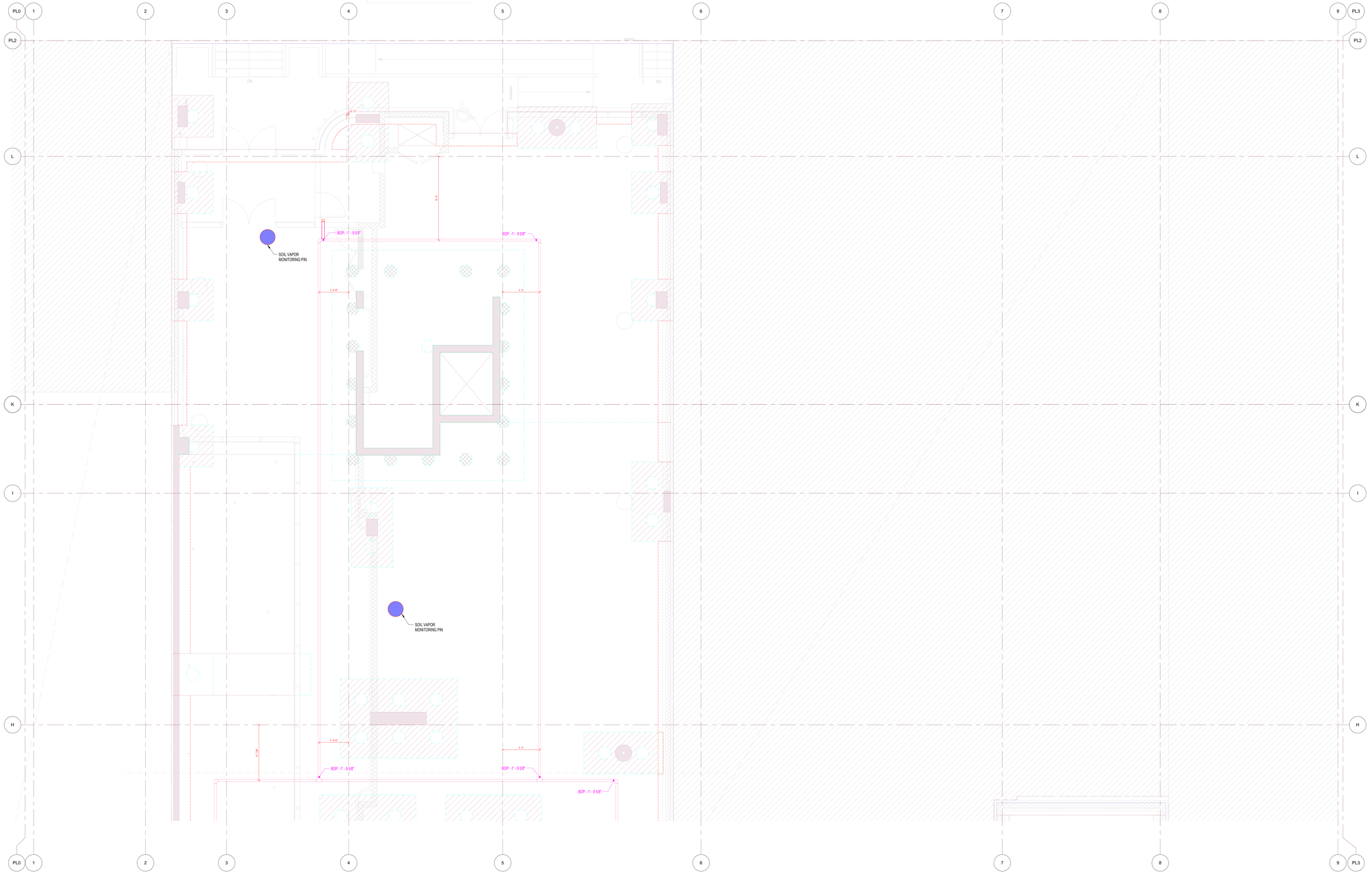
4. ALL DIMENSIONS AND LOCATIONS ARE APPROXIMATE.



1 SSDS UNDERGROUND PLAN - AREA-B
1/4" = 1'-0"

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www.haleyaldrich.com

LEGEND:

- APPROXIMATE SITE BOUNDARY
- MP-01 ▲ DIFFERENTIAL PRESSURE MONITORING POINTS
- SUB-SLAB SOLID PIPING
- AREA NOT DEPRESSURIZED
- PIPE SLEEVE THROUGH FOUNDATION ELEMENT

NOTES:

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Rev.	Description	By	Date

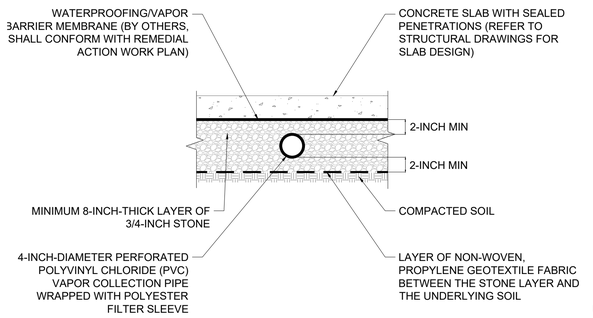
125 3RD STREET
BLOCK NO. 462, LOT NO. 6
BROOKLYN, NEW YORK
JOB # B00621533-Z7

SUB-SLAB DEPRESSURIZATION SYSTEM PLAN

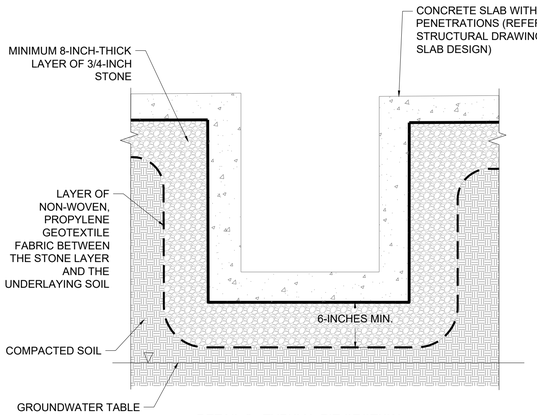
M-101.00

Sheet: 2 of 2

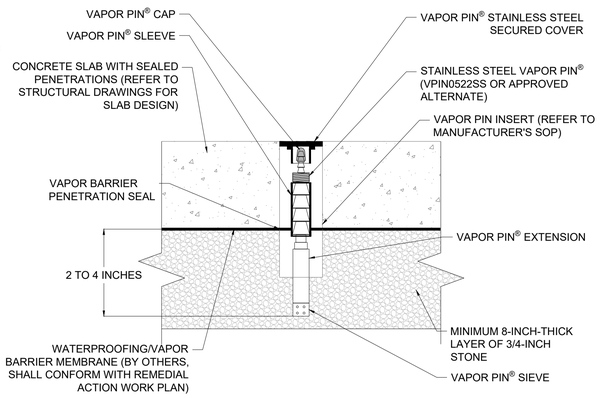
APPENDIX A
Sub-Slab Depressurization System Details



DETAIL 1: TYPICAL VAPOR COLLECTION PIPE AND WATERPROOFING/VAPOR BARRIER MEMBRANE (SECTION VIEW)
NOT TO SCALE



DETAIL 2: TYPICAL PIT SECTION (ABOVE GROUNDWATER)
NOT TO SCALE

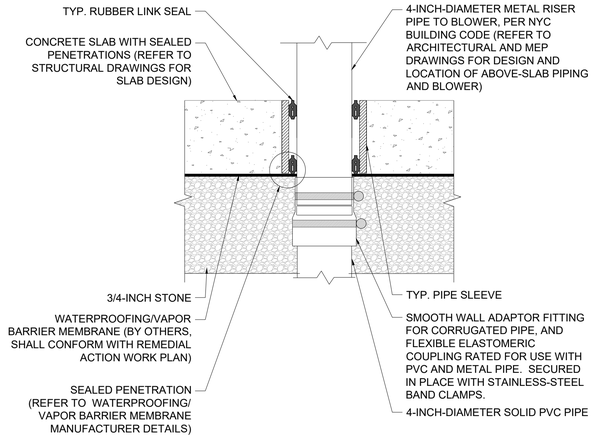


NOTE: TYPICAL CONSTRUCTION SHOWN IN THE DETAIL. CONTRACTOR MUST FOLLOW MANUFACTURER INSTRUCTIONS/MANUALS FOR ACTUAL CONSTRUCTION.

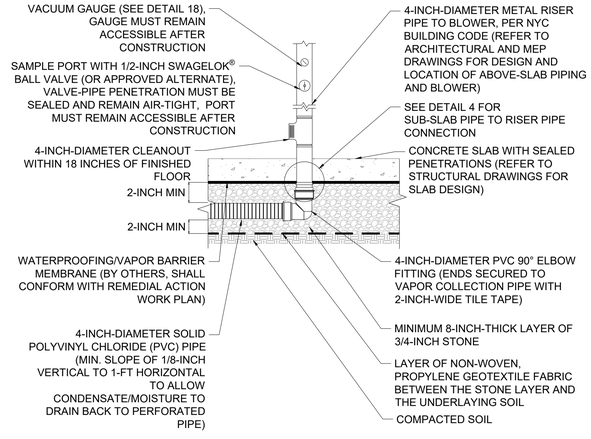
DETAIL 3: TYPICAL VACUUM MONITORING POINT
NOT TO SCALE

VACUUM BLOWER NOTES:

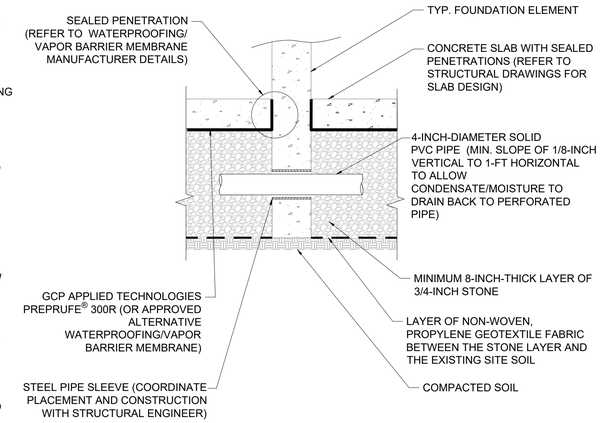
1. VACUUM BLOWER DESIGN SHALL BE REVIEWED BY REMEDIAL ENGINEER AND COORDINATED WITH ARCHITECT AND MEP ENGINEERS.
2. INSTALL RAIN GUARD OR CAP ON THE EXHAUST POINT.
3. VERIFY GROUNDWATER TABLE ELEVATION IN FIELD. IF BOTTOM OF PIT SLAB IS ABOVE WATER TABLE, INSTALL 3/4-INCH STONE LAYER BELOW AND AROUND PIT.
4. THE COMPLETE BLOWER ASSEMBLY INCLUDING BLOWER, MOTOR, BASEPLATE, CONTROL PANEL, REMOTE VISUAL ALARM, VALVES, GAUGES, FILTER, AND FLEXIBLE HOSE SHALL BE PROVIDED BY THE MANUFACTURER.
5. BLOWER ASSEMBLY FOR THE SOUTH LOOP TO BE INSTALLED SHALL PROVIDE AT CONTINUOUS OPERATION A MINIMUM OF 87 CUBIC FEET PER MINUTE (CFM) FLOW RATE AT 15 INCHES OF WATER COLUMN (INCHES WC) VACUUM AT THE VACUUM BLOWER. BLOWER ASSEMBLY FOR THE NORTH LOOP TO BE INSTALLED SHALL PROVIDE AT CONTINUOUS OPERATION A MINIMUM OF 31 CUBIC FEET PER MINUTE (CFM) FLOW RATE AT 15 INCHES OF WATER COLUMN (INCHES WC) VACUUM AT THE VACUUM BLOWER.
6. BLOWER FOR THE NORTH LOOP TO BE INSTALLED SHALL BE THE AIRTECH 3BA1300 (A131) OR APPROVED ALTERNATE. BLOWER FOR THE SOUTH LOOP TO BE INSTALLED SHALL BE THE AIRTECH 3BA1400 (A161) OR APPROVED ALTERNATE.
7. THE BLOWER SCHEMATICS ARE SHOWN TO ILLUSTRATE THE REQUIRED COMPONENTS AND THE GENERAL LOCATIONS IN THE PIPE RUN AND SHALL NOT BE CONSIDERED TO BE ACCURATE. THE ACTUAL CONFIGURATION AND DIMENSIONS OF THE BLOWER ASSEMBLY WILL VARY BASED ON MANUFACTURING METHODS AND FIELD CONDITIONS. FINAL DESIGN AND BLOWER SYSTEM SELECTED ARE SUBJECT TO APPROVAL BY THE ENGINEER. PROVIDE ALL BLOWER SPECIFICATIONS AND CUT SHEETS FOR COMMISSION AND/OR CONSTRUCTION MANAGER'S APPROVAL PRIOR TO INSTALLATION.
8. THE BLOWERS SHALL BE INSTALLED WITHIN A SOUND ENCLOSURE BY THE BLOWER MANUFACTURER.
9. THE ELECTRICAL PANEL FOR THE BLOWERS SHALL INCLUDE AN AUXILIARY CONTACT FOR THE REMOTE ALARM AND WILL BE MOUNTED ON THE EXTERIOR OF THE SOUND ENCLOSURE. THE REMOTE ALARM SHALL BE LOCATED WITHIN THE BUILDING AND SHALL BE EASILY ACCESSIBLE. THE ALARM SHALL CONSIST OF A WARNING LIGHT AND ASSOCIATED RELAYS. THE REMOTE ALARM AND CONTROL PANEL SHALL BE CONFIGURED SUCH THAT IF THE BLOWER STOPS OPERATING, THE REMOTE ALARM WILL BE ACTIVATED. ALTERNATIVELY, IF A BUILDING MANAGEMENT SYSTEM IS TO BE INSTALLED, THE REMOTE ALARM CAN BE CONFIGURED THROUGH THIS SYSTEM. A 120V ELECTRICAL SUPPLY SHALL BE PROVIDED TO THE REMOTE ALARM (REFER TO MEP DRAWINGS FOR DESIGN OF ELECTRICAL ITEMS).
10. HE REMOTE VISUAL ALARM SHALL BE LABELED AS FOLLOWS (REFER TO MEP DRAWINGS FOR DESIGN OF ELECTRICAL ITEMS):
    - SUB-SLAB VAPOR VENTING SYSTEM ALARM
    - BLOWER MALFUNCTION IF LIT
    - SERVICE BLOWER FAN IMMEDIATELY
11. SUPPLY POWER TO BLOWER ASSEMBLY, INCLUDING BLOWER, CONTROL PANEL, AND REMOTE ALARM, IN ACCORDANCE WITH ELECTRICAL SPECIFICATIONS (TO BE PREPARED BY MEP ENGINEER). THE 3BA1400 (A161) BLOWER HAS A 1.11 HORSEPOWER MOTOR (3.75/2.15 AMPS) AND REQUIRES A THREE PHASE, 60 Hz, 220-250V/415-460V POWER SUPPLY (REFER TO MEP DRAWINGS FOR DESIGN OF ELECTRICAL ITEMS).
12. REFER TO ARCHITECTURAL AND MEP DRAWINGS FOR DESIGN AND LOCATION OF ABOVE-SLAB PIPING AND BLOWER ASSEMBLY.
13. COORDINATE BLOWER SOUND AND/OR VIBRATION ATTENUATION REQUIREMENTS WITH ARCHITECT AND ACOUSTICAL CONSULTANT.



DETAIL 4: TYPICAL CONNECTION FROM SUB-SLAB PIPE TO RISER PIPE (SECTION VIEW)
NOT TO SCALE



DETAIL 5: TYPICAL TRANSITION FROM SUB-SLAB PIPE TO RISER PIPE (SECTION VIEW)
NOT TO SCALE

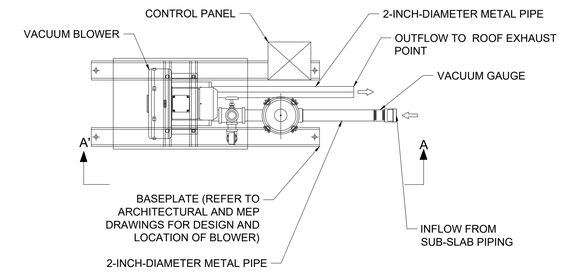


DETAIL 6: TYPICAL PIPE SLEEVE THROUGH FOUNDATION ELEMENT (SECTION VIEW)
NOT TO SCALE

NOTES:

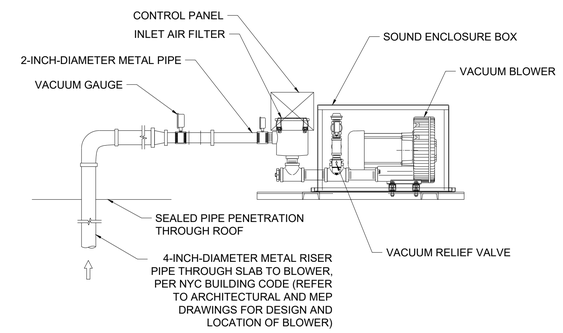
1. RISER PIPE (REFER TO ARCHITECTURAL AND MEP DRAWINGS FOR DESIGN AND LOCATION OF ABOVE-SLAB PIPING) SHALL BE 4-INCH-DIAMETER METAL PIPE OR OTHER MATERIAL THAT COMPLIES WITH APPLICABLE BUILDING CODE.
2. VAPOR COLLECTION PIPE SHALL BE 4-INCH-DIAMETER, SLOTTED (30-SLOT), SCHEDULE 40, SMOOTH INTERIOR, PERFORATED, POLYVINYL CHLORIDE (PVC) PIPE WITH A MINIMUM PIPE STIFFNESS OF 35 POUNDS PER SQUARE INCH (PSI) AT 5% DEFLECTION WITH GLUED CONNECTIONS. PERFORATIONS SHALL BE SLOT-TYPE. THERE SHALL BE, AT A MINIMUM, THREE EQUALLY SPACED PERFORATIONS PER GROOVE (I.E., DEPRESSED SECTION OF THE PIPE) OF THE CORRUGATED PIPE. PERFORATIONS ON ALTERNATING GROOVES SHALL BE OFF-SET.
3. ALL FITTINGS AND CONNECTIONS FOR THE VAPOR COLLECTION PIPE SHALL BE 4-INCH-DIAMETER SCHEDULE 40 PVC FITTINGS, MADE BY THE SAME MANUFACTURER AS THE 4-INCH-DIAMETER PIPE, AND OF THE TYPE RECOMMENDED BY THE MANUFACTURER FOR USE WITH THE 4-INCH-DIAMETER PIPE. SECURE ALL FITTINGS AND CONNECTIONS WITH 2-INCH-WIDE TILE TAPE.
4. POLYESTER FILTER SLEEVES SHALL HAVE A MINIMUM AIR PERMEABILITY OF 130 CUBIC FEET/SQUARE FEET/MINUTE.
5. 3/4-INCH STONE SHALL BE VIRGIN, COARSE, ANGULAR, WASHED 3/4-INCH STONE WITH THE FOLLOWING GRADATION (ASTM/AASHTO #5 SIZE STONE):

SIEVE SIZE	% PASSING BY WEIGHT
1 1/2"	100
1"	90-100
3/4"	20-55
3/8"	0-10
#8	0-5

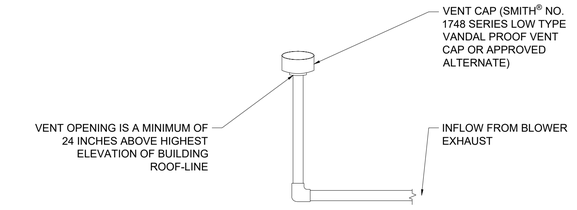


NOTE: THIS DETAIL DOES NOT SHOW THE SOUND ENCLOSURE BOX.

DETAIL 7: TYPICAL VACUUM BLOWER (PLAN VIEW)
NOT TO SCALE



DETAIL 8: TYPICAL VACUUM BLOWER (SECTION VIEW, A-A')
NOT TO SCALE



DETAIL 9: TYPICAL TERMINATION POINT (SECTION VIEW)
NOT TO SCALE

NOTES

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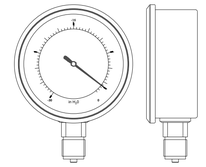

NOTE: TYPICAL WIKA®TYPE 611.10 LOW PRESSURE CAPSULE GAUGE RANGING FROM -30 TO 0 INCHES OF WATER AT THE SLAB SURFACE AND AT THE BLOWER (OR APPROVED ALTERNATE).

DETAIL 10: TYPICAL VACUUM GAUGE
NOT TO SCALE

HALEY ALDRICH

HALEY & ALDRICH OF NEW YORK
213 W 35th Street, 7th Floor
New York, New York 10001
Tel: 646.277.5685
www.haleyaldrich.com

NYC Buildings
ACCEPTED
Date: 03/07/2024

Project No.:	0208545
Scale:	AS SHOWN
Date:	FEBRUARY 2024
Drawn By:	
Designed By:	HALEY & ALDRICH OF NEW YORK
Checked By:	HALEY & ALDRICH OF NEW YORK
Approved By:	HALEY & ALDRICH OF NEW YORK

Stamp:

STATE OF NEW YORK
SCOTT ANDREW URBAN
075332
LICENSED PROFESSIONAL ENGINEER

FEBRUARY 19, 2024

Rev.	Description	By	Date

125 3RD STREET
BLOCK NO. 462, LOT NO. 6
BROOKLYN, NEW YORK
JOB # B00621533-Z7

SUB-SLAB DEPRESSURIZATON SYSTEM DETAILS

M-201.00

Sheet: 3 of 3

Printed: 2/19/2024 8:47 AM Sheet: M-201.00
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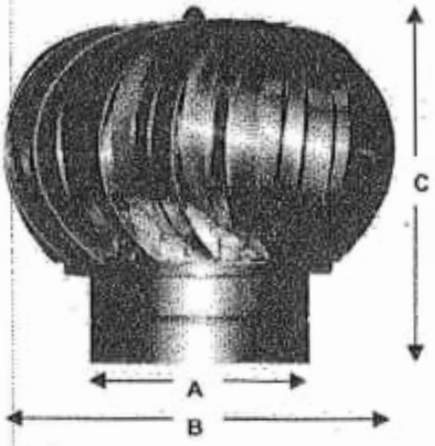
APPENDIX B
Sub-Slab Depressurization System Blower Specifications

TRIANGLE TURBINE VENTILATOR
(INTERNALLY BRACED)



PRODUCT FEATURES

- INTERNALLY BRACED
- LOW MAINTENANCE
- LOCKED IN LUBRICANT
- JEWEL BEARING SYSTEM REDUCES NOISE
- USES NO ENERGY
- REMOVES TRAPPED HEAT AND MOISTURE FROM ATTIC SPACE (WHEN USED IN CONJUNCTION WITH GABLE END VENTING AND/OR SOFFIT VENTING)
- WIDE RANGE OF THROAT SIZES AVAILABLE
- GALVANIZED (G-90)
- ALUMINUM (H3003)
- OTHER MATERIALS AVAILABLE-CALL FOR PRICING

Model No.	A	B	C	Nom. CFM	Galv. Ship Weight
JB 4	4.00	8.50	10.00	90	4.50
JB 6	6.00	10.75	10.50	147	4.75
JB 8	8.00	12.75	10.50	255	6.50
JB 10	10.00	14.00	10.50	425	7.50
JB 12	12.00	18.50	12.50	531	10.50
JB 14	14.00	20.50	13.00	700	18.00
JB 16	16.00	24.00	17.50	950	24.75
JB 18	18.00	26.25	17.50	1200	26.25
JB 20	20.00	30.00	21.50	1700	44.00
JB 24	24.00	34.50	21.50	2350	52.00
JB 30	30.00	43.25	21.50	3650	73.75
JB 36	36.00	50.75	21.50	4600	83.75
JB 42	42.00	61.75	24.00	5200	157.25

AIRTECH® VACUUM

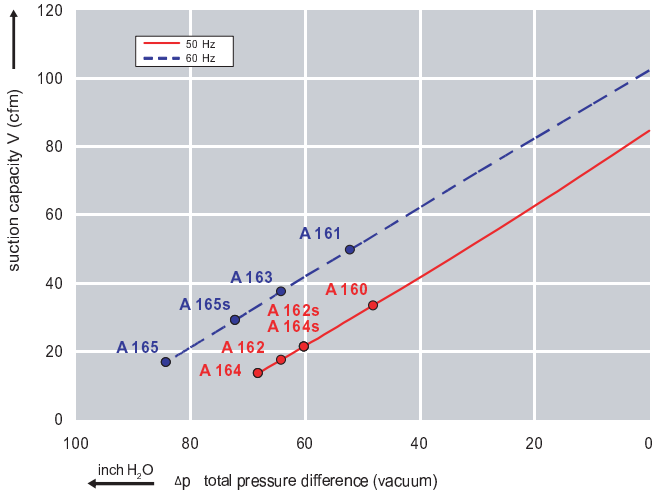
3BA1400

Vacuum/Pressure Regenerative Blower

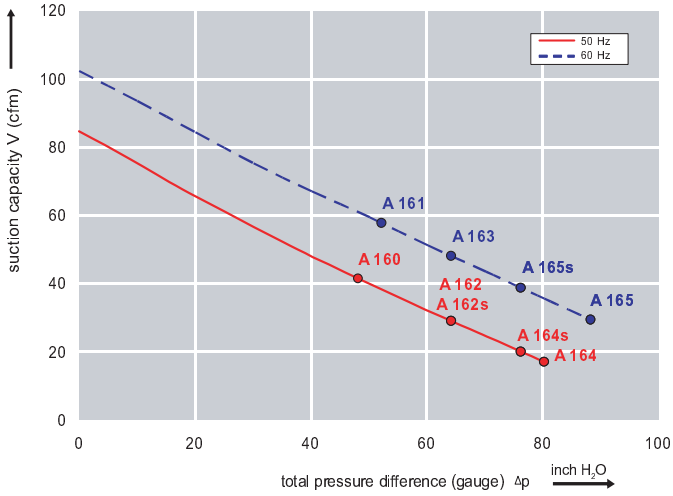
Features:

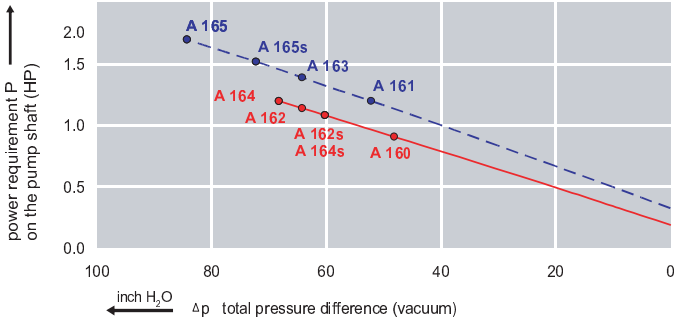
- Cooler running, outboard bearing provides maintenance-free operation
- Environmentally friendly oil-free technology
- Extremely quiet operation
- All motors are standard TEFC with Class F insulation, UL recognized, CE Compliant
  Explosion-Proof motors available
- Custom construction blowers are available
- Rugged die cast aluminum construction

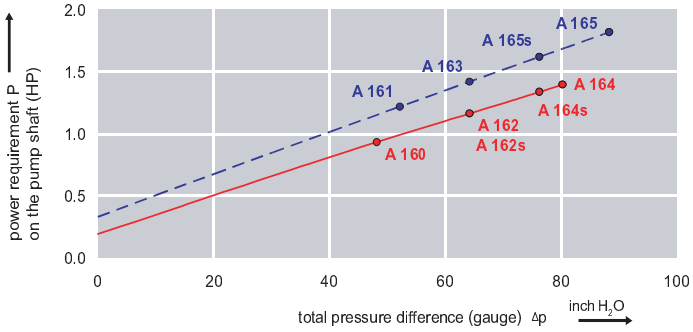
Performance curve for Vacuum pump

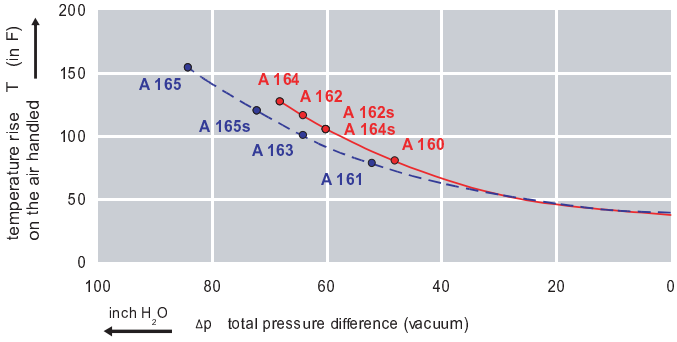


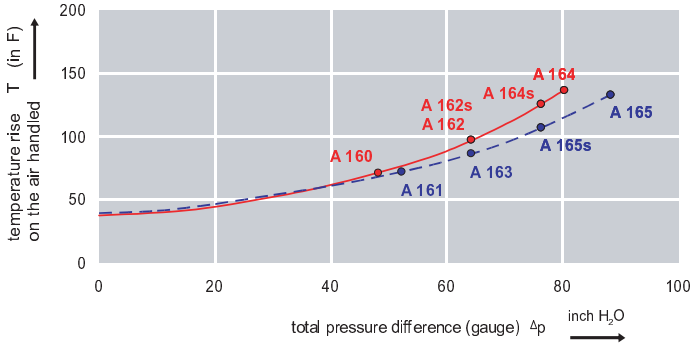
Performance curve for Compressor









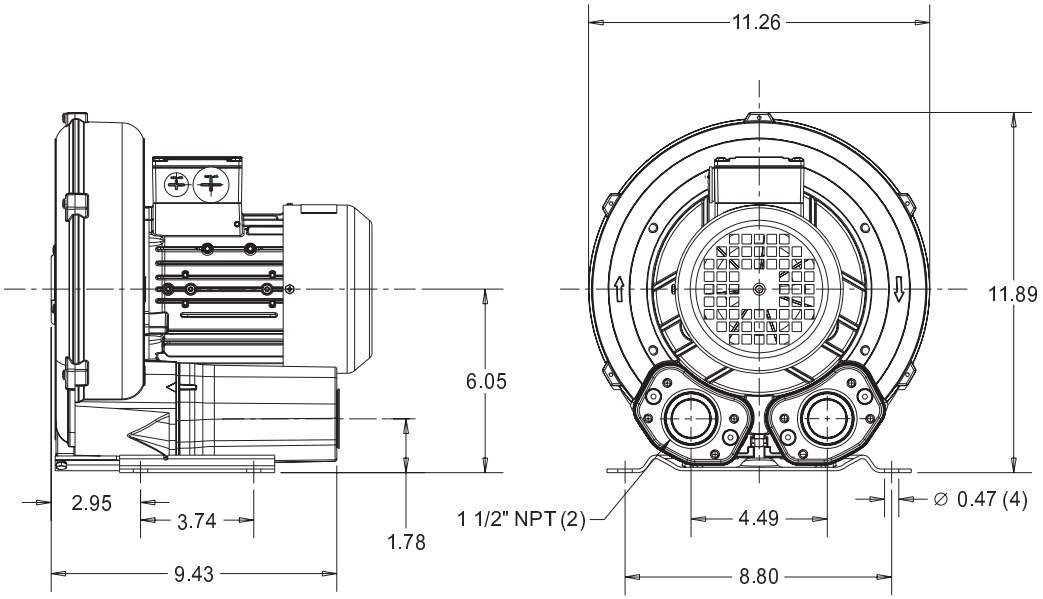


AIRTECH® VACUUM

3BA1400

Vacuum/Pressure Regenerative Blower

Dimensions: (inches)



Recommended Accessories:

Relief valve:

VC51Z (Vacuum)

PC51Z (Pressure)

Filter:

ATF-150-1337 (Vacuum)

AFS-20-150-10 (Pressure)

Specifications subject to change without notice. Please contact factory for specification updates.

Selection & Ordering Data - Type 3BA1400

Curve No.	Order No.	Frequency Hz	Rated power HP	Input voltage V		Input current A		Permissible total differential pressure Vacuum inch H2O	Permissible total differential pressure Compressor inch H2O	Sound pressure level dB(A)	Weight lbs
3~ 50/60 Hz IP55 insulation material class F											
A 160	3BA1400-7AT06	50	0.94	200D ... 240D	345Y ... 415Y	3.8 D	2.2 Y	-48	48	63	29
A 161	3BA1400-7AT06	60	1.11	220D ... 250D	415Y ... 460Y	3.75D	2.15Y	-52	52	64	29
A 162	3BA1400-7AT16	50	1.14	200D ... 240D	345Y ... 415Y	4.2 D	2.4 Y	-64	64	63	33
A 163	3BA1400-7AT16	60	1.27	220D ... 250D	415Y ... 460Y	4.0 D	2.3 Y	-64	64	64	33
A 164	3BA1400-7AT26	50	1.74	200D ... 240D	345Y ... 415Y	5.7 D	3.3 Y	-68	80	63	35
A 165	3BA1400-7AT26	60	2.01	220D ... 250D	415Y ... 460Y	5.5 D	3.2 Y	-84	88	64	35
1~ 50/60 Hz IP55 with capacitor for continuous operation											
A 164s	3BA1400-7AS25	50	1.47	115	230	13	6.5	-60	76	63	35
A 165s	3BA1400-7AS25	60	1.74	115	230	14	7.0	-72	76	64	35

Suitable for 208 Volt Operation

All curves are rated at 14.7 psia and 68° F ambient conditions and are reported in SCFM referenced to 68° F and 14.696 psia sea level conditions. Curve values are nominal, actual performance may vary by up to 10% of the values indicated. For inlet temperatures above approximately 80 °F or for handling gases other than air, please contact your Airtech sales representative for assistance.

APPENDIX C
Sub-Slab Depressurization System Inspection Forms

Annual Inspection Form
Vapor Barrier and Sub-Slab Depressurization System
125 Third Street

Inspector's Name: Weather Conditions:
Inspection Date: Air Temperature (°F):
Inspection Time:
Comments:

A. SSDS SYSTEM INSPECTION

Walk the entire roof surface of building.

* Inspect fan stack guy wires.
* Inspect monitoring points.
* Record vacuum gauge reading.
* Ensure all SSDS accessories listed in section 15880 are functioning properly.
* Inspect bolts and set screws for tightness and rusty condition.
* Inspect SSDS fan for cleanliness. Clean exterior surfaces only. Remove dust and grease on motor housing.
* Are the indicator lights on the Building Management System functioning properly?
* Is the spare fan unit missing from the building?
* Comments (see or hear anything unusual?):

B. VAPOR BARRIER INSPECTION

Walk all of the cellar floor.

* Review all cracks or other openings indentified in cellar floor during previous inspections.
* Any new visible cracks in the cellar floor?
* Any new visible opening (unintended) in the floor?
* Any new visible cracks in accessible pits?
* Note the length of any new cracks/openings in the cellar floor.
* Draw approximate location of floor cracks/openings that appear to have potential leak through vapor barrier.

Comments:

C. Repair

Summarize needed/completed repairs to Engineering Controls:

Inspector's Signature: _____

125 Third Street

Annual Monitoring Point Inspection Checklist

Inspect all monitoring point locations for obstructions; check the manhole covers (and bolts) along with the quick connections inside the manhole.

Monitoring Point ID	Room Number	Any obstructions over MP	Manhole cover secure and bolts intact	Comments (status of quick-connect fitting, etc.)
		Y / N	Y / N	
		Y / N	Y / N	
		Y / N	Y / N	
		Y / N	Y / N	
		Y / N	Y / N	
		Y / N	Y / N	

Monthly or Severe Condition Inspection Form

Vapor Barrier and SSDS

Inspector's Name:

Inspection Date/Time:

Purpose: (circle one) **Monthly Inspection** **Severe Condition Inspection (describe)**

		Yes / No *	Notified Person / Date
A. VAPOR BARRIER INSPECTION	**1. Walk the entire cellar floor**		
	* Any visible cracks in the floor?		
	* Any other visible openings (unintended) in the floor?		
	* Any construction activities affecting the floor?		
	* Any visible cracks in any accessible pits?		
	** Notification of NYSDEC is required if cracks are noted. Include the following information: - Draw approximate location of floor cracks/openings on site map. - Note the length of the crack/opening. Note the width of the crack/opening.		
B. SSDS INSPECTION	**1. Walk the entire roof surface.**		
	* Any rust or other debris (bird nest, etc.) in or on SSDS Exhaust Stacks?		
	* Are the SSDS fan units functioning at a lower vacuum than the previous inspection?		
	* Is the spare fan unit missing from the building?		
	* Are any lights out on the SSDS Monitoring System (Light panel)? Which one(s)?		
C. ACTIONS TAKEN			
	Inspector's Signature:		

Routine and Preventative Maintenance Checklist

SSDS Fans

Inspector's Name:

Inspection Date/Time:

Purpose: (circle one) **Biannual Inspection** **Fan Malfunction (describe)**

SSDS Fan Maintenance Checklist	Preform the steps below for every SSDS fan during a biannual inspection, or for any SSDS fan experiencing issues	Completed Y/N	List Any Issues or Unusual Behavior
	1. Disconnect, lock out, and tag fan electrical power source		
	2. Check all SSDS fan bearings		
	3. Inspect SSDS fan drive belt for tightness and wear. Adjust/replace if required		
	4. Clean/blow down centrifugal fan wheel, inlet, fan, and motor housing		
	5. Grease fan shaft bearing pillow blocks		
	6. Inspect fan inlet and outlet ductwork flex joints		
	7. Inspect damper for proper orientation		
	8. Inspect fan stack guy wires		
	9. Inspect fan mounting and vibration isolators		

*Notify the NYSDEC of any fan unit/component failure. In the event that a fan component fails, the component will be replaced by a qualified engineer. The engineer will make appropriate arrangements in advance with suppliers to provide SSDS replacement parts within 12 hours notice. In the event that a fan unit fails, the fan unit will be replaced by a qualified engineer. A spare fan will be available on-site for immediate replacement in case of fan failure.

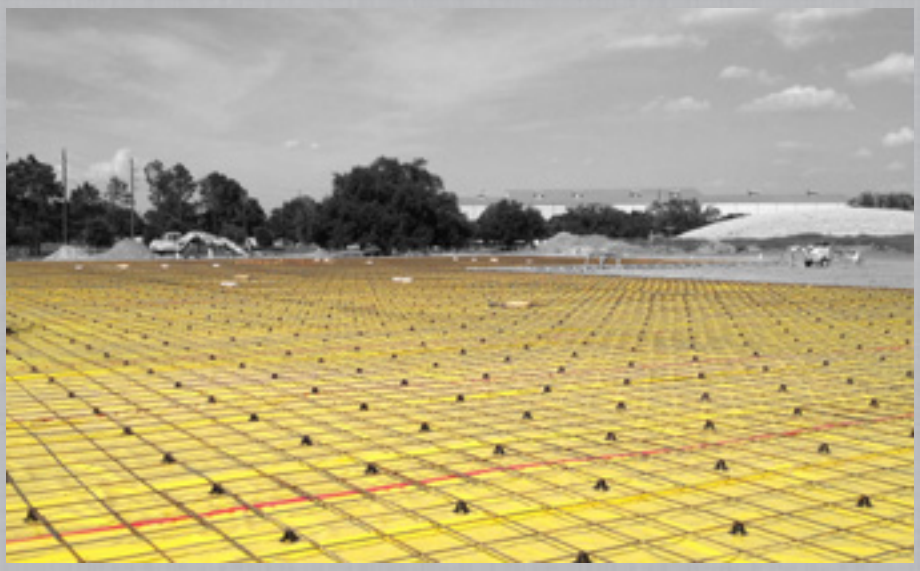
Inspector's Signature:

APPENDIX F
Vapor Barrier Manufacturer's Specifications

Yellow Guard®

20 MIL VAPOR BARRIER

Husky® Yellow Guard® premium vapor barriers are waterproofing membranes manufactured using top-quality polyethylene (polyolefin) resins. Husky® Yellow Guard® vapor barriers are manufactured to be used in contact with soil and granular fill under concrete slabs, beams, and footings, and provide exceptionally low water vapor permeance. Husky® Yellow Guard® vapor barriers are manufactured by Poly-America, an industry leader in the manufacture of polyethylene films. Poly-America utilizes state-of-the-art processing equipment.



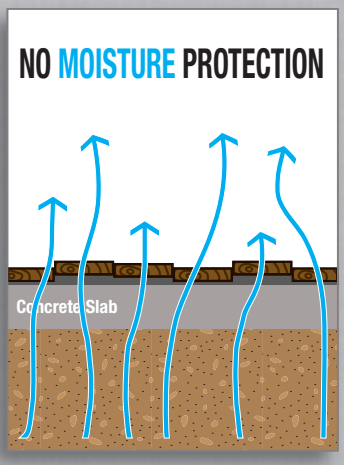
VAPOR BARRIER HIGHLIGHTS

- Developed for use as a durable vapor barrier.
- Multi-layer product formulated from top-quality polyethylene (polyolefin) resins.
- Exceeds industry-standard ASTM E 1745 Class A, Class B, and Class C specifications.
- Restricts migration of soil gases such as radon and methane.
- Exceptionally low water vapor permeance, ten times lower than industry-standard ASTM E 1745 Class A requirement.
- Manufactured by Poly-America on state-of-the-art manufacturing equipment with full-time on-line quality monitoring and routine laboratory testing.
- Maintains low water vapor permeance even after exposure to severe field conditions.
- Outstanding tensile properties and puncture resistance.
- Excellent resistance to low-temperature brittleness.
- Available nationwide.

Manufacturing Quality Control & Quality Assurance

All resins, additives, and concentrates for use in Husky® Yellow Guard® vapor barrier must meet Poly-America's stringent raw material specifications. Husky® Yellow Guard® vapor barrier is manufactured with continuous process-control monitoring and is routinely tested in Poly-America's state-of-the-art laboratory during and after production.

In addition, Husky® Yellow Guard® vapor barrier has been tested by accredited, independent laboratories to ensure that it meets ASTM E 1745 Class A, Class B, and Class C specifications.



PROPERTIES OF 20 MIL HUSKY® YELLOW GUARD® VAPOR BARRIER

Properties	Test Method	ASTM E 1745 Class A Requirements	Yellow Guard® Vapor Barrier Test Result	Measures
Permeance	ASTM F 1249	0.1 perms	0.0073 perms/*0.0033 WVTR	Resistance to water vapor
Puncture Resistance	ASTM D 1709 Method B	2200 g	3577 g	Impact energy required to cause failure
Tensile Strength	ASTM D 882	45.0 lbf/in	101.5 lbf/in	Force required to break/rupture film
Permeance After Conditioning	ASTM E 154			Resistance to water vapor after:
(ASTM F 1249)	Section 8	0.1 perms	0.0056 perms	-wetting, drying, and soaking
	Section 11	0.1 perms	0.0066 perms	-heat conditioning
	Section 12	0.1 perms	0.0068 perms	-low-temperature conditioning
	Section 13	0.1 perms	0.0073 perms	-soil organism exposure
Methane Transmission Rate	ASTM D 1434		94.27 mL (STP)/(m^2 • day)	Transmission through a membrane
Radon Permeability Coefficient			8.3 x 10^{-14} m^2/sec	
Thickness			20 mils	
Roll Dimensions			14 ft x 105 ft	
Roll Weight			142.4 lbs	

*WVTR (Water Vapor Transmission Rate) in g/(100 in^2 • day) Perm = grains/(ft^2 • hr • inHg)

Installation

Installation of Husky® Yellow Guard® vapor barrier, including placement, lap joints, pipe penetrations, protection, repair, and suggested field check list, shall be in accordance with ASTM E 1643 standard practice and the project plans and specifications.

Availability

Husky® Yellow Guard® 20 mil vapor barriers are available nationwide. Visit www.yellowguard.com for more information.

Limited Replacement Warranty

Poly-America provides a limited replacement warranty on Husky® Yellow Guard® vapor barrier representing that the vapor barrier is free from material defects for a period of 1 year from the date of sale. The specific details of Poly-America's limited replacement warranty are available at http://www.yellowguard.com/limitedwarranty.pdf.

Poly-America

2000 W. Marshall Dr. • Grand Prairie, TX 75051

800-527-3322 • 972-337-7610 • Fax 972-337-7016 • www.yellowguard.com • yellowguard@poly-america.com

57-023-0094B Rev 05/21

Yellow Guard™

POLYETHYLENE TAPE

Husky™ Yellow Guard™ Tape is made with a cast polyethylene film coated with high-tack natural rubber adhesive. Recommended for splicing heavy duty polyethylene, polyethylene patching, and protective masking, the tape is flexible, strong, and moisture and UV resistant.

Specifications quoted are averages only and may vary within industry tolerances. The final user must assure product suitability for the application and assumes all risks and liabilities.

Contact Poly-America's Sales Department for pricing and availability.

TECHNICAL DATA

Backing	Cast Polyethylene Film
Thickness	9.0 mils
Adhesion	70 oz/in
Tensile Strength	26 lbs/in
Elongation at Break	96.25%
Application Temperature	41°F – 122°F
Temperature Resistance	176°F for 30 min.
Roll Width	3.75 in
Roll Length	180 ft

Poly-America

2000 W. Marshall Dr. • Grand Prairie, TX 75051

800-527-3322 ext. 7437 • Fax 972-337-8437 • www.yellowguard.com • yellowguard@poly-america.com

APPENDIX G
Field Sampling Plan and Quality Assurance Project Plan (QAPP)

HALEY ALDRICH

www.haleyaldrich.com

FIELD SAMPLING PLAN
THIRD STREET GOWANUS
BROOKLYN, NEW YORK

by
H & A of New York Engineering and Geology, LLP
New York, New York

for
THIRD AT THIRD LLC
Brooklyn, New York

File No. 0208545
August 2024

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1. Introduction

This Field Sampling Plan (FSP) has been prepared as a component of the Site Management Plan (SMP) for the Site located at 125 Third Street in Brooklyn, New York. This document was prepared to establish field procedures for field data collection to be performed to support the SMP for the Site.

The SMP includes this Field Sampling Plan, a Quality Assurance Project Plan (QAPP), Health and Safety Plan (HASP), and Community Air Monitoring Plan (CAMP), which are included as part of this plan by reference.

The standard operating procedures (SOPs) included as components of this plan will provide the procedures necessary to meet the project objectives. The SOPs will be used as reference for the methods to be employed for field sample collection and handling and the management of field data collected in the execution of the approved SMP. The SOPs include numerous methods to execute the tasks of the SMP. The Project Manager will select the appropriate method as required by field conditions and/or the objective of the respective project task at the time of sample collection. Field procedures will be conducted in general accordance with the New York State Department of Conservation (NYSDEC) Technical Guidance for Site Investigation and Remediation (DER-10) and the Sampling, Analysis and Assessment of Per- and Polyfluoroalkyl Substances (PFAS) under NYSDEC Part 375 Remedial Program when applicable.

2. Field Program

This FSP provides the general purpose of sampling as well as procedural information. The SMP contains the details on sampling and analysis (locations, depths, frequency, analyte lists, etc.).

The field program has been designed to acquire the necessary data to comply with the SMP, and includes the following tasks:

- Groundwater sampling; and
- Soil vapor sampling.

THIRD AT THIRD LLC (the Volunteer) has remediated a 0.47-acre (20,300-square-foot) property known as the Third Street Gowanus Site, designated under Brownfield Cleanup Program (BCP) Site No. C224346. Site remediation addressing both soil, groundwater, and soil vapor contamination was conducted as per the November 2023 approved Remedial Action Work Plan (RAWP) and Decision Document. Additional investigations, workplans, and reports were submitted to the NYSDEC between 2021 and 2023.

These SOPs presented herein may be changed as required and are dependent on Site conditions or equipment limitations at the time of sample collection. If the procedures employed differ from the SOP, the deviations will be documented in the associated sampling report.

3. Field Data Recording

This procedure describes protocol for documenting the post-remediation sampling activities in the field. Field data serves as the cornerstone for an environmental project, not only for Site characterization but for additional phases of investigation or remedial design. Producing defensible data includes proper and appropriate recording of field data as it is obtained in a manner to preserve the information for future use. This procedure provides guidelines for accurate, thorough collection and preservation of written and electronic field data.

Field data to be recorded during the project generally includes, but is not limited to, the following:

- general field observations;
- numeric field measurements and instrument readings;
- quantity estimates;
- sample locations and corresponding sample numbers;
- relevant comments and details pertaining to the samples collected;
- documentation of activities, procedures and progress achieved;
- contractor pay item quantities;
- weather conditions;
- a listing of personnel involved in site-related activities;
- a log of conversations, site meetings and other communications; and
- field decisions and pertinent information associated with the decisions.

3.1 Written Field Data

Written field data will be collected using a standardized, pre-printed field log form. In general, use of a field log form is preferable as it prompts field personnel to make appropriate observations and record data in a standardized format. This promotes completeness and consistency from one person to the next. Otherwise, electronic data collection using a hand-held device produces equal completeness and consistency using a pre-formatted log form.

In the absence of an appropriate pre-printed form, the data should be recorded in an organized and structured manner in a dedicated project field logbook. Logbooks must be hard cover, bound so that pages cannot be added or removed, and should be made from high-grade 50% rag paper with a water-resistant surface.

The following are guidelines for use of field log forms and logbooks:

1. Information must be factual and complete.
2. All entries will be made in black indelible ink with a ballpoint pen and will be written legibly. Do not use “rollerball” or felt tip-style pens, since the water-soluble ink can run or smear in the presence of moisture.
3. Field log forms should be consecutively numbered.

4. Each day's work must start a new form/page.
5. At the end of each day, the current logbook page or forms must be signed and dated by the field personnel making the entries.
6. Make data entries immediately upon obtaining the data. Do not make temporary notes in other locations for later transfer; this only increases the potential for error or loss of data.
7. Entry errors are to be crossed out with a single line and initialed by the person making the correction.
8. Do not leave blanks on log forms, if no entry is applicable for a given data field, indicate so with "NA" or a dash ("—").
9. At the earliest practical time, photocopies or typed versions of log forms and logbook pages should be made and placed in the project file as a backup in the event the book or forms are lost or damaged.
10. Logbooks should be dedicated to one project only; i.e., do not record data from multiple projects in one logbook.

3.2 Electronic Data

Electronic data recording involves electronic measurement of field information through the use of monitoring instruments, sensors, gauges, and equipment controls. The following is a list of guidelines for proper recording and management of electronic field data:

1. Field data management should follow requirements of a project-specific data management plan (DMP), if applicable.
2. Use only instruments that have been calibrated in accordance with manufacturer's recommendations.
3. Usage of instruments, controls, and computers for the purpose of obtaining field data should only be performed by personnel properly trained and experienced in the use of the equipment and software.
4. Use only fully licensed software on personal computers and laptops.
5. Loss of electronic files may mean loss of irreplaceable data. Every effort should be made to back up electronic files obtained in the field as soon as practical. A backup file placed on the file server will minimize the potential for loss.
6. Electronic files, once transferred from field instruments or laptops to office computers, should be protected if possible, to prevent unwanted or inadvertent manipulation or modification of data. Several levels of protection are usually available for spreadsheets, including making a file "read-only" or assigning a password to access the file.
7. Protect CD disks from exposure to moisture, excessive heat or cold, magnetic fields, or other potentially damaging conditions.
8. Remote monitoring is often used to obtain stored electronic data from Site environmental systems. A thorough discussion of this type of electronic field data recording is beyond the scope of this Section. Such on-site systems are generally capable of storing a limited amount of data as a comma-delimited or spreadsheet file. Users must remotely access the monitoring equipment files via modem or other access and download the data. In order to minimize the

potential for loss of data, access and downloading of data should be performed frequently enough to ensure the data storage capacity of the remote equipment is not exceeded.

Equipment/Materials:

- Appropriate field log forms, or iPad® or equivalent with preformatted log forms.
- Indelible ball point pen (do not use “rollerball” or felt-tip style pens);
- Straight edge;
- Pocket calculator; and
- Laptop computer (if required).

4. Aquifer Characterization

This procedure describes measurement of water levels in groundwater monitoring.

A synoptic gauging round will be completed to obtain water levels in monitoring wells. Water levels will be acquired in a manner that provides accurate data that can be used to calculate vertical and horizontal hydraulic gradients and other hydrogeologic parameters. Accuracy in obtaining the measurements is critical to ensure the usability of the data.

4.1 Procedure

In order to provide reliable data, water level monitoring events should be collected over as short a period of time as practical. Barometric pressure can affect groundwater levels and, therefore, observation of significant weather changes during the period of water level measurements must be noted. Rainfall events and groundwater pumping can also affect groundwater level measurements. Personnel collecting water level data must note if any of these controls are in effect during the groundwater level collection period. Due to possible changes during the groundwater level collection period, it is imperative that the time of data collection at each station be accurately recorded. Water levels will also be collected prior to any sample collection that day.

The depth to groundwater will be measured with an electronic depth-indicating probe. Prior to obtaining a measurement, a fixed reference point on the well casing will be established for each well to be measured. Unless otherwise established, the reference point is typically established and marked on the north side of the well casing. Do not use protective casings or flush-mounted road boxes as a reference, due to the potential for damage or settlement. The elevation of the reference point shall be obtained by accepted surveying methods, to the nearest 0.01 feet.

The water level probe will be lowered into the well until the meter indicates (via indicator light or tone) the water is reached. The probe will be raised above water level and slowly lowered again until water is indicated. The cable will be held against the side of the inner protective casing at the point designated for water level measurements and a depth reading taken. This procedure will be followed three times or until a consistent value is obtained. The value will be recorded to the nearest 0.01 feet on the Groundwater Level Monitoring Report form.

Upon completion, the probe will be raised to the surface and together with the amount of cable that entered the well casing, will be decontaminated in accordance with methods described in Equipment Decontamination Procedure.

Equipment/Materials:

- Battery-operated, non-stretch electronic water level probe with permanent markings at 0.01 feet. increments, such as the Solinst Model 101 or equivalent.
- The calibrated cable on the depth indicator will be checked against a surveyor's steel tape once per quarter year. A new cable will be installed if the cable has changed by more than 0.01% (0.01 feet for a 100-foot cable). See also the Field Instruments – Use and Calibration Procedure.
- Groundwater Level Monitoring Report form.

5. Sample Collection for Laboratory Analysis

5.1 GROUNDWATER SAMPLE COLLECTION FOR LABORATORY ANALYSIS

The following section describes two techniques for groundwater sampling: "Low-Stress/Low-Flow Methods" and "Typical Sampling Methods."

"Low Stress/Low Flow" methods will be employed when collecting groundwater samples for the evaluation of volatile constituents (i.e., dissolved oxygen [DO]) or in fine-grained formations where sediment/colloid transport is possible. Analyses typically sensitive to colloidal transport issues include polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), and metals.

The "Typical Sampling Methods" will be employed where the collection of parameters less sensitive to turbidity/sediment issues are being collected (general chemistry, pesticides, and other semi-volatile organic compounds [SVOCs]).

NOTE: If non-aqueous phase liquid (NAPL) (light or dense) are detected in a monitoring well, groundwater sample collection will not be conducted, and the Project Manager must be contacted to determine a course of action.

5.1.1 Preparatory Requirements

- Verify well identification and location using borehole log details and location layout figures. Note the condition of the well and record any necessary repair work required.
- Prior to opening the well cap, measure the breathing space above the well casing with a handheld organic vapor analyzer to establish baseline breathing space volatile organic compound (VOC) levels. Repeat this measurement once the well cap is opened. If either of these measurements exceeds the air quality criteria in the HASP, field personnel should adjust their personal protective equipment (PPE) accordingly.
- Prior to commencing the groundwater purging/sampling, a water level must be obtained to determine the well volume for hydraulic purposes. In some settings, it may be necessary to allow the water level time to equilibrate. This condition exists if a water-tight seal exists at the well cap and the water level has fluctuated above the top of screen; creating a vacuum or pressurized area in this air space. Three water level checks will verify static water level conditions have been achieved.
- Calculate the volume of water in the well. Typically overburden well volumes consider only the quantity of water standing in the well screen and riser; bedrock well volumes are calculated on the quantity of water within the open core hole and within the overburden casing.

5.1.2 Well Development

Well development is completed to remove fine grained materials from the well but in such a manner as to not introduce fines from the formation into the sand pack. Well development continues until the well responds to water level changes in the formation (i.e., a good hydraulic connection is established between the well and formation) and the well produces clear, sediment-free water to the extent practical.

- Attach appropriate pump and lower tubing into well.
- Gauge well and calculate one well volume. Turn on pump. If well runs dry, shut off pump and allow to recover.
- Surging will be performed by raising and lowering the pump several times to pull fine-grained material from the well. Periodically measure turbidity level using a La Motte turbidity reader.
- The second and third steps will be repeated until turbidity is less than 50 nephelometric turbidity units (NTUs) or when 10 well volumes have been removed.
- All water generated during cleaning and development procedures will be collected and contained on Site in 55-gallon drums for future analysis and appropriate disposal.

Equipment:

- Appropriate health and safety equipment
- Knife
- Power source (generator)
- Field book
- Well Development Form (Form 3006)
- Well keys
- Graduated pails
- Pump and tubing
- Cleaning supplies (including non-phosphate soap, buckets, brushes, laboratory-supplied distilled/deionized water, tap water, cleaning solvent, aluminum foil, plastic sheeting, etc.)
- Water level meter

5.1.3 Well Purging and Stabilization Monitoring (Low-Stress/Low-Flow Method)

The preferred method for groundwater sampling will be the low-stress/low-flow method described below.

- Slowly lower the pump, safety cable, tubing, and electrical lines into the well to the depth specified by the project requirements. The pump intake must be at the midpoint of the well screen to prevent disturbance and resuspension of any sediment in the screen base.
- Before starting the pump, measure the water level again with the pump in the well leaving the water level measuring device in the well when completed.
- Purge the well at 100 to a maximum of 500 milliliters per minute (mL/min). During purging, the water level should be monitored approximately every 5 minutes, or as appropriate. A steady flow rate should be maintained that results in drawdown of 0.3 feet or less. The rate of pumping should not exceed the natural flow rate conditions of the well. Care should be taken to maintain pump suction and to avoid entrainment of air in the tubing. Record adjustments made to the pumping rates and water levels immediately after each adjustment.
- During the purging of the well, monitor and record the field indicator parameters (pH, temperature, conductivity, oxidation-reduction [redox] reaction potential [ORP], dissolved

oxygen [DO], and turbidity) approximately every 5 minutes. Stabilization is considered to be achieved when the final groundwater flow rate is achieved, and three consecutive readings for each parameter are within the following limits:

  - pH: 0.1 pH units of the average value of the three readings;
  - Temperature: 3 percent of the average value of the three readings;
  - Conductivity: 0.005 milliSiemens per centimeter (mS/cm) of the average value of the three readings for conductivity <1 mS/cm and 0.01 mS/cm of the average value of the three readings for conductivity >1 mS/cm;
  - ORP: 10 millivolts (mV) of the average value of the three readings;
  - DO: 10 percent of the average value of the three readings; and
  - Turbidity: 10 percent of the average value of the three readings, or a final value of less than 50 NTUs.

- The pump must not be removed from the well between purging and sampling.

5.1.4 Sampling Techniques

- If an alternate pump is utilized, the first pump discharge volumes should be discarded to allow the equipment a period of acclimation to the groundwater.
- Samples are collected directly from the pump with the groundwater being discharged directly into the appropriate sample container. Avoid handling the interior of the bottle or bottle cap and don new gloves for each well sampled to avoid contamination of the sample.
- Order of sample collection:
  - PFAS
  - VOCs
  - 1,4-dioxane
  - SVOCs
  - TAL metals
- No sampling equipment components or sample containers should come in contact with aluminum foil, low density polyethylene, glass, or polytetrafluoroethylene (PTFE or Teflon™) materials, including plumbers tape and sample bottle cap liners with a PTFE layer.
- For low-stress/low-flow sampling, samples should be collected at a flow rate between 100 and 500 mL/min and such that drawdown of the water level within the well does not exceed the maximum allowable drawdown of 0.3 feet.
- The pumping rate used to collect a sample for VOCs should not exceed 100 mL/min. Samples should be transferred directly to the final container 40-mL glass vials completely full and topped with a Teflon™ cap. Once capped the vial must be inverted and tapped to check for headspace/air presence (bubbles). If air is present, the sample will be discarded, and recollected until free of air.
- All samples must be labeled with:
  - A unique sample number
  - Date and time

  - Parameters to be analyzed
  - Project Reference ID
  - Samplers initials
- Labels should be written in indelible ink and secured to the bottle with clear tape.

Equipment/Materials:

- pH meter, conductivity meter, DO meter, ORP meter, nephelometer, and temperature gauge
- Field filtration units (if required)
- Purging/sampling equipment
  - Peristaltic Pump
- Water level probe
- Sampling materials (containers, logbook/forms, coolers, and chain of custody [CoC] documents)
- Work Plan
- Health and Safety Plan
- When sampling for PFAS, acceptable materials for sampling include stainless steel, high-density polyethylene (HDPE), polyvinyl chloride (PVC), silicone, acetate, and polypropylene.

Note: 1,4-dioxane and PFAS purge and sample techniques will be conducted following the NYSDEC guidance documents (see Appendix C of the RIWP). Acceptable groundwater pumps include stainless-steel inertia pump with HDPE tubing, peristaltic pump equipped with HDPE tubing and silicone tubing, stainless steel bailer with stainless steel ball or bladder pump (identified as PFAS-free) with HDPE tubing.

Field Notes:

- Field notes must document all the events, equipment used, and measurements collected during the sampling activities. Section 2.0 describes the data/recording procedure for field activities.
- The logbook should document the following for each well sampled:
  - Identification of well
  - Well depth
  - Static water level depth and measurement technique
  - Sounded well depth
  - Presence of immiscible layers and detection/collection method
  - Well yield – high or low
  - Purge volume and pumping rate
  - Time well purged
  - Measured field parameters
  - Purge/sampling device used
  - Well sampling sequence

- Sampling appearance
- Sample odors
- Sample volume
- Types of sample containers and sample identification
- Preservative(s) used
- Parameters requested for analysis
- Field analysis data and method(s)
- Sample distribution and transporter
- Laboratory shipped to
- CoC number for shipment to laboratory
- Field observations on sampling event
- Name collector(s)
- Climatic conditions including air temperature
- Problems encountered and any deviations made from the established sampling protocol.

A standard log form for documentation and reporting groundwater purging and sampling events are presented on the Groundwater Sampling Record, Low-Flow Groundwater Sampling Form, and Low-Flow Monitored Natural Attenuation (MNA) Field Sampling Form. Refer to Appendix A for example field forms.

Groundwater/Decon Fluid Disposal:

- Groundwater disposal methods will vary on a case-by-case basis but may range from:
  - Off-site treatment at private treatment/disposal facilities or public owned treatment facilities
  - On-Site treatment at Facility-operated facilities
  - Direct discharge to the surrounding ground surface, allowing groundwater infiltration to the underlying subsurface regime
- Decontamination fluids should be segregated and collected separately from wash waters/groundwater containers.

5.2 INDOOR AIR SAMPLING

The following procedure will be performed during the heating season within 1 year of sub-slab depressurization system (SSDS) startup. Refer to Figure 1 for the proposed sampling locations.

5.2.1 Preparatory Requirements

In accordance with the New York State Department of Health (NYSDOH) “Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York,” dated October 2006 (Vapor Intrusion Guidance Document), sample locations and adjacent spaces will be inspected and screened with a part per billion

(ppb)-range photoionization detector (PID) to determine if interfering conditions, such as open containers of cleaning supplies or petroleum products, are present. Additionally, the "Indoor Air Quality Questionnaire and Building Inventory" form presented in Appendix B of the Vapor Intrusion Guidance Document will be completed. It will be verified during the inspection and noted in the questionnaire that the SSDS is operational prior to proceeding with sampling.

If interfering conditions are identified during the inspection, the interferences will be eliminated to the extent feasible (e.g., products will be removed or stowed in a sealed area isolated from the sampling location(s), cleaning/maintenance will cease, etc.) and the area will be ventilated either by way of the building's heating, ventilation, and air conditioning (HVAC) system (opening the fresh air intake fully) or by opening windows and using box fans. Ventilation will be considered complete when PID readings within the proposed sampling space are within a similar range to ambient outdoor air (up to 8 hours). The building will then be restored to normal conditions (i.e., windows will be closed, the HVAC system will be returned to normal settings, and/or fans will be removed) for a period of at least 24 hours prior to sampling.

5.2.2 Sampling Techniques

Two indoor air samples will be collected from the first floor (IA-01 and IA-02) of the Site building. In addition, one SUMMA canister will be placed adjacent outside the Site building at breathing level to collect a sample of ambient outdoor air (AA-01). Samples will be collected from approximately 3 to 5 feet above the floor/ground surface to simulate the breathing zone in laboratory-supplied individually certified-clean 6-liter SUMMA canisters equipped with 0.0125 liters per minute (L/min) flow controllers for a sample collection time of approximately 8 hours. Sampling will be considered complete after an 8-hour collection time, or when the vacuum measured in the canister reaches 5 inches of mercury, whichever occurs sooner.

Canister vacuum and the time will be recorded in the dedicated field logbook at the beginning and end of sampling. After sample collection, the indoor and ambient air samples will be shipped overnight to a NYSDOH Environmental Laboratory Approval Program (ELAP)-certified laboratory for analysis for VOCs by United States Environmental Protection Agency (USEPA). Method TO-15 within a 5-day turnaround time (TAT). The laboratory will report the full list of TO-15 parameters.

USEPA Method TO-15 will provide detection limits of 1.0 micrograms per cubic meter ($\mu g/m^3$) for all analytes, except for carbon tetrachloride, 1,1-dichloroethene (DCE), cis-1,2-DCE, trichloroethene (TCE), and vinyl chloride. The detection limits for carbon tetrachloride, 1,1-DCE, cis-1,2-DCE, TCE, and vinyl chloride will be 0.20 $\mu g/m^3$. This will allow for comparison with the lowest action levels for these compounds in the NYSDOH Vapor Intrusion Guidance Document. The laboratory will provide the data in an Analytical Services Protocol (ASP) Category B laboratory data package and NYSDEC EQuIS electronic data deliverable (EDD).

5.3 SAMPLE HANDLING AND SHIPPING

Sample management is the continuous care given to each sample from the point of collection to receipt at the analytical laboratory. Good sample management ensures that samples are properly recorded, properly labeled, and not lost, broken, or exposed to conditions which may affect the sample's integrity.

All sample submissions must be accompanied with a CoC document to record sample collection and submission. Personnel performing sampling tasks must check the sample preparation and preservation requirements to ensure compliance with the QAPP.

The following sections provide the minimum standards for sample management.

5.3.1 Sample Handling

Prior to entering the field area where sampling is to be conducted, especially at sites with defined exclusion zones, the sampler should ensure that all materials necessary to complete the sampling are on hand. If samples must be maintained at a specified temperature after collection, dedicated coolers and ice must be available for use. Conversely, when sampling in cold weather, proper protection of water samples, trip blanks, and field blanks must be considered. Sample preservation will involve pH adjustment, cooling to 4 degrees Celsius (°C), and sample filtration and preservation.

5.3.2 Sample Labeling

Samples must be properly labeled immediately upon collection.

Note that the data shown on the sample label is the minimum data required. The sample label data requirements are listed below for clarity.

- Project name
- Sample name/number/unique identifier
- Sampler's initials
- Date of sample collection
- Time of sample collection
- Analysis required
- Preservatives

To ensure that samples are not confused, a clear notation should be made on the container with a permanent marker. If the containers are too soiled for marking, the container can be put into a "zip lock" bag which can then be labeled.

All sample names will be as follows:

- Sample unique identifier: Enter the sample name or number. There should be NO slashes, spaces, or periods in the date.
- Date: Enter the six-digit date when the sample was collected. Note that for one-digit days, months, and/or years, add zeros so that the format is MMDDYY (050210). There should be NO slashes, dashes, or periods in the date.

The QA/QC samples will be numbered consecutively as collected with a sample name, date and number of samples collected throughout the day (i.e. when multiple QA/QC samples are collected in one day).

Examples of this naming convention are as follows:

Sample Name:	Comments
TB-050202-0001	TRIP BLANK
TB-050202-0002	TRIP BLANK
FD-050202-0001	FIELD DUPLICATE
FD-050202-0002	FIELD DUPLICATE

NOTE: The QA/QC Sample # resets to 0001 EACH DAY, this will avoid having to look back to the previous day for the correct sequential number.

5.3.3 Field Code

The field code will be written in the 'Comments' field on the CoC for EVERY sample but will not be a part of the actual sample name. Enter the one/two-character code for type of sample (must be in CAPITALS):

N	Normal Field Sample
FD	Field Duplicate (note sample number (i.e. 0001) substituted for time)
TB	Trip Blank (note sample number (i.e. 0001) substituted for time)
EB	Equipment Blank (note sample number (i.e. 0001) substituted for time)
FB	Field Blank (note sample number (i.e. 0001) substituted for time)
KD	Known Duplicate
FS	Field Spike Sample
MS	Matrix Spike Sample (note on ‘Comments’ field of COC – laboratory to spike matrix.
MD	Matrix Spike Duplicate Sample (note on ‘Comments’ field of COC – laboratory to spike matrix.
RM	Reference Material

The sample labeling – both chain and sample bottles must be EXACTLY as detailed above. In addition, the Field Sample Key for each sample collected must be filled out.

5.3.4 Packaging

Sample container preparation and packing for shipment should be completed in a well-organized and clean area, free of any potential cross contamination. The following is a list of standard guidelines which must be followed when packing samples for shipment.

- Double bag ice in "Zip Lock" bags.
- Double check to ensure trip and temperature blanks have been included for all shipments containing VOCs, or where otherwise specified in the QAPP.
- Enclose the CoC form in a "Zip Lock" bag.
- Ensure custody seals (two, minimum) are placed on each cooler. Coolers with hinged lids should have both seals placed on the opening edge of the lid. Coolers with "free" lids should have seals placed on opposite diagonal corners of the lid. Place clear tape over custody seals.

- Containers should be wiped clean of all debris/water using paper towels (paper towels must be disposed of with other contaminated materials).
- Clear, wide packing tape should be placed over the sample label for protection.
- Do not bulk pack. Each sample must be individually padded.
- Large glass containers (1 liter and up) require much more space between containers.
- Ice is not a packing material due to the reduction in volume when it melts.

Note: Never store sterile sample containers in enclosures containing equipment which use any form of fuel or volatile petroleum-based product. When conducting sampling in freezing conditions at sites without a heated storage area (free of potential cross-contaminants), unused trip blanks should be isolated from coolers immediately after receipt. Trip blanks should be double bagged and kept from freezing.

5.3.5 Chain of Custody (CoC) Records

CoC forms will be completed for all samples collected. The form documents the transfer of sample containers. The CoC record, completed at the time of sampling, will contain, but not be limited to, the sample number, date and time of sampling, and the name of the sampler. The CoC document will be signed and dated by the sampler when transferring the samples.

Each sample cooler being shipped to the laboratory will contain a CoC form. The cooler will be sealed properly for shipment. The laboratory will maintain a copy for their records. One copy will be returned with the data deliverables package.

The following list provides guidance for the completion and handling of all CoCs:

- CoCs used should be a Haley & Aldrich standard form or supplied by the analytical laboratory.
- CoCs must be completed in black ball point ink only.
- CoCs must be completed neatly using printed text.
- If a simple mistake is made, cross out the error with a single line and initial and date the correction.
- Each separate sample entry must be sequentially numbered.
- If numerous repetitive entries must be made in the same column, place a continuous vertical arrow between the first entry and the next different entry.
- When more than one CoC form is used for a single shipment, each form must be consecutively numbered using the "Page ___ of ___" format.
- If necessary, place additional instructions directly onto the CoC in the Comment Section. Do not enclose separate instructions.
- Include a contact name and phone number on the CoC in case there is a problem with the shipment.
- Before using an acronym on a CoC, define clearly the full interpretation of your designation [i.e., polychlorinated biphenyls [PCBs]).

5.3.6 Shipment

Prior to the start of the field sampling, the carrier should be contacted to determine if pickup will be at the field site location. If pick-up is not available at the Site, the nearest pick-up or drop off location should be determined. Sample shipments must not be left at unsecured drop locations.

Copies of all shipment manifests must be maintained in the field file.

6. Field Instruments – Use and Calibration

A significant number of field activities involve usage of electronic instruments to monitor for environmental conditions and health and safety purposes. It is imperative the instruments are used and maintained properly to optimize their performance and minimize the potential for inaccuracies in the data obtained. This section provides guidance on the usage, maintenance, and calibration of electronic field equipment.

- All monitoring equipment will be in proper working order and operated in accordance with manufacturer's recommendations.
- Field personnel will be responsible for ensuring that the equipment is maintained and calibrated in the field in accordance with manufacturer's recommendations.
- Instruments will be operated only by personnel trained in the proper usage and calibration.
- Personnel must be aware of the range of conditions such as temperature and humidity for instrument operation. Usage of instruments in conditions outside these ranges will only proceed with approval of the Project Manager and/or Health and Safety Officer as appropriate.
- Instruments that contain radioactive source material, such as x-ray fluorescence (XRF) analyzers or moisture-density gauges require specific transportation, handling and usage procedures that are generally associated with a license from the Nuclear Regulatory Commission (NRC) or an NRC-Agreement State. Under no circumstance will operation of such instruments be allowed on site unless by properly authorized and trained personnel, using the proper personal dosimetry badges or monitoring instruments.

6.1 GENERAL PROCEDURE DISCUSSION

Care must be taken to minimize the potential for transfer of contaminated materials to the ground or onto other materials. Regardless of the size or nature of the equipment being decontaminated, the process will utilize a series of steps that involve removal of gross material (dirt, grease, oil, etc.), washing with a detergent, and multiple rinsing steps. In lieu of a series of washes and rinse steps, steam cleaning with low-volume, high-pressure equipment (i.e., steam cleaner) is acceptable.

Exploration equipment, and all monitoring equipment in contact with the sampling media must be decontaminated prior to initiating site activities, in between exploration locations to minimize cross-contamination, and prior to mobilizing off Site after completion of Site work.

The following specific decontamination procedure is recommended for sampling equipment and tools:

- Brush loose soil off equipment;
- Wash equipment with laboratory grade detergent (i.e., Alconox or equivalent);
- Rinse with tap water;
- Rinse equipment with distilled water;
- Allow water to evaporate before reusing equipment; and
- Wrap equipment in aluminum foil when not being used.

6.2 DECONTAMINATION OF MONITORING EQUIPMENT

Because monitoring equipment is difficult to decontaminate, care should be exercised to prevent contamination. Sensitive monitoring instruments should be protected when they are at risk of exposure to contaminants. This may include enclosing them in plastic bags allowing an opening for the sample intake. Ventilation ports should not be covered.

If contamination does occur, decontamination of the equipment will be required; however, immersion in decontamination fluids is not possible. As such, care must be taken to wipe the instruments down with detergent-wetted wipes or sponges, and then with deionized water-wetted wipes or sponges.

6.3 DISPOSAL OF WASH SOLUTIONS AND CONTAMINATED EQUIPMENT

All contaminated wash water, rinses, solids, and materials used in the decontamination process that cannot be effectively decontaminated (such as polyethylene sheeting) will be containerized and disposed of in accordance with applicable regulations. All containers will be labeled with an indelible marker as to contents and date of placement in the container, and any appropriate stickers required (such as PCBs). Storage of decontamination wastes on site will not exceed 90 days under any circumstances.

Equipment/Materials:

Decontamination equipment and solutions are generally selected based on ease of decontamination and disposability.

- Polyethylene sheeting;
- Metal racks to hold equipment;
- Soft-bristle scrub brushes or long-handle brushes for removing gross contamination and scrubbing with wash solutions;
- Large galvanized wash tubs, stock tanks, or wading pools for wash and rinse solutions;
- Plastic buckets or garden sprayers for rinse solutions;
- Large plastic garbage cans or other similar containers lined with plastic bags can be used to store contaminated clothing; and
- Contaminated liquids and solids should be segregated and containerized in DOT-approved plastic or metal drums, appropriate for off-Site shipping/disposal if necessary.

7. Investigation-Derived Waste Disposal

7.1 RATIONALE/ASSUMPTIONS

This procedure applies to the disposition of investigation-derived waste (IDW), including groundwater. IDW is dealt with the following "Best Management Practices" and is not considered a listed waste due to the lack of generator knowledge concerning chemical source, chemical origin, and timing of chemical introduction to the subsurface.

Consequently, waste sampling and characterization is performed to determine if the wastes exhibit a characteristic of hazardous waste. The disposal of purged groundwater will be reviewed on a case-by-case basis prior to initiation of field activities. Two scenarios typically exist:

- When no information is available in the area of activity or investigation, and impacted media/soils are identified. Activities such as new construction and /or maintenance below grade may encounter environmental conditions that were unknown.
- Disposal Required/Containerization Required – When sufficient Site information regarding the investigative Site conditions warrant that all materials handled will be contained and disposed.

If a known listed hazardous and/or characteristically hazardous waste/contaminated environmental media is being handled, then handling must be performed in accordance with Resource Conservation and Recovery Act (RCRA) Subtitle C (reference 2, Part V, Section 1(a),(b),(c)).

The following outlines the waste characterization procedures to be employed when IDW disposal is required.

The following procedure describes the techniques for characterization of IDW for disposal purposes. IDW may consist of soil cuttings (augering, boring, well installation soils, and test pit soils), rock core or rock flour (from coring, reaming operations), groundwater (from well development, purging, and sampling activities), decontamination fluids, PPE, and disposal equipment (DE).

7.2 PROCEDURE

The procedures for handling and characterization of field activity generated wastes are:

A.) Groundwater – purging, and sampling groundwater, which requires disposal, will be contained.

- Containment may be performed in 55-gallon drums, tanks suitable for temporary storage (i.e., Nalgene tanks 500 to 1,000 gallons) or if large volumes of groundwater are anticipated, tanker trailer (5,000 to 10,000 gallons ±), or drilling "Frac" tanks may be utilized (20,000 gallons ±). In all cases the container/tank used for groundwater storage must be clean before use such that cross contamination does not occur.

B.) Decon Waters/Decon Fluids – Decon waters and/or fluids will be segregated, contained, and disposed accordingly.

- Decon waters may be disposed of with the containerized groundwater once analytical results have been acquired.

C.) PPE/DE – A number of disposal options exists for spent PPE/DE generated from investigation tasks. The options typically employed are:

- Immediately disposed of within on-Site dumpster/municipal trash.
- If known to be contaminated with RCRA hazardous waste, dispose of off Site at a RCRA Subtitle C facility.
- Spent Solvent/Acid Rinses – The need for sampling must be determined in consultation with the waste management organization handling the materials. If known that only the solvent and/or acids are present, then direct disposal/treatment using media specific options may be possible without sampling (i.e., incineration).
- PPE/DE – Typically not sampled and included with the disposal of the solid wastes.

Equipment/Materials:

- Sample spoons, trier, auger,
- Sample mixing bowl,
- Sampling bailer, or pump, and
- Sample glassware.

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ASTM D5979: Guide for Conceptualization and Characterization of Groundwater Systems.

ASTM D6000: Guide for Presentation of Water Level Information from Ground Water Sites.

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USEPA RCRA – Guidance and Policies: Management of Remediation Waste Under RCRA (October 1998).

USEPA RCRA – Management of Contaminated Media (October 1998).

FIGURE

LEGEND

- SUBJECT SITE BOUNDARY
- PARCEL BOUNDARY
- PROPOSED INDOOR AIR SAMPLE LOCATION AND IDENTIFICATION NUMBER
- PROPOSED AMBIENT AIR SAMPLE LOCATION AND IDENTIFICATION NUMBER

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: NEW YORK STATE GIS CLEARINGHOUSE
3. AERIAL IMAGERY SOURCE: NEARMAP, 28 MAY 2023.

N

0 30 60

SCALE IN FEET

HALEY ALDRICH

125 3RD STREET
BROOKLYN, NEW YORK

SAMPLE LOCATION PLAN

MAY 2024

FIGURE 1

APPENDIX A
Sample Field Forms

EQUIPMENT CALIBRATION LOG

Project: _____

Location: _____

Model Name: _____

Model Number: _____ **Serial Number:** _____

Cal. Standards: _____

_____

_____

Instruments will be calibrated in accordance with manufacturer's recommendations at least once per day.

Date	Time	Calibration Satandard Solution	Calibration Result	Calibrated by

Other Comments: _____

_____

_____

_____

_____

_____

_____

_____

Groundwater Field Sampling Form

Location:

Job Number: _____
Well ID: _____
Field Sampling Crew: _____

Date: _____
Start Time: _____
Finished Time: _____

Initial Depth to Water: _____
Well Depth: _____
Depth to top of screen: _____
Depth to bottom of screen: _____
Depth of Pump Intake: _____

Purging Device: _____
Tubing present in well? _____
Tubing type: _____

Time Elapsed (24 hour)	Depth to Water (from casing)	Pump Setting (ml/min or gal/min)	Purge Rate (ml/min or gal/min)	Cumulative Purge Volume (liters or gallons)	Temperature (degrees Celsius)	pH	Conductivity us/cm	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP/eH (mv)	Comments

Comments:

HALEY ALDRICH

SAMPLE IDENTIFICATION KEY

Page of

PROJECT _____ **H&A FILE NO.** _____

LOCATION _____ **PROJECT MGR.** _____

CLIENT _____

CONTRACTOR _____

Sample ID	Parent Sample ID	Location ID	Sample Date	Sample Time (military)	Sample Type Code	Filtered (Water Only T/D/N)	Composite Y/N	Soil Type	Depth To Top Of Sample	Depth To Bottom Of Sample	C.O.C. Number	Notes	Collected By

Notes:

Common Sample Type Codes:

N Normal Environmental Samp	WG Groundwater	WS Surface Water	SO Soil	GS Soil Gas	SE Sediment
WQ Water for Quality Control	FD Field Duplicate	EB Equipment Blank	TB Trip Blank	MS Matris Spike	MSD Matrix Spike Duplicate

see Memorandum dated 08/08/05 from Melanie Satanek "Sample Labeling for Submission to Analytical Laboratory" for less common codes

DAILY FIELD REPORT

Page of

Project		Report No.	
Location		Date	
Client		Page	of
Contractor		File No.	
Weather		Temperature	

Field Representative(s)	Time on site	Report/Travel/Other	Total hours

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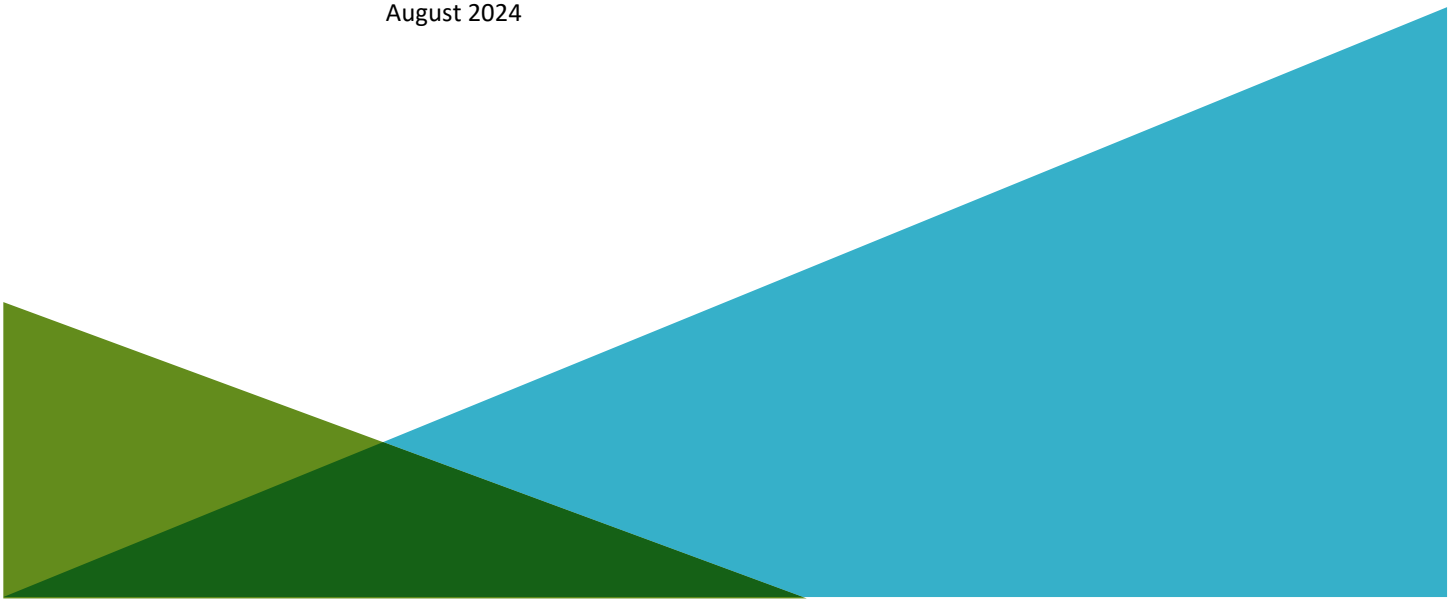
August 2024



Executive Summary

This Quality Assurance Project Plan (QAPP) outlines the scope of the quality assurance and quality control (QA/QC) activities associated with the site monitoring activities associated with the Site Management Plan (SMP) for Third Street Gowanus in Brooklyn, New York (Site).

Protocols for sample collection, sample handling and storage, chain of custody (CoC) procedures, and laboratory and field analyses are described herein or specifically referenced to related project documents.

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1. Project Description

This Quality Assurance Project Plan (QAPP) has been prepared as a component of the Site Management Plan (SMP) for the Third Street Gowanus Site in Brooklyn, New York.

1.1 PROJECT OBJECTIVES

The primary objective for data collection activities is to collect sufficient data necessary to confirm the results of the previous site characterization activities, potentially identify an on-Site source, and to determine a course for remedial action. In addition, a qualitative exposure assessment will be conducted and will consider the nature of populations currently exposed or that have the potential to be exposed to Site-related contaminants both on and off Site, along with describing the reasonably anticipated future land use of the Site and affected off-Site areas.

1.2 SITE DESCRIPTION AND HISTORY

The general Site description and Site history are provided in the Site Description and History Summary that accompanies the SMP for the Site and are incorporated herein by reference.

1.3 LABORATORY PARAMETERS

The laboratory parameters for indoor air/ambient air include:

- Volatile organic compounds (VOCs) using United States Environmental Protection Agency (USEPA) Method TO-15

The laboratory parameters for groundwater include:

- Target Compound List (TCL) VOCs using USEPA Method 8260B

During the collection of groundwater samples, pH, specific conductivity, temperature, dissolved oxygen (DO), and oxidation-reduction potential (ORP) will be measured until stabilized.

1.4 SAMPLING LOCATIONS

The SMP provides the locations of groundwater monitoring well locations that may be sampled as part of implementation of the remedy. The post-remedial groundwater monitoring well locations are shown on Figure 1.

The indoor air samples will be collected from locations that are evenly spaced throughout the lowest levels of the Site building and the ambient air sample will be collected outdoors to document background air conditions.

2. Project Organization and Responsibilities

This section defines the roles and responsibilities of the individuals who will perform the SMP monitoring activities. A New York State Department of Health (NYSDOH)-certified analytical laboratory will perform the analyses of environmental samples collected at the Site. Alpha Analytical Laboratories, Inc. of Westborough, Massachusetts (Certification No. 07010T; Alpha) is a NYSDOH Environmental Laboratory Approval Program (ELAP)-certified laboratory (ELAP No. 11148) and will be responsible for analyzing the samples as per the analyses and methods identified in this QAPP.

2.1 MANAGEMENT RESPONSIBILITIES

The Project Manager is responsible for managing the implementation of the SMP and monitoring and coordinating the collection of data. The Project Manager is responsible for technical quality control and project oversight. The Project Manager responsibilities include the following:

- Acquire and apply technical and corporate resources as needed to ensure performance within budget and schedule restraints;
- Review work performed to ensure quality, responsiveness, and timelines;
- Communicate with the client point of contact concerning the progress of the monitoring activities;
- Assure corrective actions are taken for deficiencies cited during audits of SMP monitoring activities; and
- Overall site health and safety plan compliance.

2.2 QUALITY ASSURANCE RESPONSIBILITIES

The Quality Assurance team will consist of a Quality Assurance (QA) Officer and the Data Validation staff. Quality Assurance responsibilities are described as follows:

2.2.1 Quality Assurance (QA) Officer

The QA Officer, Katherine Miller, reports directly to the Project Manager and will be responsible for overseeing the review of field and laboratory data. Additional responsibilities include the following:

- Assure the application and effectiveness of the QAPP by the analytical laboratory and the project staff;
- Provide input to the Project Manager as to corrective actions that may be required as a result of the above-mentioned evaluations; and
- Prepare and/or review data validation and audit reports.

The QA Officer will be assisted by the data validation staff in the evaluation and validation of field and laboratory generated data.

2.2.2 Data Validation Staff

The data validation staff, Oscar Cervantes and Kristina Iliana, will be independent of the laboratory and familiar with the analytical procedures performed. The validation will include a review of each validation

criterion as prescribed by the guidelines presented in Section 9.2 of this document and be presented in a Data Usability Summary Report (DUSR) for submittal to the QA Officer.

2.3 LABORATORY RESPONSIBILITIES

Laboratory services in support of the SMP monitoring include the personnel listed in the following subsections.

2.3.1 Laboratory Project Manager

The Laboratory Project Manager will report directly to the QA Officer and Project Manager and will be responsible for ensuring all resources of the laboratory are available on an as-required basis. The Laboratory Project Manager will also be responsible for the approval of the final analytical reports.

2.3.2 Laboratory Operations Manager

The Laboratory Operations Manager will report to the Laboratory Project Manager and will be responsible for coordinating laboratory analysis, supervising in-house chain of custody (CoC) documentation, scheduling sample analyses, overseeing data review, and overseeing the preparation of analytical reports.

2.3.3 Laboratory QA Officer

The Laboratory QA Officer will have sole responsibility for review and validation of the analytical laboratory data. The Laboratory QA Officer will provide Case Narrative descriptions of any data quality issues encountered during the analyses conducted by the laboratory. The QA Officer will also define appropriate QA procedures and overseeing quality assurance/quality control (QA/QC) documentation.

2.3.4 Laboratory Sample Custodian

The Laboratory Sample Custodian will report to the Laboratory Operations Manager and will be responsible for the following:

- Receive and inspect the incoming sample containers;
- Record the condition of the incoming sample containers;
- Sign appropriate documents;
- Verify chain of custody and its correctness;
- Notify the Project Manager and Operations Manager of sample receipt and inspection;
- Assign a unique identification number and enter each into the sample receiving log;
- Initiate transfer of samples to laboratory analytical sections; and
- Control and monitor access/storage of samples and extracts.

2.3.5 Laboratory Technical Personnel

The laboratory technical staff will have the primary responsibility in the performance of sample analysis and the execution of the QA procedures developed to determine the data quality. These activities will

include the proper preparation and analysis of the project samples in accordance with the laboratory's Quality Assurance Manual (QAM) and associated Standard Operating Procedures (SOPs).

2.4 FIELD RESPONSIBILITIES

2.4.1 Field Coordinator

The Field Coordinator is responsible for the overall operation of the field team and reports directly to the Project Manager. The Field Coordinator works with the project Health and Safety Officer (HSO) to conduct operations in compliance with the project Health and Safety Plan (HASP). The Field Coordinator will facilitate communication and coordinate efforts between the Project Manager and the field team members.

Other responsibilities include the following:

- Develop and implement field-related work plans, ensuring schedule compliance, and adhering to management-developed project requirements;
- Coordinate and manage field staff;
- Perform field system audits;
- Oversee QC for technical data provided by the field staff;
- Prepare and approve text and graphics required for field team efforts;
- Coordinate and oversee technical efforts of subcontractors assisting the field team;
- Identify problems in the field; resolve difficulties in consultation with the Project QA Officer, and Project Manager; implement and document corrective action procedures; and
- Participate in preparation of the final reports.

2.4.2 Field Team Personnel

Field Team Personnel will be responsible for the following:

- Perform field activities as detailed in the SMP and in compliance with the Field Sampling Plan (FSP) provided in the SMP.
- Immediately report any accidents and/or unsafe conditions to the Site HSO and take reasonable precautions to prevent injury.

3. Sampling Procedures

The FSP provides the SOPs for sampling required by the SMP. Sampling will be conducted in general accordance with the New York State Department of Conservation (NYSDEC) Technical Guidance for Site Investigation and Remediation (DER-10).

3.1 SAMPLE CONTAINERS

Sample containers for each sampling task will be provided by the laboratory performing the analysis. The containers will be cleaned by the manufacturer to meet or exceed the analyte specifications established in the USEPA's "Specifications and Guidance for Obtaining Contaminant-Free Sample Containers," April 1992, OSWER Directive #9240.0-0.5A. Certificates of analysis for each lot of sample containers used will be maintained by the laboratory.

The appropriate sample containers, preservation method, maximum holding times, and handling requirements for each sampling task are provided in Table I.

3.2 SAMPLE LABELING

Each sample will be labeled with a unique sample identifier that will facilitate tracking and cross-referencing of sample information. Equipment rinse blank and field duplicate samples also will be numbered with a unique sample identifier to prevent analytical bias of field QC samples. Refer to the FSP for the sample labeling procedures.

3.3 DECONTAMINATION PROCEDURES

Each groundwater sample will be collected with dedicated sampling equipment. Refer to the FSP for the decontamination procedures.

Indoor air samples are collected directly into dedicated 6-liter SUMMA canisters with dedicated flow controllers which are laboratory-supplied and individually certified-clean. Decontamination is not required for indoor/ambient air samples.

3.4 FIELD QC SAMPLE COLLECTION

3.4.1 Field Duplicate Sample Collection

3.4.1.1 Water Samples

Field duplicate samples will be collected by filling the first sample container to the proper level and sealing and then repeated for the second set of sample container.

1. The samples are properly labeled as specified in Section 3.2.
2. Steps 1 through 4 are repeated for the bottles for each analysis. The samples are collected in order of decreasing analyte volatility as detailed in Section 3.3.1.
3. Chain of custody documents are executed.
4. The samples will be handled as specified in Table I.

4. Custody Procedures

Sample custody is addressed in three parts: field sample collection, laboratory analysis and final project files. Custody of a sample begins when it is collected by or transferred to an individual and ends when that individual relinquishes or disposes of the sample.

A sample is under custody if:

1. The item is in actual possession of a person;
2. The item is in the view of the person after being in actual possession of the person;
3. The item was in actual possession and subsequently stored to prevent tampering; or
4. The item is in a designated and identified secure area.

4.1 FIELD CUSTODY PROCEDURES

Field personnel will keep written records of field activities on applicable preprinted field forms or in a bound field notebook to record data collecting activities. These records will be written legibly in ink and will contain pertinent field data and observations. Entry errors or changes will be crossed out with a single line, dated, and initialed by the person making the correction. Field forms and notebooks will be periodically reviewed by the Field Coordinator.

The beginning of each entry in the logbook or preprinted field form will contain the following information:

- Date
- Start time
- Weather
- Names of field personnel (including subcontractors)
- Level of personal protection used at the Site
- Names of all visitors and the purpose of their visit.

For each measurement and sample collected, the following information will be recorded:

- Detailed description of sample location,
- Equipment used to collect sample or make measurement and the date equipment was calibrated,
- Time sample was collected,
- Description of the sample conditions,
- Depth sample was collected (if applicable),
- Volume and number of containers filled with the sample; and
- Sampler's identification.

4.1.1 Field Procedures

The following procedure describes the process to maintain the integrity of the samples:

- Upon collection samples are placed in the proper containers. In general, samples collected for organic analysis will be placed in pre-cleaned glass containers and samples collected for inorganic analysis will be placed in pre-cleaned plastic (polyethylene) bottles. Refer to the FSP for sample packaging procedures.
- Samples will be assigned a unique sample number and will be affixed to a sample label. Refer to the FSP for sample labeling procedures.
- Samples will be properly and appropriately preserved by field personnel in order to minimize loss of the constituent(s) of interest due to physical, chemical, or biological mechanisms.
- Appropriate volumes will be collected to ensure that the appropriate reporting limits can be successfully achieved and that the required QC sample analyses can be performed.

4.1.2 Transfer of Custody and Shipment Procedures

- A chain of custody record will be completed at the time of sample collection and will accompany each shipment of project samples to the laboratory. The field personnel collecting the samples will be responsible for the custody of the samples until the samples are relinquished to the laboratory. Sample transfer will require the individuals relinquishing and receiving the samples to sign, date, and note the time of sample transfer on the CoC record.
- Samples will be shipped or delivered in a timely fashion to the laboratory so that holding times and/or analysis times as prescribed by the methodology can be met.
- Samples will be transported in containers (coolers) which will maintain the refrigeration temperature for those parameters for which refrigeration is required in the prescribed preservation protocols.
- Samples will be placed in an upright position and limited to one layer of samples per cooler. Additional bubble wrap or packaging material will be added to fill the cooler. Shipping containers will be secured with strapping tape and custody tape for shipment to the laboratory.
- When samples are split with the NYSDEC representatives, a separate CoC will be prepared and marked to indicate with whom the samples are shared. The person relinquishing the samples will require the representative's signature acknowledging sample receipt.
- If samples are sent by a commercial carrier, a bill of lading will be used. A copy of the bill of lading will be retained as part of the permanent record. Commercial carriers will not sign the custody record as long as the custody record is sealed inside the sample cooler and the custody tape remains intact.
- Samples will be picked up by a laboratory courier or transported to the laboratory the same day they are collected unless collected on a weekend or holiday. In these cases, the samples will be stored in a secure location until delivery to the laboratory. Additional ice will be added to the cooler as needed to maintain proper preservation temperatures.

4.2 LABORATORY CHAIN OF CUSTODY PROCEDURES

A sample custodian will be designated by the laboratory and will have the responsibility to receive all incoming samples. Once received, the custodian will document if the sample is received in good

condition (i.e., unbroken, cooled, etc.) and that the associated paperwork, such as CoC forms have been completed. The custodian will sign the CoC forms.

The custodian will also document if sufficient sample volume has been received to complete the analytical program. The sample custodian will then place the samples into secure, limited access storage (refrigerated storage, if required). The sample custodian will assign a unique number to each incoming sample for use in the laboratory. The unique number will then be entered into the sample-receiving log with the verified time and date of receipt also noted.

Consistent with the analyses requested on the CoC form, analyses by the laboratory's analysts will begin in accordance with the appropriate methodologies. Samples will be removed from secure storage with internal CoC sign-out procedures followed.

4.3 STORAGE OF SAMPLES

Empty sample bottles will be returned to secure and limited access storage after the available volume has been consumed by the analysis. Upon completion of the entire analytical work effort, samples will be disposed of by the sample custodian. The length of time that samples are held will be at least 30 days after reports have been submitted. Disposal of remaining samples will be completed in compliance with all federal, state, and local requirements.

4.4 FINAL PROJECT FILES CUSTODY PROCEDURES

The final project files will be the central repository for all documents with information relevant to sampling and analysis activities as described in this QAPP. The Haley & Aldrich Project Manager will be the custodian of the project file. The project files including all relevant records, reports, logs, field notebooks, pictures, subcontractor reports, and data reviews will be maintained in a secured, limited access area and under custody of the Project Director or his designee.

The final project file will include the following:

- Project plans and drawings
- Field data records
- Sample identification documents and soil boring/monitoring well logs
- All CoC documentation
- Correspondence
- References, literature
- Laboratory data deliverables
- Data validation and assessment reports
- Progress reports, QA reports
- Final report

The laboratory will be responsible for maintaining analytical logbooks, laboratory data and sample CoC documents. Raw laboratory data files and copies of hard copy reports will be inventoried and maintained by the laboratory for a period of six years at which time the laboratory will contact the Haley & Aldrich Project Manager regarding the disposition of the project-related files.

5. Calibration Procedures and Frequency

5.1 FIELD INSTRUMENT CALIBRATION PROCEDURES

Several field instruments will be used for both on-site screening of samples and for health and safety monitoring, as described in the Construction Health and Safety Plan (CHASP). On-Site air monitoring for health and safety purposes may be accomplished using a vapor detection device, such as a photoionization detector (PID).

Field instruments will be calibrated at the beginning of each day and checked during field activities to verify performance. Instrument specific calibration procedures will be performed in accordance with the instrument manufacturer's requirements.

5.2 LABORATORY INSTRUMENT CALIBRATION PROCEDURES

Reference materials of known purity and quality will be utilized for the analysis of environmental samples. The laboratory will carefully monitor the preparation and use of reference materials including solutions, standards, and reagents through well-documented procedures.

All solid chemicals and acids/bases used by the laboratory will be rated as "reagent-grade" or better. All gases will be "high" purity or better. All Standard Reference Materials (SRMs) or Performance Evaluation (PE) materials will be obtained from approved vendors of the National Institute of Standards and Technology (NIST; formerly National Bureau of Standards), the USEPA Environmental Monitoring Support Laboratories (EMSL), or reliable Cooperative Research and Development Agreement (CRADA)-certified commercial sources.

6. Analytical Procedures

Analytical procedures to be utilized for analysis of environmental samples will be based on referenced USEPA analytical protocols and/or project-specific SOP.

6.1 FIELD ANALYTICAL PROCEDURES

Field analytical procedures include the measurement of pH, temperature, ORP, DO, and specific conductivity during sampling of groundwater.

6.2 LABORATORY ANALYTICAL PROCEDURES

Laboratory analyses will be based on the USEPA methodology requirements promulgated in:

- "Test Methods for Evaluating Solid Waste," SW-846 EPA, Office of Solid Waste, and promulgated updates, 1986.

6.2.1 List of Project Target Compounds and Laboratory Detection Limits

The laboratory reporting limits (RLs) and associated method detection limits (MDLs) for the target analytes and compounds for the environmental media to be analyzed are presented in Table I. MDLs have been experimentally determined by the project laboratory using the method provided in 40 CFR, Part 136 Appendix B.

Laboratory parameters for groundwater and indoor/ambient air samples are listed in the SMP. Laboratory parameters for disposal samples will be determined by the disposal facility after an approved facility has been determined.

6.2.2 List of Method Specific Quality Control (QC) Criteria

The laboratory SOPs include a section that presents the minimum QC requirements for the project analyses. Section 7.0 references the frequency of the associated QC samples for each sampling effort and matrix.

7. Internal Quality Control Checks

This section presents the internal quality control checks that will be employed for field and laboratory measurements.

7.1 FIELD QUALITY CONTROL

7.1.1 Field Blanks

Internal quality control checks will include analysis of field blanks to validate equipment cleanliness. Whenever possible, dedicated equipment will be employed to reduce the possibility of cross-contamination of samples.

7.2 LABORATORY PROCEDURES

Procedures which contribute to maintenance of overall laboratory quality assurance and control include appropriately cleaned sample containers, proper sample identification and logging, applicable sample preservation, storage, and analysis within prescribed holding times, and use of controlled materials.

7.2.1 Field Duplicate Samples

The precision or reproducibility of the data generated will be monitored through the use of field duplicate samples. Field duplicate analysis will be performed at a frequency of one in 20 project samples.

Precision will be measured in terms of the absolute value of the relative percent difference (RPD) as expressed by the following equation:

$$RPD = [|R1-R2|/[(R1+R2)/2]] \; X \; 100\%$$

Acceptance criteria for duplicate analyses performed on solid matrices will be 100% and aqueous matrices will be 35%. RPD values outside these limits will require an evaluation of the sampling and/or analysis procedures by the project QA Officer and/or laboratory QA Director. Corrective actions may include re-analysis of additional sample aliquots and/or qualification of the data for use.

7.2.2 Matrix Spike (MS) Samples

Ten percent of each project sample matrix for each analytical method performed will be spiked with known concentrations of the specific target compounds/analytes.

The amount of the compound recovered from the sample compared to the amount added will be expressed as a percent recovery. The percent recovery of an analyte is an indication of the accuracy of an analysis within the Site-specific sample matrix. Percent recovery will be calculated for the matrix spike/matrix spike duplicate (MS/MSD) using the following equation.

$$\%\ Recovery = \frac{Spiked\ Sample - Background}{Known\ Value\ of\ Spike} \; x100\%$$

If the quality control value falls outside the control limits (upper confidence limit [UCL] or lower confidence limit [LCL]) due to sample matrix effects, the results will be reported with appropriate data qualifiers. To determine the effect a non-compliant MS recovery has on the reported results, the recovery data will be evaluated as part of the validation process.

7.2.3 Laboratory Control Sample (LCS) Analyses

The laboratory will perform laboratory control sample (LCS) analyses prepared from SRMs. The SRMs will be supplied from an independent manufacturer and traceable to NIST materials with known concentrations of each target analyte to be determined by the analytical methods performed. In cases where an independently supplied SRM is not available, the LCS may be prepared by the laboratory from a reagent lot other than that used for instrument calibration.

The laboratory will evaluate LCS analyses in terms of percent recovery using the most recent laboratory-generated control limits.

LCS recoveries that do not meet acceptance criteria will be deemed invalid. Analysis of project samples will cease until an acceptable LCS analysis has been performed. If sample analysis is performed in association with an out-of-control LCS sample analysis, the data will be deemed invalid.

Corrective actions will be initiated by the Haley & Aldrich QA Officer and/or Laboratory QA Officer to investigate the problem. After the problem has been identified and corrected, the solution will be noted in the instrument run logbook and re-analysis of project samples will be performed, if possible.

The analytical anomaly will be noted in the sample delivery group (SDG) Case Narrative and reviewed by the data validator. The data validator will confirm that appropriate corrective actions were implemented and recommend the applicable use of the affected data.

7.2.4 Surrogate Compound/Internal Standard Recoveries

Method-specific QC limits are provided in the attached laboratory method SOPs. Surrogate compound/internal standard recoveries that do not fall within accepted QC limits for the analytical methodology performed will have the analytical results flagged with data qualifiers as appropriate by the laboratory and will not be noted in the laboratory report Case Narrative.

To ascertain the effect non-compliant surrogate compound/internal standard recoveries may have on the reported results, the recovery data will be evaluated as part of the validation process. The data validator will provide recommendations for corrective actions including but not limited to additional data qualification.

7.2.5 Calibration Verification Standards

Calibration verification (CV) standards will be utilized to confirm instrument calibrations and performance throughout the analytical process. CV standards will be prepared as prescribed by the respective analytical protocols. Continuing calibration will be verified by compliance with method-specific criteria prior to additional analysis of project samples.

Non-compliant analysis of CV standards will require immediate corrective action by the project laboratory QA officer and/or designated personnel. Corrective action may include re-analysis of each

affected project sample, a detailed description of the problem, the corrective action undertaken, the person who performed the action, and the resolution of the problem.

7.2.6 Laboratory Method Blank Analyses

Method blank sample analysis will be performed as part of each analytical batch for each methodology performed. If target compounds are detected in the method blank samples, the reported results will be flagged by the laboratory in accordance with standard operating procedures. The data validator will provide recommendations for corrective actions including but not limited to additional data qualification.

8. Data Quality Objectives

Sampling that will be performed as described in the SMP is designed to produce data of the quality necessary to achieve the minimum standard requirements of the field and laboratory analytical objectives described below. These data are being obtained with the primary objective to assess levels of contaminants of concern associated with the Site.

The overall project data quality objective (DQO) is to implement procedures for field data collection, sample collection, handling, and laboratory analysis and reporting that achieve the project objectives. The following section is a general discussion of the criteria that will be used to measure achievement of the project DQO.

8.1 PRECISION

8.1.1 Definition

Precision is defined as a quantitative measure of the degree to which two or more measurements are in agreement. Precision will be determined by collecting and analyzing field duplicate samples and by creating and analyzing laboratory duplicates from one or more of the field samples. The overall precision of measurement data is a mixture of sampling and analytical factors. The analytical results from the field duplicate samples will provide data on sampling precision. The results from duplicate samples created by the laboratory will provide data on analytical precision. The measurement of precision will be stated in terms of RPD.

8.1.2 Field Precision Sample Objectives

Field precision will be assessed through collection and measurement of field duplicate samples at a rate of one duplicate per 20 investigative samples. The RPD criteria for the project field duplicate samples will be +/- 100% for soil, +/- 35 % for groundwater for parameters of analysis detected at concentrations greater than 5 times (5X) the laboratory RL.

8.1.3 Laboratory Precision Sample Objectives

Laboratory precision will be assessed through the analysis of laboratory control and laboratory control duplicate samples (LCS/LCSD) and matrix spike and matrix spike duplicate (MS/MSD) samples for groundwater and soil samples and the analysis of laboratory duplicate samples for air and soil vapor samples. Air and soil vapor laboratory duplicate sample analyses will be performed by analyzing the same SUMMA canister twice. The RPD criteria for the air/soil vapor laboratory duplicate samples will be +/- 35 % for parameters of analysis detected at concentrations greater than 5 times (5X) the laboratory RL.

8.2 ACCURACY

8.2.1 Definition

Accuracy relates to the bias in a measurement system. Bias is the difference between the observed and the "true" value. Sources of error are the sampling process, field contamination, preservation techniques, sample handling, sample matrix, sample preparation, and analytical procedure limitations.

8.2.2 Field Accuracy Objectives

Sampling bias will be assessed by evaluating the results of field equipment rinse and trip blanks. Equipment rinse and trip blanks will be collected as appropriate based on sampling and analytical methods for each sampling effort.

If non-dedicated sampling equipment is used, equipment rinse blanks will be collected by passing ASTM Type II water over and/or through the respective sampling equipment utilized during each sampling effort. One equipment rinse blank will be collected for each type of non-dedicated sampling equipment used for the sampling effort. Equipment rinse blanks will be analyzed for each target parameter for the respective sampling effort for which environmental media have been collected. (Note: If dedicated or disposable sampling equipment is used, equipment rinse samples will not be collected as part of that field effort.)

8.3 LABORATORY ACCURACY OBJECTIVES

Analytical bias will be assessed through the use of LCS and Site-specific MS sample analyses. LCS analyses will be performed with each analytical batch of project samples to determine the accuracy of the analytical system.

One set of MS/MSD analyses will be performed with each batch of 20 project samples collected for analysis to assess the accuracy of the identification and quantification of analytes within the Site-specific sample matrices. Additional sample volume will be collected at sample locations selected for the preparation of MS/MSD samples so that the standard laboratory RLs are achieved.

The accuracy of analyses that include a sample extraction procedure will be evaluated through the use of system monitoring or surrogate compounds. Surrogate compounds will be added to each sample, standard, blank, and QC sample prior to sample preparation and analysis. Surrogate compound percent recoveries will provide information on the effect of the sample matrix on the accuracy of the analyses.

8.4 REPRESENTATIVENESS

8.4.1 Definition

Representativeness expresses the degree to which sample data represent a characteristic of a population, a parameter variation at a sampling point or an environmental condition. Representativeness is a qualitative parameter that is dependent upon the design of the sampling program. The representativeness criterion is satisfied through the proper selection of sampling locations, the quantity of samples and the use of appropriate procedures to collect and analyze the samples.

8.4.2 Measures to Ensure Representativeness of Field Data

Representativeness will be addressed by prescribing sampling techniques and the rationale used to select sampling locations. Sampling locations may be biased (based on existing data, instrument surveys, observations, etc.) or unbiased (completely random or stratified-random approaches).

8.5 COMPLETENESS

8.5.1 Definition

Completeness is a measure of the amount of valid (usable) data obtained from a measuring system compared to the total amount of the anticipated to be obtained. The completeness goal for all data uses is that a sufficient amount of valid data be generated so that determinations can be made related to the intended data use with a sufficient degree of confidence.

8.5.2 Field Completeness Objectives

Completeness is a measure of the amount of valid measurements obtained from measurements taken in this project versus the number planned. Field completeness objective for this project will be greater than (>) 90%.

8.5.3 Laboratory Completeness Objectives

Laboratory data completeness objective is a measure of the amount of valid data obtained from laboratory measurements. The evaluation of the data completeness will be performed at the conclusion of each sampling and analysis effort.

The completeness of the data generated will be determined by comparing the amount of valid data, based on independent validation, with the total laboratory data set. The completeness goal will be >90%.

8.6 COMPARABILITY

8.6.1 Definition

Comparability is a qualitative parameter expressing the confidence with which one dataset can be compared to another.

8.6.2 Measures to Ensure Comparability of Laboratory Data

Comparability of laboratory data will be measured from the analysis of SRMs obtained from either USEPA CRADA suppliers or the NIST. The reported analytical data will also be presented in standard units of mass of contaminant within a known volume of environmental media. The standard units for various sample matrices are as follows:

- Solid Matrices – milligrams per kilogram (mg/kg) of media (Dry Weight).
- Aqueous Matrices – nanograms per liter (ng/L) for per- and polyfluoroalkyl substances (PFAS) analyses, micrograms per liter (µg/L) of media for organic analyses, and milligrams per liter (mg/L) for inorganic analyses.

8.7 LEVEL OF QUALITY CONTROL EFFORT

If sampling equipment is used, equipment rinse blanks will be prepared by field personnel and submitted for analysis of target parameters. Equipment rinse blank samples will be analyzed to check for potential cross-contamination between sampling locations that may be introduced during the investigation. One equipment rinse blank will be collected per day per matrix.

If necessary, A separate equipment rinse blank sample will be collected for PFAS using the sample collection procedure described in Section 8.1.1 of the NYSDEC-approved Avangrid Field Sampling Plan. (Note: If dedicated or disposable sampling equipment is used, equipment rinse samples will not be collected as part of that field effort.)

Trip blanks will be used to assess the potential for contamination during sample storage and shipment. Trip blanks will be provided with the sample containers to be used for the collection of groundwater samples for the analysis of VOCs. Trip blanks will be preserved and handled in the same manner as the project samples. One trip blank will be included along with each shipping container containing project samples to be analyzed for VOCs.

Method blank samples will be prepared by the laboratory and analyzed concurrently with all project samples to assess potential contamination introduced during the analytical process.

Field duplicate samples will be collected and analyzed to determine sampling and analytical reproducibility. One field duplicate will be collected for every 20 or fewer investigative samples collected for off-Site laboratory analysis.

Matrix spikes will provide information to assess the precision and accuracy of the analysis of the target parameters within the environmental media collected. One MS/MSD will be collected for every 20 or fewer investigative samples per sample matrix.

(Note: Soil MS/MSD samples require triple sample volume for VOCs only. Aqueous MS/MSD samples require triple the normal sample volume for VOCs analysis and double the volume for the remaining parameters.)

9. Data Reduction, Validation, and Reporting

Data generated by the laboratory operation will be reduced and validated prior to reporting in accordance with the following procedures:

9.1 DATA REDUCTION

9.1.1 Field Data Reduction Procedures

Field data reduction procedures will be minimal in scope compared to those implemented in the laboratory setting. The pH, conductivity, temperature, turbidity, DO, ORP, and breathing zone VOC readings collected in the field will be generated from direct read instruments. The data will be written into field logbooks immediately after measurements are taken. If errors are made, data will be legibly crossed out, initialed and dated by the field member, and corrected in a space adjacent to the original entry.

9.1.2 Laboratory Data Reduction Procedures

Laboratory data reduction procedures are provided by the appropriate chapter of USEPA, “Test Methods for Evaluating Solid Waste,” SW-846, Third Edition. Errors will be noted; corrections made with the original notations crossed out legibly. Analytical results for soil samples will be calculated and reported on a dry weight basis.

9.1.3 Quality Control Data

Quality control data (e.g., laboratory duplicates, surrogates, MSs, and MSDs) will be compared to the method acceptance criteria. Data determined to be acceptable will be entered into the laboratory information management system.

Unacceptable data will be appropriately qualified in the project report. Case narratives will be prepared which will include information concerning data that fell outside acceptance limits and any other anomalous conditions encountered during sample analysis.

9.2 DATA VALIDATION

Data validation procedures of the analytical data will be performed by the Haley & Aldrich QA Officer or designee using the following documents as guidance for the review process:

- "USEPA National Functional Guidelines for Organic Data Review,” and the "USEPA National Functional Guidelines for Inorganic Data Review."
- The specific data qualifiers used will be applied to the reported results as presented and defined in the USEPA National Functional Guidelines. Validation will be performed by qualified personnel at the direction of the Haley & Aldrich QA Officer. Tier 1 data validation (the equivalent of USEPA’s Stage 2A validation) will be performed to evaluate data quality.
- The completeness of each data package will be evaluated by the Data Validator. Completeness checks will be administered on all data to determine that the deliverables are consistent with the NYSDEC Analytical Services Protocol (ASP) Category A and Category B data package

requirements. The validator will determine whether the required items are present and request copies of missing deliverables (if necessary) from the laboratory.

9.3 DATA REPORTING

Data reporting procedures will be carried out for field and laboratory operations as indicated below:

- Field Data Reporting: Field data reporting will be conducted principally through the transmission of report sheets containing tabulated results of measurements made in the field and documentation of field calibration activities.
- Laboratory Data Reporting: The laboratory data reporting package will enable data validation based on the protocols described above. The final laboratory data report format will include the QA/QC sample analysis deliverables to enable the development of a DUSR based on Department DER-10 Appendix 2B.

10. Performance and System Audits

A performance audit is an independent quantitative comparison with data routinely obtained in the field or the laboratory. Performance audits include two separate, independent parts: internal and external audits.

10.1 FIELD PERFORMANCE AND SYSTEM AUDITS

10.1.1 Internal Field Audit Responsibilities

Internal audits of field activities will be initiated at the discretion of the Project Manager and will include the review of sampling and field measurements. The audits will verify that all procedures are being followed. Internal field audits will be conducted periodically during the project. The audits will include examination of the following:

- Field sampling records, screening results, and instrument operating records
- Sample collection
- Handling and packaging in compliance with procedures
- Maintenance of QA procedures
- CoC reports

10.1.2 External Field Audit Responsibilities

External audits may be conducted by the Project Coordinator at any time during the field operations. These audits may or may not be announced and are at the discretion of the NYSDEC. The external field audits can include (but are not limited to) the following:

- Sampling equipment decontamination procedures
- Sample bottle preparation procedures
- Sampling procedures
- Examination of health and safety plans
- Procedures for verification of field duplicates
- Field screening practices

10.2 LABORATORY PERFORMANCE AND SYSTEM AUDITS

10.2.1 Internal Laboratory Audit Responsibilities

The laboratory system audits are typically conducted by the laboratory QA Officer or designee on an annual basis. The system audit will include an examination of laboratory documentation, including sample receiving logs, sample storage, CoC procedures, and sample preparation and analysis and instrument operating records.

At the conclusion of internal system audits, reports will be provided to the laboratory's operating divisions for appropriate comment and remedial/corrective action where necessary. Records of audits and corrective actions will be maintained by the Laboratory QA Officer.

10.2.2 External Laboratory Audit Responsibilities

External audits will be conducted as required, by the NYSDOH or designee. External audits may include any of the following:

- Review of laboratory analytical procedures
- Laboratory on-Site visits
- Submission of performance evaluation samples for analysis

Failure of any of the above audit procedures can lead to laboratory de-certification. An audit may consist of but not limited to:

- Sample receipt procedures
- Custody, sample security, and log-in procedures
- Review of instrument calibration logs
- Review of QA procedures
- Review of logbooks
- Review of analytical SOPs
- Personnel interviews

A review of a data package from samples recently analyzed by the laboratory can include (but not be limited to) the following:

- Comparison of resulting data to the SOP or method
- Verification of initial and continuing calibrations within control limits
- Verification of surrogate recoveries and instrument timing results
- Review of extended quantitation reports for comparisons of library spectra to instrument spectra, where applicable
- Assurance that samples are run within holding times

11. Preventive Maintenance

11.1 FIELD INSTRUMENT PREVENTIVE MAINTENANCE

The field equipment preventive maintenance program is designed to ensure the effective completion of the sampling effort and to minimize equipment down time. Program implementation is concentrated in three areas:

- Maintenance responsibilities
- Maintenance schedules
- Inventory of critical spare parts and equipment

The maintenance responsibilities for field equipment will be assigned to the task leaders in charge of specific field operations. Field personnel will be responsible for daily field checks and calibrations and for reporting any problems with the equipment. The maintenance schedule will follow the manufacturer's recommendations. In addition, the field personnel will be responsible for determining that an inventory of spare parts will be maintained with the field equipment. The inventory will primarily contain parts that are subject to frequent failure, have limited useful lifetimes and/or cannot be obtained in a timely manner.

In addition to regular maintenance, the field personnel will be responsible for decontaminating monitoring equipment. Because monitoring equipment is difficult to decontaminate, care should be exercised to prevent contamination. Sensitive monitoring instruments should be protected when they are at risk of exposure to contaminants. This may include enclosing them in plastic bags allowing an opening for the sample intake. Ventilation ports should not be covered.

If contamination does occur, decontamination of the equipment will be required; however, immersion in decontamination fluids is not possible. As such, care must be taken to wipe the instruments down with detergent-wetted wipes or sponges, and then with deionized water-wetted wipes or sponges.

11.2 LABORATORY INSTRUMENT PREVENTIVE MAINTENANCE

Analytical instruments at the laboratory will undergo routine and/or preventive maintenance. The extent of the preventive maintenance will be a function of the complexity of the equipment.

Generally, annual preventive maintenance service will involve cleaning, adjusting, inspecting, and testing procedures designed to deduce instrument failure and/or extend useful instrument life. Between visits, routine operator maintenance and cleaning will be performed according to manufacturer's specifications by laboratory personnel.

12. Specific Routine Procedures Used to Assess Data Precision, Accuracy, and Completeness

12.1 FIELD MEASUREMENTS

Field generated information will be reviewed by the Field Coordinator and typically include evaluation of bound logbooks/forms, data entry and calculation checks. Field data will be assessed by the Project Coordinator who will review the field results for compliance with the established QC criteria that are specified in Section 7.0 of this QAPP. The accuracy of pH and specific conductance will be assessed using daily instrument calibration, calibration check, and blank data. Accuracy will be measured by determining the percent recovery (% R) of calibration check standards. Precision of the pH and specific conductance measurements will be assessed on the basis of the reproducibility of duplicate readings of a field sample and will be measured by determining the RPD. Accuracy and precision of the soil VOC screening will be determined using duplicate readings of calibration checks. Field data completeness will be calculated using the following equation:

$$\text{Completeness} = \frac{\text{Valid (usable) Data Obtained}}{\text{Total Data Planned}} \text{ X } 100$$

12.2 LABORATORY DATA

Surrogate, internal standard and matrix spike recoveries will be used to evaluate data quality. The laboratory quality assurance/quality control program will include the following elements:

- Precision, in terms of RPD, will be determined by relative sample analysis at a frequency of one duplicate analysis for each batch of ten project samples or a frequency of 10%. RPD is defined as the absolute difference of duplicate measurements divided by the mean of these analyses normalized to percentage.
- Accuracy, in terms of percent recovery (recovery of known constituent additions or surrogate recoveries), will be determined by the analysis of spiked and unspiked samples. MS/MSD will be used to determine analytical accuracy. The frequency of MS/MSD analyses will be one project sample MS/MSD per set of 20 project samples.
- One method blank will be prepared and analyzed with each batch of project samples. The total number of method blank sample analyses will be determined by the laboratory analytical batch size.
- SRMs will be used for each analysis. Sources of SRM's include the USEPA, commercially available material from CRADA-certified vendors and/or laboratory produced solutions. SRMs, when available and appropriate, will be processed and analyzed on a frequency of one per set of samples.
- Completeness is the evaluation of the amount of valid data generated versus the total set of data produced from a particular sampling and analysis event. Valid data is determined by independent confirmation of compliance with method-specific and project-specific DQOs. The calculation of data set completeness will be performed by the following equation.

$$\frac{\textit{Number of Valid Sample Results}}{\textit{Total Number of Samples Planned}} \textit{X } 100 = \textit{\% Complete}$$

13. Quality Assurance (QA) Reports

Critically important to the successful implementation of the QA Plan is a reporting system that provides the means by which the program can be reviewed, problems identified, and programmatic changes made to improve the plan.

QA reports to management can include:

- Audit reports, internal and external audits with responses
- Performance evaluation sample results; internal and external sources
- Daily QA/QC exception reports/corrective actions

QA/QC corrective action reports will be prepared by the Haley & Aldrich QA Officer when appropriate and presented to the project and/or laboratory management personnel so that performance criteria can be monitored for all analyses from each analytical department. The updated trend/QA charts prepared by the laboratory QA personnel will be distributed and reviewed by various levels of the laboratory management.

References

1. New York State Department of Environmental Conservation, 1991. Analytical Services Protocol (ASP), Bureau of Environmental Investigation, 1991 with updates.

2. New York State Department of Environmental Conservation, 2010. Division of Environmental Remediation, Technical Guidance for Site Investigation and Remediation, DER-10, May.

3. United States Environmental Protection Agency, 1986. Test Methods for Evaluating Solid Waste, Office of Solid Waste, U.S. EPA, SW-846, November, with updates.

4. United States Environmental Protection Agency, 1991. Preparation Aids for the Development of Category I Quality Assurance Project Plans. U.S. EPA/600/8-91/003, Risk Reduction Engineering Laboratory, Office of Research and Development, Cincinnati, Ohio, February.

5. United States Environmental Protection Agency, 1992. Specifications and Guidance for Contaminant-Free Sample Containers. OSWER Directive 9240.0-05A, April.

6. United States Environmental Protection Agency, 1993. Data Quality Objectives Process for Superfund Interim Final Guidance. U.S. EPA/540/R-93-071, Office of Solid Waste and Emergency Response (OSWER), September.

7. United States Environmental Protection Agency, 1999. EPA Requirements for Quality Assurance Project Plans for Environmental Data Operations. EPA QA/R-5 Interim Final, November.

8. United States Environmental Protection Agency. U.S. EPA National Functional Guidelines for Organic Data Review. U.S. EPA 540/R-2017-002.

9. United States Environmental Protection Agency. U.S. EPA National Functional Guidelines for Organic Data Review. U.S. EPA 540/R-2017-001.

TABLE

TABLE I
ANALYTICAL METHODS AND QUALITY ASSURANCE SUMMARY TABLE
THIRD STREET GOWANUS
125 THIRD STREET
BROOKLYN, NEW YORK

Matrix Type	Field Parameters	Laboratory Parameters	Analytical Methods	Sample Preservation	Sample Container Volume and Type	Sample Hold Time	Field Duplicate Samples	Equipment Blank Samples	Trip Blank Samples	MS/MSD Samples
Groundwater	Temperature, Turbidity, pH, ORP, Conductivity, Dissolved Oxygen	Total Arsenic and Dissolved Arsenic	EPA 6020	Cool to 4°C; HNO3	Two 500-mL pastic bottles	180 days	1 per 20 samples (minimum 1)	1 per 20 samples (minimum 1)1	1 per Shipment of VOC samples	1 per 20 samples
Indoor/Ambient Air	N/A	VOCs	EPA TO-15	None	One 6-L Summa Canister	30 days	N/A	N/A	N/A	N/A

Notes:

ORP - Oxidation-Reduction Potential
VOCs - Volatile Organic Compounds

FIGURE

LEGEND

- POST REMEDIATION GROUNDWATER MONITORING WELL
- SITE BOUNDARY
- PARCEL BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: NEW YORK STATE GIS CLEARINGHOUSE
3. AERIAL IMAGERY SOURCE: NEARMAP, 8 MARCH 2024

N

0 30 60

SCALE IN FEET

HALEY ALDRICH

125 3RD STREET
BROOKLYN, NEW YORK

POST-REMEDIATION GROUNDWATER MONITORING WELL LOCATION MAP

MAY 2024

FIGURE 7

APPENDIX H
Site Management Forms

Summary of Green Remediation Metrics for Site Management

Site Name: _____ Site Code: _____
Address: _____ City: _____
State: _____ Zip Code: _____ County: _____

Initial Report Period (Start Date of period covered by the Initial Report submittal)
Start Date: _____

Current Reporting Period
Reporting Period From: _____ To: _____

Contact Information
Preparer's Name: _____ Phone No.: _____
Preparer's Affiliation: _____

I. Energy Usage: Quantify the amount of energy used directly on-site and the portion of that derived from renewable energy sources.

	Current Reporting Period	**Total to Date**
Fuel Type 1 (e.g. natural gas (cf))		
Fuel Type 2 (e.g. fuel oil, propane (gals))		
Electricity (kWh)		
Of that Electric usage, provide quantity:		
Derived from renewable sources (e.g. solar, wind)		
Other energy sources (e.g. geothermal, solar thermal (Btu))		

Provide a description of all energy usage reduction programs for the site in the space provided on Page 3.

II. Solid Waste Generation: Quantify the management of solid waste generated on-site.

	Current Reporting Period (tons)	**Total to Date (tons)**
Total waste generated on-site		
OM&M generated waste		
Of that total amount, provide quantity:		
Transported off-site to landfills		
Transported off-site to other disposal facilities		
Transported off-site for recycling/reuse		
Reused on-site		

Provide a description of any implemented waste reduction programs for the site in the space provided on Page 3.

III. Transportation/Shipping: Quantify the distances travelled for delivery of supplies, shipping of laboratory samples, and the removal of waste.

	Current Reporting Period (miles)	**Total to Date (miles)**
Standby Engineer/Contractor		
Laboratory Courier/Delivery Service		
Waste Removal/Hauling		

Provide a description of all mileage reduction programs for the site in the space provided on Page 3. Include specifically any local vendor/services utilized that are within 50 miles of the site.

IV. Water Usage: Quantify the volume of water used on-site from various sources.

	Current Reporting Period (gallons)	**Total to Date (gallons)**
Total quantity of water used on-site		
Of that total amount, provide quantity:		
Public potable water supply usage		
Surface water usage		
On-site groundwater usage		
Collected or diverted storm water usage		

Provide a description of any implemented water consumption reduction programs for the site in the space provided on Page 3.

V. Land Use and Ecosystems: Quantify the amount of land and/or ecosystems disturbed and the area of land and/or ecosystems restored to a pre-development condition (i.e. Green Infrastructure).

	Current Reporting Period (acres)	**Total to Date (acres)**
Land disturbed		
Land restored		

Provide a description of any implemented land restoration/green infrastructure programs for the site in the space provided on Page 3.

Description of green remediation programs reported above (Attach additional sheets if needed)
Energy Usage:
Waste Generation:
Transportation/Shipping:
Water usage:
Land Use and Ecosystems:
Other:

CONTRACTOR CERTIFICATION
I, _____ (**Name**) do hereby certify that I am _____ (**Title**) of _____ (**Contractor Name**), which is responsible for the work documented on this form. According to my knowledge and belief, all of the information provided in this form is accurate and the site management program complies with the DER-10, DER-31, and CP-49 policies. _____ **Date** **Contractor**

HALEY ALDRICH

LOW-FLOW GROUNDWATER SAMPLING RECORD

PROJECT		**H&A FILE NO.**	
LOCATION		**PROJECT MGR.**	
CLIENT		**FIELD REP**	
CONTRACTOR		**DATE**	

GROUNDWATER SAMPLING INFORMATION

Well ID:		**Well Volume:**		**Start Time:**	
Well Depth:		**Equipment:**		**Sample Time:**	
Depth to Water:					

Time	Volume purged, gallons	Temp, C (+/-3%)	Conductivity, us/cm (+/- 3%)	Dissolved Oxygen, mg/L (+/- 10%)	pH (+/-0.1)	ORP/eH, mv (+/-10mv)	Turbidity, NTU (<5 NTU)	Depth to Water (ft)

Monthly or Severe Condition Inspection
Form
Vapor Barrier and SSDS

Inspector's Name:

Inspection Date/Time:

Purpose: (circle one) **Monthly Inspection** **Severe Condition Inspection**

(describe)

		Yes / No *	Notified Person / Date
A. VAPOR BARRIER INSPECTION	**1. Walk the entire cellar floor**		
	* Any visible cracks in the floor?		
	* Any other visible openings (unintended) in the floor?		
	* Any construction activities affecting the floor?		
	* Any visible cracks in any accessible pits?		
	** Notification of NYSDEC is required if cracks are noted. Include the following information: - Draw approximate location of floor cracks/openings on site map. - Note the length of the crack/opening. Note the width of the crack/opening.		
B. SSDS INSPECTION	**1. Walk the entire roof surface.**		
	* Any rust or other debris (bird nest, etc.) in or on SSDS Exhaust Stacks?		
	* Are the SSDS fan units functioning at a lower vacuum than the previous inspection?		
	* Is the spare fan unit missing from the building?		
	* Are any lights out on the SSDS Monitoring System (Light panel)? Which one(s)?		
C. ACTIONS TAKEN			
	Inspector's Signature:		

Routine and Preventative Maintenance Checklist

SSDS Fans

Inspector's Name:

Inspection Date/Time:

Purpose: (circle one) **Biannual Inspection** **Fan Malfunction (describe)**

SSDS Fan Maintenance Checklist

Preform the steps below for every SSDS fan during a biannual inspection, or for any SSDS fan experiencing issues	Completed Y/N	List Any Issues or Unusual Behavior
1. Disconnect, lock out, and tag fan electrical power source		
2. Check all SSDS fan bearings		
3. Inspect SSDS fan drive belt for tightness and wear. Adjust/replace if required		
4. Clean/blow down centrifugal fan wheel, inlet, fan, and motor housing		
5. Grease fan shaft bearing pillow blocks		
6. Inspect fan inlet and outlet ductwork flex joints		
7. Inspect damper for proper orientation		
8. Inspect fan stack guy wires		
9. Inspect fan mounting and vibration isolators		

*Notify the NYSDEC of any fan unit/component failure. In the event that a fan component fails, the component will be replaced by a qualified engineer. The engineer will make appropriate arrangements in advance with suppliers to provide SSDS replacement parts within 12 hours notice. In the event that a fan unit fails, the fan unit will be replaced by a qualified engineer. A spare fan will be available on-site for immediate replacement in case of fan failure.

Inspector's Signature:

ANNUAL ENGINEERING CONTROL INSPECTION FORM

125 Third Street

Brooklyn, NY

Passive Sub-Slab Depressurization System Component	Condition	No	Yes	Describe Deficiency	Any Corrective Action Performed? If so, describe
Vapor Barrier	Holes, cracks, or other physical deficiencies? (only applicable if asphalt/foundation above is damaged)				
Active Sub-Slab Depressurization System	Holes, cracks, or other physical deficiencies?				
	Blockages in SSDS piping?				
	Monitoring Points Damaged?				
	SSDS accessories (listed in section 15880) damaged or not functioning properly?				
	Fan stack guy wires damaged?				
	Motor housing dusty or greasy? (If so, remove)				
	Is the spare fan unit missing?				
	Indicator lights on the Building Management System not functioning properly?				
	Bolts/set screws loose or rusty?				

ANNUAL ENGINEERING CONTROL INSPECTION FORM

125 Third Street

Brooklyn, NY

Weather conditions:
Air Temperature:
Name of Inspector
Signature of Inspector
Date of Inspection

Synoptic Water Level Measurement Log

PROJECT	
LOCATION	
CLIENT	
H&A FILE NO.	
PROJECT MANAGER	
FIELD REP.	
GAUGING DATE	
WEATHER	

MONITORING WELL ID	TIME	DEPTH TO WATER (FT BELOW TOC)	TOP OF CASING (FT)	GROUNDWATER ELEVATION (FT)

Comments:

1. Monitoring wells "X" through "X" were surveyed by "Insert Name of Surveyor" on "Day Month Year"
2. Wells were gauged on "Day Month Year"
3. Elevation refers to the North American Vertical Datum of 1988 (NAVD88).
4. All dimensions are in US survey feet.

ENGINEERING CONTROL INSPECTION FORM

125 Third Street

Brooklyn, NY

Passive Sub-Slab Depressurization System Component	Condition	No	Yes	Describe Deficiency	Any Corrective Action Performed? If so, describe
Vapor Barrier	Holes, cracks, or other physical deficiencies? (only applicable if asphalt/foundation above is damaged)				
Active Sub-Slab Depressurization System	Holes, cracks, or other physical deficiencies?				
	Blockages in SSDS piping?				
	Monitoring Points Damaged?				
	SSDS accessories (listed in section 15880) damaged or not functioning properly?				
	Fan stack guy wires damaged?				
	Motor housing dusty or greasy? (If so, remove)				
	Is the spare fan unit missing?				
	Indicator lights on the Building Management System not functioning properly?				
	Bolts/set screws loose or rusty?				

ENGINEERING CONTROL INSPECTION FORM

125 Third Street

Brooklyn, NY

Weather conditions:
Air Temperature:
Name of Inspector
Signature of Inspector
Date of Inspection

APPENDIX I
Responsibilities of Owner and Remedial Party (RP)

Responsibilities

The responsibilities for implementing the Site Management Plan ("SMP") for the Third Street Gowanus site (the "site"), number C224346, are divided between the site owner(s) and a Remedial Party, as defined below. The term Remedial Party ("RP") refers to any of the following: certificate of completion holder, volunteer, applicant, responsible party, and, in the event the New York State Department of Environmental Conservation ("NYSDEC") is carrying out remediation or site management, the NYSDEC and/or an agent acting on its behalf. Solely for the purposes of this document and based upon the facts related to a particular site and the remedial program being carried out, the owner and Remedial Party is currently listed as:

THIRD AT THIRD LLC

84 14th Street

Brooklyn, New York 11215

Nothing on this page shall supersede the provisions of an Environmental Easement, Consent Order, Consent Decree, agreement, or other legally binding document that affects rights and obligations relating to the site.

Site Owner's Responsibilities:

1) The owner shall follow the provisions of the SMP as they relate to future construction and excavation at the site.

2) In accordance with a periodic time frame determined by the NYSDEC, the owner shall periodically certify, in writing, that all Institutional Controls set forth in an Environmental Easement remain in place and continue to be complied with. The owner shall provide a written certification to the RP, upon the RP's request, in order to allow the RP to include the certification in the site's Periodic Review Report (PRR) certification to the NYSDEC.

3) In the event the site is delisted, the owner remains bound by the Environmental Easement and shall submit, upon request by the NYSDEC, a written certification that the Environmental Easement is still in place and has been complied with.

4) The owner shall grant access to the site to the RP and the NYSDEC and its agents for the purposes of performing activities required under the SMP and assuring compliance with the SMP.

5) The owner is responsible for assuring the security of the remedial components located on its property to the best of its ability. If damage to the remedial components or vandalism is evident, the owner shall notify the site's RP and the NYSDEC in accordance with the timeframes indicated in Section 1.3 - Notifications.

6) If some action or inaction by the owner adversely impacts the site, the owner must notify the site's RP and the NYSDEC in accordance with the time frame indicated in Section 1.3 - Notifications and coordinate the performance of necessary corrective actions with the RP.

7) The owner must notify the RP and the NYSDEC of any change in ownership of the site property (identifying the tax map numbers in any correspondence) and provide contact information for the new owner of the site property. 6 NYCRR Part contains notification requirements applicable to any construction or activity changes and changes in ownership. Among the notification requirements is the following: Sixty days prior written notification must be made to the NYSDEC. Notification is to be submitted to the NYSDEC Division of Environmental Remediation's Site Control Section. Notification requirements for a change in use are detailed in Section 1.3 of the SMP. A change of use includes, but is not limited to, any activity that may increase direct human or environmental exposure (e.g., day care, school or park). A 60-Day Advance Notification Form and Instructions are found at http://www.dec.ny.gov/chemical/76250.html.

8) Until such time as the NYSDEC deems the vapor mitigation system unnecessary, the owner shall operate the system, pay for the utilities for the system's operation, and report any maintenance issues to the RP and the NYSDEC.

9) In accordance with the tenant notification law, within 15 days of receipt, the owner must supply a copy of any vapor intrusion data, that is produced with respect to structures and that exceeds NYSDOH or OSHA guidelines on the site, whether produced by the NYSDEC, RP, or owner, to the tenants on the property. The owner must otherwise comply with the tenant and occupant notification provisions of Environmental Conservation Law Article 27, Title 24.

Remedial Party Responsibilities

1) The RP must follow the SMP provisions regarding any construction and/or excavation it undertakes at the site.

2) The RP shall report to the NYSDEC all activities required for remediation, operation, maintenance, monitoring, and reporting. Such reporting includes, but is not limited to, periodic review reports and certifications, electronic data deliverables, corrective action work plans and reports, and updated SMPs.

3) Before accessing the site property to undertake a specific activity, the RP shall provide the owner advance notification that shall include an explanation of the work expected to be completed. The RP shall provide to (i) the owner, upon the owner's request, (ii) the NYSDEC, and (iii) other entities, if required by the SMP, a copy of any data generated during the site visit and/or any final report produced.

4) If the NYSDEC determines that an update of the SMP is necessary, the RP shall update the SMP and obtain final approval from the NYSDEC. Within 5 business days after NYSDEC approval, the RP shall submit a copy of the approved SMP to the owner(s).

5) The RP shall notify the NYSDEC and the owner of any changes in RP ownership and/or control and of any changes in the party/entity responsible for the operation, maintenance, and monitoring of and reporting with respect to any remedial system (Engineering Controls). The RP shall provide contact information for the new party/entity. Such activity constitutes a Change of Use pursuant to 375-1.11(d) and requires 60-days prior notice to the NYSDEC. A 60-Day Advance Notification Form and Instructions are found at http://www.dec.ny.gov/chemical/76250.html .

6) The RP shall notify the NYSDEC of any damage to or modification of the systems as required under Section 1.3 - Notifications of the SMP.

7) The RP is responsible for the proper maintenance of any installed vapor intrusion mitigation systems associated with the site, as required in Section 5 of the SMP.

8) Prior to a change in use that impacts the remedial system or requirements and/or responsibilities for implementing the SMP, the RP shall submit to the NYSDEC for approval an amended SMP.

9) Any change in use, change in ownership, change in site classification (*e.g.*, delisting), reduction or expansion of remediation, and other significant changes related to the site may result in a change in responsibilities and, therefore, necessitate an update to the SMP and/or updated legal documents. The RP shall contact the NYSDEC project manager to discuss the need to update such documents.

Change in RP ownership and/or control and/or site ownership does not affect the RP's obligations with respect to the site unless a legally binding document executed by the NYSDEC releases the RP of its obligations.

Future site owners and RPs and their successors and assigns are required to carry out the activities set forth above.

APPENDIX J
Health and Safety Plan (HASP)

HALEY & ALDRICH, INC.
SITE-SPECIFIC SAFETY PLAN

FOR

Third Street Gowanus Site

125 3rd Street, Brooklyn, New York

Project/File No. 0208545

Gensuite EZ Scan®
BI - Developers

Prepared By: Hailey Russell	**Date: 5/8/2024**
Approvals: The following signatures constitute approval of this Health & Safety Plan.	
Field Safety Manager: Brian Ferguson	**Date: 5/9/2024**
Project Manager: Elizabeth Scheuerman	**Date: 5/9/2024**
HASP Valid Through: 06/01/2025	

Table of Contents

Attachments

STOP WORK AUTHORITY

In accordance with Haley & Aldrich (Haley & Aldrich) Stop Work Authority Operating Procedure (OP1035), any individual has the right to refuse to perform work that he or she believes to be unsafe without fear of retaliation. He or she also has the authority, obligation, and responsibility to stop others from working in an unsafe manner.

STOP Work Authority is the stop work policy for all personnel and subcontractors on the Site. When work has been stopped due to an unsafe condition, Haley & Aldrich site management (e.g., Project Manager [PM], Site Health & Safety Officer [SHSO], etc.) and the Haley & Aldrich Senior Project Manager (SPM) will be notified immediately.

Reasons for issuing a stop work order include, but are not limited to:

- The belief/perception that injury to personnel or accident causing significant damage to property or equipment is imminent.
- An Haley & Aldrich subcontractor is in breach of site safety requirements and/or their own site HASP.
- Identifying a substandard condition (e.g., severe weather) or activity that creates an unacceptable safety risk as determined by a qualified person.

Work will not resume until the unsafe act has been stopped OR sufficient safety precautions have been taken to remove or mitigate the risk to an acceptable degree. Stop work orders will be documented as part of an on-site stop work log, on daily field reports to include the activity/activities stopped, the duration, person stopping work, person in-charge of stopped activity/activities, and the corrective action agreed to and/or taken. Once work has been stopped, only the Haley & Aldrich SPM or SHSO can give the order to resume work. Haley & Aldrich senior management is committed to support anyone who exercises his or her “Stop Work” authority.

ISSUANCE AND COMPLIANCE

This HASP has been prepared in accordance with Occupational Safety and Health Administration (OSHA) regulations (CFR 29, Parts 1904, 1910, and 1926) if such are applicable.

The specific requirements of this HASP include precautions for hazards that exist during this project and may be revised as new information is received or as site conditions change.

- This HASP must be signed by all Haley & Aldrich personnel involved in implementation of the SOW (Section 2 of this HASP).
- This HASP, or a current signed copy, must be retained at all times when Haley & Aldrich staff are present.
- Revisions to this HASP must be outlined within the contents of the HASP. If immediate or minor changes are necessary, the Field Safety Manager (FSM), Haley & Aldrich, SSO and/or Project Manager (PM) may use Attachment 1 (HASP Amendment Form), presented at the end of this HASP. Any revision to the HASP requires employees and subcontractors to be informed of the changes so that they understand the requirements of the change.
- Deviations from this HASP are permitted with approval from the Haley & Aldrich FSM, PM, or Senior Health & Safety Manager (SHSM). Unauthorized deviations may constitute a violation of Haley & Aldrich company procedures/policies and may result in disciplinary action.
- This HASP will be relied upon by Haley & Aldrich's subcontractors and visitors to the site. Haley & Aldrich's subcontractors must have their own HASP which will address hazards specific to their trade that is not included in this HASP. This HASP will be made available for review to Haley & Aldrich's subcontractors and other interested parties (e.g. Facility personnel and regulatory agencies) to ensure that Haley & Aldrich has properly informed our subcontractors and others of the potential hazards associated with the implementation of the SOW to the extent that Haley &Aldrich is aware.

This site-specific HASP provides only site-specific descriptions and work procedures. General safety and health compliance programs in support of this HASP (e.g., injury reporting, medical surveillance, personal protective equipment (PPE) selection, etc.) are described in detail in the Haley &Aldrich Corporate Health and Safety Program Manual and within Haley & Aldrich's Standard Operating Procedures Both the manual and SOPs can be located on the Haley & Aldrich's Company Intranet. When appropriate, users of this HASP should always refer to these resources and incorporate to the extent possible. The manual and SOPs are available to clients and regulators upon request.

EMERGENCY EVENT PROCEDURES

1 - ASSESS THE SCENE

- **STOP WORK**
- Review the situation and ascertain if it's safe to enter the area.
- Evacuate the site if the conditions are unsafe.

2 - EVALUATE THE EMERGENCY

- **Call 911, or designated emergency number, if required.**
- **Provide first aid for the victim if qualified and safe to do so.**
  - First aid will be addressed using the onsite first aid kit. *
    - If providing first aid, remember to use proper first aid universal precautions if blood or bodily fluids are present.
- **If exposure to hazardous substance is suspected, immediately vacate the contaminated area.**
  - Remove any contaminated clothing and/or equipment.
  - Wash any affected dermal/ocular area(s) with water for at least 15 minutes.
  - Seek immediate medical assistance if any exposure symptoms are present.

** Note: Haley & Aldrich employees are not required or expected to administer first aid / CPR to any Haley & Aldrich staff member, Contractor, or Civilian personnel at any time; it is Haley & Aldrich´s position that those who do are doing so on their own behalf and not as a function of their job.*

3 - SECURE THE AREA

- **Cordon off the incident area, if possible.**
  - Notify any security personnel, if required.
  - Escort all non-essential personnel out of the area, if able.

4 - REPORT ON-SITE ACCIDENTS / INCIDENTS TO PM / SSO

- **Notify the PM and SSO as soon as it is safe to do so.**
  - Assist PM and SSO in completing any additional tasks, as required.

5 - INVESTIGATE / REPORT THE INCIDENT

- **Record details of the incident for input to the Gensuite.**
  - Complete any additional forms as requested by the PM and SSO.

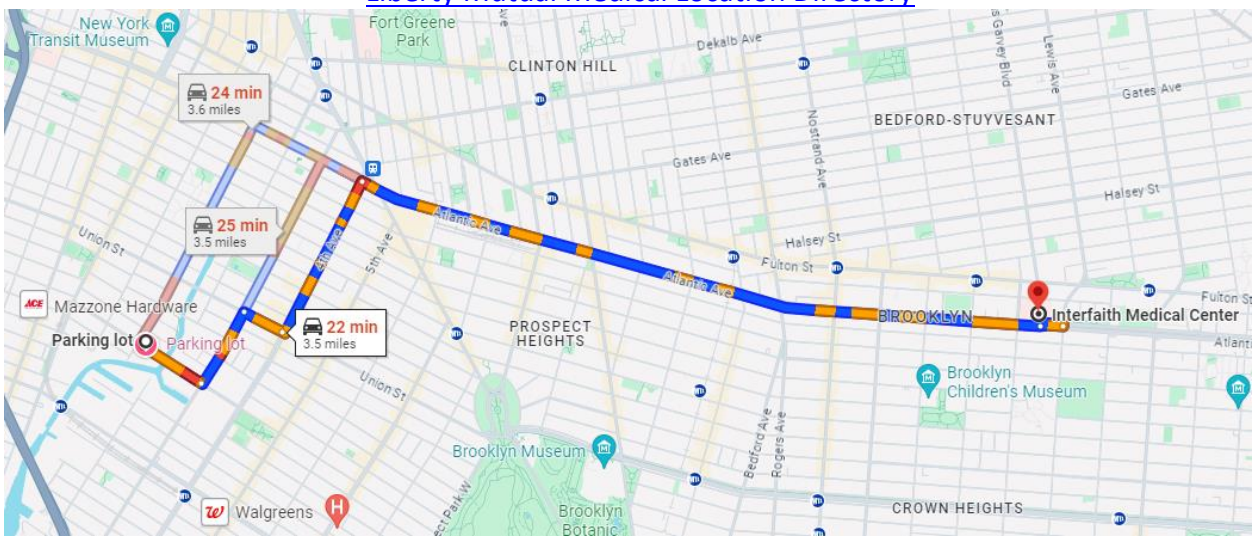
6 - TAKE CORRECTIVE ACTION

- **Implement corrective actions per the PM following root cause analysis.**
  - Complete Lessons Learned form.

PROJECT INFORMATION AND CONTACTS	
Project Name: Third Street Gowanus Site	**Haley & Aldrich File No.:** 0208545
Location: 125 3rd Street Brooklyn, NY	
Client/Site Contact: Phone Number:	Konstantin Gubareff 212-335-0993
Haley & Aldrich Field Representative: Phone Number: Emergency Phone Number:	Zavier Richards 332-236-9927 347-353-7989
Haley & Aldrich Project Manager: Phone Number: Emergency Phone Number:	**Elizabeth Scheuerman** 646-277-5692 609-488-0175
Field Safety Manager: Office Phone Number: Cell Phone Number:	Brian Ferguson 617-886-7439 617-908-2761
Subcontractor Project Manager: Phone Number:	N/A N/A
Nearest Hospital: Address: (see map on next page) Phone Number:	Interfaith Medical Center 1545 Atlantic Avenue Brooklyn, New York 112153 718-613-4000
Nearest Occ. Health Clinic: Address: (see map on next page) Phone Number:	CityMD Urgent Care 418-420 5th Avenue Brooklyn, **New York 11215** 718-965-2273
Liberty Mutual Claim Policy	**WC6-Z11-254100-034**
WORKCARE Injury & Illness HOTLINE	**1-888-449-7787**
Emergency Response Number:	**911**
Other Local Emergency Response Number:	**718-999-4444 (Local Brooklyn Ambulance)**
Other Ambulance, Fire, Police, or Environmental Emergency Resources:	**FDNY EMT**: **718-999-4444**

DIRECTIONS TO THE NEAREST HOSPITAL

Liberty Mutual Medical Location Directory



Directions to the Nearest Hospital:

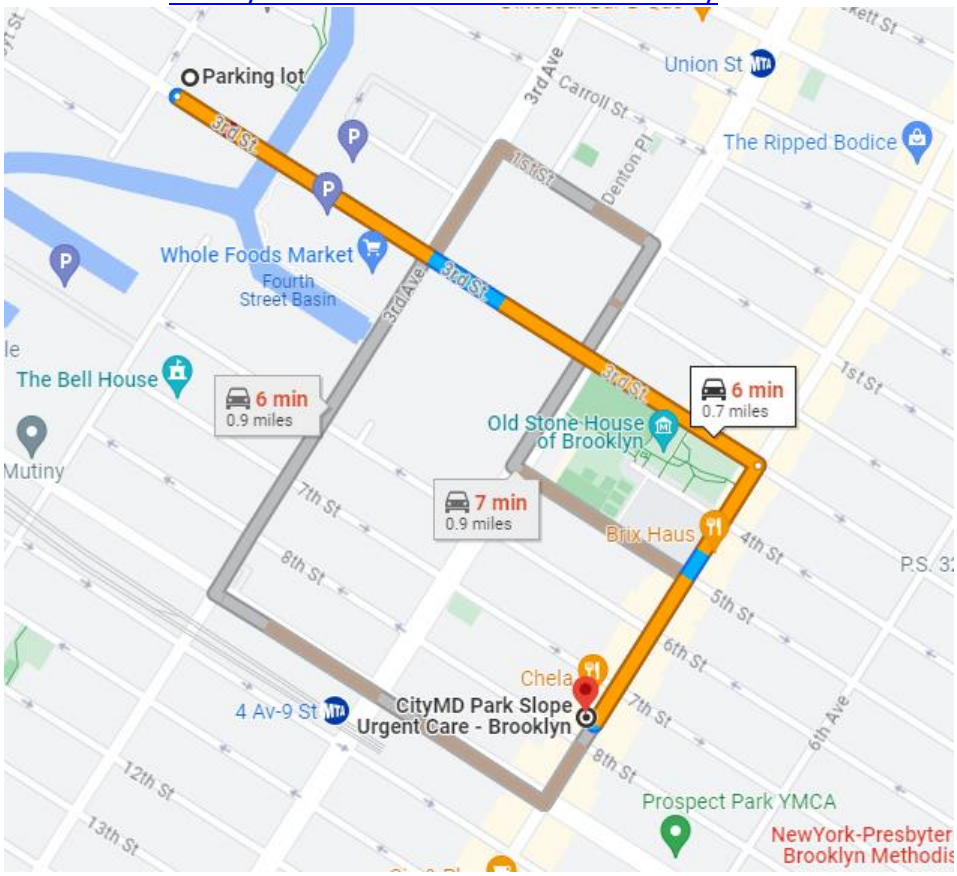
125 3rd St., Brooklyn, NY 11231

- Head southeast on 3rd St.
  0.2 mi
- Turn left onto 3rd Ave
  0.3 mi
- Turn right onto Raul Vasquez Jr. Pl/Union St
  0.1 mi
- Turn left onto 4th Ave
  0.5 mi
- Use the right 2 lanes to turn right onto Atlantic Ave
  Pass by McDonald's (on the right in 0.6 mi)
  2.2 mi
- Slight left onto Center underpass to Albany Ave
  394 ft
- Sharp left onto Atlantic Ave
  Destination will be on the right
  410 ft

Interfaith Medical Ctr
1545 Atlantic Ave, Brooklyn, NY 11213

DIRECTIONS TO THE NEAREST URGENT CARE

Liberty Mutual Medical Location Directory



Directions to the Nearest Occupational Clinic:

6 min (0.7 mile)

via 3rd St. and 5th Ave

Fastest route now due to traffic conditions

Parking lot
125 3rd St., Brooklyn, NY 11231

↑ Head southeast on 3rd St.

0.5 mi

↱ Turn right onto 5th Ave
Destination will be on the right

0.2 mi

CityMD Park Slope Urgent Care - Brooklyn
420 5th Ave, Brooklyn, NY 11215

1. WORK SCOPE

This Site-Specific Health and Safety Plan addresses the health and safety practices and procedures that will be exercised by all Haley & Aldrich employees participating in all work on the Project Site. This plan is based on an assessment of the site-specific health and safety risks available to Haley & Aldrich and Haley & Aldrich's experience with other similar project sites. The scope of work includes the following:

Groundwater Sampling, and Indoor/Ambient Air Sampling

Project Task Breakdown

Task No.	Task Description	Employee(s) Assigned	Work Date(s) or Duration
1	Groundwater Sampling	Zavier Richards	12 months
2	Indoor/Ambient Air Sampling	Zavier Richards	1 week

Subcontractor(s) Tasks

Firm Name	Work Activity	Work Date(s) or Duration
N/A	Enter task description.	Enter dates/duration.

Projected Start Date: 6/1/2024

Projected Completion Date: 6/1/2025

2. SITE OVERVIEW / DESCRIPTION

Site Classification

Residential, Commericial

Site Description

The Site is located in the Gowanus neighborhood of Brooklyn, NY and is identified as Block 462 Lot 6 on the New York City Tax Map. The Site is approximately 20,300-square feet and is bound to the north by 2nd Street and a residential building; to the northeast by an industrial building; to the east by a parking lot and an industrial building ; to the south by 3rd Street, an industrial building and vacant land; and, to the west by a vacant lot and a residential building. The Site is undergoing active contruction of a 13-story residential tower with ground floor commericial spaces and a one-story commercial space.

Background and Historic Site Usage

According to historical records, the Site was occupied by commercial and industrial facilities since the late 1800s. The Site most recently operated as a freight hauling business, construction services business, moving company and a van rental company.

Site Status

Indicate current activity status and describe operations at the site:

Active

The Site is being submitted under a Brownfield Cleanup Program (BCP) Agreement (Site No. C224346)

Site Plan

Is a site plan or sketch available? Yes

Work Areas

List and identify each specific work areas(s) on the job site and indicate its location(s) on the site plan:

Entire Lot

Site Plan

3. HAZARD ASSESSMENT

Indicate all hazards that may be present at the site and for each task. If any of these potential hazards are checked, it is the Project Manager's responsibility to determine how to eliminate / minimize the hazard to protect onsite personnel.

Site Chemical Hazards

Is this Site impacted with chemical contamination? Yes

Source of information about contaminants: Previous Investigation

Contaminant of Concern	Location/Media	Concentration	Units
Urban Fill	**Soil**	**Unknown**	**mg/kg**
Polycyclic aromatic hydrocarbons (PAHs)	**Soil**	**10**	**mg/kg**
Total Petroleum Hydrocarbons (TPH)	**Soil**	**0.0077**	**mg/kg**
Hexavalent Chromium	**Soil**	**25.5**	**mg/kg**
Arsenic	**Soil**	**298**	**mg/kg**
Mercury	**Soil**	**28.2**	**mg/kg**
Lead	**Soil**	**1800**	**mg/kg**
Arsenic	**Groundwater**	**98.14**	**ug/L**
1,4-Dioxane	**Groundwater**	**48.1**	**ug/L**
PFAS	**Groundwater**	**0.893**	**ug/L**
Volatile Organic Compounds (VOCs)	**Soil Vapor**	**331.18**	**ug/m3**
BTEX/VOCs	**Soil Vapor**	**85.63**	**ug/m3**

Click + Add Additional Chemical Language

Site Hazards Checklist			
Weather			
Cold Temperatures	High Winds	Hot Temperatures	Select Hazard

Cold Temperatures

Cold stress may occur at any time work is being performed at low ambient temperatures and high velocity winds. Because cold stress is common and has potentially serious illnesses associated with outdoor work during cold seasons, regular monitoring and other preventative measures are vital.

Refer to OP1003-Cold Stress for additional information and mitigation controls.

High Winds

While high winds are commonly associated with severe thunderstorms and hurricanes they may also occur as a result of differences in air pressures, such as when a cold front passes across the area. They can cause downed trees and power lines, and flying debris (such as dust or larger debris), which adds additional risks and could lead to power outages, transportation disruptions, damage to buildings and vehicles, and serious injury.

Wind Advisory are issued for sustained winds 25 to 39 mph and/or gusts to 57 mph. High Wind warnings are issued by the National Weather Service when high wind speeds may pose a hazard or is life threatening. The criteria for this warning will varies by state. The Beaufort Wind Scale is a helpful tool to when dealing with high winds.

Hot Temperatures

Heat stress may occur at any time work is being performed at elevated ambient temperatures. Because heat stress is one of the most common and potentially serious illnesses associated with outdoor work during hot seasons, regular monitoring and other preventative measures are vital. Site workers must learn to recognize and treat the various forms of heat stress. The best approach is preventative heat stress management.

H&A employees and their subcontractors should be aware of potential health effects and/or physical hazards of working when there are hot temperatures or a high heat index. Refer OP1015-Heat Stress for a discussion on hot weather hazards.

Biological			
Mosquitoes	Ticks	Choose an item.	Choose an item.

Mosquitos

Work outdoors with temperatures above freezing will likely bring staff into contact with mosquitos. There are a variety of mosquito species that can transmit a range of diseases. Birds act as reservoirs for the viruses that can be collected by the mosquito and transmitted to a person. Majority of mosquitos are mainly a nuisance but staff need to take appropriate precautions to minimize the potential transmission of a virus that can result in one of the following diseases: West Nile, Eastern Equine Encephalitides and Western Encephalitides. Knowing some key steps that can minimize the risk of mosquito bites is, therefore, important in reducing the risks. Workers working outdoors should be aware that the use of PPE techniques is essential to preventing mosquito bites especially when working at sites where mosquitoes may be active and biting.

Use repellents containing DEET, picaridin, IR3535, and some oil of lemon eucalyptus and para-menthane-diol products provide longer-lasting protection. To optimize safety and effectiveness, repellents should be used according to the label instructions. Cover as much of your skin as possible by wearing shirts with long-sleeves, long pants, and socks whenever possible. Avoid use of perfumes and colognes when working outdoors during peak times when mosquitoes may be active; mosquitoes may be more attracted to individuals wearing perfumes and colognes.

Ticks

Ticks are generally found in wooded, brushy, or grassy areas. They favor moist, shaded areas with fallen leaves and low vegetation, often sitting on the tips of tall grass or on shrubs waiting for a host to pass. Adult ticks are approximately the size of sesame seeds and are most active from March to mid-May and mid-August to November. Both nymphs and adults can transmit Lyme disease. Ticks can be active any time the temperature is above freezing. Ticks burrow into the host's skin to position themselves to withdraw blood. Infected ticks pass pathogens to the host through the bloodstream. Once imbedded, they may remain on the host for days. On humans, they frequently crawl to fleshy parts of the body and into difficult to reach spots such as the groin, armpit, or scalp.

A fine-tipped tweezer is recommended for tick removal tool and should be in the first-aid kit. Follow these steps: Pull upward with steady, even pressure. Do not twist or jerk the tick; this can cause mouth parts to break off and remain in the skin. If this happens, remove the parts with tweezers. If unable to remove easily with tweezers, leave them alone and let the skin heal.

After removing the tick, thoroughly clean the bite area and hands with rubbing alcohol, iodine scrub, or soap & water. Dispose of live ticks by submersal in alcohol, placing it in a sealed bag/container, wrap it tightly in tape or flush it down the toilet. Never crush ticks with your fingers. Do not attempt to use nail polish remover, petroleum jelly, lotion or heat to try to get the tick to exit skin. Swift removal is key.

Wear light-colored clothing so ticks stand out and long-sleeved shirts and long pants to reduce skin exposure. Tuck your shirt into your pants and tuck your pants into your socks to close gaps. Use repellent containing 20-30% DEET (N, N-diethyl-m-toluamide) on exposed skin and clothing. Avoid hands, eyes and mouth and wash off repellent when back indoors. Treat clothing with or purchase clothing with products containing 0.5% permethrin. It remains protective through several washings.

Conduct frequent tick checks on clothing and skin. Have others check your back, scalp, and behind your ears and check gear for "hitchhikers". As soon as returning indoors, take a bath or shower and do a full-body inspection using a mirror. Wash field clothes and tumble dry on high to kill any ticks that may be hidden. If working in an area of significant tick habitat PPE may need to be upgraded to a Tyvek suit. Implementation of controls is crucial to minimize or eliminate the possibility of a tick bite. Should a staff member find an embedded tick they need to report it immediately to Corporate H&S. If a staff member has been bitten contact Corporate H&S and Work Care at 888-449-7787 to initiate the Tick Management Protocol. Once bitten, it takes approximately 48 hours to transmit Lyme Disease.

Location/Terrain			
Economically Depressed	Slip/Trip/Falls	SIMOPS	Slip/Trip/Falls

Economically Depressed Areas

Economically depressed areas may have high crime rates. Projects involving work in and around inactive industrial sites may bring staff into contact with indigent and homeless persons. Staff could be subjected to crime that includes but may not be limited to thievery, vandalism, and violence. Prior to the start of work staff need to understand the work locations and the potential for exposure to low level crime.

Staff members should never work alone in these areas. A buddy system is required. Conduct during daylight hours. Secure equipment and vehicles. If warranted, contact the local police department for a security detail. Leave the work area immediately and contact the local authorities if staff members feel threatened or are threatened

Public Right of Way

H&A staff and their subcontractors conducting work on public roads and/or right of ways can be exposed to vehicular traffic and expose the public to the hazards of the job site. Where a hazard exists to site workers because of traffic or haulage conditions at work sites that encroach public streets or highways, a system of traffic controls in conformance with the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD), or state program, is required. A Temporary Traffic Control Plan (TCP) describes traffic controls to be used for facilitating vehicle and pedestrian traffic through a temporary traffic control zone TCPs are required to provide for worker protection and safe passage of traffic through and around job sites with as little inconvenience and delay as possible.

The plan may range in scope from being very detailed, to merely referencing typical drawings contained in the MUTCD. The degree of detail in the TCP depends entirely on the complexity of the situation, and TCP's should be prepared by persons knowledgeable about the fundamental principles of temporary traffic control and the work activities to be performed.

H&A Project Managers or their subcontractors need to establish appropriate control measures and obtain any permits when project work is on or encroaches public roadways. You may need flaggers or police details. Cease work and notify the field supervisor immediately if any conditions are such that

safety is jeopardized. Utilize protective vehicles whenever appropriate or position equipment so in between the work and oncoming traffic.

SIMOPS

SIMOPS are described as the potential class of activities which could bring about an undesired event or set of circumstances, e.g., safety, environment, damage to assets, schedule, commercial, financial, etc. SIMOPS are defined as performing two or more operations concurrently.

SIMOPS should be identified at an early stage before operations commence to understand issues such as schedule and physical clashes, maintenance activities, failure impacts, interferences between vessels, contracts and third part interfaces and environmental impacts.

Coordinate project with site activities. Identify and understand the hazards associated with the host and client's activities. Integrate site emergency response protocols where appropriate and communicate to all project staff. Integrate site communication protocols and communicate to all project staff.

Slips, Trips & Falls

Slip and trip injuries are the most frequent injuries to workers. Statistics show most falls happen on the same level resulting from slips and trips. Both slips and trips result from unintended or unexpected change in the contact between the feet and the ground or walking surface. Good housekeeping, quality of walking surfaces (flooring), awareness of surroundings, selection of proper footwear, and appropriate pace of walking are critical for preventing fall accidents.

Site workers will be walking on a variety of irregular surfaces, that may affect their balance. Extra care must be taken to walk cautiously near rivers because the bottom of the riverbed maybe slick and may not be visible. Rocks, gradient changes, sandy bottoms, and debris may be present but not observable.

Take your time and pay attention to where you are going. Adjust your stride to a pace that is suitable for the walking surface and the tasks you are doing. Check the work area to identify hazards - beware of trip hazards such as wet floors, slippery floors, and uneven surfaces or terrain. Establish and utilize a pathway free of slip and trip hazards. Choose a safer walking route. Carry loads you can see over. Keep work areas clean and free of clutter. Communicate hazards to on-site personnel and remove hazards as appropriate.

Miscellaneous			
Extended Shift	Choose an item.	Choose an item.	Choose an item.

Extended Shift

An extended shift can include extending a workday beyond eight hours. Extended or unusual work shifts may be more stressful physically, mentally, and emotionally. Non-traditional shifts and extended

work hours may disrupt the body's regular schedule, leading to increased fatigue, stress, and lack of concentration. This leads to an increased risk of operator error, injuries and/or accidents. The degree to which an individual is exposed to fatigue risk factors depends upon the work schedule. As both the duration of the workday and the number of days worked increase so does the fatigue risk factors. Staff Managers need to be aware of the fatigue risk factors and ensure projects are structured to mitigate these factors. Staff Members also have a responsibility to manage the personal fatigue risk factors that they can control outside of work (e.g, duration and quality of sleep, diet, drugs, and alcohol)

Fatigue is a message to the body to rest and can be eliminated with proper rest. However, if rest is not possible, fatigue can increase and becomes distressing and eventually debilitating. Fatigue symptoms, both mental and physical, vary and depend on the person and degree of overexertion. Examples include: weariness, sleepiness, irritability, reduced alertness, lack of memory, concentration and motivation, increased susceptibility to illness, depression, headache, loss of appetite, and digestive problems.

When possible, managers should limit use of extended shifts and increase the number of days worked. Working shifts longer than 8 hours generally result in reduced productivity and alertness. Additional breaks and meals should be provided when working extended shift periods. Tasks requiring heavy physical labor or intense concentration should be performed at the beginning of the shift if possible. This is an important consideration for pre-emergency planning.

Make efforts, when feasible, to ensure that unavoidable extended work shifts and shift changes allow affected employees time for adequate rest and recovery. Project Managers need to plan to have an adequate number of personnel available to enable workers to take breaks, eat meals, relax, and sleep.

Plan for regular and frequent breaks throughout the work shift. If at remote sites, ensure if possible, that there is a quiet, secluded area designated for rest and recuperation. In addition to formal breaks such as lunch or dinner, encourage use of micro breaks to change positions, move about, and shift concentration. Personnel should look to obtain an adequate quantity and quality of sleep.

Task Hazard Summary

Task 1 – Groundwater Sampling

Environmental water sampling could include activities such as groundwater sampling from permanent or temporary wells, or surface water sampling from streams, rivers, lakes, ponds, lagoons, and surface impoundments.

Sampling tasks could involve uncapping, purging (pumping water out of the well), and sampling, and/or monitoring, new or existing monitoring wells. A mechanical pump may be used to purge the wells and can be hand-, gas-, or electric-operated. Water samples taken from the wells are then placed in containers and shipped to an analytical laboratory for analysis. The physical hazards of these operations are primarily associated with the collection methods and procedures used.

When sampling bodies of water containing known or suspected hazardous substances, adequate precautions must be taken to ensure the safety of sampling personnel. The sampling team member collecting the sample should not get too close to the edge, where ground failure or slips, trips or falls may cause him/her to lose his/her balance. The person performing the sampling should have fall restraint or protection for the task. When conducting sampling from a boat in an impoundment or flowing waters, appropriate vessel safety procedures should be followed. Avoid lifting heavy coolers with back muscles; instead, use ergonomic lifting techniques, team lift or mechanical lifts. Wear proper gloves, such as when handling sample containers to avoid contacting any materials that may have spilled out of the sample containers.

Inhalation and absorption of COCs are the primary routes of entry associated with water sampling, due to the manipulation of sample media and equipment, manual transfer of media into sample containers, and proximity of operations to the breathing zone. During this project, several different groundwater sampling methodologies may be used based on equipment accessibility and the types of materials to be sampled. These sampling methods may include hand or mechanical bailing. The primary hazards associated with these specific sampling procedures are not potentially serious; however, other operations in the area or the conditions under which samples must be collected may present chemical and physical hazards. The hazards directly associated with groundwater sampling procedures are generally limited to strains or sprains from hand bailing, and potential eye hazards. Exposure to water containing COCs is also possible. All tools and equipment that will be used at the site must be intrinsically safe (electronics and electrical equipment) and non-sparking or explosion-proof (hand tools).

Task 2 – Indoor/Ambient Air Sampling

Air sampling is conducted to monitor levels of air contaminants. Air is the most transient environmental medium and subject to extreme spatial and temporal heterogeneity. Air sampling matrices include: Ambient (outdoor) air, indoor air, point sources (stacks, exhausts, and other emission sources), fugitive emissions (sources of air pollutants other than stacks or vents), and monitor and evaluate remediation processes. Samples can be collected in tedlar bags, sorbent tubes, or summa canisters.

Safety precautions during air sampling include a review of possible environmental hazards before entering the site and the use of proper clothing and equipment. Workers performing stack sampling and air monitoring during emergency situations may be exposed to hazardous levels of air pollutants. Therefore, the JHA must specify what kind of real-time air monitoring will be performed, the action levels for the use of respirators, and the types of respirators to be worn if action levels are exceeded. Safety must always be considered to ensure that the chosen field measurement instrument is compatible with the potential hazard. For example, some instruments are capable of detecting explosive hazards, but not all are safe for operations under these conditions. If the atmospheric concentration is potentially greater than 25% of the lower explosive limit, the meter itself must be certified safe for operation (FM, UL or MSHA certified). Operators should be thoroughly familiar with the instrument and operating instructions before use. Always read or review the manual prior to using an instrument in the field.

Safety concerns are of critical importance in performing sampling at heights due to the possibility of, falling, dropping equipment on workers below, and possibly weather related hazards such as ice, snow, and rain if sampling outdoors.

Gases used to calibrate and operate some instruments come in pressurized cylinders and many are flammable. Proper care should be taken when handling these materials. Light sources from some instruments can cause eye damage when viewed directly.

Task Physical Hazards Checklist				
Potential Task Hazards	**Task 1** **Groundwater Sampling**	**Task 2** **Indoor/Ambient Air Sampling**		
Heavy Equipment	☒	☒		
Slippery Surfaces	☒	☒		
Congested Area	☒	☒		
Ergonomics	☒	☒		
Work Overhead	☒	☒		
Manual Lifting	☒	☒		
Line of Fire	☒	☒		
Sharp Objects	☒	☒		
Hand/Power Tools	☒	☒		
Other: Specify	☐	☐		

Summary of Physical Hazards & Controls

Heavy Equipment

Staff must be careful and alert when working around heavy equipment, failure or breakage and limited visibility can lead to accidents and worker injury. Heavy equipment such as cranes, drills, haul trucks, or other can fail during operation increasing chances of worker injury. Equipment of this nature shall be visually inspected and checked for proper working order prior to commencement of field work. Those operating heavy equipment must meet all requirements to operate the equipment. Haley & Aldrich, Inc. staff that supervise projects or are associated with high risk projects that involve digging or drilling should use due diligence when working with a construction firm.

See OP1052 Heavy Equipment for additional information.

Controls

- Only approach equipment once you have confirmed contact with the operator (e.g., operator places the bucket on the ground).
- Always maintain visual contact with operators and keep out of the strike zone whenever possible.
- Always be alert to the position of the equipment around you.
- Always approach heavy equipment with an awareness of the swing radius and traffic routes of all equipment and never go beneath a hoisted load.
- Avoid fumes created by heavy equipment exhaust.

Slippery Surfaces

Both slips and trips result from unintended or unexpected change in the contact between the feet and ground or walking surface. Good housekeeping, quality of walking surfaces, selection of proper footwear, and appropriate pace of walking are critical for preventing fall accidents. Slips happen where there is too little friction or traction between the footwear and walking surface.

Common causes of slips are wet or oily surfaces, spills, weather hazards, loose unanchored rugs or mats and flooring or other walking surfaces that do not have same degree of traction in all areas.

Weather-related slips and falls become a serious hazard as winter conditions often make for wet or icy surfaces outdoors. Even wet organic material or mud can create hazardous walking conditions. Spills and leaks can also lead to slips and falls.

Controls

- Evaluate the work area to identify any conditions that may pose a slip hazard.
- Address any spills, drips or leaks immediately.
- Mark areas where slippery conditions exist.
- Select proper footwear or enhance traction with additional PPE.
- Where conditions are uncertain or environmental conditions result in slippery surfaces walk slowly, take small steps, and slide feet on wet or slippery surfaces.

Congested Areas

Working in congested areas can expose both workers and the public to a wide range of hazards depending upon the specific activities taking place. Staff Members need to understand the work scope, work areas, equipment on-site, and internal traffic patterns to minimize or eliminate exposure potential.

Controls

- Provide barricades, fencing, warning signs/signals and adequate lighting to protect people while working in or around congested areas.
- Vehicles and heavy equipment with restricted views to the rear should have functioning back-up alarms that are audible above the surrounding noise levels. Whenever possible, use a signaler to assist heavy equipment operators and/or drivers in backing up or maneuvering in congested areas.
- Lay out traffic control patterns to eliminate excessive congestion.
- Workers in congested areas should always wear high visibility clothing.
- Be aware of Line of Fire hazards when performing work activities in congested areas.
- Hazards associated with SIMOPs should be discussed daily at Tailgate Safety Meetings.

Ergonomics

Most Work-related Musculoskeletal Disorders (WMSDs) are caused by Ergonomic Stressors. Ergonomic Stressors are caused by poor workplace practices and/or insufficient design, which may present

ergonomic risk factors. These stressors include, but not limited to, repetition, force, extreme postures, static postures, quick motions, contact pressure, vibration, and cold temperatures.

WMSDs are injuries to the musculoskeletal system, which involves bones, muscles, tendons, ligaments, and other tissues in the system. Symptoms may include numbness, tightness, tingling, swelling, pain, stiffness, fatigue, and/or redness. WMSD are usually caused by one or more Ergonomic Stressors. There may be individual differences in susceptibility and symptoms among employees performing similar tasks. Any symptoms are to be taken seriously and reported immediately.

See OP1053 Ergonomics for more information.

Controls

- Ensure workstations are ergonomically correct so bad posture is not required to complete tasks.
- Take periodic breaks over the course of the day.
- Stretch during break times.
- Break up tasks that require repetitive motion.
- Contact Corporate H&S with any ergonomic concerns

Overhead Work

Work overhead can potentially expose staff to equipment, tools, and/or materials should they be dropped or left unsecured. This creates a significant hazard that can result in an injury, fatality or damage equipment and vehicles.

Staff shall not perform overhead work under any circumstances in places where people or vehicles are present or where they may enter during the work. This is to prevent the possibility of an object falling and coming into contact with a person or vehicle.

Controls

- Barricade and mark areas affected by overhead work to keep people and vehicles out of the work zone and warn them of the hazard.
- Do not leave tools, materials, and equipment unattended on ladders, scaffolds, or platforms when there is a chance that the items may fall or be dislodged.
- Boundaries of the work zone shall be a safe distance from overhead work in the event material, tools, or equipment should fall.

Manual Lifting/Moving

Most materials associated with investigation, remedial, or construction-related activities are moved by hand. The human body is subject to damage in the forms of back injury, muscle strains, and hernia if caution is not observed in the handling process.

Controls

- Under no circumstances should any one person lift more than 49 pounds unassisted.
- Always push, not pull, the object when possible.
- Size up the load before lifting. If it is heavy or clumsy, get a mechanical aid or help from a worker.
- Bend the knees; it is the single most important aspect of lifting.
- When performing the lift:
    - Place your feet close to the object and center yourself over the load.
    - Get a good handhold.
    - Lift straight up, smoothly and let your legs do the work, not your back!
    - Avoid overreaching or stretching to pick up or set down a load.
    - Do not twist or turn your body once you have made the lift.
    - Make sure beforehand that you have a clear path to carry the load.
    - Set the load down properly.

Line of Fire

Line of fire refers to the path an object will travel. Examples of line of fire situations typically observed on project sites include lifting/hoisting, lines under tension, objects that can fall or roll, pressurized objects or lines, springs or stored energy, work overhead, vehicles and heavy equipment.

Controls

- Never walk under a suspended load.
- Be aware and stay clear of tensioned lines such as cable, chain and rope.
- Be cautious of torque stresses that drilling equipment and truck augers can generate. Equipment can rotate unexpectedly long after applied torque force has been stopped.
- Springs and other items can release tremendous energy if compressed and suddenly released
- Items under tension and pressure can release tremendous energy if it is suddenly released.
- Not all objects may be overhead; be especially mindful of top-heavy items and items being transported by forklift or flatbed.
- Secure objects that can roll such as tools, cylinders, and pipes.
- Stay clear of soil cuttings or soil stockpiles generated during drilling operations and excavations, be aware that chunks of soil, rocks, and debris can fall or roll.

Sharp Objects

Workers who handle sharp edged objects like sheets of steel or glass are at risk of cuts. Workers who handle sharp edged objects are also at risk of cuts. Injuries may occur to hands, fingers, or legs when they are in the way of the blade, when the blade slips, or if an open blade is handled unexpectedly.

Other hazards at job sites include stepping on sharp objects (e.g. wooden boards with protruding nails, sharp work-tools, chisels, etc.) and colliding with sharp and/or protruding objects.

Controls
Always be alert when handling sharps. Never look away or become distracted while handling sharp objects. Use caution when working with tools; use right tool for the job. Keep tools sharp, dull blades are a safety hazard, requiring more force to make cuts which can lead to tool slippage. Wear appropriate PPE and do not handle sharp objects (i.e., broken glass) with bare hands. Use mechanical devices, when possible. Stay away from building debris; avoid handling site debris or placing your hand where you cannot see. Watch out for barbed wire and electrical fences; cover with a car mat or equivalent to cross or walk around; use the buddy system to avoid entanglement; wear gloves. Do not leave unprotected sharps unattended. Use protective shields, cases, styrofoam blocks, etc. Pass a sharp by handing it over carefully by the handle with the blade down or retracted. Fixed open blades are prohibited. Always cut away from the body, making several passes when cutting thicker materials. Make sure blades are fitted properly into the knife. Never cut items with a blade or other sharp object on your lap. Never try to catch a blade or cutting tool that is falling.

Hand and Power Tools

Hand and power tools can expose staff to a wide range of hazards depending upon the tool used. Hazards can include but are not limited to: falling, flying, abrasive, and splashing objects, or harmful dusts, fumes, mists, vapors, or gases.

Serious accidents often occur before steps are taken to evaluate and avoid or eliminate tool-related hazards. Staff must recognize the hazards associated with the different types of tools and the safety precautions necessary to prevent those hazards.

See OP 1026 Hand and Power Tools for more information.

Controls
- Keep all tools in good condition with regular maintenance.
- Use the right tool for the job. Do not use a tool for a task which it was not designed for.
- Examine each tool for damage before use and do not use damaged tools.
- For tools that are damaged or defective, red tag the tool and take out of service.
- Operate tools per the manufacturers' instructions.
- Use the appropriate personal protective equipment.
- All electrically powered tools will be connected through a ground fault circuit interrupter (GFCI).
- All personnel must be trained on the use of the tool they are utilizing.

4. PROTECTIVE MEASURES

The personal protective equipment and safety equipment (if listed) is specific to the associated task. The required PPE and equipment listed must be onsite during the task being performed. Work shall not commence unless the required PPE or Safety Equipment is present.

Required Safety & Personal Protective Equipment

Required Personal Protective Equipment (PPE)	**Task 1**	**Task 2**		
	Groundwater Sampling	Indoor/Ambient Air Sampling	Enter task description.	Task Name
Hard hat	☒	☒	☐	☐
Safety Glasses	☒	☒	☐	☐
Class 2 Safety Vest	☒	☒	☐	☐
Safety Toed Shoes	☒	☒	☐	☐
Nitrile Gloves	☒	☒	☐	☐
Cut Resistant Gloves	☒	☒	☐	☐
Level of protection required	D	D	Select	Select
Required Safety Equipment				
First Aid Kit	☒	☒	☐	☐

5. TRAINING REQUIREMENTS

The table below lists the training requirements staff must have respective to their assigned tasks and that are required to access the Site.

Site Specific Training Requirements
HAZWOPER - 40 Hour (Initial)
HAZWOPER - 8 Hour (Annual Refresher)
Site Specific Orientation
SST Certification Card

Task Specific Training Requirements				
Required Training Type	**Task 1**	**Task 2**		
	Groundwater Sampling	Indoor/Ambient Air Sampling	Enter task description.	Task Name
HAZWOPER – 40 Hour (Initial); HAZWOPER – 8 Hour (Annual Refresher); Site-Specific Orientation; and, SST Card	☒	☒	☐	☐

6. AIR MONITORING PLAN AND EQUIPMENT

Exposures to airborne substances shall be fully characterized throughout project operations to ensure that exposure controls are effectively selected and modified as needed.

Is air/exposure monitoring required at this work site for personal protection? No

Is perimeter monitoring required for community protection? Yes

Air monitoring plan not applicable No

Air Monitoring/Screening Equipment Requirements

Photo-Ionization Detector (PID) 10.6eV

The required equipment listed above must be on site. Work shall not commence unless the equipment is present and in working order.

Monitoring Plans

Parameter/ Contaminant	Equipment	Action Level	Response Activity
VOCs	PID 10.6 eV	< 10 ppm	Continue work and monitoring.
		>10 ppm for 5 minutes	Clear Instrument and Re-Monitor the Area. Implement PPE upgrades
		>10 ppm for >5 minutes	Evacuate the area and call the RHSM and/or PM for further guidance. Implement engineering controls.

Zone Location and Monitoring Interval
Breathing zone and edge of Exclusion Zone.

***If chemical does not have an action level use TLV or REL, whichever is lowest, to be used as an action level. If TLV or REL are the same as PEL, cut the PEL in half for an action level.**

7. DECONTAMINATION & DISPOSAL METHODS

All possible and necessary steps shall be taken to reduce or minimize contact with chemicals and contaminated/impacted materials while performing field activities (e.g., avoid sitting or leaning on, walking through, dragging equipment through or over, tracking, or splashing potential or known contaminated/impacted materials.)

Personal Hygiene Safeguards

The following minimum personal hygiene safeguards shall be adhered to:

1. No smoking or tobacco products in any project work areas.
2. No eating or drinking in the exclusion zone.
3. It is required that personnel present on site wash hands before eating, smoking, taking medication, chewing gum/tobacco, using the restroom, or applying cosmetics and before leaving the site for the day.

It is recommended that personnel present on site shower or bathe at home at the end of each day of working on the site.

Decontamination Supplies

All decontamination should be conducted at the project site in designated zones or as dictated by Client requirements. Decontamination should not be performed on Haley & Aldrich owned or leased premises.

☒ Acetone	☒ Distilled Water	☐ Polyethylene Sheeting
☒ Alconox Soap	☒ Drums	☐ Pressure/Steam Cleaner
☒ Brushes	☐ Hexane	☐ Tap Water
☒ Disposal Bags	☐ Methanol	☐ Wash tubs
☒ 5 Gallon Buckets	☒ Paper Towels	☐ Other: Specify

Location of Decontamination Station

Describe/Enter location of decontamination station or refer to a figure where it is shown.

Standard Personal Decontamination Procedures

Outer gloves and boots should be decontaminated periodically as necessary and at the end of the day. Brush off solids with a hard brush and clean with soap and water or other appropriate cleaner whenever possible. Remove inner gloves carefully by turning them inside out during removal. Wash hands and forearms frequently. It is good practice to wear work-designated clothing while on-site which can be removed as soon as possible. Non-disposable overalls and outer work clothing should be bagged onsite prior to laundering. If gross contamination is encountered on-site contact the Project Manager and Field Safety Manager to discuss proper decontamination procedures.

The steps required for decontamination will depend upon the degree and type of contamination but will generally follow the sequence below.

1. Remove and wipe clean hard hat
2. Rinse boots and gloves of gross contamination
3. Scrub boots and gloves clean
4. Rinse boots and gloves
5. Remove outer boots (if applicable)
6. Remove outer gloves (if applicable)
7. Remove Tyvek coverall (if applicable)
8. Remove respirator, wipe clean and store (if applicable)
9. Remove inner gloves (if outer gloves were used)

PPE that is not grossly contaminated can be bagged and disposed in regular trash receptacles.

Small Equipment Decontamination

Pretreatment of heavily contaminated equipment may be conducted as necessary:

1. Remove gross contamination using a brush or wiping with a paper towel
2. Soak in a solution of Alconox and water (if possible)
3. Wipe off excess contamination with a paper towel

Standard decontamination procedure:

4. Wash using a solution of Alconox and water
5. Rinse with potable water
6. Rinse with methanol (or equivalent)
7. Rinse with distilled/deionized water

Inspect the equipment for any remaining contamination and repeat as necessary.

Disposal Methods

Procedures for disposal of contaminated materials, decontamination waste, and single use personal protective equipment shall meet applicable client, locate, State, and Federal requirements.

Disposal of Single Use Personal Protective Equipment

PPE that is not grossly contaminated can be bagged and disposed in regular trash receptacles. PPE that is grossly contaminated must be bagged (sealed and field personnel should communicate with the Project Manager to determine proper disposal.

Standard Disposal Methods for Contaminated Materials

- Excess sample solids, decontamination materials, rags, brushes, poly-sheeting, etc. that are determined to be free of contamination through field screening can usually be disposed into client-approved, on-site trash receptacles.
- Uncontaminated wash water may be discarded onto the ground surface away from surface water bodies in areas where infiltration can occur.
- Contaminated materials must be segregated into liquids or solids and containerized separately for offsite disposal.

Any additional requirements that are designated by the workplan or by client specifications should be entered here.

8. SITE CONTROL

The overall purpose of site control is to minimize potential contamination of workers, protect the public from the site's hazards, and prevent vandalism. Site control is especially important in emergency situations. The degree of site control necessary depends on site characteristics, site size, and the surrounding community. The following information identifies the elements used to control the activities and movements of people and equipment at the project site.

Communication

Internal
Haley & Aldrich site personnel will communicate with other Haley & Aldrich staff member and/or subcontractors or contractors with:

Face to Face Communication

External
H&S site personnel will use the following means to communicate with off-site personnel or emergency services.

Cellular Phones

Visitors

Project Site
Will visitors be required to check-in prior to accessing the project site?

Yes

Visitor Access
Authorized visitors that require access to the project site need to be provided with known information with respect to the site operations and hazards as applicable to the purpose of their site visit. Authorized visitors must have the required PPE and appropriate training to access the project site.

Zavier Richards is responsible for facilitating authorized visitor access.

Zoning

Work Zone
The work zone will be clearly delineated to ensure that the general public or unauthorized worker access is prevented. The following will be used:

Cones
Barricades
Temporary Fencing

9. SITE SPECIFIC EMERGENCY RESPONSE PLAN

The Emergency Response Plan addresses potential emergencies at this site, procedures for responding to these emergencies, roles, responsibilities during emergency response, and training. This section also describes the provisions this project has made to coordinate its emergency response with other contractors onsite and with offsite emergency response organizations (as applicable).

During the development of this emergency response plan, local, state, and federal agency disaster, fire, and emergency response organizations were consulted (if required) to ensure that this plan is compatible and integrated with plans of those organizations. Documentation of the dates of these consultations are the names of individuals contacted is kept on file and available upon request.

The site has been evaluated for potential emergency occurrences, based on site hazards, and the major categories of emergencies that could occur during project work are:

- Fire(s)/Combustion
- Hazardous Material Event
- Medical Emergency
- Natural Disaster

A detailed list of emergency types and response actions are summarized in Table X below. Prior to the start of work, the SSO will update the table with any additional site-specific information regarding evacuations, muster points, or additional emergency procedures. The SSO will establish evacuation routes and assembly areas for the Site. All personnel entering the Site will be informed of these routes and assembly areas.

Pre-Emergency Planning

Before the start of field activities, the Project Manager will ensure preparation has been made in anticipation of emergencies. Preparatory actions include the following:

Meeting with the subcontractor/and or client concerning the emergency procedures in the event a person is injured. Appropriate actions for specific scenarios will be reviewed. These scenarios will be discussed, and responses determined before the sampling event commences. A form of emergency communication (i.e.; Cell phone, Air horn, etc.) between the Project Manager and subcontractor and/or client will be agreed on before the work commences.

A training session (i.e., “safety meeting”) given by the Project Manager or their designee informing all field personnel of emergency procedures, locations of emergency equipment and their use, and proper evacuation procedures.

Ensuring field personnel are aware of the existence of the emergency response HASP and ensuring a copy of the HASP accompanies the field team(s).

Onsite Emergency Response Equipment

Emergency procedures may require specialized equipment to facilitate work rescue, contamination control and reduction or post-emergency cleanup. Emergency response equipment stocked

Table 9.1 Emergency Equipment and Emergency PPE			
Emergency Equipment	**Specific Type**	**Quantity Stocked**	**Location Stored**
First Aid Kit	ANSI	1 Kit	With H&A Staff
Emergency PPE	**Specific Type**	**Quantity Stocked**	**Location Stored**
Gloves	Nitrile	Enter text	With H&A Staff

EVACUATION ALARM
Will be communicated during the Onsite Kickoff Meeting
EVACUATION ROUTES
Will be given a map after site specific training
EVACUATION MUSTER POINT(S)/ SHELTER AREA(S)
Will be given a locations after site specific training
EVACUTION RESPONSE DRILLS
The Site relies on outside emergency responders and a drill is not required.

Table 9-2 – Emergency Planning

Emergency Type	Notification	Response Action	Evacuation Plan/Route
Chemical Exposure	Report event to SSO immediately	Refer to Safety Data Sheet for required actions	Remove personnel from work zone
Fire - Small	Notify SSO and contact 911	Use fire extinguisher if safe and qualified to do so	Mobilize to *Muster Point*
Fire – Large/Explosion	Notify SSO and contact 911	Evacuate immediately	Mobilize to *Muster Point*
Hazardous Material – Spill/Release	Notify SSO; SSO will contact PM to determine if additional agency notification is	If practicable don PPE and use spill kit and applicable procedures to contain the release	See Evacuation Map for route, move at least 100 ft upwind of spill location
Medical – Bloodborne Pathogen	Notify SSO	If qualified dispose in container or call client or city to notify for further instruction.	None Anticipated
Medical – First Aid	Notify SSO	If qualified perform first aid duties	None Anticipated
Medical – Trauma	If life threatening or transport is required call 911, immediately	Wait at site entrance for ambulance	Noe Anticipated
Security Threat	Notify SSO who will call 911 as warranted	Keep all valuables out of site and work zones delineated.	None Anticipated
Weather – Earthquake/Tsunami's	STOP WORK and evacuate Site upon any earthquake	Turn off equipment and evacuate as soon as is safe to do so	Mobilize to *Shelter Location*
Weather – Lightning Storm	STOP WORK	Work may resume 30 minutes after the last observed lightning.	None Anticipated
Weather – Tornadoes/Hurricanes	Monitor weather conditions STOP WORK and evacuate the site	Evacuate to shelter location or shelter in place immediately	Mobilize to *Shelter Location*
MUSTER POINT TO be communicated during Site kick-off meeting		*SHELTER LOCATION* To be communicated during Site kick-off meeting	
In case of site emergencies, site personnel shall be evacuated per this table and will not participate in emergency response activities. Site emergencies shall be reported to local, state, and federal governmental agencies as required.			

10. HASP ACKNOWLEDGEMENT FORM

All Haley & Aldrich employees onsite must sign this form prior to entering the site.

I hereby acknowledge receipt of, and briefing on, this HASP prior to the start of on-site work. I declare that I understand and agree to follow the provisions, processes, and procedures set forth herein at all times while working on this site.

Printed Name	Signature	Date

ATTACHMENT A
HASP AMENDMENT FORM

HASP AMENDMENT FORM

This form is to be used whenever there is an immediate change in the project scope that will require an amendment to the HASP. For project scope changes associated with "add-on" tasks, the changes must be made in the body of the HASP. Before changes can be made, a review of the potential hazards must be initiated by the Haley & Aldrich Project Manager.

This original form must remain on site with the original HASP. If additional copies of this HASP have been distributed, it is the Project Manager's responsibility to forward a signed copy of this amendment to those who have copies.

Amendment No.	
Site Name	
Work Assignment No.	
Date	
Type of Amendment	
Reason for Amendment	
Alternate Safeguard Procedures	
Required Changes in PPE	

Project Manager Name (Print)	Project Manager Signature	Date

Health & Safety Approver Name (Print)	Health & Safety Approver Signature	Date

ATTACHMENT B
TRAINING REQUIREMENTS

TRAINING REQUIREMENTS

Health and Safety Training Requirements

Personnel will not be permitted to supervise or participate in field activities until they have been trained to a level required by their job function and responsibility. Haley & Aldrich staff members, contractors, subcontractors, and consultants who have the potential to be exposed to contaminated materials or physical hazards must complete the training described in the following sections.

The Haley & Aldrich Project Manager/FSM will be responsible for maintaining and providing to the client/site manager documentation of Haley & Aldrich staff members' compliance with required training as requested. Records shall be maintained per OSHA requirements.

40-Hour Health and Safety Training

The 40-Hour Health and Safety Training course provides instruction on the nature of hazardous waste work, protective measures, proper use of personal protective equipment, recognition of signs and symptoms which might indicate exposure to hazardous substances, and decontamination procedures. It is required for all personnel working on-site, such as equipment operators, general laborers, and supervisors, who may be potentially exposed to hazardous substances, health hazards, or safety hazards consistent with 29 CFR 1910.120.

8-hour Annual Refresher Training

Personnel who complete the 40-hour health and safety training are subsequently required to attend an annual 8-hour refresher course to remain current in their training. When required, site personnel must be able to show proof of completion (i.e., certification) at an 8-hour refresher training course within the past 12 months.

8-Hour Supervisor Training

On-site managers and supervisors directly responsible for, or who supervise staff members engaged in hazardous waste operations, should have eight additional hours of Supervisor training in accordance with 29 CFR 1910.120. Supervisor Training includes, but is not limited to, accident reporting/investigation, regulatory compliance, work practice observations, auditing, and emergency response procedures.

Additional Training for Specific Projects

Haley & Aldrich personnel will ensure their personnel have received additional training on specific instrumentation, equipment, confined space entry, construction hazards, etc., as necessary to perform their duties. This specialized training will be provided to personnel before engaging in the specific work activities including:

- Client specific training or orientation
- Competent person excavations
- Confined space entry (entrant, supervisor, and attendant)
- Heavy equipment including aerial lifts and forklifts
- First aid/ CPR
- Use of fall protection
- Use of nuclear density gauges
- Asbestos awareness

ATTACHMENT C
ROLES AND RESPONSIBILITIES

SITE ROLES AND RESPONSIBILITIES

Haley & Aldrich Personnel

Field Safety Manager (FSM)

The Haley & Aldrich FSM is a full-time Haley & Aldrich staff member, trained as a safety and health professional, who is responsible for the interpretation and approval of this Safety Plan. Modifications to this Safety Plan cannot be undertaken by the PM or the SSO without the approval of the FSM.

Specific duties of the FSM include:

- Approving and amending the Safety Plan for this project
- Advising the PM and SHSOs on matter relating to health and safety
- Recommending appropriate personal protective equipment (PPE) and air monitoring instrumentation
- Maintaining regular contact with the PM and SSO to evaluate the conditions at the property and new information which might require modifications to the HASP and
- Reviewing and approving JSAs developed for the site-specific hazards.

Project Manager (PM)

The Haley & Aldrich PM is responsible for ensuring that the requirements of this HASP are implemented at that project location. Some of the PM´s specific responsibilities include:

- Assuring that all personnel to whom this HASP applies have received a copy of it;
- Providing the FSM with updated information regarding environmental conditions at the site and the scope of site work;
- Providing adequate authority and resources to the on-site SHSO to allow for the successful implementation of all necessary safety procedures;
- Supporting the decisions made by the SHSO;
- Maintaining regular communications with the SHSO and, if necessary, the FSM;
- Coordinating the activities of all subcontractors and ensuring that they are aware of the pertinent health and safety requirements for this project;
- Providing project scheduling and planning activities; and
- Providing guidance to field personnel in the development of appropriate Job Safety Analysis (JSA) relative to the site conditions and hazard assessment.

Site Health & Safety Officer (SHSO)

The SHSO is responsible for field implementation of this HASP and enforcement of safety rules and regulations. SHSO functions may include some or all of the following:

- Act as Haley & Aldrich´s liaison for health and safety issues with client, staff, subcontractors, and agencies.
- Verify that utility clearance has been performed by Haley & Aldrich subcontractors.
- Oversee day-to-day implementation of the Safety Plan by Haley & Aldrich personnel on site.

- Interact with subcontractor project personnel on health and safety matters.
- Verify use of required PPE as outlined in the safety plan.
- Inspect and maintain Haley & Aldrich safety equipment, including calibration of air monitoring instrumentation used by Haley & Aldrich.
- Perform changes to HASP and document in Appendix A of the HASP as needed and notify appropriate persons of changes.
- Investigate and report on-site accidents and incidents involving Haley & Aldrich and its subcontractors.
- Verify that site personnel are familiar with site safety requirements (e.g., the hospital route and emergency contact numbers).
- Report accidents, injuries, and near misses to the Haley & Aldrich PM and FSM as needed.

The SHSO will conduct initial site safety orientations with site personnel (including subcontractors) and conduct toolbox and safety meetings thereafter with Haley & Aldrich employees and Haley & Aldrich subcontractors at regular intervals and in accordance with Haley & Aldrich policy and contractual obligations. The SHSO will track the attendance of site personnel at Haley & Aldrich orientations, toolbox talks, and safety meetings.

Field Personnel

Haley & Aldrich personnel 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 Safety Plan Acceptance Form and documentation of medical surveillance and training to the SHSO prior to the start of work;
- Attending the pre-entry briefing prior to beginning on-site work;
- Bringing forth any questions or concerns regarding the content of the Safety Plan to the PM or the SHSO prior to the start of work;
- Stopping work when it is not believed it can be performed safely;
- Reporting all accidents, injuries and illnesses, regardless of their severity, to the SHSO;
- Complying with the requirements of this safety plan and the requests of the SHSO; and
- Reviewing the established JSAs for the site-specific hazards on a daily basis and prior to each shift change, if applicable.

Visitors

Authorized visitors (e.g., Client Representatives, Regulators, Haley & Aldrich management staff, etc.) requiring entry to any work location on the site will be briefed by the Site Supervisor on the hazards present at that location. Visitors will be escorted at all times at the work location and will be responsible for compliance with their employer´s health and safety policies. In addition, this safety plan specifies the minimum acceptable qualifications, training and personal protective equipment which are required for entry to any controlled work area; visitors must comply with these

requirements at all times. Unauthorized visitors, and visitors not meeting the specified qualifications, will not be permitted within established controlled work areas.

SUBCONTRACTOR PERSONNEL

Subcontractor Site Representative

Each contractor and subcontractor shall designate a Contractor Site Representative. The Contractor Site Representative will interface directly with Insert Staff Name Here, the Subcontractor Site Safety Manager, with regards to all areas that relate to this safety plan and safety performance of work conducted by the contractor and/or subcontractor workforce. Contractor Site Representatives for this site are listed in the Contact Summary Table at the beginning of the Safety Plan.

Subcontractor Site Safety Manager

Each contractor / subcontractor will provide a qualified representative who will act as their Site Safety Manager (Sub-SSM). This person will be responsible for the planning, coordination, and safe execution of subcontractor tasks, including preparation of job hazard analyses (JHA), performing daily safety planning, and coordinating directly with the Haley & Aldrich SHSO for other site safety activities. This person will play a lead role in safety planning for Subcontractor tasks, and in ensuring that all their employees and lower tier subcontractors are in adherence with applicable local, state, and/or federal regulations, and/or industry and project specific safety standards or best management practices.

General contractors / subcontractors are responsible for preparing a site-specific HASP and/or other task specific safety documents (e.g., JHAs), which are, at a minimum, in compliance with local, state, and/or federal other regulations, and/or industry and project specific safety standards or best management practices. The contractor(s)/subcontractor(s) safety documentation will be at least as stringent as the health and safety requirements of the Haley & Aldrich Project specific HASP.

Safety requirements include, but are not limited to: legal requirements, contractual obligations and industry best practices. Contractors/subcontractors will identify a site safety representative during times when contractor/subcontractor personnel are on the Site. All contractor/subcontractor personnel will undergo a field safety orientation conducted by the Haley & Aldrich SHSO and/or PM prior to commencing site work activities. All contractors / subcontractors will participate in Haley & Aldrich site safety meetings and their personnel will be subject to training and monitoring requirements identified in this Safety Plan. If the contractors / subcontractors means and methods deviate from the scope of work described in Section 1 of this Safety Plan, the alternate means and methods must be submitted, reviewed and approved by the Haley & Aldrich SHSO and/or PM prior to the commencement of the work task. Once approved by the Haley & Aldrich SHSO and/or PM, the alternate means and methods submittal will be attached to this Safety Plan as an Addendum.

ATTACHMENT D
JOB SAFETY ANALYSES

Safety
in everything we do

THIRD STREET GOWANUS SITE

KEY TASK ENTER TASK NUMBER.**:** ENTER TASK NAME.

Subtask Category	Potential Hazards	Controls
Enter subtask information.	Choose category.	Enter control(s) for each hazard.
Enter subtask information.	Choose category.	• Enter control(s) for each hazard.
Enter subtask information.	Choose category.	• Enter control(s) for each hazard.
Enter subtask information.	Choose category.	• Enter control(s) for each hazard.
Enter subtask information.	Choose category.	• Enter control(s) for each hazard.
Enter subtask information.	Choose category.	• Enter control(s) for each hazard.
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Enter subtask information.	Choose category.	• Enter control(s) for each hazard.
Enter subtask information.	Choose category.	• Enter control(s) for each hazard.

Enter subtask information.	Choose category.	• Enter control(s) for each hazard.

ATTACHMENT E
PROJECT SITE FORMS

ATTACHMENT F
SITE-SPECIFIC OPERATING PROCEDURES